EXPERIENCE MATTERS:

women's experience of care during facility-based childbirth.

A mixed-methods study on postpartum outcomes.

Thesis presented for the degree of
DOCTOR OF PHILOSOPHY
in the Faculty of Population Health Sciences

Field of study:
Epidemiology and Public Health

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Declaration

I, Nicole Minckas confirm that the work presented in my thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

Acknowledgement

I could say that this work would not have been possible if it wasn't for a list full of family and friends who have unconditionally lent me their ears, brains and shoulders over the course of the past three and a half years. I thank (and apologise to) them daily.

Yet, truth be told, this work was only possible because of a remarkable group of six indomitable souls who, in the face of mask-wearing, distance-keeping, and travel restrictions, brought my project to life out in the field.

As academics, we can theorise about reality, discuss estimates and measures, and propose solutions, but our work would be pointless without the steadfast efforts of those on the ground. They confront the relentless challenges of everyday life, striving to improve the lives of others one by one. They give our work meaning and relevance. I thank Adri, Sebas, Romi, Belu, Aye and Lu for being my team of multi-talented interviewers, data collectors, drivers, mechanics, travel companions and friends, making the seemingly impossible feat of completing this PhD during a global pandemic, a reality.

My grandfather taught me that 'work equals health' ('*el trabajo es salud*'). If I could, I would only tell him one thing: '*unless that work happens to be a PhD*'.

I put in the work. It's finished. It's here. And it's for you.
I miss you daily.

Impact statement

Evidence from around the globe continues to expose the unacceptable treatment women endure during childbirth at the hands of healthcare providers. Enhancing the health of mothers and newborns involves more than merely offering effective clinical care; it needs fostering an environment that respects and supports women during one of life's most significant events: childbirth. However, many in the medical system often overlook this crucial point. Prevailing practices, such as physically restraining women during delivery, barring them from choosing a companion, or performing unnecessary procedures hindering their postnatal recovery, are not only ethically questionable but also undermine women's trust in healthcare. Such practices can adversely impact health-seeking behaviours, thereby jeopardising the well-being of women and newborns.

My doctoral research, conducted in Argentina, adopted a novel approach against mistreatment during childbirth, transitioning from a moral narrative to highlighting the practical consequences of such misconduct. This research delved into women's access to care, mental health status, and breastfeeding practices after delivery in a hospital. Concerningly, my study showed that only a quarter of women accessed timely postnatal care, and about two third reported signs of postpartum mental health disorders, such as depression or anxiety. These findings were analysed in the context of women's childbirth experiences and the different forms of abuse they encountered, to better understand women's responses to mistreatment during childbirth.

This research provides a nuanced understanding of the type of treatment women receive during childbirth by acknowledging the distinct perceptions and responses of women to varied forms of abuse. This approach offers a nuanced, context-sensitive exploration to comprehend and interpret mistreatment during childbirth more effectively.

Policy and Practice Impact

The implications of this study extend beyond academia. They shed light on the complex range of factors influencing women's postnatal care-seeking

decisions, particularly focusing on the impact of childbirth experiences. Additional factors influencing women's behaviour include sociodemographic and psychosocial elements such as social capital, health literacy, and gender norms. Considering the complexity of these factors, improving access to care by addressing mistreatment during childbirth as merely a quality-of-care issue is unlikely to result in sustainable behavioural change.

Three primary insights from my study can significantly impact policymaking and healthcare practice. First, healthcare systems must urgently prioritise women's postnatal health, ensuring that services are responsive to women's specific needs. Second, mistreatment should be understood as a dynamic and multifaceted issue, as different forms of mistreatment yield varying impacts on women's behaviour. Finally, intervention design should account for the complex interplay of sociodemographic and psychosocial factors influencing women's decisions.

In conclusion, my research emphasises the pressing need to address mistreatment during childbirth. This is not only a moral obligation but also a pragmatic concern with far-reaching implications for women's postnatal health, their overall well-being, and the efficacy of our healthcare systems.

Abstract

Background:

The poor treatment women are receiving during facility-based childbirth is an escalating global issue with potentially adverse postnatal consequences. My thesis aims to enhance understanding of these consequences, with a focus on postnatal care-seeking behaviour, maternal mental health and breastfeeding patterns in Tucumán, Argentina.

Objective:

I sought to investigate the impact of mistreatment during childbirth (MDC) on postnatal outcomes and explore the influence of individual, interpersonal and societal factors on this relationship.

Methods:

Employing a pragmatic epistemological framework, I adopted a mixed-methods approach. First, a systematic review of existing literature on mistreatment and its postnatal effects provided a comprehensive foundation for my research. Subsequently, I conducted semi-structured interviews and focus group discussions with women from an underserved community in Tucumán to gain qualitative insights. To complement this, I carried out a prospective cohort study with women who delivered in a public maternity hospital. Data analysis involved using the capability, opportunity, motivation, and behaviour (COM-B) model, directed acyclic graphs, and factor analysis to examine behavioural impacts, association pathways, and operationalisation of MDC. Multivariable models were applied to measure the association between MDC and postnatal outcomes.

Results:

The study revealed that MDC should not be operationalised as a single construct, as women perceive breaches of quality of care differently from direct physical or verbal abuse. Health literacy, social support and self-esteem were identified as psychosocial confounders in the relationship between mistreatment and postnatal outcomes. Only 26% of women in the cohort study in Tucumán accessed postnatal care, with incidences of postpartum depression and anxiety of 67% and 21%, respectively. No statistically significant association was found between MDC and care seeking behaviour, although a possible trend emerged suggesting the women experiencing physical or verbal MDC could be more likely to seek care than those who were not mistreated.

Conclusion:

Several exploratory hypotheses are presented to explain the trend suggesting that women who are verbally or physically mistreated are more prone to seek care after birth. Additionally, three concrete contributions emerged from this work: 1) the need to differentiate the conceptualisation of MDC from its operationalisation when assessing postnatal effects; 2) the importance of integrating psychosocial factors into the theory of change when designing effective interventions, and 3) the urgency of enhancing postnatal care access to improve maternal and newborn health outcomes, regardless of women's childbirth experiences.

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Abbreviations

95% CI : 95% Confidence interval
ANC: Antenatal care
ARS: Argentinian peso:
AUC: Area under the curve
BCW: Behaviour change wheel
BSES-SF: Breastfeeding Self-Efficacy Scale-Short Form
CASP: Critical Appraisal Skills Programme
CEDAW: Committee on the Elimination of Discrimination Against Women
CERQual: Confidence in the Evidence from Reviews of Qualitative Research
CFA: Confirmatory factor analysis
CFI: Comparative Fit Index
SRMR: Standardized Root Mean Square Residual
COM-B: Capability, opportunity, motivation, and behaviour model
D&A: Disrespect and abuse
DAG: Direct acyclic graph
DCE : Discrete choice experiment
EDPS: Edinburgh Postnatal Depression Scale
EFA: Exploratory factor analysis
FGD: Focus group discussion
GCP: Good clinical practice
GDPR: General Data Protection Regulation
GLM: Generalised linear model
HIC: High income countries
HLS-EU-Q: European Health Literacy Survey Questionnaire
ICU: Intensive care unit
IEI-MM: Institutional, explicit and implicit mistreatment model
INSS: National Institute of Social Security
IQR: Interquartile range
KMO: Kaiser-Meyer-Olkin
LMIC: Low and middle-income countries
LSCAT-MH: Low-income Social Capital Assessment Tool related to Maternal Health
MAR: Missing at random
MCAR: Missing completely at random
MDC: Mistreatment during childbirth
MDG: Millenium development goals
MMR: Maternal mortality rate
NMAR: Not missing at random
TLI: Tucker Lewis Index

'The first night, they approach
and pick a flower from our garden
and we don't say anything.
The second night,
no longer hiding, they
stomp on the flowers, kill our dog,
and we don't say anything.
Until one day
the weakest of them
enters our house alone
robs us of light, and,
knowing our fear,
takes the voice from our throats.
And because we said nothing,
We no longer can say anything.'

Vladimir Mayakovsky - Freedom of Expression

1. Introduction

1.1. A bit of history: the emergence of a movement

1.1.1. Global overview

Since the launch of the Millennium Development Goals (MDGs) in 1990, global efforts have been focused on accomplishing MDG 5, aimed at reducing maternal mortality by three-quarters by 2015. (1) Achieving only a 45% reduction in the maternal mortality ratio (MMR) between 1990 and 2013, the efforts fell short of the target (75% reduction). (2) Despite undeniable overall progress, the burden of maternal and perinatal deaths was disproportionately higher in low- and middle-income countries (LMICs) compared to high-income countries (HICs) at the end of this period. Developing regions recorded 14 times more maternal deaths – 230 maternal deaths per 100,000 live births in 2013 – than developed ones, which had only 16 maternal deaths per 100,000 live births in 2013. (3) These differences showed that with appropriate care, the necessary training and sufficient resources, most maternal deaths are preventable.

During the MDG era, strategies for reducing maternal mortality were focused on ensuring the high coverage of skilled birth attendants (SBAs) at antenatal care (ANC) and delivery. (4, 5) This was based on the fact that over one-third of maternal deaths and a substantial proportion of pregnancy-related, life-threatening conditions occur during labour, delivery or the first 24 hours postpartum. (6) Similarly, approximately half of all stillbirths and a quarter of neonatal deaths result from complications during labour and childbirth. Therefore, the early detection and management of problems became critical to reducing preventable deaths, especially in resource-limited settings. (7, 8) The end of the MDG era showed progress in this regard: from 1990 to 2013, there was an increase in the global coverage of SBAs from 57% to 74%, 1+ ANC visits from 65% to 83% and 4+ ANC visits from 37% to 64%. (9)

Although facility-based and SBA deliveries were increasing in number, the progress was not as great as expected and certainly not homogenous across the world. Over 32 million of the 40 million births not attended by skilled health personnel in 2012 occurred in rural areas in LMICs. (9, 10) Research evaluating barriers to accessing facility-based deliveries in these settings indicated that the experience and perception of the quality of care were powerful determinants of the utilisation of maternity services. (11, 12) In 2014, a study conducted by Bohren et al. found that one reason why women did not access care was that they feared the prospect of facility birth, relating it to various undesirable procedures such as unfamiliar birthing positions, intrusive vaginal exams and unnecessary surgical interventions. (13) Instead, women would choose to deliver at home with a traditional birth attendant (TBA) and only access facility care in case of an unexpected, life-threatening emergency. It is in this context that the issue of disrespectful and undignified care in many facility settings globally, particularly for underprivileged populations, started receiving global attention.

In the new era of Sustainable Development Goal (SDG) targets, efforts moved away from uni-dimensional metrics such as MMR to account for the complexity of these issues. (14, 15) The experiences of women during obstetric care began to be studied, and the type of care they were receiving stopped being just a barrier to maternal and newborn survival and became a multifaceted problem encompassing human rights, health systems constraints and overall well-being. The term 'disrespect and abuse' (D&A) emerged from a landscape analysis run by institutions such as the U.S. Agency for International Development (USAID) and the World Health Organization (WHO). (12) Amidst growing debate, the WHO released a powerful statement entitled The prevention and elimination of D&A during facility-based childbirth, highlighting the right of every woman to access dignified and respectful health care. (16) Different frameworks, such as the Respectful Maternity Care (RMC) and the Person-Centred Maternity Frameworks, portrayed the issue of D&A during childbirth as an assault on the rights of women and newborns to dignified, private and confidential care that ensures freedom from harm and mistreatment and enables informed choice and continuous support during the continuum of obstetric care. (16-19) A broad group of stakeholders representing research, clinical, human rights and advocacy perspectives came together to develop the Respectful Maternity Care Charter: Universal Rights of Mothers and Newborns, which clarifies and articulates the rights of women and newborns while receiving maternity care within a healthcare facility. (17)

More recently, it was argued that 'D&A' should be replaced with 'mistreatment during childbirth' (MDC), a term that further separates the issue from individual intentionality and links it to the realm of healthcare quality and health systems constraints. (20) New research on MDC pointed to the stressors of under-resourced health systems as influencing behaviours and promulgating MDC. However, little is known about the impact such practices might have on maternal satisfaction with the birthing process, maternal well-being, bodily integrity, and the baby's maturity and development.

In 2018, three independent reports emphasised the need to focus on improvements to the quality of health care to maintain or improve health through a person-centred strategy that is both respectful of and responsive to individual preferences, needs and values. (15, 21, 22) In the maternity care realm, the recognition of the neglectful, disrespectful and abusive care that women and their newborns were receiving in health facilities globally brought the issue of RMC and person-centred maternity care (PCMC) to the forefront of global discussion. RMC was defined as a necessary approach to care that emphasises the fundamental rights of women, newborns and families and promotes

equitable access to evidence-based care while recognising the unique needs and preferences of both women and newborns. However, only recently has some progress been made regarding what constitutes RMC operationally and how to measure it. (23, 24) Moreover, while the tools to measure RMC are being assembled, the quality of care remains substandard around the world: facility infrastructure is lacking, the provision of care fails to meet evidence-based standards, and women and their newborns continue to be subjected to mistreatment and neglect.

1.1.2.   The Latin American origins of violencia obstétrica

The foundations for the contemporary focus on respectful care were laid in Latin America in the 1970s and 1980s via an explicit and imperative discourse around women's human rights that was initiated by feminist academics, health practitioners and activists from Brazil, who coalesced into a movement advocating for the humanisation of childbirth. (25) This social movement aimed to address the over-medicalisation of maternal care in Latin American institutions and the violence that women faced within routine obstetric practices. Its proponents argued against the pathologisation of birth, which included practices such as administering enemas on admission, frequent vaginal exams, not letting the woman eat or drink, continuous electronic foetal monitoring, overusing the induction or augmentation of labour, routine episiotomies, prematurely clamping the cord and preventing immediate skin-to-skin contact, among others. Social movement campaigns demanded the inclusion of midwives and nurses in the care teams to oversee normal births; the right to companions at birth; freedom of position during labour and delivery; the right to eat and drink if desired; non-pharmacological pain relief methods for all (pharmacological if necessary); the end of verbal abuse; the preservation of women's bodily integrity by avoiding invasive and unnecessary interventions (episiotomy, forceps, C-sections); waiting for term deliveries; skin-to-skin contact after birth; and others.

As the issue gained political visibility, the term 'obstetric violence' (OV; Spanish: violencia obstétrica) was coined and defined as '… the appropriation of a woman's body and reproductive processes by health personnel, in the form of dehumanising treatment, abusive medicalisation and pathologisation of natural processes, involving a woman's loss of autonomy and of the capacity to freely make her own decisions about her body and her sexuality, which has negative consequences for a woman's quality of life.' (26) The issue of OV first received legal recognition in Venezuela in 2007 and was then spread across borders to other Latin-American countries, such as Argentina and Mexico, by civil society. (27) However, researchers and advocates continued using the term 'humanised birth', which they argued would have a less antagonising effect on the community of practice with whom they needed to engage to bring about change. (25)

Unlike the global approach to D&A and MDC that was defined in the context of the health system where inadequate access to comprehensive obstetric care remained a challenge to maternal and neonatal survival, OV (or humanised birth) was not. In a region where 95% of births are attended by skilled health providers, the issue was not problematised as a barrier to institutional care (28) but by recognising the power imbalances inherent in patient-provider interactions and the inequities that lead to differences in experiences between marginalised and more empowered groups of women. (29) These inequalities in care strongly parallel that of the region: Latin America is one of the most inequitable regions in the world, with over 30% of the population below the

poverty line and 40% of the poorest population receiving less than 15% of the total income. (30, 31) In this context, poverty, fertility, gender and race form a powerful axis for discrimination against the mother and her newborn throughout the continuum of reproductive care. Therefore, the definition of OV frames the discussion of abuse and disrespect within the broader field of structural inequalities and violence against women (VAW). (32) Prejudice against certain groups of women (multi-gravis or obese women, women with a history of abortion or HIV) or newborns (based on their sex, race or health condition at birth) tears the fabric of the healthcare institution, making disrespectful care a norm. The discrete mechanisms by which mistreatment occurs can be analysed as a form of structural violence, meaning invisible manifestations of violence that are built into the fabric of society, producing and reproducing social inequalities across groups. (33) Because of this, as described by Sadler and colleagues (2016), OV has particular features demanding a distinct analysis from that of D&A or MDC: it is a feminist issue, a case of gender violence; women in labour are generally healthy and not pathological; and labour and birth can be framed as sexual events. (29)

1.2. Law, policy and practice: a landscape

The multifaceted nature of MDC and OV necessitates the provision of a comprehensive background that encompasses not only their public health implications but also their reflection within the legal and policy landscape. In this section, I offer a concise overview of the primary legal and political milestones related to MDC and OV, both in Latin America and globally. This will provide a well-rounded understanding of the broader context in which these issues are embedded.

Latin America took the forefront in making significant pioneering strides towards addressing OV. (34) Efforts to ensure RMC began in the 1970s. Following the issuing of the Ceará Declaration in 2000, birth advocates and public health researchers worked in tandem to support the passage of laws enshrining the rights of childbearing persons. In 2007, Venezuela became the first country in the region to develop legislation around OV, (35) and since then, Argentina, Panama, Bolivia and Mexico have also passed laws concerning OV. (27) Although the five countries have implemented legislation addressing OV in slightly different ways, the similarities suggest a shared regional legislative approach that provides useful lessons for other countries. These initial laws paved the way for a broader legal focus on women's experiences during childbirth in the region. As a result, the Latin American Center for Perinatology, Women and Reproductive Health disseminated evidence-based practices to be implemented during labour and delivery in the region, increasing health professionals' knowledge of the benefits of continuous support during childbirth. (36) Although the passage of these laws and guidelines represented a good start towards combating systemic failures, there is a long way to go in properly implementing quality maternal care, preventing obstetric mistreatment, and encouraging women to take their cases of rights violations to the courts by clearly delineating healthcare providers' responsibilities and obligations, as multiple bottlenecks have impeded the appropriate implementation of the laws. (37)

MDC, OV and their severity only began to gain widespread and global recognition in 2010, prompting human rights advocates, global health institutions and governments to recognise the need for immediate action. As a result, human rights bodies started playing a crucial role in identifying and addressing these violations in the context of sexual and reproductive health and rights, focusing on women's rights to be free from torture

and other ill-treatment and advocating for privacy, health, non-discrimination and equality, recognising that all women and babies should receive evidence-based, equitable, compassionate and respectful care throughout labour and childbirth. (38) Simultaneously, multilateral and international organisations started producing high-quality evidence and benchmark documents that explored and measured the abuse and mistreatment of women in health facilities during childbirth. The combination of these efforts from multiple actors resulted in a shared interdisciplinary approach to the issue. However, the reality experienced by women and babies in many settings remained far from positive.

The high-profile case of Alyne da Silva Pimentel Teixeira versus Brazil, initiated by the Committee on the Elimination of Discrimination against Women (CEDAW) in 2011, is considered the first in which a government was held accountable for a preventable maternal death by an international treaty body. (39) Following this, in 2012, the Office of the United Nations (UN) High Commissioner for Human Rights issued a technical guide on the application of a human rights-based approach to the implementation of policies and programs to reduce preventable maternal morbidity and mortality. (40) In 2014, the International Federation of Gynaecology and Obstetrics launched the 'Mother-Baby Friendly Birthing Facilities Initiative', with guidelines for identifying practices constituting 'abusive, coercive and neglectful treatment'; these include a lack of privacy during labour/delivery; physical, verbal, emotional or financial abuse; and the prohibition of preferred positions and/or the ingestion of food and beverages during labour. (41) The weight that MDC and OV were gaining within the legal and political frameworks of health and human rights was now unquestionable.

In 2014, the WHO issued a policy statement affirming that 'every woman has the right to the highest attainable standard of health, which includes the right to dignified, respectful healthcare.' (16) The statement was endorsed by more than 90 international, civil society and health professional organisations. Women's rights to respectful care were further highlighted in 2015 when the UN, regional human rights experts, the rapporteur on the rights of women of the Inter-American Commission on Human Rights, and the special rapporteurs on the rights of women and human rights defenders of the African Commission on Human and Peoples' Rights issued a joint statement explicitly calling on states to address 'acts of obstetric and institutional violence.' (42)

Subsequently, in 2018, the WHO released a comprehensive set of evidence-based policy recommendations and guidelines to promote women's positive experiences of intrapartum care. These policy directives indicated the need for integrated health services that not only respect women's dignity but also fulfil their emotional or psychosocial needs during maternity care. (43) These recommendations included giving birth to a healthy baby in a clinically and psychologically safe environment, with continuous emotional support from a birth companion and technically competent clinical staff. The 56 evidence-based recommendations included statements that labour and childbirth should be individualised and woman-centred, no intervention should be implemented without a clear medical indication, and only interventions that serve an immediate purpose and have been proven to be beneficial should be promoted; they also postulated a clear objective, that is, a positive childbirth experience for the woman, her family and the newborn should be at the forefront of labour and childbirth care at all times. (44)

Tracing more recent developments, in 2019, the UN Special Rapporteur on VAW submitted a report to the UN General Assembly on 'mistreatment and violence against women during reproductive health services with a focus on childbirth and obstetric

violence', solidifying OV as a form of VAW and a human rights violation to be addressed by the UN rather than solely a matter of quality of care for maternal health professionals. (45) Additionally, the Council of Europe Committee on Equality and Non-Discrimination prioritised this topic and prepared a report that informed the Council of Europe's Parliamentary Assembly Resolution passed on October 3, 2019, calling on member states to address this issue. (46)

Although significant steps have been taken to create the necessary legal, political and research frameworks to ensure that every woman worldwide receives respectful, high-quality intrapartum care, it remains clear that obstetric service providers persist with behaviours that are deemed standard obstetric care yet constitute acts of violence. The current challenge lies in recognising the barriers and obstacles to policy and guideline implementation and assessing the effectiveness of these strategies in curbing mistreatment. It is imperative to identify these bottlenecks and challenges to ensure that progress is made towards ending mistreatment.

Box 1: First note on terminology

Throughout my thesis, I have chosen to focus on women to align my work with existing literature on the topic of the experience of care during childbirth. However, I recognise that not all individuals who get pregnant or go through childbirth are cisgender women who identify as female. Transgender men or gender non-conforming people who deliver are largely underrepresented in this field, and while their experiences can emulate those of cisgender women, they can be subjected to further stigma and discrimination, especially within maternity care settings in LMICs.

1.3. Rationale and aims

1.3.1. What is the next step?

Although great efforts have been made to improve women's childbirth experiences, the rates of non-medically justified obstetric intervention use continue to increase across the world without dramatic reductions in perinatal and maternal mortality and morbidity. Women keep facing episodes of abusive care at the interpersonal and health system levels, with more than one-third experiencing verbal abuse, discrimination and dehumanised treatment in countries across Asia and Africa, half not consenting to an episiotomy, and more than 10% not consenting to a C-section. (47) In South America, C-sections accounted for 42.6% of births in 2014, up from 22.8% in 1990 (48); Brazil had the highest rates, with 55.7% of babies being born through planned delivery and 82.4% of Brazilian women using the private health sector delivering without going into labour (data from 2020). (49) Even during a 'normal' birth, a frequently used misnomer for a vaginal delivery, a woman's experience is undermined and made excessively negative, as she faces preventable suffering such as the iatrogenic pain resulting from unnecessary interventions, the loneliness of being deprived of a companion and the emotional indifference of providers. (25) Women who are younger and less educated are most at risk of experiencing mistreatment, reinforcing societal inequalities within childbirth. This is further supported by a recent systematic review that found a prevalence of MDC of 43%. (50)

Since the global definition of MDC as a public health concern and a violation of women's fundamental rights, an increasing body of evidence has emerged on this topic.

Much of this evidence comes from qualitative studies analysing the context-specific perceptions or experiences of women and health providers related to this form of abusive care. (20) The published research has been mainly conducted in African and Asian countries, with little representation of other regions. In Latin America, actions are limited to legislation and changes in professional or institutional practices, such as the introduction of respectful care policies. (27, 51) However, most of these actions have had minimal effects on the treatment women receive during childbirth. (52)

Systemic mistreatment continues to be a common component of clinical encounters. (53-55) The abusive practices involved need to be identified, understood and addressed as triggers of adverse and inequitable health outcomes. Evidence suggests that different types of mistreatment within obstetric care, such as the provision of substandard care or outright neglect, contribute to differential health outcomes by increasing stress and deterring service uptake. (56) A cross-sectional study carried out in Brazil identified a significant increase in the risk of postpartum depression (PPD) among women who experienced violence from obstetric services (odds ratio (OR): 1.34, 95% confidence interval (95% CI): 1.16–1.56); this risk increased 6-fold and 16-fold when analysing its interaction with age (OR: 6.87) and race (OR: 16.86), respectively (57).

Within this context, the goal of my thesis was to contribute to the existing literature by exploring MDC as a possible barrier to care-seeking and the health and well-being of women and newborns. Thus, in my PhD, I focused on studying the effect of the experience during childbirth on the use of postnatal services to explore and better understand the problem, as any lack of or delay in access to postnatal care (PNC) may result in the loss of an opportunity to promote healthy behaviours, directly and indirectly affecting women and newborns and sustaining longstanding inequalities. Understanding the importance of providing respectful and woman-centred maternity care can be a first strategic step to encourage health workers to equate the value of non-clinical aspects of care to that of high-quality, evidence-based clinical practices.

1.3.2.   Aim

During my PhD, I focused on creating a pragmatic portfolio that clearly defines 'mistreatment during childbirth', studies its impact on mothers and newborns after birth, and unravels the mechanisms behind these effects. My goal was to enrich the current understanding of MDC by concentrating on its practical aspects to strengthen evidence-informed public health policy, design interventions and improve evaluation methods. I delved into childbirth experiences and their influence on postnatal behaviours and health outcomes and explored the link between childbirth mistreatment and PNC results in a community in Northwest Argentina. My study aimed to shed light on the after-effects of mistreatment with the hope of driving better maternal and neonatal health outcomes at the local, regional and global levels. To achieve this, my thesis had the following specific objectives:

- To develop a comprehensive and measurable definition of 'mistreatment during childbirth', fostering a standard pragmatic operationalisation of the term to enhance public health decision-making processes
- To explore the pathways through which the quality of childbirth experiences can shape the subsequent PNC-seeking behaviours and health outcomes of both mothers and newborns, providing an opportunity for intervention development focused on disrupting the mechanisms leading to negative effects

- To measure the relationship between MDC and PNC utilisation, maternal mental health, breastfeeding practices and breastfeeding self-efficacy in women from a community in Northwest Argentina to assess the postnatal consequences of a negative childbirth experience.

1.3.3.   Beyond theory: using pragmatism as the guiding framework

Prior to commencing my research, I asked myself the following epistemological question: which philosophical paradigm should underpin my study? The choice of paradigm fundamentally shapes the intent, motivation and expectations for the research. Establishing a paradigm as the initial step is crucial for the subsequent development of methodology, evidence and research design. Numerous theoretical paradigms have been explored in the literature, including positivist (and postpositivist), constructivist, interpretivist, transformative, emancipatory, critical, pragmatic and deconstructivist paradigms. The aim of this section is not to provide an exhaustive account of various paradigms but rather to justify my selection of **pragmatism** as the guiding framework for this study.

Pragmatism is interested in the usefulness of knowledge rather than metaphysical debates about the nature of truth. (58) Metaphysical debates often refer to truth as a correspondence to or reflection of a particular feature of 'reality'. Thus, the metaphysical philosopher considers determining the truth to be a process of uncovering (through philosophical debate or scientific enquiry) the relevant feature of reality. (58) Socratic and Platonic theories that form the basis of a large portion of Western philosophical thought aim to find and explain the 'essences' of reality and uncover truths that are believed to be obscured from our immediate senses.

For pragmatists, understanding is not developed by accessing its 'essence' but by examining all the ways in which the issue under study influences social action. As a research framework, pragmatism enables researchers to evaluate ideas and beliefs in terms of their practical functioning. Epistemologically, pragmatism is based on the idea that research should focus on the practical understanding of concrete, real-world issues, focusing on the 'what' and 'how' of the research problem. (59) In my thesis, I adopted Kelley and Cordeiro's (2020) approach to pragmatism, which emphasises the importance of interrogating the value and meaning of research data through the examination of its practical consequences. (60)

One advantage of using pragmatism in the context of women's experiences of care and mistreatment is that it transcends the search for relevant terminology and conceptualisations that has dominated evidence in the past decade. Instead, it focuses on understanding the connections between knowledge and action in context, with the potential to transform practice. (61) Methodologically, the pragmatic approach encourages researchers to be flexible in their investigative techniques, accommodating both quantitative and qualitative research under a single paradigm. (62) By adopting a pragmatic approach, I concentrated on the practical understanding of the research problem and evaluated the usefulness of the findings within the specific context of policy and practice.

This being said, aligning my study with one epistemological approach comes with its own limitations. A counterargument to adopting a pragmatic approach is that it risks sacrificing theoretical rigour in favour of practicality. (63) Nevertheless, I perceive this to be a false dichotomy. Pragmatism does not advocate for the abandonment of theory or the

pursuit of practicality at the expense of rigour. Instead, it aims to develop theories and concepts grounded in empirical evidence that are useful in practice. Consequently, pragmatism can strengthen the theoretical underpinnings of research by emphasising the practical implications of theoretical concepts.

In my research, the pragmatist approach guided my selection of methods and techniques and helped me to maintain focus on the practical implications of my findings. By prioritising practical understanding over abstract theory, I was better equipped to produce research that is both academically rigorous and practically useful, ultimately informing real-world decisions and actions.

1.4. Navigating reflexivity and positionality through a personal experience

In this section, I describe a personal experience that sparked my interest in the issue of MDC. This reflection on positionality and reflexivity will help the reader to understand the position from which I conceptualised, researched and wrote my thesis.

In 2014, while conducting a monitoring visit for a research study at a public maternity hospital in Tucumán, Argentina, I encountered a study participant who had undergone non-consensual sterilisation following her previous delivery. Noticing that she was unaware of this, I urged the on-duty medical doctor to inform her about the procedure that had been imposed on her. Afterwards, she tearfully confided in me about her unsuccessful attempts to become pregnant over the past 2 years. I stayed in touch with her for months, helping her access the hormones and treatments necessary to reverse the sterilisation until she became pregnant again. This deeply affecting experience motivated me to take action, both in the context of my research career and through advocacy efforts, and led me to discover the term 'obstetric violence.' Since then, I have been collaborating with various stakeholders from the state, non-governmental organisations (NGOs), academia and multilateral organisations to find a comprehensive solution to this issue.

I recount this story to demonstrate that my research project emerged from a non-neutral position, shaped by this episode and several converging factors. First, I deliberately chose to conduct my PhD in my home country, specifically in a province known for its conservative values and the strong influence of the church. Second, I began my research amidst one of the most contentious feminist battles in Argentina, which culminated in the decriminalisation and legalisation of abortion in December 2020. Third, throughout my PhD, I visited maternity wards in various countries in Africa, Asia and Latin America, witnessing numerous human rights violations. These experiences reinforced my feminist ideology and commitment to social justice, driving me to effect change beyond individual cases.

My academic and professional journey has led me to develop expertise in mixed-methods research. Since 2013, I have coordinated multiple quantitative research studies, including clinical trials and observational studies, on maternal and newborn health (MNH). Pursuing two master's degrees (in Epidemiology and Biostatistics as well as Global Health and Development) has equipped me with both the technical and the theoretical skills to complement my practical experience. I have also contributed to several qualitative studies on VAW in low-resource settings, always maintaining an action-oriented mindset, aiming to utilise research findings to directly address ongoing issues.

My PhD was motivated by dissatisfaction with the reproductive health and rights landscape and how various stakeholders, including researchers and policymakers, were addressing MDC. I observed that the discourse often focuses on semantics, neglecting

practical and active engagement with the real-world problem. As a feminist, I was interested in exploring the underlying gender dynamics of the issue and was frustrated by the lack of action that allowed the continued violation of women's fundamental rights without much accountability in place.

Throughout my PhD, I remained conscious of my personal biases and refrained from making assumptions based on my experiences and opinions. I adopted a pragmatic perspective, prioritising concrete action to tackle mistreatment and its consequences. While engaging in discussions on terminology and typology to expand knowledge, I stayed focused on advocating for the rights of all individuals who have experienced disrespect, abuse and mistreatment in healthcare settings globally.

1.5. The Argentinian health context

As previously mentioned, my PhD was conducted in Argentina. This section provides a brief historical and contextual introduction to the Argentinian health system.

Argentina, classified by the World Bank as an upper-middle-income country, faces significant income inequality, with poverty levels rising from 35.5% before the COVID-19 pandemic to nearly 45% in the second half of 2020. (64) The UNDP's Human Development Index classifies Argentina as having 'very high human development' (0.842; jointly with countries of Western Europe) ; however, when divided into provinces, over a quarter of the country falls under the 'low development' category, with the northern provinces reaching values of 0.313 (similar to the poorest countries in sub-Saharan Africa). (65) People in the northern provinces are the most disadvantaged, with more than one-third living below the poverty line, fertility rates of 3.4 children on average per woman in the least educated households, 17.8% of deliveries being from adolescent women, and over 60% of pregnancies being unwanted. (66, 67) These societal disparities also manifest in healthcare access and the quality of care received. (68) To address these disparities, the Argentinian healthcare system has undergone significant changes throughout its history, with the government implementing policies aimed at improving healthcare access for all citizens.

In the early 20th century, the government established the National Institute of Social Security (INSS), providing healthcare services to workers and their families. However, it was not until the 1940s that healthcare access and provision improved significantly, thanks to the efforts of the Eva Perón Foundation. (69) The foundation played a pivotal role in expanding healthcare access, particularly for women and children, through initiatives such as constructing hospitals and clinics, providing free medical care and education, and establishing nursing schools and training programmes. During this time, the creation of a sole trade union also led to the development of union-run health insurance. These efforts were instrumental in improving healthcare access and quality, especially for underserved populations and lower-level workers.

The healthcare system underwent substantial changes under the military government in the 1970s, with policies prioritising cost-cutting over patient care. (70) This led to a decline in the quality and availability of healthcare services, with many hospitals and clinics lacking essential resources and supplies. Following the return of democracy in the 1980s, the government attempted to improve the healthcare system's infrastructure and expand access to services. However, economic challenges, including inflation and high levels of debt, hampered these efforts.

During the 1990s, the government introduced healthcare reforms aimed at increasing private sector involvement in healthcare provision. (71) This led to the establishment of private health insurance companies, which played a significant role in providing healthcare services to the middle and upper classes, resulting in substantial disparities in healthcare quality between those who could afford private health insurance and those who relied on the public sector. Thus, public healthcare started being perceived as 'care for the poor'.

In 2001, Argentina faced its most significant instance of economic and political turmoil, which had far-reaching effects, leaving over half of the population below the poverty line, widespread daily lootings, and entire families living on the streets. (72) This led to increasing rates of child malnutrition and maternal and infant mortality, low vaccination uptake and low schooling rates. Consequently, the early 2000s saw a shift in healthcare policy, with the government implementing initiatives to improve healthcare access for underserved populations by implementing conditional cash transfers to ensure a minimum level of health. These efforts also included the establishment of the Maternity and Childhood Plan in 2004, which aims to reduce infant mortality rates and increase access to essential healthcare services for mothers and children by providing free healthcare services to pregnant women and children under the age of 6 years, including vaccinations, nutrition education and essential medicines, and giving a stipend to women during pregnancy and throughout the first year of the child's life. (73)

Despite these efforts, disparities in healthcare access and quality persist in Argentina, with one of the biggest challenges being the uneven distribution of resources between different provinces. Some areas lack the resources to provide adequate care, resulting in long wait times and limited access to essential medicines. To address these challenges, national government programmes have been implemented, such as the National Plan for the Prevention and Control of Non-communicable Chronic Diseases, which aims to improve access to essential medicines and health services in underserved areas, and the Universal Child Allowance, which provides financial support to families with children under the age of 18 years to improve access to healthcare services for the poor. (74)

Although access is universal, the quality of care in the public sector remains a concern. Despite government initiatives such as the National Quality and Patient Safety Programme to improve the quality of care and increase funding for healthcare services in underserved areas, the health system in Argentina still faces funding constraints, resource constraints, and disparities in access to healthcare services between urban and rural areas. (74)

Economic inequalities lead to corresponding inequalities in healthcare, especially in sexual and reproductive health. Even though Argentina has a mandatory legal framework, both in the public and private spheres, which protects the rights of the woman to receive treatment that is both respectful and free of harm (Law 26.529 on Patient Rights) as well as a law that protects the bodies and reproductive processes of women against dehumanising treatment and the abuse of medicalisation (Law 26.485 and Law 25.929), non-compliance continues to represent a major public health and human rights violation. (51)

1.5.1.   The maternal-newborn health care system

In Argentina, antenatal, childbirth and postpartum care visits occur differently in the public and private sectors. (71, 192) In the public sector, pregnant women receive ANC in primary healthcare centres, often attended by multiple professionals throughout pregnancy, led by nurses, unless specialised care is required for which women are referred to secondary or tertiary level facilities. A gynaecologist/obstetrician is available at PHC during limited hours with normally long waiting times. Expectant mothers are encouraged to start their antenatal visits within the first trimester of pregnancy, which enables early monitoring and guidance throughout the gestation period with a minimum of five antenatal visits recommended for low-risk pregnancies, though the actual number can fluctuate depending on various factors, including the individual's risk profile and any emerging complications. Remarkably, only around a quarter of pregnant women initiate these consultations within the first trimester. The focus of these visits is to foster optimum health conditions during pregnancy, facilitating timely interventions to prevent, diagnose, and treat potential complications.

For childbirth, women are admitted to the maternity hospital which are higher level hospitals (secondary or tertiary level) that provide comprehensive obstetric care (CEmOC) comprising with 24/7 caesarean section and blood transfusion services in addition to basic emergency care and specialised newborn care. Here, a team of healthcare professionals, which include nurses, midwives, obstetric residents and medical students in teaching hospitals, are responsible for following up the woman during admissions. The births are attended by the on-call obstetrician or obstetric residents regardless of the risk level. Protocols stipulate a hospital discharge 48 hours post vaginal delivery and 72 hours following caesarean sections. Before discharge, both mother and newborn undergo assessments by a team consisting of specialists in obstetrics, nursing, psychology, or social work, a specialised obstetrician-gynaecologist, and a neonatologist or paediatrician. During this postnatal contact, the following issues are addressed:

Ensure correct completion of the clinical history and perinatal card documentation for the mother-child pair.

Ensure that the patients have been adequately informed about breastfeeding, postpartum care, sexual and reproductive health counselling, and childcare methods.

Verify that the newborn screening, as mandated by law, has been conducted.

Provide a space for counselling, where concerns and queries about mother and newborn care can be addressed.

Conduct a socio-health risk assessment to evaluate potential social and health challenges.

Facilitate referral to primary healthcare, based on detected social risks.

Unless the woman has complications after delivery or requires the removal of stiches after a caesarean section, she is referred to the original primary care health centre for routine consultations. If she has any additional health needs, she is asked to return to the maternity hospital, where she is seen at the outpatient clinic by a different provider than those conducting the deliveries. Women are encouraged to have two additional postpartum visits after discharge in the primary health care centre: one before the second week postpartum (around day 10) and the other one in the late postnatal period (before week 6 postpartum). These visits are mainly led by a nurse but it can also be attended by a Obstetrician-Gynaecologist who has limited working hours. The maternal and neonatal visits happen separately in the primary health centre, with nurses specialising in newborn care and paediatricians in charge of assessing the newborns and their vaccination. Women

also have the option of booking an appointment in the outpatient clinic at the maternity hospital if they prefer it to the primary health center.

In the private sector, women usually receive care from the same healthcare professional throughout pregnancy, childbirth and the postpartum period. (193) This helps to establish a woman-provider relationship, allowing women to contact their health provider directly in case of an emergency or health concern. Many health providers work in both the private and the public sphere; however, infrastructure and service delivery are frequently better funded in the private sector, affecting the quality and type of care provided. In the private sector, the frequency of visits might go beyond the national guidelines recommendations, influenced by the type of private insurance plan, with many women requesting for more regular antenatal check-ups and ultrasounds, and increased paediatrician visits postnatally.

Aside from the public and private sectors, union-based health insurance represents a third alternative. People with this insurance have access to semi-private or private facilities and different benefits and services, contingent upon their union type and the union's agreements with various clinics. While national guidelines dictate the number of visits that all insurance should provide, the quality of services offered by various union-based health insurances depend on the union and the benefits they extend to members

Regardless of the type of health insurance, many women still access antenatal and postnatal visits at public primary healthcare centres as this entitles them to receive government benefits. (74) These government benefit plans are conditional on women attending all four ANC visits during pregnancy and taking the baby for vaccination and control in the postpartum period. To receive these benefits, women must have their perinatal card documentation duly completed and signed during the neonatal visit, rather than the maternal visit.

1.6. Thesis outline

This introductory chapter provides the reader with an initial theoretical and contextual framework that serves as a foundation for my thesis. The subsequent nine chapters combine qualitative and quantitative methodologies in sequential order, guided by two phases of data collection. As illustrated in Figure 1, each chapter has its own rationale, objectives, methodology, findings and conclusions but also generates outputs that inform the subsequent stages of research. Consequently, each chapter builds on the previous one, creating a storyline that culminates in the convergence of all previous findings. An outline of my thesis is presented below to situate the reader within the overall structure of the study.

1.6.1.   Thesis outline

The present chapter provides an overview of the phenomenon under study, giving historical and contextual information to frame the remainder of my study. Chapter 2 begins by defining and justifying the approach that guides the study. It presents key terms and conceptualisations found in the literature regarding the treatment that women receive from health providers during childbirth and establishes a unique conceptual approach. I also justify the use of the term 'mistreatment during childbirth' in my study, providing a rationale for examining its direct consequences on PNC-seeking behaviours and health outcomes, such as access to PNC, mental health and breastfeeding practices.

In Chapter 3, I conduct a mixed-methods systematic review of all published qualitative and quantitative literature on the subject, presenting a landscape of available evidence that forms the foundation of my study, identifies gaps in the literature, and highlights potential paths of association between MDC and both behavioural and health outcomes.

Chapter 4 presents the first of two data collection phases, the qualitative phase. After justifying my decision to use a mixed-methods approach, I detail the fieldwork conducted to collect data from 20 semi-structured interviews and three focus group discussions (FGDs) with women from an underserved community in Tucumán, Northwest Argentina. The aim of this phase was not only to explore the relationship between MDC and the outcomes but also to understand the women's experiences, perceptions and expectations of the treatment received during childbirth.

In Chapter 5, I use the qualitative data to determine the primary determinants of women's care-seeking behaviours, focusing on MDC. I employ a framework analysis using the 'Capability, Opportunity, Motivation - Behaviour' (COM-B) model to determine the capabilities, opportunities and motivations that influence the uptake of PNC and identify potential areas for intervention.

Chapter 6 combines the findings from my literature review (Chapter 3) and qualitative analysis (Chapter 5), using epidemiological concepts to categorise them into confounders, mediators and effect modifiers. I follow a systematic process to design a final causal path diagram, which serves two purposes: 1) to determine the variables needed for the quantitative fieldwork phase and 2) to establish an a priori hypothesised model for testing in subsequent chapters.

Chapter 7 introduces the quantitative phase of data collection, involving the design and implementation of a prospective cohort study to measure the association between MDC, uptake of PNC, and maternal health and well-being in Tucumán, Argentina. I identified and recruited 300 women who delivered at a public maternity hospital and followed them up until the sixth week postpartum. During this phase, I collected information on sociodemographic characteristics, psychosocial factors, exposure to MDC, mental health status, breastfeeding practices and access to PNC. The chapter presents the study design, eligibility criteria, data collection and management processes, and justifications for the tools used for data collection.

In Chapter 8, I combine qualitative and quantitative methods to generate an operational definition of mistreatment, focusing on its influence on women's postnatal behaviours. I first test existing models with my cohort data using factor analysis to assess whether the different dimensions of mistreatment form a uniform construct. Then, I develop a framework that combines my qualitative data (Chapter 4) and conceptual analysis (Chapter 2) to evaluate whether it offers a superior option for operationalisation.

Chapter 9 unites the previous chapters as I employ multivariate regression modelling to test all hypotheses generated thus far. In this chapter, I examine the effects of MDC on women's uptake of PNC and various secondary outcomes.

Finally, Chapter 10 offers an overarching conclusion, presenting an overview of my thesis and highlighting its three main contributions and how they can impact policy and practice.

In summary, my thesis is structured to systematically explore and analyse the complex phenomenon of MDC and its effects on PNC-seeking behaviours and maternal health outcomes. It employs a mixed-methods approach, blending qualitative and quantitative data to develop a comprehensive understanding of the issue. The findings

contribute to the existing body of knowledge and provide valuable insights for policymakers and practitioners aiming to improve maternal care and health outcomes.

Figure 1. Thesis outline
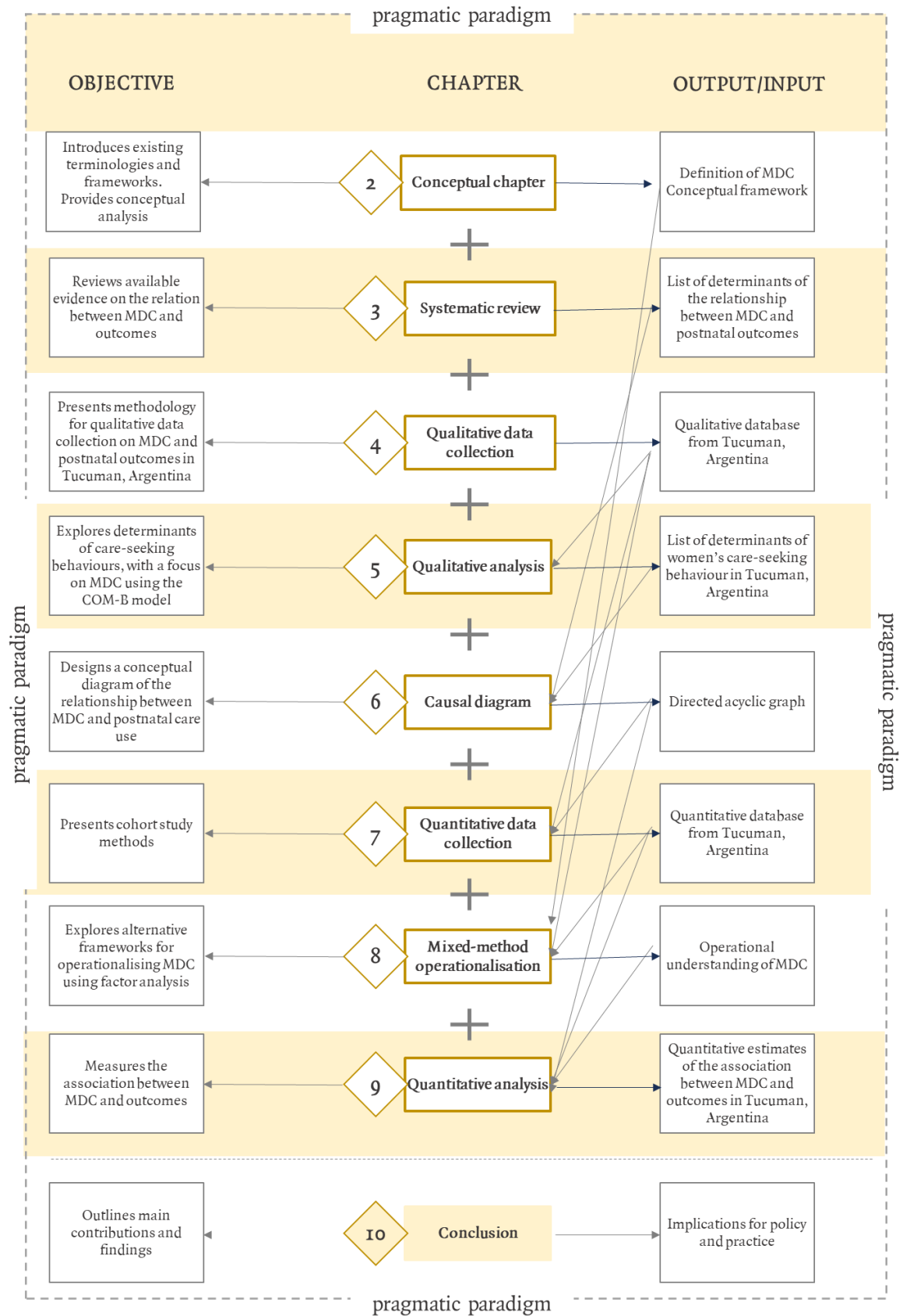
2. A spectrum of approaches

The field of experience during childbirth has been marked by an ongoing debate concerning the most suitable terminology to describe the issue at hand. Adhering to a pragmatist paradigm, action must be guided by purpose and knowledge to implement changes in desired ways. Thus, this section delves into the semiotic and semantic discussion in the field to position the research within the existing literature and facilitate communication with other actors. As I progress through later chapters, it will become apparent that reviewing and synthesising the various conceptualisations of the phenomenon is essential, if not useful, for arriving at an operational definition that can effectively guide my research efforts.

2.1. Introduction

The poor treatment received by women during childbirth is a complex phenomenon. The origin of the field arises from a diversity of stakeholders with different perspectives, including feminist activists focused on the violation of women's human rights and bodily integrity, health workers concerned about their responsibilities regarding pregnancy outcomes in often difficult institutional contexts, and those responsible for setting norms and standards at the national and international levels who aim to meet broad development goals such as their targets on maternal mortality. (29) Reaching a common conceptual understanding requires acknowledgement of the interconnectedness of all these different approaches as, ultimately, they are all key pieces to the same puzzle. In this chapter, I first introduce existing terminologies and typologies to better describe the behaviours that are considered disrespectful and abusive as per the current literature. Subsequently, I outline the conceptual approach that served as the guiding axis of my work by positioning my approach to poor experience of care within

three dimensions: 1) level: interpersonal vs structural; 2) dynamic: paternalism vs autonomy; and 3) subjectivity: intentionality vs institutionalisation. After presenting the different conceptual approaches, I select and justify the terminology that I use throughout this work. Finally, I discuss how this type of violence can cause different harms at the personal, societal and systemic levels, emphasising the necessity for a strategic and pragmatic approach.

2.2. Current terminologies, definitions and conceptualisations

Various terms have been used across settings to describe the treatment women receive while giving birth: D&A, OV, humanised childbirth, RMC and mistreatment, to name the most common ones. As explained by Sen, the lack of consensus on terminology may be the result of diverse points of origin and stakeholders. (29) Depending on who addresses the issue, certain aspects are included or excluded, and the terminology varies. Therefore, the best terminology would depend on the historic context that gave rise to the term, why it is being used, by whom, and the aspects that are included, removed, demoted or ignored in the process. I briefly describe five key conceptualisations that have contributed to this evolving field.

2.2.1. Humanised birth

The concept of humanisation of birth emerged in the early 1980s based on the need to minimise the effects of a patriarchal and biomedical model of childbirth on women. Since the mid-20th century, pregnancy and childbirth had been conceptualised as pathological processes that required intensive monitoring by a physician. (34) The use of medical interventions in childbirth such as electronic foetal monitoring, amniotomy, induced labour, episiotomy, and unnecessary caesarean sections increased considerably. (75) The excessive use of these procedures reinforced the perception of women's role as patients and reduced women's autonomy and intrinsic childbirth capabilities, interfering with the physiological process of labour and resulting in unpleasant birth experiences and poor birth outcomes. The concept of 'humanised birth' was established to empower women and providers to consider issues such as the woman's emotional state, values, beliefs, and sense of dignity and autonomy. (76) A humanised birth is therefore understood as one that 1) promotes the active participation of women in decision-making and other aspects of their own care; 2) takes advantage of the expertise of both physicians and non-physicians, allowing them to work together as equals; and 3) involves the use of the best and most appropriate evidence-based technology and medical interventions.

2.2.2. Obstetric violence

As the issue of humanised birth gained political visibility, the term 'obstetric violence' was introduced by feminist activists fighting for reproductive rights in Latin America. OV is understood as a type of violation to women's human rights immersed in institutional obstetric practices that reinforce the asymmetry of power between patients and providers. The concept of OV was recognised within VAW frameworks supported by statutory human rights tools such as the Convention on Elimination of all forms of Discrimination against Women, the Convention on the Rights of the Child, the International Covenant on Civil and Political Rights and the Covenant on Economic, Social

and Cultural Rights. (17) The definition of OV in VAW statutes identifies three ways in which this kind of violence may be perpetrated against women: dehumanising care, over-medicalisation and the conversion of biological processes into pathological ones. (51) Dehumanising care refers to any cruel, dishonourable, dismissive, humiliating or threatening treatment provided by health personnel, causing physical or psychological harm to the woman. Over-medicalisation includes any procedure performed on the woman that does not translate into better maternal health or fails to prevent maternal mortality or morbidity, such as routine episiotomies, the routine administration of enemas and unconsented or unjustified caesarean sections. Finally, practices that pathologise the natural process of birth include those that equate the process of birth to one of disease, such as restricting women's mobility or their intake of food and drinks during labour, among others.

2.2.3. Disrespect and abuse

During the first decade of the current century, the poor treatment women were experiencing during childbirth started receiving global attention, culminating in Bowser and Hill's landscape analysis, which became the seminal work that originated the term 'disrespect and abuse' during childbirth. (56) Their work indicated that the abuse, disrespect and neglect that women were experiencing when giving birth in facilities were acting as barriers to healthcare, delaying progress in the reduction of maternal morbidity and mortality. Based on a comprehensive review of the evidence, Bowser and Hill identified seven categories of D&A: 1) physical abuse, 2) non-consented care, 3) non-confidential care, 4) non-dignified care, 5) discrimination based on specific patient attributes, 6) abandonment of care and 7) detention in facilities. (Figure 2) Unlike humanised birth or OV, D&A was not portrayed directly as an imbalance of power or an act of VAW, but as a deviation from agreed norms and standards at the individual, community, health system, governance and policy levels that deterred women from accessing care. Thus, this work helped to shift attention from the medicalised approach to maternity care that had historically focused on addressing the direct causes of pregnancy-related deaths towards the importance of the non-clinical aspects of care for ensuring a good intrapartum experience and guaranteeing access to healthcare.

Figure 2. Bowser and Hill's landscape analysis of disrespect and abuse (D&A)

(Source: Bowser et al., 2010)
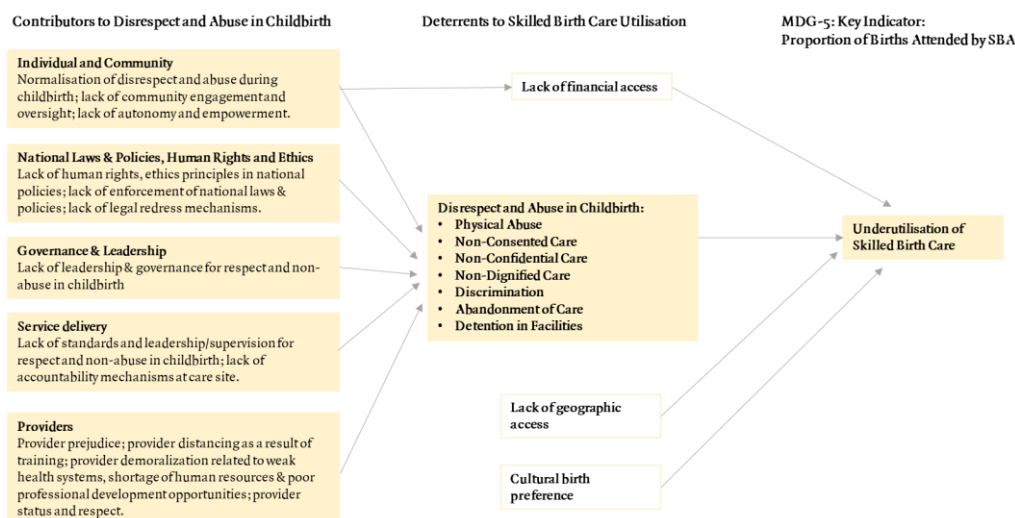
2.2.4. Mistreatment during childbirth

More recently, after conducting a mixed-methods systematic review, Bohren and colleagues argued for the need to replace the term D&A with 'mistreatment during childbirth' as a less provocative term that separates the issue from individual intentionality and links it to the realm of quality of care. (20) Quality of care for women and newborns is defined as care that is effective in maintaining or improving health and is person-centred, meaning that it is respectful of and responsive to individual preferences, needs and values. In their mixed-methods systematic review, the authors described seven domains of MDC that illustrate how the quality of care received by women deviates significantly from established standards. These domains include: 1) physical abuse, 2) verbal abuse, 3) sexual abuse, 4) stigma and discrimination, 5) failure to meet professional standards of care, 6) poor rapport between women and providers, and 7) health systems conditions and constraints. (Figure 3) Using this typology, new tools have been developed and validated across five countries in Asia and Africa as a first step forward on the quest to standardise and measure this issue. However, while the use of this term is increasing among the global health community, some resistance remains as many argue that violence cannot be completely removed from intentionality and that standardisation is not possible for such a context-specific issue.

Figure 3. Bohren and colleagues' typology of mistreatment during childbirth (MDC)
(Source: Bohren et al., 2015)

Third-Order Themes	Second-Order Themes	First-Order Themes
Physical abuse	Use of force	Women beaten, slapped, kicked, or pinched during delivery
	Physical restraint	Women physically restrained to the bed or gagged during delivery
Sexual abuse	Sexual abuse	Sexual abuse or rape
Verbal abuse	Harsh language	Harsh or rude language
		Judgmental or accusatory comments
	Threats and blaming	Threats of withholding treatment or poor outcomes
		Blaming for poor outcomes
Stigma and discrimination	Discrimination based on sociodemographic characteristics	Discrimination based on ethnicity/race/religion
		Discrimination based on age
		Discrimination based on socioeconomic status
	Discrimination based on medical conditions	Discrimination based on HIV status
Failure to meet professional standards of care	Lack of informed consent and confidentiality	Lack of informed consent process
		Breaches of confidentiality
	Physical examinations and procedures	Painful vaginal exams
		Refusal to provide pain relief
		Performance of unconsented surgical operations
	Neglect and abandonment	Neglect, abandonment, or long delays
		Skilled attendant absent at time of delivery
Poor rapport between women and providers	Ineffective communication	Poor communication
		Dismissal of women's concerns
		Language and interpretation issues
	Lack of supportive care	Poor staff attitudes
		Lack of supportive care from health workers
		Denial or lack of birth companions
		Women treated as passive participants during childbirth
	Loss of autonomy	Denial of food, fluids, or mobility
		Lack of respect for women's preferred birth positions
		Denial of safe traditional practices
		Objectification of women
		Detainment in facilities
Health system conditions and constraints	Lack of resources	Physical condition of facilities
		Staffing constraints
		Staffing shortages
		Supply constraints
		Lack of privacy
	Lack of policies	Lack of redress
		Bribery and extortion
	Facility culture	Unclear fee structures
		Unreasonable requests of women by health workers

2.2.5. Respectful maternity care

The recognition that the provision of high-quality, evidence-based clinical care is equally important to women's experiences positioned this issue as a centrepiece to the maternal and newborn quality-of-care agenda and a necessary step to achieving effective universal health coverage. (77) In an effort to understand and improve the quality of maternal and newborn care, the WHO developed a framework and associated global standards for healthcare facilities. (Figure 4) This framework considers the characteristics of quality regarding two important components of care: the quality of the provision of care (evidence-based practices, actionable information systems, functional referral systems) and the quality of care as experienced by women, newborns and their families (effective communication, respect and dignity, emotional support). Additionally, the 'Respectful Maternity Care Charter: the Universal Rights of Childbearing Women' was launched by the White Ribbon Alliance in an attempt to map the relationship between human rights and maternal health. (17) Like 'humanised birth', the term 'respectful maternity care' was coined cautioning against the antagonising effect that the terms 'abuse', 'disrespect' or 'violence' could have on the providers that must be engaged to effect change. Unlike the

previous terminologies, RMC presents as a positive approach to the agenda which is aligned to human rights-based approaches. Citing the right to health, RMC emphasises the dimensions of dignity, respect, non-coercion and non-discrimination in the delivery of healthcare to women and newborns, leaning heavily on traditional civil and political rights, such as a person's rights to liberty and security, as well as freedom from cruel, inhumane and degrading treatment; interference with privacy; arbitrary detention; and discrimination. (24) Many of these rights are articulated at the woman-provider level and within the context of the maternity healthcare facility. However, the right to health, dignity and respect needs to be understood within the broader political landscape in which healthcare functions, incorporating the socio-cultural and gender dynamics that influence clinical settings and health systems and ultimately impact health outcomes. In this sense, Shakibazadeh and colleagues developed twelve domains of RMC (78): 1) being free from harm and mistreatment; 2) maintaining privacy and confidentiality; 3) preserving women's dignity; 4) prospectively providing information and seeking informed consent; 5) ensuring continuous access to family and community support; 6) enhancing the quality of the physical environment and resources; 7) providing equitable maternity care; 8) engaging with effective communication; 9) respecting women's choices, which strengthens their capabilities to give birth; 10) ensuring the availability of competent and motivated human resources; 11) providing efficient and effective care; and 12) continuity of care.

Figure 4. World Health Organization (WHO) framework for the quality of maternal and newborn health (MNH) care

(Source: Standards for improving quality of maternal and newborn care in health facilities, 2016)
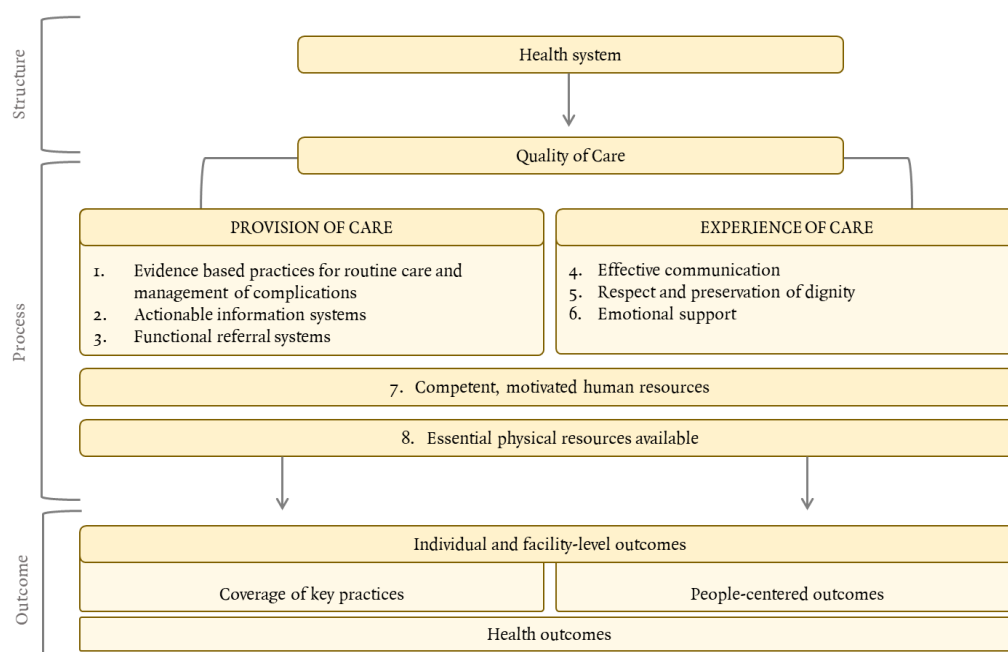
2.2.6. Conclusion

The semantic evolution of the term, along with its many dimensions, emphasises the complex nature of a phenomenon that coexists within multiple disciplines. The above description of key conceptualisations highlights the current difficulty of this field as no single term fully encapsulates the issue. Thus, if one were to create a composite definition that encompasses all the different dimensions, the result would be so unwieldy that no solution would ever be fit for purpose. Although systemic change arises from the collaborative efforts of various disciplines, it is equally important to understand the strengths and limitations of each discipline and their synergy to efficiently navigate towards that systemic change. To address this complexity and provide a conceptual entity that can be measured, the phenomenon needs to be broken down into its component parts. To accomplish this, in the subsequent section, I identify three dimensions of the phenomenon that I have used as a guide to frame my study: 1) level, 2) dynamic and 3) subjectivity.

2.3. The various dimensions: a conceptual exploration of violence

As previously described, humanised birth, OV, MDC, D&A and RMC are all used to refer to the type of treatment experienced by women during childbirth. However, its conceptual complexity is more intricate than its actual manifestation: it can be perceived as an issue emerging from women's lack of autonomy and an over-medicalised system of care; it can be defined as yet another form of patriarchal power asymmetry resulting in further VAW; or it can simply be a direct act of interpersonal violence or an indirect, unintentional manifestation of structural constraints and systemic frustrations. While the selection of any one term may cause dissent among those studying this issue, I aim to provide an in-depth description of different aspects of the overall phenomenon. In this section, I focus on defining three salient dimensions. First, I use Galtung's theory of violence to determine the level of analysis, either interpersonal or structural. Subsequently, I elaborate on the concept of paternalism in medicine, trying to disentangle the principle of beneficence from the rights to self-determination and autonomy that allow women to make informed decisions about their bodies. Finally, I cover the issue of subjectivity to evaluate how intentionality and habitualisation interact within institutionalised medical care. After I explore these three dimensions, I conclude with a definition that serves as the foundation for my study.

2.3.1. Level: structural vs interpersonal violence

As a point of departure, it is essential to understand the notion of violence to define the boundaries of my conceptual approach. In limiting myself to an analytical view of violence that points solely to subjects and intention, I risk missing its pervasive form that is silently incorporated into structures, institutions, ideologies and societies. To make my case, I use Johan Galtung's theory of violence presented in the 1969 article 'Violence, Peace, and Peace Research'. (79) In his article, Galtung defined violence as 'the cause of the difference between the potential and the actual, between what could have been and what is'. In Galtung's view, the potential refers to the level of realisation which is possible with a given level of insight and resources. If I apply his definition of violence to the topic being studied in this thesis, it would mean that if a woman in the early 1980s suffered from perineal trauma caused by receiving a routine episiotomy, it would be difficult to conceive this as an outcome of violence since, back then, routine episiotomies were considered

beneficial, with no foreseeable harm to the woman's health or bodily integrity; however, if she were to suffer from that same trauma today despite 30 years of clinical research demonstrating the harmful consequences of routine episiotomy, then it would be considered an outcome of violence. In other words, when the potential is higher than the actual and the actual is, by definition, avoidable, then a violent act is committed. With the exponential emergence of knowledge around the benefits and harms of clinical and non-clinical practices in maternal and newborn care, the difference between the potential and the actual has increased, with violence becoming more apparent than before. (80)

The concept of violence, however, extends beyond the narrow definition presented above as many dimensions characterise a violent action. The main distinction that I will focus on to start shaping the concept is between structural violence and direct or interpersonal violence. Interpersonal violence involves the intentional use of physical force or power against other persons by an agent, resulting in injury, death, psychological harm, mal-development or deprivation. (81) Structural violence, on the other hand, is defined as an injury that is not immediately attributable to an acting subject but is built into a structure and manifests itself as inequality of power, resources, health and life opportunities. The advantage of Galtung's concept of structural violence is that it opens up the category of violence to include poverty, subordination and social exclusion, among many other disadvantages. It makes it possible to theorise differential access to power and resources as a form of violence, shifting the categorisation of violence away from the direct phenomenon towards a broad set of social interactions. Therefore, a person's decision to act violently might be based not (only) on individual deliberation but (also) on expectations imposed by norms contained in social roles and social structures.

Following Galtung's notion of violence, Freedman and colleagues acknowledge the differences between the individual actions and the systemic conditions that sustain mistreatment with regard to the experience of women during childbirth. They differentiate between individual D&A (related to direct or interpersonal violence) as the specific provider behaviours experienced or intended as disrespectful or humiliating and structural D&A which emerges from systemic deficiencies that create a disrespectful or abusive environment. (8) Both individual and structural D&A are deeply embedded in a broader social, cultural and political ecosystem, surpassing providers' intentionality or health systems failures. According to Freedman and colleagues, D&A is rooted in systemic inequalities at the societal level that create the conditions for patients to become more vulnerable to this type of care; this applies to women, and especially women who are socioeconomically disadvantaged in other ways, be it poverty, race, class, education or age. It is at the intersection of these individual and social characteristics that interpersonal relationships within health care become discriminatory, marginalising and abusive. Thus, it is not possible to understand the nature of the woman-provider relationship without understanding how the structures within which both providers and women belong are organised. Nor it is possible to dismantle D&A during childbirth without confronting longstanding inequalities that obstruct a large proportion of the population from exercising their right to health, dignity and autonomy. As stated by Erdman, 'a health system wears the inequalities of the society in which it functions'. (82)

Whether the structural aspect of violence is an intrinsic component of D&A or an external driver thereof is still unclear, and only a fine line divides one interpretation from the other. Earlier definitions of OV and (de)humanised birth have emphasised the role of larger structures including gender, social norms or professional status as major components of this form of violence, equating it to the interpersonal and direct forms of

violence. These structural aspects are essential for defining the term, making it impossible to separate the concept from the social context. Conversely, the evolution of the term to D&A or MDC and the need to convert it into a generalisable global construct resulted in the exclusion of the context. While these new terms still recognise aspects of the health system as inherent to the concept, the larger structural factors (social, economic, legal and political) are considered external drivers that create the conditions for the occurrence of violence rather than an intrinsic component thereof.

2.3.2. Dynamic: paternalism vs autonomy

The major controversy around some dimensions of the experience of women during childbirth relates to the assistance-based nature of medicine and the inherent power dynamic that exists in a patient-provider relationship. More precisely, how can we differentiate a clinical practice performed to produce a benefit from one born out of an intangible need to showcase power? The professional responsibility model of obstetric ethics is based on two central ethical principles: the principle of beneficence and the principle of autonomy. The former requires medical providers to act in a way that is reliably expected to produce a greater balance of benefits over harms in the lives of their patients. The latter requires the health provider to empower 'patients' (pregnant women in this case) to make informed decisions about the management of their condition (pregnancy). When both principles are combined with an asymmetric power distribution, the risk of paternalism in maternal health care increases. By this, I mean that a hierarchical medical system in which the locus of power is placed on providers rather than patients invites an unwary obstetrician to conclude that beneficence-based judgements can simply be imposed on the pregnant woman in violation of her autonomy – a paternalistic attitude that results in dehumanising treatment. As Jewkes and Penn-Kekanna argue, 'the power relations between some health professionals and women in maternity settings are ones of hegemonic dominance, which strongly parallels the societal position of dominance of men'. (31)

Pregnancy and childbirth are different from other health conditions as they are not diseases but normal physiological processes that require no pathogen control but a supportive environment and assistance only in case of an emergency. The imbalance of power embedded in biomedicine, wherein the providers are the protagonists (and operate paternally) because of their technical, authoritative knowledge becomes more perverse in this normally healthy and non-pathological situation. (31) In the context of maternal care, abusive actions can emerge from the biased normative judgements that health workers make about women. Feminist scholars have described the issue of OV as part of a general patriarchal oppression of women: a reduction, repression and objectification of their otherwise capable and powerful bodies. (83) The idea that women are not capable of leading the process of birth is highly embedded in the contemporary obstetric model, in which women are trained to believe that medical interventions are needed, and that abuse, in any form, is justified if the baby is born healthy. Forcing the woman to give birth in a supine position, impeding early attachment of the child to the mother without a medical cause, altering the natural processes of a low-risk labour and birth by using augmentation techniques, routine episiotomies or caesarean sections in cases where natural childbirth is possible, without the voluntary, expressed and informed consent of the woman, are just other forms of regulating a process that was once empowering to women and has now transformed into a space where female obedience and passivity is expected. (33, 83)

Autonomy in healthcare should be an inter-relational principle in which women feel empowered to exercise their capacity for autonomous decision-making in response to alternatives offered or recommended by the medical provider in a process of informed consent. However, this exchange, while simple in theory, has been corrupted by the asymmetric power distribution between women and providers and reinforced by the institutionalisation of a form of interaction emerging from decades of social construction. This has led, in many settings, to women experiencing violence as a normal, expected and accepted part of the process of childbirth. Thus, uncovering the patterns of D&A in institutional maternity care inevitably exposes deeper societal structures and injustices suffered by women.

2.3.3. Subjectivity: intentionality vs institutionalisation

Emerging from the previous two dimensions, the third and last that I present is that of subjectivity, meaning the role that intentionality and institutionalisation play within the concept of violence. In an 'if a tree falls in a forest' type of dilemma, I initially analyse two scenarios: what happens if an intentionally violent act from a health provider is not perceived as violent by the woman? And, in reverse, what happens if an act not intended to be violent is perceived as such? In his book *Violence and Social Justice*, Buffacchi argues that the main difference between these two questions is that while the former act of violence is intention-oriented and motivated, the latter is victim-focused and consequentialist (84). I start by describing the first question, as when it comes to defining violence, the role of intentionality receives almost universal support.

From a moral point of view, some may argue that intentionally causing harm is worse than causing harm with foresight but without intention. This can be partially explained by the fact that intentionality is generally seen as the moral line which differentiates a benevolent from a malevolent action, even if both actions result in suffering (or neither of them do). Following that line of thought, it is not the consequence of the violent act, but the motivation behind the act that transforms it into violence. A woman might not perceive a provider's behaviour as violent, disrespectful or abusive simply because she lacks the information to judge the correctness of a clinical decision at the time that decision is being made, which does not make the act any less violent, disrespectful or abusive. However, in our topic of study, it is difficult to argue that a disrespectful medical provider is acting intentionally, nor would I dare to claim that they have not complied with the primum non nocere principle of the Hippocratic oath. A slight change to that scenario might make it more relevant for the medical field: what happens if a health provider does not intend to cause harm but performs a practice (or stops performing one) for which the harm is foreseeable? Such can be the case of performing an unnecessary caesarean section knowing that it can increase the time to recovery as well as the chance of complications in future births. Thus, if a woman suffers from the foreseeable adverse event of an avoidable and unnecessary practice, violence is occurring, regardless of intentionality.

Having established that intention is not a sine qua non condition for violence, we can now analyse the second scenario, in which the act is not intended to cause harm (intentionally or foreseeably) but is perceived as violent. Some may claim that the inherent physicalities that come with childbirth can skew a lay eye into believing that they have been victims of violence, warning against a victim-oriented approach. However, it is not the physical aspect of childbirth per se that is violent, or every delivery would be catalogued as

physical abuse; rather, the occurrence of a physical act within a disrespectful environment makes it violent. Women's memories of their childbirth experiences and the treatment they receive stay with them for a lifetime, having a lasting impact on their mental health and their relationship with the newborns. Incorporating the perspective of the woman whose quality of life might be hampered can help to uncover the silent aspects of care that shape her experience.

A third and final dilemma appears when neither did the perpetrator intend/foresee harm, nor did the recipient perceive the act as violent. To solve this dilemma, I will build on the notion of the social construction of reality introduced by Berger and Luckman (1966), in particular, on their concepts of 'habitualisation' and 'institutionalisation'. (85) In their work, Berger and Luckman acknowledge that life is constructed through the continuous interaction and communication between humans. They refer to 'habitualisation' as the process resulting from the sustained and frequent repetition of an action that becomes cast into a pattern and embedded as routine within human activity. Habitualisation implies that the same action will be performed again in the future in the same manner, carrying an important psychological gain as choices appear narrow and demand minimal decision-making. The process of habitualisation can be social or non-social. Berger and Luckman explain that even a solitary individual on a deserted island habitualises their activity. As they exemplify, 'when he [the solitary individual] wakes up in the morning and resumes his attempts to construct a canoe out of matchsticks, he may mumble to himself "there I go again" and start step one of an operating procedure'. The continued typification of habitualised actions by social actors transforms into institutionalisation. Institutions are built up in the course of a shared history. In simpler terms, two individuals who begin to interact de novo will form a pattern of habitualised actions, which they will have the power to modify as they understand the world that they created. This world that was once malleable to these two individuals becomes harder to modify when it is transmitted to the new generation. For the new generation, the objectivity of the institutional world 'thickens' and 'hardens'. Since they had no part in shaping it, it confronts them as a given reality: the 'there we go again' transforms into 'this is how things are done'. In reality, institutions manifest in collectives containing a large number of people rather than two individuals. These institutions, by the very fact of their existence, control human conduct by setting up predefined patterns which channel it in one direction as against the many other directions that would theoretically be possible.

With regard to the topic of this thesis, health institutions have been developed such that the type of social interaction between medical providers, as well as between medical providers and women, has been transformed into an objective and unquestionable reality. However, the institutionalisation of certain practices as the way 'things work' within healthcare does not indicate the nonexistence of violence but the transformation of violence into a social reality. For example, a woman in labour can be left alone for extended periods because the doctor is 'busy saving lives', a widely accepted and unopposed argument, as the institutionalisation of healthcare has been developed such that the divinisation of authoritative knowledge prevails within the patient-provider interaction. However, not only the interaction but also its consequence has been institutionalised. Sustaining a social reality that is built on an unequal distribution of power or lack of autonomy – as has been presented in the previous sections – can only have a negative impact on women and society as a whole. Assessing the harm caused by objective and institutionalised practices might expose the silent form of violence that is built into the everyday interaction.

Whether intentional, perceived or silent, violence emerges and reveals itself in patterns that have been incorporated into the medical practice and passed along through several generations. Unveiling the negative impact of the violence can help to make it visible to all, even to those blinded by the objectivity of the social (and institutional) world in which we live.

2.4. Developing a narrative definition

From the analysis presented in the first half of this chapter, I concluded that no single term can describe the full extent of the phenomenon under study. As a result, and for the purpose of my thesis, I use the term 'mistreatment during childbirth' to align with the current studies carried out globally and avoid the introduction of further terminologies to an already saturated field. However, despite there being many terms for and categorisations of this phenomenon, a unified definition is still lacking. Incorporating the three dimensions (level, dynamic and subjectivity) introduced above, **I consider MDC to be any violent act occurring at a woman-provider level that causes harm while restricting the woman's autonomy, whether intentional, foreseeable or institutionalised, recognising that structural disadvantages are both the foundation and the consequence of this type of violence.**

This chapter explains different ways of conceptualising the negative experience of women during childbirth, focusing on its historical origins, roots and drivers, and dimensions. This conceptual unpacking of mistreatment (and all its variants) helps to avoid the reduction of mistreatment to simple acts of direct violence. Herein, I am studying a phenomenon that carries the weight of centuries of inequalities, is normalised within medical practice and has become invisible even to those suffering its consequences. Additionally, a critical understanding of the foundations of the MDC concept helps define it with consideration to its effects on women. Now, I turn to the case for why the issue of MDC is important in and of itself and address its potential consequences.

While any one episode of violence is an episode too many, violence is also dependent on its negative effect, as defined by both action and harm. Returning to Galtung's definition, there is no violence without harm, as there is no violence when the actual and the potential are equal. A violent action can have different types of negative effects, which I refer to as direct and indirect harm. The 'direct' forms of harm are those that are perceived as part of the action, meaning it is difficult to separate the harm from the action without redefining the action. For example, if a woman in an obstetric emergency is denied care due to her inability to pay for the services, she will suffer from the health consequences of this form of discrimination. Similarly, if a woman is verbally abused during the process of childbirth, she may suffer from the intense psychological distress caused by this type of abuse. However, while many acts of mistreatment may not inflict harm in this way, they do contribute to the creation and sustenance of social conditions in which harms and disadvantages affect women, mostly those belonging to vulnerable social groups. Thus, while sustaining asymmetric power dynamic or replicating gender norms and increasing inequalities within healthcare might not directly harm an individual, they can nevertheless be judged as indirectly harming society as a whole.

I acknowledge that the indirect repercussions of MDC have the potential to heighten established cultural, social and gender norms that amplify women's vulnerabilities within society. However, adhering to my pragmatic approach, the primary focus in this section of my thesis remains the direct harm inflicted by MDC. This singular

focus facilitates a clearer understanding of the immediate and concrete issues at hand, providing a basis for actionable strategies. Such an approach underscores the importance of dealing with tangible problems, forming the basis for the future exploration of more systemic issues.

2.5. Direct harm: its impact on health and behaviour

Much-needed progress has been made in understanding the treatment and experience of labouring and postpartum women and their newborns; however, much less attention has been paid to defining and assessing the impact of MDC on their well-being. (86) Every woman and newborn has the right to skilled care at birth with evidence-based practices delivered in a humane, supportive environment. (16) Most importantly, the standards should equally emphasise clinical care and the rights of patients to privacy, confidentiality, dignity and consent.

A woman's relationship with maternity care providers and the maternity care system during pregnancy, childbirth and the immediate postpartum period (birth through 48 hours) is vital and can affect long-term outcomes. Women's experiences with health providers can empower and comfort or inflict lasting damage and emotional trauma. (87) Preliminary evidence indicates that women, newborns and their families who experience disrespectful care during pregnancy and delivery are discouraged from seeking care in both the early (Days 2 through 7) and late (Days 8 through 42) postnatal periods.

The postnatal period – defined as the first 6 weeks after birth – is critical to the health and well-being of the woman and the newborn. (88) During this period, women and newborns are particularly susceptible to several widespread and persistent childbirth-related morbidities, many of which are unreported by women and can go unnoticed and untreated by healthcare professionals. (89) Common health problems include physical morbidity, such as backache, (90, 91) perineal pain, (92, 93) stress incontinence, (94-96) breastfeeding problems (97-99) and mental health problems, such as postnatal depression (100-102). The likelihood of depressive episodes after childbirth can be twice as high as that during any other period of a woman's life. (103) Women who suffer from postnatal mental health disorders have prolonged difficulties in developing maternal feelings towards their infants compared to women who do not, with direct effects on infants' health and development that include delayed psychosocial development, low birth weight, reduced breastfeeding, hampered growth and lower compliance with immunisation schedules. (6, 104) Therefore, the timely screening and identification of women's needs are essential to ensure that women have sufficient support during their initiation into motherhood, maintain and promote the health of the woman and her baby, and foster an environment that offers help and support to the extended family and community for a wide range of related health and social needs. (88, 105, 106)

Recognising the potential link between MDC and women's care-seeking behaviours has multiple potential benefits. First, it can increase the visibility of the phenomenon of MDC within the public sphere, as any measure of risk is likely to disseminate faster and gain a better seat at the decision-makers' table. Second, it can facilitate the design and evaluation of interventions or programmes by identifying short-term, measurable outcomes rather than the broad societal impact, which is harder to measure. Third, it can help to monitor the progress made by the respectful care movement, a highly dynamic and fast-paced group that has been greatly invested in this issue for the

last decade. Finally, it can give more weight to a problem that has been subjected to providers' gender bias and catalogued as yet another 'women's issue'.

2.6. Conclusion

In this chapter, I focused on defining the concept of MDC that guided my thesis. I used elements of medical ethics, feminist studies and sociology to depict the complexity of an issue built on decades of asymmetric power structures that have contributed to disproportional suffering among those born in underprivileged positions based on their gender, race, literacy or socioeconomic status. I also used public health concepts to justify why MDC cannot be viewed as an isolated problem without understanding its potential consequences for the woman, her baby and the broader community. In the upcoming chapters, I continue borrowing from different disciplines to form a comprehensive landscape of MDC. However, rather than studying its intrinsic aspects, I decided to analyse MDC as relates to its potential for direct harms, as harm is a mandatory precondition for the existence of violence. To start, Chapter 3 reviews the available literature to explore the potential association of MDC with PNC utilisation and MNH and well-being.

3. Understanding the direct harm caused by mistreatment during childbirth: a mixed methods systematic review[1]

In the initial stage of my PhD journey in 2020, I performed a literature review aimed at discerning the mechanisms by which MDC affected postnatal outcomes. Since this early stage, my research plan has undergone a significant evolution, particularly concerning the selection of health-related outcomes. The reason for these adaptations is that the evidence base for MDC health outcomes was quite limited at the time, which hindered the establishment of a comprehensive theory. Thus, the findings of this literature review, though crucial in shaping the early direction of my research, might appear somewhat outdated in light of subsequent revisions to the outcome and emerging evidence. This evolution is discussed in greater detail towards the end of this chapter and developed in the subsequent sections of my thesis. It is also important to note that new evidence has emerged since the initial literature search, which is not reflected in this chapter but has been thoroughly considered and integrated into the subsequent chapters of this thesis.

3.1. Introduction

High-quality care during pregnancy and childbirth is crucial to improving health outcomes for women and their newborns. It is now recognised that maximising the coverage of essential interventions alone is insufficient. To end preventable maternal and newborn morbidity and mortality, every pregnant woman and newborn should receive skilled care at birth with evidence-based practices delivered in a humane, respectful, supportive environment. Miller and colleagues recognise two extremes in the continuum of maternal health care across the world, which they call 'too little too late' and 'too much too soon'. (77) In the first case, inadequate resources, subpar evidence-based standards, or the withholding or unavailability of care until it is too late result in higher maternal

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Minckas N, Gram L, Smith C, Mannell J. Disrespect and abuse as a predictor of postnatal care utilisation and maternal-newborn well-being: a mixed-methods systematic review. BMJ Global Health 2021;6:e004698.

morbidity and mortality. In the second, the unnecessary use of non-evidence-based interventions, as well as interventions that can be life-saving when used appropriately but harmful when applied routinely or overused, leads to harm, increases health costs and often promotes D&A. Therefore, high-quality care requires the appropriate use of effective clinical and non-clinical interventions, strengthened health infrastructure, optimum skills and a positive attitude of health providers.

While global evidence mounts on the nature and frequency of MDC, (107-110) little is known about the consequences of negative experiences of care on the health and well-being of women and newborns. Negative experiences during antenatal, intrapartum or immediate postpartum care might influence women's care-seeking behaviour after birth, particularly regarding accessing PNC. A qualitative study showed that factors affecting the utilisation of PNC not only include cost, distance to the healthcare facility and lack of knowledge of the importance of PNC but also fear of mistreatment by healthcare workers, fear of denial of PNC and actual denial of care. (86) This finding offers a potential hypothesis to explain why PNC use has consistently had among the lowest coverage on the continuum of maternal and child care despite great improvements in overall access to institutional care. (111, 112)

Despite its known benefits, PNC continues to be among the least-used services along the reproductive continuum of care in many countries. (3, 113) The well-being of a woman and her newborn are interconnected; good early care and adequate support of the mother has a lasting positive impact on her health and well-being and those of her newborn, promoting attachment and breastfeeding. (114) This period becomes particularly important when a woman or her baby has developed complications that continue to impact their daily lives and for women with poor support networks or an increased risk of mental health problems. Lack of or delayed access to PNC could result in missed opportunities to promote healthy behaviours, affecting the long-term health and well-being of women, newborns and children. (115) In addition to the need for improvements in the quality of care received by women and newborns in the intrapartum period, evidence on the consequences of MDC for women's and newborns' health, well-being and care-seeking behaviours is necessary to inform programme implementation, policy and advocacy. Therefore, understanding the impact that experiences of care or MDC during facility-based deliveries can have on the likelihood of using PNC becomes a crucial first step towards the goal of increasing and sustaining the health and well-being of women and their babies.

This review answers the following research question: what are the associations of 1) the mistreatment of mother and newborn during childbirth and the immediate postnatal period (understood as the first 24 hours after birth) with 2) maternal and neonatal PNC utilisation, newborn feeding practices, newborn weight gain and maternal mental health?

3.2. Methods

3.2.1. Type of review

A mixed-methods review was conducted following a parallel-result, segregated synthesis design. In this review, quantitative and qualitative data were analysed and are presented separately, with integration performed in the discussion. (116) The rationale for conducting a mixed-methods review was to acknowledge the complexity of the issue of MDC. Thus, the aim was not only to quantify the relationship between MDC and the

selected outcomes (quantitative analysis) but also to explore how other factors promote or inhibit this relationship (qualitative analysis).

3.2.2. Search strategy

Pubmed, Embase, Web of Science, Latin American and Caribbean Health Sciences Literature (LILACS) and Scopus were systematically searched using controlled vocabulary and free-text terms for 1) mistreatment of women or newborns during childbirth; 2) maternal, perinatal, neonatal, postnatal health; 3) access to care; and 4) breastfeeding or PNC utilisation or PPD or infant weight gain (Appendix 1). The search was restricted to articles published between 20 September 2010 and March 2020. The start date was selected as it is the date of publication of Bowser and Hill's seminal landscape analysis. (56) Reviews and reference lists from identified articles were manually searched to identify additional studies.

3.2.3. Eligibility criteria

For the quantitative analyses, studies were included if 1) they comprised primary research conducted using quantitative research designs; 2) the sample included women who gave birth at a health facility; 3) they measured the association of MDC with PNC utilisation following initial discharge after birth, maternal PPD or other mental health outcomes, breastfeeding, or infant weight gain; and 4) they were conducted in LMICs as per the World Bank definition. (117)

For the qualitative analyses, studies were included if they 1) comprised primary research conducted using qualitative methods; 2) discussed issues related to MDC and PNC utilisation, maternal PPD or other mental health outcomes, breastfeeding, or infant weight gain; and 3) were conducted in LMICs as per the World Bank definition. (117) No inclusion criteria on the study sample's characteristics were established for the selection of qualitative studies.

For both quantitative and qualitative studies, no restrictions were imposed on the type of MDC or its operationalisation, definition, or measurement tools for inclusion. Grey literature, opinion pieces and editorials, dissertations/theses, policy papers, general reports, and conference abstracts were excluded. Studies were also excluded if they focused on people with disabilities, refugees or people from conflict-affected settings, or women or newborns with severe health conditions that require specialised clinical care. Articles in English, Spanish, Portuguese, Greek, Italian and French were included. Covidence was used for the screening and extraction of data.[2]

3.2.4. Data extraction and synthesis

The retrieved titles and abstracts were independently screened by two reviewers (NM, AGN). Unclear abstracts were carried forward to the screening stage. The full texts of potentially eligible articles were retrieved and screened against the inclusion criteria. Disagreements were resolved via discussion between reviewers. For both quantitative and qualitative studies, data were extracted on country, study design, sample size and sample

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[2] *Covidence - Better systematic review management*

characteristics (age, place of residence, occupation, gender/sex, education, socioeconomic status, marital status).

For quantitative studies, primary outcomes were extracted according to the type of abuse reported in the article, independently of whether it was aligned to existing D&A or MDC typologies. If the article reported the exposure in its positive form (e.g. privacy), it was converted to its negative form (i.e. lack of privacy) to ensure consistency across the studies and facilitate interpretation of the review's results. Measures of effects were also transformed to unadjusted Ors if reported differently to allow for comparison between studies (the original effect sizes without transformation can be found in Appendix 5). A meta-analysis of the association between mistreatment and the main outcomes was not possible because of the small number of articles and high level of heterogeneity in the definition of both exposure and outcomes. Therefore, results were summarised descriptively. All calculations were performed using the statistical software STATA14.

Qualitative studies were imported into the software Nvivo 12 for analysis. Articles were analysed using thematic synthesis. (118) Thematic analysis has been identified as one of a range of potential methods for research synthesis alongside meta-ethnography and 'metasynthesis'. Qualitative evidence synthesis helps to systematically combine findings from primary qualitative research. The use of thematic analysis to synthesise evidence allows for the clear identification of prominent themes and provides organised and structured ways to deal with the literature under these themes. (119) Thematic analysis is not just a qualitative method but a process that can be used with most, if not all, qualitative methods. (120) The approach used herein concurs with this conceptualisation of thematic analysis since it involved techniques commonly described as 'thematic analysis' to formalise the identification and development of themes. The process of synthesis followed three steps: the free line-by-line coding of the findings of primary studies; the organisation of these 'free codes' into related subthemes; and the development of broader 'descriptive themes'.

In the first step, after familiarising themselves with the data, two researchers (NM, AGN) independently coded the results section of each study, line by line, to inductively search for emerging themes. First, codes that addressed the following research questions were identified: 1) does MDC affect women's decision to use PNC? And 2) does MDC affect other outcomes such as breastfeeding, infant growth or women's mental health? No studies were found to answer the latter question, so the analysis only focused on PNC use as an outcome. At this stage, specific codes related to disrespectful or abusive acts towards women emerged as enablers or deterrents of PNC use. In the second step, the underlying mechanisms by which MDC could affect PNC use were explored through the following question: how does MDC relate to women's decision to use PNC? This approach allowed for the detection of broader factors linking MDC and PNC utilisation. Next, the basic subthemes identified were grouped into common descriptive themes. From this exercise, the final three themes emerged: 1) women's direct experiences, 2) women's expectations and 3) women's agency.

3.2.5. Risk of bias (quality) assessment

The assessment of research quality is critical for clinicians, researchers and policymakers. The quality assessment of studies has been used 1) to determine a minimum quality threshold for the selection of primary studies for systematic reviews, 2) to explore quality differences in study results, 3) to weigh study results in relation to study quality in

meta-analyses, 4) to guide the interpretation of findings, 5) to assist in determining the strength of inferences and 6) most importantly, to guide recommendations for future research and clinical practice. (121) The use of checklists generates a record of decision-making which is transparent and can be tracked for the purposes of governance and accountability or auditing of results.

For this review, two quality assessment checklists were selected based on those most frequently used and reported in reviews related to complex social and health-related issues like MDC. Thus, for the quantitative studies, the NIH Quality Assessment Tool for Observational Cohort and Cross-Sectional Studies was selected for quality assessment, (122) while qualitative studies were assessed using the Critical Appraisal Skills Programme (CASP) quality assessment tool (-uk.net/). (123)

Two reviewers independently assessed each study for quality and categorised the studies as being of 'high' ($\geq 75\%$ of applicable criteria), 'medium' (50 to < 75%) or 'low' (< 50%) quality. Discussions were held to reach consensus (Appendix 2 and Appendix 3). Because there is no current consensus on the role of quality criteria and how they should be applied (124), no studies were excluded as a result of the quality assessment. However, CERQual (Confidence in the Evidence from Reviews of Qualitative Research) was used to assess the confidence of the qualitative findings. (125) GRADE- Confidence in the Evidence from Reviews of Qualitative Research (CERQual) is an approach for assessing how much confidence to place in the findings of a qualitative evidence synthesis. The overall assessment of confidence (high, moderate, low, very low) is made based on an assessment of four components: methodological limitations, coherence, adequacy and relevance. This can help decision-makers to understand how much confidence to place in findings from qualitative evidence syntheses, providing a useful and practical approach to judge how much emphasis to place on findings when making decisions. (126)

3.2.6. Registrations and reporting

This systematic review is reported following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement guidelines (127) and the Enhancing transparency in reporting the synthesis of qualitative research (ENTREQ) statement guideline (128) to enhance transparency in reporting quantitative and qualitative evidence syntheses. The protocol has been prospectively registered and published in PROSPERO: registration CRD42020208916.

3.3. Results

3.3.1. General overview

The Pubmed, Embase, Web of Science, LILACS and Scopus searches yielded 2,133 articles, of which 572 were duplicates. The full texts of 89 potentially eligible studies were assessed. The main reasons for exclusion are listed in Figure 5.

Figure 5. PRISMA flowchart of included studies
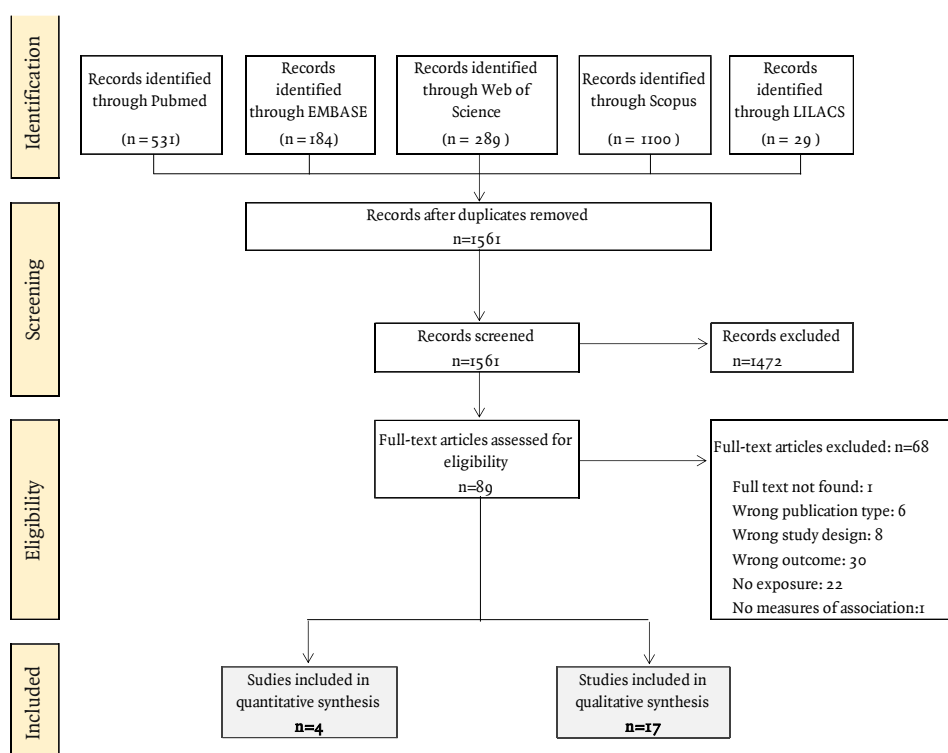
Following the exclusions, four quantitative papers, one mixed-methods paper and 16 qualitative papers remained. Two quantitative studies evaluated the association of MDC with PNC use (129, 130), one with breastfeeding (131) and one with maternal PPD (132). All the included qualitative studies evaluated MDC in relation to access to PNC. (86, 133-142) Of all the included studies, 17 were conducted in Africa, two in Latin America (Brazil) and two in Asia (China and Indonesia). A summary of the studies is presented in Table 1 and Table 2.

Table 1. Characteristics of the included quantitative studies (table available at the end of the chapter)

Table 2. Characteristics of the included qualitative studies (table available at the end of the chapter)

3.3.2.   Quantitative synthesis of main outcomes

All the quantitative studies defined MDC and the outcomes differently. Table 3 shows how the MDC domains extracted from the included studies relate to existing typologies of D&A and MDC. In this section, I present a narrative summary of the findings, further illustrated in Figure 6.

Table 3. Categorisation of the domains of MDC extracted from the included quantitative studies based on existing typologies (table available at the end of the chapter)

In the study by Bishanga (129), the 73.1% of women who reported experiencing at least one form of MDC had 41% lower odds of receiving an early postnatal check (unadjusted OR: 0.59, 95% CI: 0.43–0.82) and 30% lower odds of their newborn receiving an early postnatal check (95% CI: 2–49%) compared to mothers who did not experience MDC. The study by Silveira (132) reported that women who experienced any MDC during childbirth (18%) had 56% higher odds (unadjusted OR: 1.56, 95% CI: 1.07–2.27) of developing severe PPD compared to those who did not. Silveira performed an analysis by domain of MDC and showed that women who experienced verbal abuse had 69% greater odds of developing severe PPD (unadjusted OR: 1.69, 95% CI: 1.06–2.70) compared to those who did not. Bandeira de Sà (131) found that keeping the mother in the same room as the baby after delivery was the only clinically or statistically significant predictor of breastfeeding within 1 hour (unadjusted OR: 0.23, 95% CI: 0.14–0.37) among those measured. However, the survey was conducted on mothers attending vaccination centres; thus, the study population may have already self-selected for individuals with high levels of engagement. Additionally, Bishanga (129) reported that women not offered a choice of birth position had 19% lower odds of a postnatal check (0.69–0.94), and those who perceived the facility as not being clean had 32% (OR: 0.68, 95% CI: 0.34–0.81) and 60% (0.26–0.62) lower odds of receiving a maternal early postnatal check and newborn early postnatal check, respectively.

Creanga (130) found no statistical association at the 5% level between postnatal checks and any of the domains measured. The authors stated that this may be explained by a widespread perception of poor quality of care by women participating in the study.

Figure 6. Summary of the quantitative findings of the association between different domains of disrespect and abuse (D&A) and postnatal care (PNC) utilisation, breastfeeding and postpartum depression (PPD)

Outcomes	Domains presented in the article*	n	unadOR* (95% CI)
Maternal or neonatal healthcare services utilization 1	Perceiving that staff does not provide high quality services	1301	0.65 (0.02;1.33)
	Perceiving that staff does not ensure patients' privacy	1301	0.70 (0.39;1.25)
	Perceiving facility not to have good cleanliness	1301	0.81 (0.38; 1.72)
Maternal healthcare services utilization 2	Receiving any type of mistreatment	732	0.59 (0.43;0.82) ¥
	Perceiving facility not to have good cleanliness	732	0.68 (0.34;0.81) ¥
	Not being offered choice of birth position	732	0.81 (0.69;0.94) ¥
	Not being offered or not having a companion at labour or/and delivery	732	0.61 (0.45;0.83) ¥
Neonatal healthcare service utilization 2	Receiving any type of mistreatment	732	0.70 (0.51;0.98) ¥
	Perceiving facility not to have good cleanliness	732	0.40 (0.26;0.62) ¥
	Not being offered choice of birth position	732	0.74 (0.55;1.00)
	Not being offered or not having a companion at labour or/and delivery	732	0.75 (0.56;1.00)
Postpartum depression [EPDS score>=13] 4	Receiving any type of mistreatment	3065	1.31 (0.96;1.79)
	Receiving undesired procedures**	3065	1.34 (0.82;2.20)
	Being denied care	3065	1.48 (0.91;2.41)
	Experiencing physical violence during delivery	3065	1.54 (0.90;2.65)
	Experiencing verbal violence during delivery	3065	1.58 (1.06;2.33)
Postpartum depression [EPDS score>=15] 4	Receiving any type of mistreatment	3065	1.56 (1.07;2.27) ¥
	Receiving undesired procedures**	3065	2.19 (0.65;7.34)
	Being denied care	3065	1.56 (0.86;2.80)
	Experiencing physical violence during delivery	3065	2.85 (0.85;9.60)
	Experiencing verbal violence during delivery	3065	1.69 (1.06;2.70)¥
Breastfeeding within an hour 3	Experiencing neglect during delivery	1027	1.06 (0.3;1.36)
	Experiencing physical violence during delivery	1022	1.10 (0.86;1.41)
	Experiencing verbal violence during delivery	1022	0.98 (0.77;1.25)
	Not being offered or not having a companion at labour or/and delivery	1027	1.02 (0.85;1.24)
	Not being offered or not having a companion during postpartum	1027	1.09 (0.90;1.34)
	No rooming-in	1027	0.23 (0.14;0.37)¥

1) Creanga et al. 2017; 2) Bishanga et al. 2019: measures of effect were transformed from risk ratios to odds ratios; 3) de Sà et al. 2016. : measures of effect were transformed from prevalence ratio to odds ratio; 4) Silveira et al. 2019
* All domains were operationalised in the dichotomous form (yes/no)
¥ p<0.005
***Includes any procedure conducted against women's will or without explaining the need to conduct it, such as episiotomy or medication to induce labor

3.3.3. Qualitative synthesis of factors affecting postnatal care

The main objective of the qualitative analysis was to better understand if and how MDC and its underlying drivers affect the use of PNC. All the included studies with a qualitative component described this relationship from different perspectives; however, it did not form the primary research question of any study. Six studies aimed to explore barriers to MNH care, (86, 133, 138, 139, 143, 144) five explored the experience of MNH care, (134, 136, 140, 145, 146), three evaluated the perception of MNH care, (141, 142, 147) two described male involvement in maternal and newborn care (135, 137) and one explored gender dynamics in care provision. (148) The majority of the studies (15/17; 88%) were conducted in Africa (Burkina Faso, (147) Ghana, (135, 140, 141) Malawi, (142) Kenya, (137, 144) Uganda, (86, 148) Sudan, (143) Zambia (86) and Tanzania (134, 136, 145, 146)), while the remaining two were from Asia (China and Indonesia (133, 138)). While women's direct experience of MDC was identified as a factor influencing their decision to access care, two other themes emerged from the included studies to better explain the underlying factors driving this relationship. The confidence in the review findings was assessed and showed

high confidence in the theme related to women's direct experience and low to moderate confidence in the remaining two themes (Appendix 4).

i.   Theme 1: women's direct experience

The first theme that appeared repeatedly was 'women's direct experience', indicating that a previous negative interaction with a health provider could impact women's subsequent care-seeking behaviour, leading them to either change providers or delay or avoid care altogether. This theme included aspects related to health systems constraints and prior experiences of mistreatment.

- Health systems constraints:

Inadequate infrastructure and staff shortages contributed to the loss of trust in the maternal and neonatal services that women received. (133, 135, 136, 139, 142, 145) Women frequently reported having to wait before receiving care, which resulted in a poor patient/client relation. (142) Although some included articles reported that women accepted long waiting times as a result of limited staff, others stated that they questioned the value of PNC as other issues were prioritised before theirs. (133, 137, 142) Men and women used long waiting times as an argument for the lack of male involvement in MNH care, as men were frequently the ones in the paid workforce and often perceived themselves not to be 'in a position to spend the day waiting for their wives to receive care'. (135, 145) Men also reported a shortage of waiting space for them as a reason for not participating in MNH care, often being asked to wait outside while the women were being treated.

Women referred to facility cleanliness as another major deterrent to accessing PNC. (136, 145) They described labour wards as dirty and untidy and reported sometimes having to re-use dirty bed sheets or share a bed with other women, all of which strongly impacted their confidence in the hygiene of the health facilities.

- Mistreatment during previous contact with the health system:

Many women referred to their previous experience with the healthcare system as a barrier to PNC use. (86, 134, 136, 138-141, 148) Women identified areas where they felt that nurses did not provide them with sufficient, clear or timely information about the postnatal period, including skin-to-skin contact, hygiene practices and positioning for breastfeeding. (134) In one article, they mentioned that education on postnatal practices was provided immediately after delivery when they were still in pain. (138) Nurse-midwives also recognised their lack of time for providing health education to new mothers or even providing essential life-saving practices to mothers/newborns because of staff shortages. (136)

Another recurring theme that women mentioned as having a profound effect on their health-seeking patterns was the lack of privacy during the visits. (140, 141) In some articles, women expressed concerns about sharing confidential information because they felt that other people could listen to their interactions with health providers and questioned healthcare providers' ability to protect the confidentiality of the information they exchanged. Women recognised that these issues prevented them from discussing

topics related to their reproductive health, contraceptive use or ill health as they were afraid of negative repercussions for their relationships with family members or their husbands.

Many women and men identified the rudeness and abusive behaviours of health workers as a key problem affecting access to and use of maternal and neonatal services. (86, 141, 148) Women described nurses as 'rude and harsh', with many complaining about receiving 'verbal abuse', 'condescension' or 'derogatory comments'. (148) As described in a group discussion with young mothers: 'The nurses beat you when you refuse to push'. (141)

ii.   Theme 2: women's expectations

The second theme was 'women's expectations', meaning apprehension about visitng facilities based on the fear of the healthcare providers' expectations of them. This included, for example, women's sense that they could be shamed for the ill health of their child and for not following the recommendations of health providers.

- Internalised stigma:

Internalised stigma appeared frequently in the form of fear of repercussions and embarrassment as a deterrent to PNC use. (86, 143, 144, 146-148) In some studies, women described their fear of being detained at the health facility or 'shamed and belittled' for not having enough money to pay for services. (148) Others were afraid of reprimands and humiliation from health workers because they lacked proper baby clothing and believed that appearing dishevelled and uncared for gave the impression of not being celebrated and dignified by the family. (143, 146) Women also reported that if they failed to honour the health provider's expectations of them, they would be made to wait, yelled at or criticised. (143) However, these fears were most prominent among women who delivered at home. (86)

Women avoided accessing PNC in all these cases instead of confronting the health providers as they were afraid that they would be denied future care or services. Women stated that they did not consider themselves competent enough to engage in open confrontation, fearing that they would have to seek care in another facility further away from their place of residence, which would impact the cost and time required to access healthcare when needed. (144)

- Beliefs and traditions:

Some women discussed differences between medical and traditional knowledge as major barriers to accessing the postnatal clinic. (134, 138, 144) The lack of culturally sensitive care during childbirth, ineffective communication, and the dismissal of traditional practices and beliefs led to women avoiding access to subsequent care. Women reported unwanted medical interventions as a deterrent to their attending PNC; here, vaccine hesitancy due to the fear that an injection could harm the child was one of the main concerns.

iii.   Theme 3: women's agency

The last analytical theme was 'women's agency', referring to broader societal or familial influences that diminished women's decision-making power, a consequence of health systems failures and inadequate education opportunities after childbirth.

- Male involvement and gender dynamics:

The lack of participation of men in maternity care was described in many studies as the healthcare system's failure to actively engage them on issues of maternal health, with many men reporting negative attitudes from health workers when trying to get involved in the childbirth experience. (135-137, 148) While some healthcare workers agreed that family members needed to be included in post-delivery education, they often mentioned restrictions on this practice due to space constraints or other infrastructural issues. (136) This, in conjunction with traditional gender norms and cultural beliefs, led to most men perceiving maternal and newborn care as a 'feminine' domain, disengaging themselves from the process of care. (135, 136, 148)

Both men and women acknowledged that even if healthcare was perceived as the responsibility of the woman, men still exercised their power by either permitting or restricting women's access to services through financial control or other forms of domestic violence. (135, 137, 148) Thus, women avoided PNC as any delay that prevented them from performing their household chores, or accepting care practices condemned by their partners, could potentially trigger episodes of domestic violence.

- Family and societal influence (social norms):

The suboptimal provision of education on PNC after facility childbirth made women less prepared to confront external family and societal influences once discharged. (134, 136, 138, 144) Midwives reported not having adequate time to build a trusting relationship with women to discuss issues related to postpartum care as a consequence of staff shortages or space constraints, while women claimed they did not understand midwives' instructions on how to care for the baby as they rushed through the process and used high-manner language. (134)

The lack of preparation for the postnatal period meant that many women, especially those who shared homes with their extended family (such as in-laws or grandparents), were more likely to follow culture-related myths and rules passed on by their relatives. (136, 138, 144) Women recognised that they were expected to obey traditional family rules rather than acting on any teachings provided at the hospital. (138) Thus, they would refrain from accessing PNC due to fear of repercussions for not following providers' previous instructions.

Although this theme appeared less frequently across articles, health providers recognised the existence of cultural beliefs and traditional practices regarding health care in their communities and mentioned that they tried to discuss this issue with women. However, they acknowledged that family and societal influences were particularly strong during the postnatal stage.

3.4. Discussion

This systematic review aimed to understand how and why the experience of women and newborns during childbirth can impact their relationship with the healthcare

system and their health and well-being. Different domains of MDC were associated with poorer engagement with early maternal care and early neonatal care, as well as PPD; the only domain associated with breastfeeding was rooming-in, where mothers and babies are kept together, promoting opportunities for contact. Although there is currently a paucity of high-quality quantitative evidence and a lack of consistency in the measurement of the exposure, the themes that emerged from the qualitative studies indicate different pathways by which these associations could hold true. These pathways reflect multiple interrelated influences that guide women to access and utilise PNC and subsequently impact their health and that of their newborn.

Echoing my quantitative results, the qualitative findings suggest that the quality of medical care received by women directly influences their healthcare-seeking behaviours. Evidence shows that a negative experience during antepartum care is a barrier to facility-based childbirth (18); similarly, a negative experience during facility-based childbirth can influence the decision to seek care postnatally. Despite interpersonal factors being the most prominent contributors to a negative experience of care across the identified literature, system-level conditions also play a crucial role. Health system constraints such as staff shortages and a lack of cleanliness, which are often associated with longer waiting times and poorer quality of care, can create an environment in which women feel unwelcome and discouraged from returning for future visits. However, the disrespectful or abusive treatment received by women, including health systems constraints, appear insufficient to solely explain the potential impact it has on PNC use.

My findings show that women's decision-making process regarding PNC-seeking originates from a complex intersection of factors, both from within and outside the healthcare realm. It is influenced by broader cultural, social and gender norms that reify women's vulnerabilities within society as a whole, not only as part of their direct experience with healthcare. The most disenfranchised women are more likely to avoid institutional healthcare as another place where they might feel disempowered, a consequence of their 'internalised stigma' and systemic disadvantages. This aligns with Dixon-Woods' concept of 'candidacy', which describes inequity of access to health services and health outcomes. (149) Candidacy suggests that an individual's identification of his or her 'legitimacy' for health services is structurally, culturally, organisationally and professionally construed, with a range of characteristics, such as gender, poverty, education, age and ethnicity, coalescing to suppress the use of services. (150) This combination of systemic disadvantages can reduce the woman's agency, diminish her candidacy and compromise her access to healthcare. (151) This might partially explain why, even in settings with universal healthcare provision, those in deprived circumstances make less use of services than the more affluent.

My findings constitute the initial necessary elements to bring clarity on MDC as a possible barrier to care and the health and well-being of women and newborns. This review highlights several knowledge gaps in the current literature. The most prominent one stems from the methodological challenges in quantifying and comparing the prevalence of MDC and its impacts across studies and settings, as no unique definition was used. In recent years, efforts have been made to develop universal, evidence-based definitions, typologies and measurement tools. (152-154) The widespread adoption of these tools could allow for a better harmonisation of measures in future studies. Moving forward, we need to be strategic in addressing the difficulties attached to such a complex phenomenon. More research is needed to develop and evaluate interventions to tackle the structural drivers sustaining MDC, such as damaging gender norms, social inequalities

and asymmetric power distributions that promote the normalisation of poor treatment. Alongside this, we need measurable objectives that are attainable in the short term and help move us towards broader systemic changes. Understanding the immediate health benefit of providing respectful maternity and newborn care can be a first strategic step to encourage health workers to equate the value of non-clinical aspects of care to that of high-quality, evidence-based clinical practices. In this review, I selected specific public health outcomes that can provide a new perspective on tackling this issue and contribute to designing customised messages to address front-line stakeholders. I highlight the need for primary research to robustly measure the impact of MDC on health and well-being to quantify and monitor progress as interventions are put in place.

3.4.1. Limitations and strengths of the review

While some of the cross-sectional studies provide preliminary evidence of a possible relationship between MDC and PNC utilisation and maternal mental health, the results come from small-scale studies with a low prevalence of the exposure, rendering the evidence inconclusive. The low prevalence could be explained by recall or social desirability biases as the studies required women to remember what happened during childbirth or were conducted within hospital settings. Additionally, the confidence in the qualitative evidence related to broader cultural and societal themes was low to moderate, highlighting the need to further study how structural factors interplay with MDC and PNC. Further, the definitions of MDC and outcomes differed between studies, making cross-study comparisons challenging. Thus, the potential of the complementarity of quantitative and qualitative methods for synthesising data could not be fully exploited. Finally, the limited number of studies from Asia and Latin America relative to Africa could affect generalisability.

This review has several strengths. It is, to my knowledge, the first to summarise the consequences of MDC. Additionally, the use of mixed methods allows for a more comprehensive evaluation of the available evidence, integrating the measurement of the effect size of the association with the identification of broader factors that interact to bring about the effect. Following a systematic process for the screening, inclusion and analysis of the retrieved articles, this review provides reliable and transparent results that highlight the need for further research in this field.

3.5. Conclusion

Women's access to PNC can be influenced by a myriad of factors with long-lasting effects on their health and that of their newborns. In the quest to improve the health of women and newborns and guarantee access to high-quality, respectful, dignified and supportive care, understanding the consequences of a negative birth experience can constitute a step towards prioritising the problem. While a complex, systemic and multi-dimensional response is needed, it might take longer to materialise and will require buy-in from multiple stakeholders. This review aims to offers a new perspective on the issue of MDC and calls on the public health community to urgently address facility-based MDC for the sake of its potentially damaging health consequences.

Table 1 Characteristics of included quantitative studies

Study	Country	Study aims	Participants' characteristics	Sample size	Study design	Exposure definition	Exposure prevalence	Outcome measured	Outcome prevalence
Bishanga 2019	Tanzania	To explore women's experience of facility-based childbirth care, including D&A, choice of birth position, offer of a birth companion, and perceived facility cleanliness.	Women aged 15–49 years who had given birth in health facilities during the two years preceding the survey	732	Cross-sectional	Self-report of any of the following: left alone for a long period of time, left to deliver unassisted/alone, verbally abused, shared a bed with another person during labour, level of privacy, provided with no bed sheet, physical violence, inappropriate touching, discrimination, denied services, detained for payment, denied food/drink, or care without consent.	73.1%	PNC use - any health care services given to women or baby by a professional health worker at a health facility prior to discharge and within 48 h of delivery	Early postnatal check for women: 339 (46.3%); Early postnatal check for baby: 358 (51.4%)
Creanga 2017	Malawi	To examine predictors of perinatal health service utilization and to assess patient satisfaction with these services when last obtained.	Women aged 15–49 years who have given birth within the last 12 months and whose babies were alive at the time of the survey.	1301	Cross-sectional (baseline data from a cluster RCT)	Perceptions regarding the cleanliness of the facility, the staff ensures patients' privacy, providers availability at the facility, quality of services offered, unmarried woman lack of access to services, assessed by a 5-point agreement Likert scales.	Cleanliness: 3.5%; Privacy: 6.7%; Provider availability: 10.2%; Low quality services: 10.9%; Access to FP/RHs for unmarried women: 31.5%	Maternal and neonatal PNC use - use after last delivery and number of checks within 2 months postpartum	77.5%
de Sá 2016	Brazil	To identify factors associated with breastfeeding in the first hour of life.	Mother-child pairs, aged 0 to 12 months, who attended health units	1027	Cross-sectional	Self-report of any of the following during labour or delivery: physical violence (painful medical exam, being hit pushed or tied up), verbal violence (being yelled at), neglect (denial of care, fail to provide pain relief or lack on information about procedures), rooming in	Verbal violence: 17.8%; Physical violence: 17.3%; Neglect: 16.7%; No Rooming-in: 10.1%	Breastfeeding- child placed in the chest to breastfeed in the first hour of life	77.3%

| Silveira 2019 | Brazil | To examine the effect of the different types of disrespectful and abusive experiences on maternal postpartum depression occurrence and to explore if the associations differ according to women's antenatal depressive symptoms status. | All women resident in the urban area, with confirmed pregnancy estimated delivery date in the year 2015. | 3065 | Cohort | Self-reported information on disrespect and abuse as any of the following: verbal abuse, denial of care (abandonment of care), physical abuse and undesired procedures (non-consented care) during the process of childbirth | 18.0% (95%CI 16.7 – 19.4) | Maternal postpartum depression-assessed by EPDS with cut-off of >=13 points for moderate signs of depression and >=15 points for severe signs of depression | EPDS score ≥13: 9.4%; EPDS score ≥15: 5.7% |

FP: family planning services; RH: reproductive health services; PNC: postnatal care; EPDS: Edinburgh Postnatal Depression Scale

Table 2. Characteristics of included qualitative studies

Study	Country	Study aims	Participants' characteristics	Study design and data collection	Aspects of D&A explored*
Chen 2014	China	To explore coverage, quality of care, reasons for not receiving care and barriers to providing postnatal care after introduction of new policy.	Caregivers of children younger than two years of age and township maternal and child healthcare workers	Mixed methods combining a quantitative household survey and qualitative semi-structured interviews	Health system level issues such as workload, income, and training
Dol 2019	Tanzania	To explore the experience of newborn care discharge education at a national hospital in Dar es Salaam, Tanzania from the perspective of mothers and nurse midwives.	Mothers who recently gave birth at national hospital and nurse midwives working on the postnatal and labour ward	Qualitative descriptive research using in-depth interviews	Woman-provider communication, and social, institutional and cultural influences when providing care
Ganle 2015	Ghana	To explore the barriers to and opportunities for men's involvement in maternal healthcare in the Upper West Region of Ghana.	Men and their spouses, community chiefs, women leaders, assembly men, community health nurses, community health officers, and mother-to-mother support group leaders	Qualitative focus group discussions, in-depth interviews and key informant interviews	Challenges to male involvement in maternal healthcare, including institutional constraints and providers attitudes
Kane 2018	Sudan	To gain insight into what hinders women from using maternal health services.	Community members, traditional leaders, and traditional birth attendants	Qualitative focus group discussions and in-depth interviews	Social fears, social expectations and social interactions
Mahiti 2015	Tanzania	To explore women's views about the maternal health services (pregnancy, delivery, and postpartum period) that they received at health facilities in rural Tanzania.	Women attending a health facility for vaccination at Kongwa District Hospital and Ugogoni Health Centre	Qualitative focus group discussions and non-participant observation	Women-provider interaction, waiting times, informal payments and material constraints (drug shortage and dirtiness)
McMahon 2014	Tanzania	To explore how rural Tanzanian women and their male partners describe disrespect and abuse experienced during childbirth in facilities and how they respond to abuse in the short or long-term	Women, male partners, community health workers (CHWs) and community leaders from eight health centres across four districts	Qualitative, cross-sectional study using in-depth interviews	Types of verbal and physical abuse, discriminatory treatment, unpredictable financial charges and fear of detention
Melberg 2016	Burkina Faso	To explore how communities in rural Burkina Faso perceive the promotion and delivery of facility pregnancy and birth care, and how this promotion influences health-seeking behaviour.	Women with recent health centre birth, women with a recent home birth, their partners, and community men and women	In-depth interviews and focus group discussions	Fear of reprimands, economic sanctions, denial of care, stigma and discriminatory practices
Mselle 2017	Tanzania	To examine how postpartum care was delivered in three postnatal health care clinics in Dar es Salaam, Tanzania.	10 Nurse-midwives and obstetricians from three Dar es Salaam Referral Regional Hospital	Semi-structured interviews	Relations of power among providers and women, focusing on

				beliefs, values, practices, language, meaning.
Morgan 2017	Uganda	To understand the role of gender power relations in relation to access to resources, division of labour, social norms, and decision-making affect maternal health care access and utilization in Uganda.	Women who had given birth recently, fathers whose wives had given birth recently, and transport drivers.	Qualitative focus group discussions	Access to resources, division of labour (including male involvement), and social norms (including health workers attitudes and behaviours).
Ochieng 2019	Kenya	To understand what factors are leading to low healthcare seeking during pregnancy, childbirth, and postnatal period in Siaya County in Kenya.	Women attending ANC in Kenyan public primary healthcare facilities	Qualitative focus group discussions	Transportation issues, affordability, attitudes of health providers, embarrassment, autonomy in decision making, denial of care, or punishment for delaying care
Ongolly 2019	Kenya	To explore the barriers to men's involvement in antenatal and postnatal care in Butula sub-county, western Kenya	Married men of the Butula sub-county who had had children in the past 1 year and health care workers in charge of maternal health services	Mixed methods using quantitative surveys, focus group discussions and key informant interviews	Health systems barriers including long waiting limes, lack of privacy , infrastructure constraints and providers' attitudes
Probandari 2017	Indonesia	To explore barriers to utilization of postnatal care at the village level in Klaten district, Central Java Province, Indonesia	Mothers with postnatal complications, family members, and village midwives	Qualitative data using in-depth interviews	Suboptimal patient-centred care including lack of communication, availability of providers, insufficient time, inadequate education, selective care, cultural beliefs and practices, social power.
Sialubanje 2014	Zambia	To identify psychosocial and environmental factors contributing to low utilization of maternal healthcare services in Kalomo, Zambia	Women of reproductive age (15–45 years) who gave birth within the last year, traditional leaders, mothers, fathers, community health workers, and nurse-midwives.	Qualitative focus group discussions and in-depth interviews	Provider's attitude such as verbal abuse, and health systems constraints.
Sacks 2017	Uganda and Zambia	To examine experiences with, and barriers to, accessing postnatal care services in the context of a maternal health initiative.	Women who had delivered in the preceding year and lived within the eight districts.	Qualitative focus group discussions	Fear of verbal or physical abuse, fear of denial of care or threat of denial of care, and neglect.
Yakong 2010	Ghana	To describe rural women's perspectives on their experiences in seeking reproductive care from professional nurses.	Women 15 and 49 years of age and who had received care from two rural clinics and clinic nurses and community-based surveillance volunteers	Qualitative study with in-depth interview, focus group discussions and participant observation	Intimidation and verbal abuse, experiences of limited choices, of receiving silent treatment and of lack of privacy

Yevoo 2018	Ghana	To explore 'how' and 'why' pregnant women in Ghana control their past obstetric and reproductive information as they interact with providers at their first antenatal visit, and how this influences providers' decision-making at the time and in subsequent care encounters	Pregnant women who were within a gestational age of between 12 and 20 weeks and focus group discussions with pregnant and postnatal women	Ethnographic study using participant observation, semi-structured interviews, and focus group discussions	Healthcare providers' ideological 'domination and humiliation, including derogatory comments and verbal abuse, stigmatisation and discrimination, privacy and confidentiality.
Zamawe 2015	Malawi	To examine the perceptions of parents toward the postpartum period and postnatal care in order to deepen the understanding of the maternal care-seeking practices after childbirth.	Women and men who had either given birth or fathered a baby within 12 months prior to the study (new parents)	Descriptive qualitative study using focus group discussions	Health system constraints related to long waiting times, costs, distance.

* The information presented in this column has been extracted during the initial coding phase of the qualitative analysis. No explicite conceptual definition of D&A was provided in most of the included studies.

Table 3. Categorisation of the domains of D&A extracted from included quantitative studies based on existing typologies

Domains as extracted from article	Domains categorised based on D&A typology*	Domains categorised based on MDC typology**
Experiencing physical violence during delivery 3, 4	Physical abuse	Physical abuse
Experiencing verbal violence during delivery 4	Non-dignified care	Verbal abuse
Receiving undesired procedures 4		Failure to meet professional standards of care
Being denied care 4		
Experiencing neglect during delivery 3		
Perceiving that staff does not provide high quality services 1		
Not being offered choice of birth position 2	Abandonment of care	Poor Rapport between women and providers
Not being offered or not having a companion at labour or/and delivery 2,3		
Not being offered or not having a companion postpartum 3		
No rooming-in 3		
Perceiving that staff does not ensure patients' privacy 1	Non-confidential care	Health systems conditions and constraints
Perceiving facility not to have good cleanliness 1, 2	Non-apply	
Receiving any type of mistreatment 2, 4	Receiving any type of D&A 2, 4	Receiving any type of mistreatment 2, 4

1) Creanga et al. 2017; 2) Bishanga et al. 2019; 3) de Sà et al. 2016.; 4) Silveira et al. 2019

D&A: disrespect and abuse ; MDC: mistreatment during childbirth

* Source: Browser, D. and Hill, K., 2015. Exploring Evidence for Disrespect and Abuse in Facility-Based Childbirth: Report of a Landscape Analysis-USAID.

** Source: Bohren, M.A., Vogel, J.P., Hunter, E.C., Lutsiv, O., Makh, S.K., Souza, J.P., Aguiar, C., Coneglian, F.S., Diniz, A.L.A., Tunçalp, Ö. And Javadi, D., 2015. The mistreatment of women during childbirth in health facilities globally: a mixed-methods systematic review. PloS medicine, 12(6), p.e1001847.

3.6. Implications of the results of the systematic review for my PhD study plan

The systematic review presented in this chapter played a crucial role in pinpointing the research gap surrounding the postnatal implications of MDC – a gap my PhD study endeavours to address. It serves as a substantial resource for refining the selection of outcomes to measure in my study. Furthermore, the systematic review revealed a comprehensive array of factors, motivations and mechanisms influencing a woman's behaviour and decision to utilise PNC services. This information is instrumental in addressing the second objective of my PhD study, that is, to explore how the quality of childbirth experiences can mould subsequent PNC-seeking behaviours and health outcomes for both mother and newborn. Guided by the results of this review, I strove to establish a thorough roadmap to better understand the ways in which mistreatment affects these outcomes.

The systematic review supported associations between MDC and PNC, as well as between MDC and poor maternal mental health, albeit with limited and low-quality evidence. In contrast, evidence on the association of MDC and the secondary outcomes of breastfeeding and infant growth was lacking. Though an empty result could be a consequence of the recentness of the topic, it could also signify that such associations have no theoretical grounding, meaning they are not related but mediated by more direct factors. I therefore determined that further investigation beyond the systematic review into potential mediating factors between MDC and breastfeeding, as well as between MDC and infant growth, was necessary to help inform the selection of outcome variables for my PhD study.

I first started disentangling the potential mechanisms by which MDC could influence breastfeeding patterns. My hypothesis was that babies born to women who experience mistreatment are less likely to receive exclusive breastfeeding at 6 weeks postpartum than those born to women who did not. There are several mechanisms by which this hypothesis could hold true: 1) the woman and baby could have been separated at the time of birth, thus impeding the early initiation of breastfeeding (within 1 hour), impacting the stimulation of breast milk production, reducing emotional mother-baby bonding, and affecting the successful establishment and duration of exclusive breastfeeding (155, 156); 2) the woman could have received ineffective breastfeeding counselling due to a lack of support from the health provider, impairing her confidence in breastfeeding and/or delaying (or impeding) its establishment (157); or 3) the woman could be unwilling to provide exclusive breastfeeding as she copes with the mental health consequences of the type of treatment she recently faced during delivery. Only the first and partially the second of these mechanisms would support defining breastfeeding at 6 weeks as a study outcome. Nonetheless, the woman's lack of confidence or willingness to provide exclusive breastfeeding (or even her outright decision NOT to breastfeed) could be a factor which muddies the interpretation of its relationship with MDC. Thus, I decided to incorporate breastfeeding self-efficacy into my study as an additional outcome. Breastfeeding self-efficacy refers to a mother's perceived ability to breastfeed her newborn and is a salient variable in breastfeeding duration as it predicts 1) whether a mother will choose to breastfeed or not, 2) how much effort she will expend, 3) whether she will have self-enhancing or self-defeating thought patterns and 4) how she will respond emotionally to breastfeeding difficulties. Efficacious (confident) women are more likely to choose

breastfeeding, persist when confronted with difficulties, employ self-encouraging thoughts and react positively to perceived difficulties. (158)

Second, I reviewed the association between mistreatment during childbirth and infant growth. My hypothesis in this case was that babies born to women who are mistreated during childbirth are more likely to experience growth faltering (defined as a downward crossing of growth percentile) during the first 6 weeks of life than those born to women who have a positive childbirth experience. Several domains within the definition of mistreatment impact both woman and baby equally and affect woman-newborn bonding, such as the impeding of skin-to-skin contact, early breastfeeding initiation, rooming-in or neglect. However, the impact of these domains on the baby's growth and development could be subject to many confounders, making the direct link between mistreatment and growth difficult to interpret. Infant growth could be the result of prematurity, feeding difficulties (breastfeeding as a mediator), diarrheal incidence, parental education, and household water and sanitation, among many other environmental, maternal and familial factors. (159) The lack of clarity regarding this association made me reconsider and exclude infant growth as an outcome from my study plan.

In conclusion, the systematic review provided a solid basis for understanding the association of MDC with a range of outcomes and the main factors that influence access to PNC. The review drew on evidence from different parts of the world, which allowed for a more comprehensive analysis of the issue. In the next phase of my research, I explored the applicability of these factors in the Argentinian context. Specifically, I aimed to investigate the main causal pathways by which MDC relates to all these outcomes and factors. In doing so, I hope to shed light on how we can develop more effective interventions and policies to address this critical issue in Argentina and beyond.

A more detailed definition of the study's aims and outcomes is presented in the subsequent methodological sections.

4. Data collection: Part 1 of 2

From this point forward, I describe the collection and analysis of primary data to address the central question of my PhD, namely, how does MDC impact women's healthcare-seeking behaviours and health outcomes? This signifies a transition from the theoretical and literature-based foundation established in previous chapters to an empirical exploration that aims to provide a more comprehensive understanding of the complex relationships at play. By collecting and analysing primary data from Tucumán, Argentina, I intend to generate valuable insights that contribute to advancing knowledge in the field, offering a more nuanced perspective on the effects of MDC on women's lives and well-being.

4.1. Introduction

I selected a mixed-methods approach to study the phenomenon of MDC and its impact on 1) postnatal health care utilisation and 2) women's health and well-being. I conducted my fieldwork in Tucumán, a province in Northwest Argentina. The fieldwork consisted of two sequential phases: first, a qualitative phase involving interviews and FGDs with women from an underserved community in Tucumán and second, a quantitative phase using a cohort design to collect data on MDC in a public maternity hospital and its impact on relevant outcomes. Each phase had its own objectives, recruited separate populations (one from the community and the other from a hospital) and followed different methodological procedures/designs. The qualitative data collected in the first phase helped to identify the data to be collected during Phase 2. However, the data extracted from both these phases were combined in several analyses to improve the interpretation of the findings and allow for an enriched understanding of the phenomenon.

In this chapter, I first justify my selection of mixed methods as the methodological approach in my thesis. Second, I outline and justify the qualitative data collection process that I followed during the development of my study. I explain the process of qualitative data collection, including the development and testing of topic guides within the context of international, national and local restrictions due to the COVID-19 pandemic. The quantitative phase is introduced in Chapter 7, where I describe how the results of the qualitative phase were used to inform the planification and preparation of the quantitative data collection process and all subsequent methods used.

4.2. Mixed-methods research

Until recently, quantitative and qualitative research designs were employed independently of each other, fuelled by ongoing debates between the two disciplines. These debates were often contentious: quantitative researchers argued that qualitative research is difficult to generalise, interpret and replicate, while qualitative researchers claimed that quantitative researchers rely on abstract hypotheses and superficial descriptions. (160) Mixed-methods research emerged as a third methodological movement, evolving from the limitations associated with the exclusive use of quantitative and qualitative methods. (161) The combination of quantitative and qualitative methods is now gaining acceptance within the research community as it capitalises on the potential strengths of both methods while mitigating their limitations. (162)

'Mixing' methods and integrating data are crucial steps that enable researchers to address the complex and multifaceted research problems frequently encountered in the healthcare sector. The strength of this type of research lies in its ability to respond to the demand for outcome measures, a traditional requirement in healthcare research, while also providing context for those outcomes. Consequently, it can accommodate a broader range of research questions as it is not restricted by a single research design and offer more robust conclusions, enhance insight and understanding, and increase the generalisability of the results. (163)

The growing interest in mixed-methods research has also prompted inquiries into its perceived value, considering its larger logistical requirements compared to purely quantitative or qualitative studies. The collection and analysis of two distinct types of data in mixed-methods research necessitate additional resources, time and expertise, potentially leading to increased costs. Researchers may require extra funding for supplies, supplementary space for interviews or surveys, and assistants to support data collection and analysis. Moreover, mixed-methods research demands knowledge of both quantitative and qualitative methodologies, which many researchers may lack, necessitating the recruitment of additional researchers with specific expertise. Therefore, it is essential to ensure the added value of combining qualitative and quantitative methodologies.

The integration of methods also has philosophical implications. Mertens (2007) asserts that a researcher's theoretical orientation has implications for every decision made in the research process, including the choice of method. (164) In the literature, the terms 'qualitative' and 'quantitative' often feature in two distinct discourses, one related to the research paradigm and the other to research methods. Arguably, the ambiguity surrounding the appropriate paradigmatic foundations for mixed-methods research may have contributed to the concerns of many theorists, methodologists and empirical researchers who consider mixed-methods research insufficiently rigorous. (165) To

address the issues associated with using paradigms in mixed-methods research, researchers have adopted various stances, including a-paradigmatic, dual-paradigm (or dialectical), pragmatic and single-paradigm approaches. (166, 167) The a-paradigmatic stance contends that paradigms could be important for methodology but should not inform the inquiry process. This approach risks undermining the credibility, coherence and validity of the resulting research by prioritising 'what works'. (168) The dual-paradigm (dialectical paradigm) researcher posits that two or more worldviews or paradigms can be combined within a single research study. (169) However, the risk of combining incompatible or incommensurable distinct paradigms has raised concerns. This has led to the pragmatic approach, which justifies mixing approaches and methods by arguing that the primary driver of research methods should be the research question(s), not the research paradigm(s). (169, 170) The pragmatic approach is therefore similar to the dialectical approach but adopts a more laissez-faire stance towards philosophical matters. Lastly, the single-paradigm stance asserts that both qualitative and quantitative methods can be accommodated within a mixed-methods study using a single overarching paradigm. (169)

Another crucial consideration when mixing methods is the manner in which the methods will be combined. There are various categories of mixed-methods research designs, including explanatory, exploratory, parallel, nested (embedded) and transformative designs. (171) These designs depend on the process and models employed for connecting or integrating data. A convergent parallel model simultaneously collects, merges and utilises both quantitative and qualitative data. An explanatory sequential model first gathers quantitative data, followed by qualitative data to elaborate on the quantitative findings. The exploratory sequential model initially collects qualitative data to investigate a phenomenon and subsequently collects quantitative data to explain the qualitative findings. Finally, an embedded design gathers quantitative and qualitative data simultaneously, with one design's purpose being to support the findings of the other design. (160)

In my study, I adopted a mixed-methods approach with a pragmatic orientation to measure the impact of mistreatment by health providers on women's uptake of PNC. I believe that this methodology offers a more nuanced, in-depth and comprehensive understanding of the subject by shedding light on the contextual and individual factors influencing women's decision-making processes and measuring the impact of these choices. The selection of the pragmatic approach has been justified in Chapter 1 of this thesis. I also employed an exploratory sequential design, which means that qualitative data were collected and analysed first, followed by empirical testing through a quantitative design. Consequently, the qualitative data informed the collection of the quantitative data, and the quantitative data verified the findings from the qualitative phase. I chose this method due to the complexity of MDC and the need to understand its context to interpret the quantitative findings. Combining both methodologies provided me with more robust evidence and greater confidence in my results.

I now turn to the process I followed to collect the qualitative data.

4.3. Qualitative phase

The qualitative phase fulfilled four main purposes. First, it allowed me to explore the factors determining women's care-seeking behaviour and their perceptions and experiences of care during childbirth within the Argentinian health system (results in

Chapter 5). This also helped to contextualise the quantitative study within the population and setting and ensure that the development and testing of the data collection tools considered the context. Second, the qualitative data, along with the findings from the literature review, allowed me to populate a causal diagram to explain the pathways by which MDC could be related to the outcomes and identify any other covariate that should be included in the statistical models (results in Chapter 6). Third, it provided the grounds to evaluate different ways of operationalising MDC (results in Chapter 8). Finally, it guaranteed a more complete interpretation of the findings as, combined with the quantitative study, it formed a comprehensive and in-depth picture of the issue under study.

4.3.1.   Study setting

The qualitative phase of my study was performed in an underserved, peri-urban community situated in the northern suburbs of San Miguel, the capital city of Tucumán province in Northwest Argentina. This community, home to approximately 10,000 residents, primarily depends on four primary healthcare centres in the neighbourhood for its medical needs. These centres offer gynaecological, obstetric and neonatal services through specialised medical professionals, catering to the local population in collaboration with the two main public, tertiary-level maternity hospitals where most area deliveries occur.

This community grapples with numerous systemic challenges, including high rates of addiction, school dropouts, teenage pregnancies and violence. In response to the social vulnerabilities affecting the community since the 1990s, characterised by poverty rates above 30% and over 22,000 malnourished children, an NGO called Asociación Civil Crecer Juntos (hereafter referred to only as 'NGO') emerged. In one among the many programmes they implement in the area, the NGO collaborates with residents to address homelessness and precarious living conditions; assist adolescents in recovering from addiction and reintegrating after imprisonment; and support women by offering childcare, addressing domestic violence and providing food for families. I have worked with the NGO on several occasions since 2014, aiming to bolster their research capacity and enhance the impact of their work. Building on my strong partnership with them, I was able to obtain community buy-in for my study and ensure its implementation despite COVID-19 restrictions.

4.3.2.   The study team

Due to COVID-19 restrictions, I could not travel to Tucumán for fieldwork, which forced me to adapt my data collection strategy to ensure the continuity of my PhD. I mostly relied on the NGO to facilitate this process. I formed a team with five women (one psychologist, three social workers and one psychology student) from the NGO (hereafter referred to as research assistants (RAs)). Before starting Phase 1 of the fieldwork, I ensured that all of them were trained in basic ethical principles, including informed consent and safeguarding mechanisms in case of distress, the conduction of interviews and focus groups on sensitive topics, and the moderation of focus groups. I created a 1-month workshop comprising seven videos with information on these topics followed by a live remote session for each topic in which we discussed areas that required further clarification in depth. At the end, two additional sessions were conducted to go through

the topic guides to understand the objective behind each question and how better to prompt participants to answer it fully.

I took part remotely in all interviews and focus group discussions (FGDs), maintaining an observatory role unless intervention was necessary, to prevent interference with the women's narratives. To foster a more comfortable environment for both the participants and the research assistants, I chose to keep my camera off during individual interviews. Despite instances where I felt additional information could be probed, my non-intrusive presence enabled me to offer constructive feedback to the research assistants, demonstrating the efficacy of hybrid interview techniques, especially when field access for researchers is restricted. During the FGDs with multipara women, I initially kept my camera activated, but noticed it potentially influenced the level of participation. To remedy this, I deactivated the camera in subsequent FGDs, which noticeably altered the group dynamic, encouraging the women to participate more freely. Every three to four interviews, I held a meeting with the team to discuss any issue that required further training.

4.3.3. Study design and objectives

Between November 2020 and January 2021, we conducted qualitative, semi-structured interviews and FGDs with women from the community in the northern suburbs of San Miguel, Argentina. The objectives of the interviews and FGDs were as follows:

- To explore the experiences and perspectives of women regarding the care received during childbirth in Tucumán, Argentina
- To understand if and how MDC might relate to the use of postnatal services in Tucumán, Argentina
- To identify other factors that can affect (interact or mediate) the relationship between MDC and the uptake of PNC

4.3.4. Eligibility criteria and sampling method

All women between the ages of 16 and 47 years who were pregnant or who had a child between the ages of 0 and 2 years and who resided in the NGO's catchment area in San Miguel de Tucumán, Argentina, were eligible to participate, regardless of their delivery experience.

Due to its long history of working in the area, the NGO had records of all pregnant women and all children born in recent years. Using their records, we created a list of all eligible women including the following information: 1) current condition: pregnant/delivered in the previous 2 years; 2) age category: 16–19 years, 20–30 years and more than 30 years; and 3) parity: primipara or multipara. Based on these characteristics, I formed three groups: 1) women 16–19 years old; 2) adult pregnant women (primipara and over 19 years); and 3) adult women who delivered within the previous 2 years (multipara and over 19 years). From these groups, I selected women in a ratio of 1:1:1 using purposive sampling, with the assistance of the NGO, to ensure that a diverse range of perspectives and experiences were included in the study. I estimated a necessary sample size of 20 women and three FGDs with four women each, resulting in a total sample size of 32 women. The decision of including only four women per FGD was purely based on COVID-19 restrictions and the impossibility of allowing more people into the same room. Despite the uncertainty regarding the possibility of achieving saturation with the given sample

size, logistical and financial constraints attributable to the COVID-19 pandemic prevented me from following an iterative process and enlarging the sample size if needed.

Data saturation is the point in data collection when all important issues or insights have emerged from the data, signifying that the conceptual categories that comprise the theory are 'saturated' and the theory is comprehensive and well-grounded in data. (172) Saturation is a crucial element of qualitative research as it ensures that the data collected are comprehensive and the research findings are trustworthy and reliable. (173) Saturation is embedded in the iterative process of concurrently sampling, collecting data and analysing data, whereby the data continuously inform sampling until saturation is achieved. Although saturation is the most-cited justification for concluding that a sample size is adequate, details of how saturation was assessed and the grounds on which it was determined are largely absent in most qualitative studies. (174, 175) Thus, unsubstantiated claims of reaching saturation undermine the value of the concept.

However, a systematic review assessing saturation in published studies found that across 16 tests using various approaches to assess saturation, including code frequency count, comparative method, stopping criterion and higher-order groupings, the sample size for saturation usually ranges between five and 24 interviews. (173) Based on these results, I assumed that 20 interviews and three FGDs would be enough to achieve near-saturation.

4.3.5.   Procedures of the qualitative phase

i.   Invitation and informed consent process

With the help of the RAs from the NGO, I contacted women via phone to invite them to the study. We invited those who expressed interest to participate either in the interviews or the focus groups based on schedule availability and study needs. If the woman did not agree to participate, we contacted the next woman on the list.

Prior to initiating the activities, we held consent-related discussions with the participants about the study. We discussed the aims of the study in detail as outlined in the information sheet and asked the participants if they perceived any risks associated with their involvement in the study. During this conversation with the participants, we also covered the questions on the consent form, including: 1) the participant's right to withdraw from the activities at any time without giving a reason and without penalty, 2) permission to record the interviews/ group activities, 3) the sharing of anonymised data with other researchers, (4) the use of personal information and the maintenance of confidentiality through adherence to data protection standards. These consent discussions were held twice: we obtained verbal consent during the invitation phone call and collected a written confirmation before the interview or focus group. We only included women who provided written informed consent (Appendix 8).

ii.   Data collection

Between November 2020 and January 2021, I conducted 20 semi-structured interviews and three FGDs of four women each in collaboration with the five RAs from the NGO.

Semi-structured interviews: The location of the interviews was agreed upon during the invitation phone calls, with most women preferring a home visit. The research

assistants from the NGO visited the women's houses in pairs. I audited the interview remotely but did not actively participate to avoid making the interviewee feel uncomfortable and disrupting the flow of the interview. Every 2–3 interviews, I held informal conversations with the RAs to brief them about the interview process and discuss opportunities for improvement.

Focus group discussion: I conducted three FGDs in December 2020. Each group discussion comprised four women. I had to restrict the number of women in each group to abide by local COVID-19 rules and ensure that proper social distancing measures could be implemented in the space available. The FGDs were held at the NGO headquarters in the community. Women were split into the three groups according to the abovementioned characteristics: 1) multipara adults; 2) primipara adults (pregnant women); and 3) adolescent girls of any parity. The rationale for separating them into these homogenous groups was to create a comfortable space for them to share their opinions and experiences with other women with whom they could relate. For each focus group, one RA took charge of moderating the discussion and another assisted with the logistics. I actively participated remotely, asking questions only when absolutely needed.

4.3.6. Topic guide development and piloting

In preparation for the fieldwork, I developed two topic guides, one for the semi-structured interviews and another for the FGDs. Interviews allowed for sensitive topics to be discussed in a more intimate and controlled setting; thus, the topic guide was aimed at obtaining a deeper understanding of the women's own experience of childbirth and their postpartum behaviours. For the FGDs, on the other hand, efforts were focused on attaining a collective understanding of MDC and its postnatal consequences, creating opportunities for interaction between participants. The questions for both cases were informed by the existing literature and developed through discussions with my supervisors. The first draft of the tool was tested with a small group having characteristics similar to those of the study population to identify potential obstacles or sources of misunderstanding and ensure that the questions were sensitive and non-stigmatising.

I participated in the piloting of the tools remotely and made note of all the issues that were unclear for the women or interfered with the flow of their narratives. Despite producing a high-quality and comprehensive topic guide, the final interview topic guide had to be further revised and refined after the first four interviews to ensure a better flow.

The initial interview topic guide was divided into two sections aimed at 1) understanding women's experience during childbirth, including their expectations and factors affecting their decision when choosing a hospital and 2) exploring their experience after childbirth, including health-seeking behaviour and health and well-being issues. Initially, the tool was developed such that questions progressed from specific to open to ensure that the participants built trust with the interviewer and had more time to orient themselves to the kinds of questions being asked. However, after the first four interviews, it became apparent that the women felt comfortable and motivated to share their stories without prompting; thus, I changed the topic guide to start with the following question: *'Thinking about your last birth experience, please tell me about what happened from the moment you started having labour pains until your baby was born'*. After opening up the conversation, the questions became more focused on the women's relationship with the health providers and hospital staff (*'What do you think about the care/treatment women receive from staff in the facility when they go for delivery?'*) and how the experience compared to their initial

expectations. Once the first section of the topic guide was finalised and no new information emerged, the interview turned to the postpartum experience, with questions such as '*How did you and your baby feel during the first month after being discharged from the hospital?*' Probing for this question included bringing up issues such as the need to seek care, the woman's mental health, breastfeeding and the attachment between mother and baby. To conclude, women were given the space to share any other opinion or comment they had and were reminded that all the information shared was strictly confidential.

The topic guide for the FGDs was composed of two parts. The first part included an exercise adapted from the discrete choice experiment (DCE) methodology to identify the preferences of women at the time of delivery. (176) The DCE is a quantitative method used to elicit preferences from participants without directly asking them to state their preferred options. Instead, participants are required to choose from sets of hypothetical alternatives. Each alternative is composed of several characteristics, known as attributes, and the participant's responses are used to infer the value placed on each attribute. For this work, I adapted the DCE quantitative technique for qualitative use. I developed six pairs of illustrations with the help of a local artist depicting ways in which women and their newborns might be treated during delivery and the postpartum period. Each pair illustrated the same scene (i.e. a woman in the hospital during labour) in a respectful (e.g. a woman in labour with a companion of choice) and a disrespectful form (e.g. a woman in labour alone). We first showed each pair separately and asked the women, '*What do you think of the way the health provider is treating the woman/newborn in this scenario? Discuss the positive and negative aspects*'. After discussing all six pairs of illustrations, we provided them with two combinations of different positive and negative scenes (Figure 7) and asked them to form pairs and select the combination they would prefer. After a brief group discussion, we asked the women to present their selection and justify why they selected one combination over the other.

The DCE exercise proved to be an effective strategy for addressing the underlying and normalised aspects of MDC that had not surfaced in previous discussions. However, the necessity to explain the images and discuss each scenario separately significantly extended the duration of the focus groups, adding approximately one hour per FGD. In the second part of the group discussions, we focused on the potential consequences of receiving the different treatments illustrated in the images. We initiated this conversation by asking '*How would you feel if this scenario happened to you, your newborn or any close relative/friend?*' and '*How would this type of experience during delivery change your decision to visit or take your baby to the clinic/primary health care centre (PHC)?*'. To conclude, women were given the space to share their opinions and were reminded that all the information shared was strictly confidential.

The final topic guides and images for the DCE can be found in Appendix 6 and Appendix 7.

Figure 7. Examples of scenarios from the qualitative adaptation of the discrete choice experiment (DCE) used during the focus group discussions (FGDs)
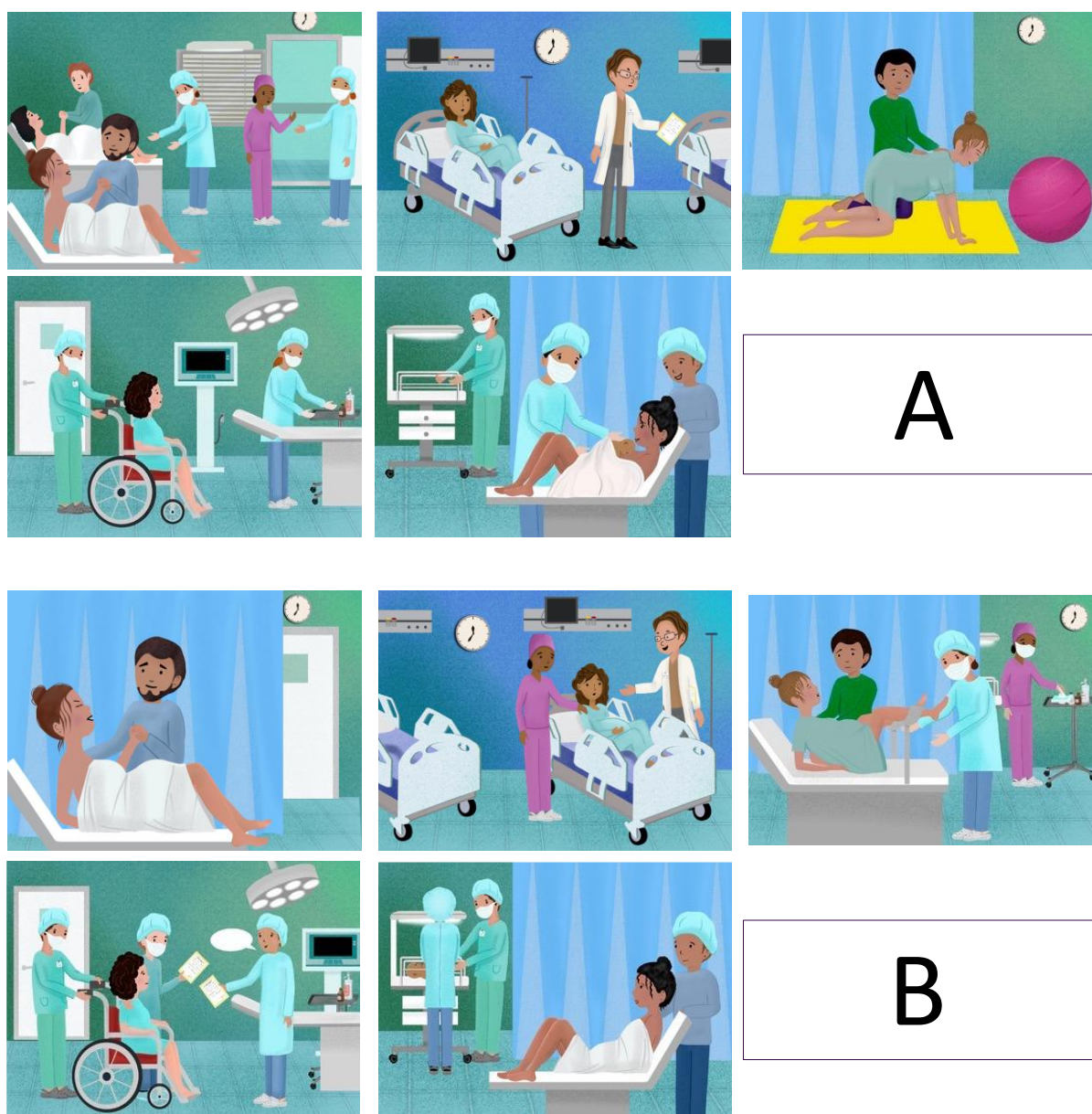
iii.   Data management

The interviews and group discussions were audio recorded. Notes were used to assist with the transcription of any poor-quality audio recordings. All efforts were made to ensure that the real names of the participants or any other identifying details were not recorded at any stage. The data were anonymised as far as possible, stored electronically and backed up regularly. All data were uploaded to University College London's (UCL) OneDrive platform in the form of password-protected files. All recorded data were transcribed, and all recordings were destroyed once data analysis was concluded. The consent forms were stored at the NGO and destroyed after digitalisation. In accordance with the UCL and General Data Protection Regulation (GDPR) data management policies, the transcripts and consent forms will be retained for at least 10 years.

4.3.7. Analysis

After finalising the fieldwork, I re-listened to all the recordings to ensure full familiarisation with the data. Additionally, I printed all the transcripts and made unstructured notes and highlights as I read through them. I conducted a rapid, exploratory thematic analysis by using my notes to process the information and as a starting point to draw out key issues that shaped the preparation of the quantitative phase. The data collected during the qualitative phase were used in three ways: 1) to understand how MDC affects the uptake of PNC services (Chapter 5); 2) to develop a causal pathway diagram to be tested during the quantitative phase (Chapter 6); and 3) to test a framework to better understand the multi-dimensional aspects of MDC (Chapter 8). In each of the subsequent chapters, I provide an in-depth explanation and justification of the analytical method used.

4.3.8. Ethical implications

The conduct of this study followed the WHO recommendations entitled 'Ethical and safety recommendations for intervention research on violence against women' (2016). (177) Several ethical issues were taken into consideration and adequate safeguarding mechanisms were put in place before the start of the project. However, ethical approval required several iterations because of the progression of the COVID-19 pandemic and different national and global responses that forced me to constantly adapt the study to the situation at the time, including my inability to travel to the site for data collection and the need to train and depend on the RAs for the successful delivery of the qualitative phase of the study.

The main ethical issues and mitigating strategies I considered upfront were as follows:

(1) Research benefit outweighing potential harm: I identified an overwhelming body of evidence that highlighted the need to measure the issue of MDC in order to develop guidelines and directives to help to improve women's and newborns' experiences during labour, childbirth and immediate postpartum care and promote the use of the continuum of reproductive healthcare services.

(2) Magnifying symptoms of trauma, stress and/or depression by opening discussions of violence: Discussing sensitive issues could bring back traumatic memories of previous experiences of mistreatment or violence. All participants were informed that they could terminate the interview/discussion at any point. If any of the participants experienced distress, there were measures in place to ensure that the participant was supported or referred to a mental health professional at the time of the interview. All the interviewers from the NGO were professional social workers or psychologists who received additional training on interviewing women on sensitive topics and detecting alarm signs of distress. Women who needed immediate attention during the interview/focus group had the option of being taken to the closest mental health clinic, where the NGO had contact with a clinical psychologist who agreed to provide support for the study. A week after the interviews, the women were contacted by phone to check on their well-being and offered a referral to the area's health centre psychologist once again. Before the start of the study, I made arrangements with a certified psychologist from the local health centre who agreed to provide mental health support to those women who required it. This referral pathway

was already in place and was used in previous research within the same community during a study on PPD. There was no need to use this mechanism during the interviews, but some women were put in contact with and referred to a clinical psychologist for follow-up.

(3) Risk of vicarious trauma for team members: I collaborated with the NGO's head coordinator and the RAs to coordinate and conduct the FGDs and interviews. This part of the research addressed highly sensitive topics, making us susceptible to stress or vicarious trauma. To mitigate their appearance as far as possible, we held frequent debriefing sessions to protect all the participating research team members against undue stress or vicarious trauma. The clinical psychologist was also available to support the team members. As I had already worked with the NGO on two other research projects involving similarly sensitive issues, an internal communication and support system emerged naturally.

Other ethical issues that could have arisen from the study logistics include the following:

(4) Home visits and the risk of visiting someone's home: Conducting home visits posed a risk to the research team and/or the participant. Thus, all home visits were conducted in groups of two or three. Even if only the interviewer accessed the woman's house, the other team member(s) waited outside the property. If the woman did not feel comfortable receiving the research team at home, the interview was conducted in a neutral location agreed upon by the woman and the study team.

(5) Coercion of women to participate in the study: While obtaining informed consent, the interviewer explained that refusing to participate in the study was not going to impact any of the services the woman or her baby were receiving. If the woman decided to leave the study at any point, she had the freedom to withdraw, and the interview would stop at that point. Throughout the course of the study, no woman chose to cease participation or withdraw from the study. Although this also applies to requests for withdrawal after the study has finished, it is important to note that no identifiable data have been retained on any of the participants.

(6) COVID-19 risk: The number of COVID-19 cases in the province of Tucumán was under control at the time of the interviews and the province was under a Level 5 restriction, meaning that there were no restrictions on gathering but behavioural changes were mandatory (such as hygiene practices, social distancing and mask wearing). However, for all FGDs and interviews we ensured that social distancing was maintained between participants and with the study personnel and provided masks and sanitiser.

Final ethical approval for the fieldwork was provided by the UCL Human Research and Ethics committee in the UK (Project ID: 14293/004) and the Institutional Review Board of the Instituto de Maternidad y Ginecología Nuestra Señora de las Mercedes (EXPTE. 3891/413-D-2020).

5. Results: Determinants of healthcare-seeking behaviour: identifying capability, opportunities and motivations

This opening results chapter delves into the critical factors shaping women's healthcare-seeking behaviours. I use my qualitative data to address the second objective of my PhD, that is, to explore the mechanisms that either encourage or discourage women from seeking timely PNC following their childbirth experience. Drawing on the pragmatic epistemology outlined previously (Chapter 1), I chose to use the COM-B model as the driving framework for this chapter. (178) The COM-B model posits that in order for a desired **B**ehaviour to occur (e.g. clinical practice action or care-seeking behaviour), the individual must have the **C**apability, **O**pportunity and **M**otivation to do so. This framework has been widely applied in implementation research to explore barriers to and enablers of changing behaviours across contexts.

For my PhD, the COM-B model served as a stepping stone to map the various paths or mechanisms that guide timely PNC-seeking behaviours among women from Tucumán, Argentina. Although not the central aim of this chapter, revealing these paths and mechanisms can contribute to the identification of potential novel solutions to improve care-seeking. In the subsequent sections, I introduce the COM-B model, discuss my analytical approach and share the key findings.

5.1. Introduction

The postnatal period – from birth to 6 weeks – is a critical time for mothers and their newborns. (114) It is a time for adaptation to parenthood, the development of secure attachment for the neonate and young infant, and bonds to develop within the family and the community. (179) It is also a time of increased risk of maternal and neonatal morbidity and mortality. Recent figures indicate an estimate of 303,000 maternal deaths annually resulting from complications related to pregnancy, childbirth or the postnatal period. (180) The majority of these deaths occur postnatally, with postpartum haemorrhage (PPH) being the most common cause of maternal death. (4) Neonatal data are more widely available, and recent estimates indicate almost three million neonatal deaths (deaths in the first 28 days after birth) each year, most of which are preventable. (181)

PNC involves a range of healthcare services designed to promote the well-being of women and their babies during this important period. (115) It can be divided into the

immediate care provided within 24 hours after birth while women and newborns are still admitted to the health facility and the follow-up contact visits that should occur after hospital discharge. In both these instances, health services aim to identify risks, apply preventive measures, provide health education and manage or refer complications when necessary. By ensuring appropriate PNC, both health outcomes and the overall satisfaction of women and newborns can be significantly improved. Unfortunately, not all women and babies receive PNC in the days following childbirth, when it is most needed, despite its proven importance. (182, 183) Worldwide, more than three in 10 women and babies do not receive PNC in the days following birth after discharge, with women from lower socioeconomic groups and education levels being more likely to deter care. (113) Although this highlights the role of socioeconomic factors, autonomy and knowledge in care-seeking behaviour, care-seeking is multifactorial, highly influenced by systemic, societal and individual factors. (184, 185)

The WHO recently released recommendations for maternal and newborn PNC outline guidelines for fostering a positive postnatal experience. (186) These guidelines emphasise the importance of providing consistent information and reassurance from dedicated health workers and operating within a flexible, well-resourced health system that addresses the health, social and developmental needs of both mothers and babies, in an environment that respects their cultural background. In these recommendations, the WHO addresses clinical and non-clinical aspects of maternal and newborn care, including health promotion and health systems interventions that should be in place in the 6 weeks after birth.

Despite the presence of clear guidelines, numerous women worldwide continue to encounter difficulties in accessing PNC. These challenges can be further exacerbated by negative experiences during prior interactions with the health system, ultimately deterring them from seeking subsequent care. (187) While many studies have evaluated facilitators and barriers to facility-based delivery (133), only limited studies have assessed the influence of the intrapartum care experience on access to postpartum care after discharge. (184, 187) Meanwhile, the physical and emotional consequences of childbirth – from injuries to recurring pain and trauma – continue to go unattended and unmanaged, with PNC not being accessed. (114, 115) There is a need to further understand what influences women's care-seeking behaviours postnatally and explore how their experiences during childbirth may contribute to these decisions.

5.1.1. Selecting a framework

The COM-B model is one of several behaviour-change frameworks developed to explain and predict engagement with healthcare and promote healthy behaviours. The COM-B Model provides a useful framework for better understanding the determinants of current and desired behaviours and the factors that influence these behaviours within a specific context. (178) Developed by Michie and colleagues, COM-B recognises that for a desired behaviour to occur, individuals must have the capability, opportunity and motivation to enact the behaviour. (188) Capability is defined as the individual's psychological and physical capacity to engage in an activity, including having the necessary knowledge and skills. Motivation is defined as all the implicit and explicit processes that direct behaviour, including habitual processes, emotional responses and conscious decision-making. Opportunity is defined as factors external to the individual that make the behaviour possible. By recognising that behaviour is influenced by multiple factors, the

COM-B model provides a useful framework for understanding care-seeking in the postnatal period. It also emphasises the importance of context and environment in shaping behaviour, which is especially relevant for improving PNC access in LMICs.

Understanding behaviour in context is the starting point of intervention design. (189) The COM-B model, thus, helps to identify the behavioural target and components of the behavioural system that need changing. Given that policies can only influence behaviour through the interventions that they enable or support, Michie and colleagues placed the COM-B Model at the centre of a larger behaviour change wheel (BCW) framework. (190) The BCW consists of three layers: an inner layer representing the source of behaviour (represented by the COM-B), a middle layer representing the intervention and an outer policy layer. All three components interact with each other, as do the functions within the intervention layer and the categories within the policy layer. By identifying the potential intervention functions and policy categories, this framework is designed to help prevent policy makers and intervention designers from neglecting important factors that influence behaviour. (191)

This chapter of my thesis aims to provide a more detailed understanding of how women's experience during childbirth, among an array of other individual and contextual factors, influences women's health and access to PNC in Tucumán, Argentina. I selected the COM-B model as it provides an ideal foundation for investigating the complex interplay of these factors with care-seeking behaviours while incorporating both intrinsic and extrinsic elements, ensuring a holistic perspective. Additionally, the COM-B model aligns well with my pragmatic approach, which prioritises the practical application of research findings. By employing this model, the chapters aims not only to generate a nuanced understanding of the factors affecting behaviour change but also to identify actionable recommendations that can be translated into real-world interventions.

5.2. Methods

5.2.1. Study design

Details of the methods used for recruitment, sampling, the development of topic guides, and data collection and management are reported in Chapter 4. Here, I delimit the main methodological aspects required to interpret and understand the results.

5.2.2. Study setting

The qualitative fieldwork, as explained in the previous chapter, was conducted in a community in Tucumán, Argentina. Additional information on the Argentinian healthcare system is needed to situate the results of this chapter in the healthcare context.

In Argentina, antenatal, childbirth and postpartum care visits occur differently in the public and private sectors. (71, 192) In the public sector, pregnant women receive ANC in primary healthcare centres, often attended by multiple professionals throughout pregnancy. For delivery, women visit the maternity hospital, and births are attended by the on-call team. Unless the woman has complications after delivery or requires the removal of stiches after a caesarean section, she is referred back to the original primary care health centre for routine consultations. If she has any additional health needs, she is asked to return to the maternity hospital, where she is seen at the outpatient clinic by a different provider than those conducting the deliveries.

In the private sector, women usually receive care from the same healthcare professional throughout pregnancy, childbirth and the postpartum period. (193) This helps to establish a woman-provider relationship, allowing women to contact their health provider directly in case of an emergency or health concern. Many health providers work in both the private and the public sphere; however, infrastructure and service delivery are frequently better funded in the private sector, affecting the quality and type of care provided.

Aside from the public and private sectors, union-based health insurance represents a third alternative. People with this insurance have access to semi-private or private facilities and different benefits and services depending on the type of union they belong to and the arrangements of the union with various clinics.

Regardless of the type of health insurance, many women still access antenatal and postnatal visits at public primary healthcare centres as this entitles them to receive government benefits. (74) These government benefit plans are conditional on women attending all four ANC visits during pregnancy and taking the baby for vaccination and control in the postpartum period.

5.2.3. Data analysis

After conducting the interviews and focus groups, all transcripts were imported into Nvivo 12 to manage, code and review the data and identify themes. I used thematic analysis to analyse the interview and focus group transcripts. Thematic analysis is a commonly used approach in qualitative research. It is a flexible method to identify, analyse and report patterns or themes within data. (194) Beyond the organisation and description of data, thematic analysis is interpretive: it seeks to understand experiences, thoughts or behaviours across a dataset. (195) An advantage of thematic analysis is that it can be used within a variety of paradigmatic and epistemological orientations, a critical criterion when selecting an analytical method within a mixed-methods approach, as epistemological clashes can limit the trustworthiness of the findings and their interpretation. (196)

For this analysis, I use the method as outlined by Braun and Clarke (197) due to its systematic approach and proven efficacy in thematic analyses within the qualitative literature. This involves a five-step process: familiarising oneself with the data, generating initial codes, searching for themes, reviewing themes, and defining and naming themes. After familiarising myself with the data, I identified codes to address the second objective of my PhD, that is, to establish the mechanisms by which mistreatment alters women's health-seeking behaviours and health outcomes. For this purpose, I aimed to answer the following research questions: 1) what factors enable or hinder women's access to PNC? And 2) how do these factors relate to women's experience during childbirth? I individually coded the interviews and FGDs with the aim of answering both questions and identifying potential links and patterns emerging from each woman's narrative. I examined the codes and collated data extracts to identify potential themes of broader significance. I later reviewed the themes to ensure that they were coherent, clear and meaningful, modifying or removing those that did not meet these criteria. Since women did not explicitly report MDC in the interviews or focus groups, I used Bohren's typology to identify aspects of care that would qualify as mistreatment. Once the thematic analysis was finalised, I mapped the final themes into the COM-B model of behaviour change. Some themes had to be reworded or renamed to fit the COM-B model structure.

Table 4. Sociodemographic characteristics of women participating in the qualitative phase

	N	Women participating in SSI	Women participating in FGDs
		20	12
Age (years)– median (IQR)		29 (23;32)	22 (19;28)
Education – n(%)			
Primary complete or lower		4 (20)	3 (25)
Secondary incomplete		6 (30)	5 (42)
Secondary complete or higher		10 (50)	4 (33)
Parity – median (IQR)		2 (1;3)	0 (0;2)
Type of health insurance– n(%)			
Public		10 (50)	5 (42)
Social insurance (union run)		10 (50)	6 (50)
Private		0 (0)	1 (8)

A total of 32 women participated in either the semi-structured interviews or the FGDs. The median age of interview participants was 29 years (interquartile range (IQR): 23;32 years) and that of FGD participants was 22 years (IQR: 19;28 years). Most women either attended the public health facilities or had insurance that allowed them to use private, union-run clinics (Table 4).

5.3. Findings

Initially, most participants reported consistently attending their postnatal visits and feeling supported and cared for by health providers during childbirth. However, deeper exploration revealed many episodes of abuse both during childbirth and PNC, shaping the women's behaviour. These experiences encompassed a variety of issues such as inadequate provision of information, ineffective communication by healthcare providers and feelings of neglect. The findings are presented based on the COM-B domains: 1) capability, 2) motivation, and 3) opportunity (Figure 8).

Figure 8. The Capability, Opportunity, Motivation - Behaviour (COM-B) model: factors influencing woman's decision to access postnatal care (PNC)

5.3.1.   Capability

Capability in the COM-B model refers to an individual's psychological and physical ability to engage in the behaviour of interest, encompassing factors such as physical capability, knowledge and awareness that enable or hinder them from accessing and utilising PNC services.

i.   Physical capability

Physical capability includes the physical skills, strength or stamina that enables behaviour. For instance, in the context of my study, physical capability might refer to women's physical health status post-delivery, which affects their ability to access healthcare or perform self-care tasks after childbirth.

•   Health concerns and the establishment of breastfeeding:

Motivation to seek care was notably influenced by the physical health of both the mother and the newborn. In cases where any health concerns or alarm signs were detected in either the mother or the baby, women would seek care promptly. However, when no health complications were identified and both the mother and baby appeared healthy, women often chose to delay seeking PNC. A participant shared,

> '*When I noticed my baby wasn't feeding well, I knew I needed to seek help immediately.*' (JP, interview, 22 years old, mother of one).

As illustrated above, breastfeeding issues were one of the most crucial health concerns that emerged as driving women's decisions to seek PNC. When linking to their childbirth experience, many women related these issues with not having received adequate counselling while in the facility. One participant shared,

> '*I was a first-time mother and didn't know anything, so I wasn't breastfeeding my baby well. I had a lot of milk, and he didn't eat much. They didn't tell me that I how to express milk or that I had to buy a breast pump. I developed mastitis so I had to go back [to the health care centre] for a consultation and to get treatment.*' (MB, interview, 24 years old, mother of one)

Participants who faced challenges breastfeeding expressed feelings of frustration and overwhelm, prompting them to seek care and advice from providers. In contrast, mothers who had successfully established breastfeeding reported increased confidence and consequently felt less impelled to attend PNC appointments.

The mode of delivery was another concern that influenced access to care. Women who underwent a caesarean section reported going back for the postnatal visit to have the stitches removed and the wound checked. It was evident that any health concerns involving the mother or her newborn served as catalyst for immediate care-seeking. Conversely, a perception of good health potentially postponed access to PNC.

- Maternal mental health:

Another barrier within the realm of physical capabilities was women's mental health, which was perceived as a deterrent to rather than an enabler of care-seeking, unlike the health concerns mentioned above. Depression and sadness were reported by numerous women after childbirth, not only as impacting their psychological well-being but also as a tangible physical barrier to care. Women's mental health concerns were articulated as a lack of energy, reduced motivation or even physical symptoms such as fatigue and aches. As a woman indicated,

> '*I knew I had to take my baby to his visit, I just didn't have the strength to go, everything felt like such an effort. I felt this sad for months after he was born, my family helped, but even cleaning the house felt like a lot.*' (MJ, interview, 29 years old, mother of two).

Some women linked their mental health struggles directly to their childbirth experiences, an indication of the potential trauma and stress that birthing had induced.

> '*It was very painful, they kept doing vaginal exams to check. But it wasn't always the same person, I was in the emergency room so there were many different people, and you are exposed to all that. I still remember, I kept asking my husband to tell them to stop. It was such a horrible situation.*' (NH, interview, 23 years old, mother of one).

Others attributed their mental health struggles to hormonal changes, the pressure and responsibilities of caring for the newborn, societal expectations or a lack of support networks. These issues, while psychological in nature, directly impact women's physical health and capacity, further limiting their ability to access the PNC they require.

ii.   Psychological capability

Psychological capability refers to the mental state, knowledge and skills required to engage in the necessary mental processes that lead to a behaviour. For instance, it may include understanding health advice, weighing up the benefits and risks of different health behaviours or making plans to engage in healthy behaviours.

- Effective communication and interactions with healthcare providers:

The ability to effectively communicate with healthcare providers stood out as a central component of women's psychological capacity to access PNC. Feelings of unpreparedness for PNC notably influenced the timely use of these services. Healthcare providers were viewed as the main source of counselling and information, but some women reported difficulties understanding the scientific language used by them. These women who received inadequate counselling by health providers during their childbirth admission stated delaying their postnatal visits as they were unsure about what the post-discharge process should be. As a woman explained,

> '*It was as if their [health providers] only role was to check you and say some scientific words about the status of your baby. But you come from a place where you didn't finish high school, you come from a vulnerable family, with very little knowledge. How am I going to understand what they are saying to me?*' (GB, interview, 21 years old, mother of one)

Women also reported apprehension regarding the attitudes of healthcare providers during childbirth, viewing this as a barrier to their return for PNC. A commonly reported fear was frequently linked to perceived negative attitudes and behaviours of health providers during childbirth. Participants felt that healthcare providers were unapproachable and unresponsive to their concerns, with some even feeling deliberately intimidated. In particular, first-time mothers and younger women did not feel that the health system was an adequate platform to express their worries and reported feelings of dismissal and a hesitancy to voice their needs. As one participant expressed,

> '*I'm not sure how to express what I need to the doctor, and I don't want to appear impolite or troublesome. So, I remain silent and pray that the doctor will do what's best for me.*' (AF, interview, 24 years old, mother of three)

A few participants also disclosed a lack of awareness about their rights within healthcare, often feeling disempowered when it came to making informed decisions and advocating for their needs. This lack of knowledge contributed to the delay in seeking PNC and further compounded their discomfort during interactions with healthcare providers.

- Awareness of the preventative value of postnatal care:

Participants acknowledged the importance of PNC for their infants, associating it with monitoring growth, administering vaccinations and treating illnesses. However, they were less aware of the value of PNC as a preventative service for the woman that supported her transition into motherhood and her mental health.

Women claimed that the value of PNC was often overlooked by healthcare providers themselves, especially within primary healthcare centres. Consultations were frequently described as hurried, lacking adequate opportunities for in-depth discussions

or addressing queries. Consequently, participants typically resorted to PNC only when confronted with immediate health concerns for themselves or their babies, delaying care until perceived as absolutely necessary. As one participant noted during the FGD,

> *'You go to the health centre, they measure and weight the baby, they give you the milk and then you leave. You wait for hours, and they don't even ask you if you are ok. I prefer not going unless I absolutely must'* (focus groups discussion, multiparas)

Participants highlighted the importance of receiving comprehensible information about the value of PNC to help them make informed decisions and attributed their lack of awareness to the poor interaction with health providers during their hospital stay. Particularly for first-time mothers, the absence of straightforward, understandable information emerged as the primary obstacle in accessing PNC. During the group discussions, many women reported a lack of support from providers.

> *'If that's what the postnatal care should be about [mental health and preventive care], they [the doctors] should tell you. It is not what happens when you go to the primary healthcare centre, they just see you in 5 minutes. At least if you knew what they should be doing, you can demand it.'* (focus groups discussion, multiparas)

Only a small number of women reported utilising consultations at the primary healthcare centre to address queries or concerns which they felt had not been fully addressed by healthcare providers prior to their discharge from their birth admission.

5.3.2. Opportunity

In the COM-B model, opportunity refers to the external factors that enable or constrain behaviour. The opportunity category has two components: physical and social. In the context of my thesis, when examining women's PNC-seeking behaviours, physical opportunity refers to the availability and accessibility of PNC services, while social opportunity refers to cultural norms or social support influencing women's decision to seek PNC.

i.   Physical opportunities

Physical opportunities are those elements of a person's environment that enable or prompt a behaviour. These include factors like resources, time, location and environment that can facilitate or constrain behaviour. For instance, the availability and accessibility of healthcare services, ease of transport to these services, or the opening hours of the facilities can be considered under physical opportunities.

- Logistical barriers to accessing postnatal care:

Women spoke at length about their experiences accessing care in the health centre, with many highlighting long waiting times, limited availability of health providers, substandard treatment and short opening hours. As a woman explained,

> *'They ask you to be responsible with the check-ups and the vaccines but when you go, they mistreat you, or they always have an excuse to see you two hours late, they never*

respect the appointments. Everyone complains about that' (VC, interview, 29 years old, mother of two)

Although the connection between logistical barriers to PNC and their childbirth experience was less apparent, women would relate healthcare system inefficiencies to the difficulties they encountered during their hospital admissions for childbirth, including prolonged waiting times, restricted availability of providers and poor quality of care. As a woman stated,

> *'If you want to be seen by a doctor, you have to wait. I was about to give birth and there were no doctors to be seen. It's the same everywhere, unless you pay for private care. If you pay private then you have a better chance of being seen in time'* (focus groups discussion, multiparas)

Additionally, many women reported difficulties in finding someone to care for their other children or not being able to take time off work to attend appointments, particularly if they had to wait for extended periods of time. As one woman put it,

> *'I took the morning off work the other day for a postnatal check-up with the gynaecologist. When I got there, the waiting time was so long that she didn't end up seeing me. They wanted to re-schedule the appointment, but I couldn't ask for another day off from work.'* (focus groups discussion, under 19 years old)

During the FGDs, women would share recommendations on the best health centre to visit and the best times to go to ensure that a good health provider is present. Only a few women reported feeling satisfied with the care received, with the majority saying that they only go to pick up formula milk that is supplied free of charge. These challenges were compounded by the fact that many women felt that they had no choice but to pay out-of-pocket for private care, despite the financial strain this placed on their families.

• Support from government benefits:

In exploring the conditions under which women received government benefits, a key finding emerged in relation to PNC. All participants reported attending postnatal check-ups for the baby at the primary health centre to ensure eligibility for government cash transfer benefits. This requirement was highlighted as a key facilitator of PNC-seeking, with women emphasising the importance of accessing these benefits for themselves and their families as it was their main source of household income.

> *'I know I have to go monthly so that they stamp the postnatal card and I can cash the plan [government benefit], but I couldn't go last month because my mum was sick. I had to ask the neighbour for milk for my kids, I didn't make it till the end of the month.'* (FC, interview, 35 years old, mother of four)

Many participants reported instances of perceived discrimination from health providers who were aware that they were beneficiaries of these government plans. Those reliant on these benefits were often viewed as idle and treated with disdain. Nevertheless, women reported that the quality of clinical care received in the maternity hospital remained the same regardless of benefit status, in contrast with the care received at the primary health centres. Many acknowledged visiting these centres merely as a bureaucratic step to

secure the government benefits and confessed to paying out-of-pocket to receive more comprehensive care. In the words of one participant,

> '*I just go to the primary health centre for them to sign the card. If you want your child to be treated properly, you have to pay a private provider. I got tired of it, and I go to a private provider now. The same paediatrician who might treat you poorly in the public centre treats you well if you pay for a private consultation.*' (focus groups discussion, multiparas)

ii.   Social opportunities

Social opportunities refer to the societal influences that can affect behaviour. These include the cultural norms, social cues or societal pressures that facilitate or discourage certain behaviours. Social opportunities can also include influences from interpersonal relationships, social support or the perception of public opinion.

- Reliance on social networks:

Social networks play a significant role in women's access to PNC, as revealed in the findings from the interviews and FGDs. Women relied heavily on their social connections to gain information about the quality of care they could expect from health providers, particularly during delivery and PNC. They saw their relatives and friends as sources of protection and support when dealing with health providers. As one woman reported,

> '*My sister was with me during labour and childbirth. She was the one who followed the baby to the intensive care unit when they took him and kept me updated about my baby's status during our time in the hospital. She was of so much help.*' (AT, interview, 32 years old, mother of three)

Woman explained how the negative stories and experiences shared by peers about mistreatment by health providers had a profound impact on their decision-making about where and when to seek care throughout pregnancy and after birth. On the contrary, positive experiences and recommendations from social networks reinforced the use of services. Women recognised the importance of exchanging experiences about different health centres and sharing information on how to care for the babies. They expressed that having a large support network helped them make more informed decisions in difficult situations.

Women with stronger social networks also had access to additional help with child-caring activities, such as cooking and cleaning, allowing them to attend PNC visits without added stress. As one woman expressed,

> '*In my case, I had huge support from my family and my husband, I think that is the most important. I don't know how someone can do it without the support of the family, that can influence how the baby is cared for and whether the mother can take the baby for their check-up.*' (YV, interview, 31 years old, mother of three)

All women reported having strong social support and acknowledged that without it, they would feel less confident in their ability to provide adequate care for their newborn.

- Clashing priorities and expectations:

    Study participants felt that they were expected to prioritise the health and well-being of their babies over their own. Some women stated that they did not always perceive their health as a priority. Instead, day-to-day problems, such as finding money for food and heating the house or keeping the children well cared for and presentable, took precedence. As one participant stated,

    > '*I have to take care of my children, go to work, do household chores, cook. I don't have time to spend hours waiting for a doctor to see me for 5 minutes.*' (focus groups discussion, multiparas)

    Despite recognising what they should be doing, most women in the study reported delaying their visit as much as possible. The majority complained about having too much on their plate, which made them feel overwhelmed. During the FGDs, women would share exhaustive lists of their expected responsibilities. As one woman shared,

    > '*I find myself juggling so much, between work, the kids, the house, my partner; it just never stops. Sometimes, my health falls to the bottom of the pile. It's not intentional, I do what I can.*' (focus groups discussion, multiparas)

    While this aspect may not be directly connected to women's experiences during childbirth, many constraints of the health system, such as prolonged waiting times and substandard care quality, played a significant role in their decision to prioritise their other responsibilities and frequently place other demands ahead of their personal health.

5.3.3. Motivation

    Motivation in the context of COM-B refers to the internal processes that influence decision-making and behaviour. Motivation, as defined in this model, includes both reflective and automatic processes.

i.   Reflective motivation

    Reflective motivation refers to conscious decision-making and evaluations. This involves processes where an individual actively thinks about and evaluates the pros and cons of a specific behaviour. It includes one's self-conscious plans, evaluations, and beliefs about what is good and bad.

- Balancing need vs benefit:

    Women reported having to weigh their needs against the benefits when it came to accessing PNC, both for themselves and their children. All participants expressed a strong commitment to their infants' health, consistently prioritising their children's appointments as they understood these visits to play a pivotal role in the baby's health. In an interview, a participant highlighted,

    > '*I always take him, despite the horrible care we receive, but I take him for his vaccines and medical check, I don't stop doing that.*' (FC, interview, 26 years old, mother of one)

On the other hand, women's own PNC frequently took a backseat, being perceived as of less immediate importance compared to their infants' needs. Women who had undergone caesarean sections were an exception, citing the significance of PNC in monitoring their recovery and the condition of their stitches. Many women reported bypassing their own PNC visits, attributing this to a perceived lack of urgency or a prioritisation assessment, whereby their own health was deemed less critical than their baby's.

> *'If I feel alright, I usually don't go. I tend to wait until there's a specific need or until I can make some time, which, to be honest, doesn't happen often.'* (CT, interview, 28 years old, mother of two)

A prevailing sentiment was that their personal health could temporarily be put on hold, especially when juxtaposed against the immediate needs of their newborn and their own time constraints. Women who received counselling before discharge reported that it primarily concentrated on newborn care and breastfeeding, neglecting the woman's own health requirements. Only those who underwent a caesarean section received advice on wound care before discharge. This approach failed to capture the comprehensive benefits of PNC for a woman's overall health and well-being, which would help women to make more informed decisions.

ii.   Automatic motivation

Automatic motivation is defined as the automatic processes that arise from learned associations, emotions and impulses which may occur without conscious awareness. This includes habitual processes, emotional responses, reflexes and any other automatic responses that might directly influence behaviour.

- Feelings of being judged or shamed by healthcare providers:

The narratives of the participants highlighted the issues of judgement and shame as affecting their willingness to access PNC services and the timing thereof. The fear of stigmatisation and negative judgement based on their childbirth experience was prevalent in their accounts, contributing to delayed or even missed PNC visits.

Many women expressed feelings of shame and embarrassment during their interactions with health providers, in which they felt looked down upon or criticised for their parenting choices and their personal circumstances. This fear of judgement and criticism significantly influenced their care-seeking behaviours. Women reported feeling disrespected or belittled by healthcare providers during delivery, which made them wary of seeking PNC. One participant described how she was treated during childbirth, saying,

> *'They talked to me like I was a child, like I didn't know anything. They didn't listen to me when I told them what I wanted or how it hurt. I felt like I wasn't in control of my own body.'* (LR, interview, 20 years old, mother of one).

Across the interviews and focus groups, participants frequently mentioned their age, social class, civil status and education level as factors that influenced their experiences with healthcare. Women spoke of postponing their postnatal visits as far as possible to avoid the anticipated feeling of shame and criticism. This was particularly prevalent

among younger and first-time mothers, who lacked confidence in their parenting abilities. One participant explained,

> '*We already have quite an awful time at home to also have to go somewhere else to have an unpleasant experience. That prevents us from saying how we feel, because they make us feel scared, because they feel they have control over us. So, we keep everything to ourselves, we don't say anything, and we hold on to that pain, because of fear. This should change, we should stop feeling afraid, we should feel safe with what we are doing, and what we want, and just say it.*' (FC, interview, 35 years old, mother of four)

While some participants reported positive experiences with some health providers, most felt that doctors did not put enough effort into addressing their concerns, leaving them feeling that attending appointments was pointless unless they had a clinical need.

- Sense of vulnerability due to high self-stigma :

High self-stigma was a less commonly reported barrier, both during delivery and PNC, but it did emerge in some of the interviews and focus groups as a reason for postponing care. Some women expressed a sense of guilt or self-blame if their baby was not growing fast or if they were struggling with breastfeeding. They reported feeling like they should be doing better as a mother, which could make them hesitant to seek help from healthcare providers. This issue appeared to be more prevalent among younger mothers who were less versed in their parenting skills. As one teenage mother explained during the FGDs,

> '*I took my baby for a health check and to get his document only at 6 months, because I am lazy and incompetent. I even had to pay a fine because of that.*' (focus groups discussion, under 19 years old)

Feeling of inadequacy and high self-stigma further exacerbated women's reluctance to seek care. Low self-esteem also appeared in women's narratives related to their childbirth experience as they would sometimes blame themselves for the poor treatment received from health providers. As a woman reported,

> '*I know I was a pain in the neck because I kept screaming during my delivery. The health provider kept telling me that I was being too loud.*' (GB, interview, 21 years old, mother of one).

5.4. Discussion

The present chapter aimed to explore the factors that affect women's PNC-seeking behaviours in Tucumán, Argentina, and their relationship with women's childbirth experiences. These factors were mapped onto the capability, opportunity and motivation dimensions of the COM-B model to understand their interactions with and influences on behaviour. My key findings, highlighting women and newborns' health, awareness, physical and financial access, social support, experience of care and self-stigma, reflect a variety of practical, personal, interpersonal and health systems considerations both at the time of birth and during PNC that influence timely access.

The findings under the capability dimension illustrate that women perceive PNC mostly as an opportunity to treat already existing health problems rather than as preventive care. Even though women appear aware of the need to access care, they do not deem it a priority if both themselves and their infants are healthy. This is particularly true when it comes to the woman's health. While women seemed to engage with institutional antenatal and intrapartum care to safeguard their babies, their health often becomes secondary once the baby is born. These results echo previous studies demonstrating the misperception that positions PNC as a therapeutic response to illness rather than a preventive strategy aimed at forestalling potential health complications. (185) The findings suggest a pressing need for interventions that enhance understanding of the importance of timely PNC, focusing on its role in safeguarding not only newborns but also women as they transition into motherhood.

From a supply-side perspective, opportunities for timely access could be improved through strategic adjustments such as enlarging the provider pool, extending operational hours and minimising waiting times. Women's day-to-day responsibilities emerged as potentially impacting their commitment to postnatal follow-up visits, making it vital to ensure adequate infrastructure, a well-staffed health workforce and flexible scheduling. (86) Such factors could not only shape decisions around when and where to seek care but also the quality of care received. Resources must be strategically allocated to bolster PNC provision and strategies found to adjust to women's demands. Home visits have been shown to be opportunities for improving access, discussing concerns and involving other family members in the care of the newborn. The recently published WHO recommendations on maternal and newborn care for a positive postnatal experience support this view and recommend home visits during the postnatal period across all care settings. (186)

While recognising that healthcare providers also face significant challenges in an overstretched and overburdened system, it is imperative to adopt a more comprehensive and compassionate approach to the needs that persist after birth. (198) This analysis shows that in women who had a past negative experience during childbirth, the fear of being judged or shamed by health providers appears to linger during the postnatal period, causing a lack of trust both in the providers and the health system as a whole. Empowering women with the knowledge and skills to effectively communicate their preferences and concerns, as well as creating a safe and non-judgemental environment for open communication with healthcare providers, is key. Strong social networks also play a significant role by providing emotional and practical support both during and after delivery, reducing the risk of postnatal depression and contributing to childcaring responsibilities. (199)

In the study's community, demand-side cash incentives emerged as a potential tool to further encourage access. The findings suggest that the majority of women benefiting from these subsidies do seek care, albeit sometimes delayed. While these incentives ensure access, they do not equate to adequate care. Women often perceive PNC as a bureaucratic step or simply as a method to monitor the baby's growth and obtain formula milk, neglecting the crucial physical and emotional health benefits it has for both the mother and the baby. Cash transfers should be complemented with initiatives to improve the quality of care as well as the experience of the woman. Barriers linked to poor communication and counselling by healthcare providers and their attitudes towards PNC can hinder this experience. Disregard for women's concerns from health providers can affect women's willingness to seek healthcare and have long-lasting effects on their

physical and mental well-being. Prior research indicates that enhancing communication post-delivery improves women's access to postnatal checks, boosting their awareness and knowledge of these crucial services. (198, 200) Additional counselling can further promote care-seeking and support health-promoting behaviours, family planning, breastfeeding, and the prevention and treatment of maternal and neonatal health issues. (183, 201)

Aligning with the COM-B model, enhanced capabilities and opportunities could elevate women's motivation to access PNC. The more confident women feel within the health system and the more open the environment for sharing their concerns, the more likely they are to attend their postnatal appointments in time. This is particularly true in South America as compared to regions like Asia or Africa. A distinctive aspect of this setting, especially in countries such as Argentina, Chile and Uruguay (the 'Southern Cone'), is the wide societal acceptance of institutional healthcare. (202) Home births or traditional healthcare practices do not play as prominent a role in the Southern Cone as in other parts of the world. As such, while in other countries, inadequate capability and opportunity may completely deter women from engaging with the health system, this study demonstrates that in this setting, women either delay their visits or opt for private healthcare rather than discontinuing care entirely. Thus, the emphasis should be on improving timely, compassionate and high-quality care to shift the perception of PNC. (185, 203, 204) Interventions such as community-based PNC have proven effective in improving access to care for marginalised or vulnerable communities like these. (205, 206)

Strengths and limitations

The COM-B model proved to be a practical tool for exploring the dynamics and interplay of various dimensions influencing behavioural patterns. However, in the context of my study, it primarily addresses factors associated with individual, interpersonal and health systems constraints. This sidelines larger structural dimensions that could potentially impact the relationship between this population of women and the medical experts providing care, such as gender and power dynamics. Major barriers to care, such as women's low self-esteem and poor mental health status, emphasise the societal expectations imposed on women, specifically the pressure to feel joyous about motherhood. Additionally, differential treatment linked to age, ethnicity, and socioeconomic and civil status can be interpreted as power dynamics between medical professionals and women. (207) While these societal and structural influences were intentionally excluded from the analysis due to my focus on factors measurable at the individual or relational level, they still constitute a significant gap that warrants further investigation. Acknowledging the influence of these structural factors is critical to broaden the scope of understanding the factors driving women's behaviour regarding PNC.

Additionally, while most themes could be categorised within the COM-B model, some did not fit neatly within one subcomponent. This mirrors the hypothesised relationships between components of the model; opportunity and capability can influence motivation, while behaviour can alter capability, motivation and opportunity. For example, women who were dealing with the mental health consequences of a past negative experience during childbirth (physical capability) had less knowledge and awareness of the importance of PNC (psychological capability). Women with lower communication skills (psychological capability) had more fear of being judged or shamed by providers (automatic motivation). Women who had competing priorities and postponed care (social opportunity) also faced increased logistical and financial barriers (physical opportunity).

Thus, the intersections of subcomponents reflect the complexity of care-seeking behaviours, with many factors referring back to women's previous interactions with the health system. (207) Concerted action is required to improve both the supply and demand for PNC. Stakeholders within and outside the health system have a key role to play in devising intersectoral strategies that enhance the coverage of PNC. (201)

These findings provide insight into the barriers to and facilitators of care-seeking; however, they should be interpreted with the following limitations in mind. First, although I used stratified purposive sampling to aim for diversity in the participants, they were all from a low-resource, peri-urban community in Northwest Argentina which may not be representative of other communities and countries. Second, the interviews and group discussions were conducted between COVID-19 waves, which might have influenced women's narratives as the entire health system had faced disruptions in the previous year. Although most women had delivered and completed at least one postnatal visit before the start of the pandemic, this could have also influenced their responses.

Despite these limitations, the study followed a rigorous qualitative methodology and the COM-B model offered a systematic, theory-driven approach to identify barriers to and enablers of PNC access. Additionally, I have worked extensively with this community and in the field of maternity care in Tucumán, which facilitated the familiarisation with women's narratives in this context.

5.4.1.   Implications for policy and practice

The study highlights the complex determinants of PNC access in Tucumán, Argentina. Multiple barriers and facilitators were identified relating to all three dimensions of the COM-B model. Given the nature of the study, I cannot state which component has the most significant influence on care-seeking; however, ensuring the continuity of safe and compassionate maternity care across the antenatal, birth and postnatal stages would allow women to feel protected and cared for when accessing a health facility. As Langlois advocates, greater investments are needed to enhance the quality of care and respectful care practices across health cadres; these are intrinsically linked to the uptake of PNC and the continuity of MNH. (201) Based on my results, the focus should be on multiple factors, especially 1) education and communication, 2) emotional and social support, 3) availability of services, and 4) women's empowerment. First, more investment and capacity-strengthening efforts are needed to support communication between health providers and woman at the time of both birth and PNC. Pre-discharge counselling needs to be provided using terminologies that the woman and her family can understand, ensuring adequate time for expressing concerns and doubts, and responding in a caring and patient way. Second, a comprehensive approach to care that emphasises both its clinical and non-clinical aspects should be established, integrating women and newborn services and different specialties (such as nutrition, family planning, mental health, neonatal screening and social work) and considering both the provision and the experience of care. Third, ensuring that care is provided in a timely, respectful and compassionate manner can simultaneously overcome multiple barriers. Finally, efforts are required to increase community engagement to support behaviour change, improve the overall quality of care during childbirth, and increase women's trust in healthcare providers and their willingness to take up PNC for themselves and their newborns.

5.5. Conclusion

Each contact between women and newborns and healthcare providers counts. Ensuring a positive experience during antenatal, intrapartum and postpartum care is essential to keeping both women and newborns within the health system. This is not just an issue of access but also of ensuring that once a woman accesses care, it is provided with sufficient time and quality so that she feels observed and taken care of. We need to raise the bar and make efforts to accelerate progress and guarantee that women and newborns receive essential, comprehensive and supportive services throughout the continuum of care.

6. Results: A systematic approach to causality

At the core of this chapter lies my broader PhD objective: to unravel the complex pathways through which childbirth experiences could influence PNC-seeking behaviours and health outcomes for both mother and newborn. I aimed to create a comprehensive roadmap that sheds light on the possible underlying mechanisms and effects of these interactions. Ultimately, the goal is to reveal the nuances behind postnatal health and health-seeking behaviours, focusing on their connections with women's childbirth experiences, thereby establishing a foundation for the development of a theory of change based on which to design and implement interventions.

In this chapter, I utilise findings from the systematic review (Chapter 3) and the qualitative analysis (Chapter 5) to build a directed acyclic graph (DAG) and provide a visual representation of the hypothesised causal effects of mistreatment on access to PNC. After introducing key epidemiological concepts, I outline the stepwise approach that enabled me to produce my final causal pathways graph. This stage, firmly embedding the theoretical underpinnings of my research, paves the way for the subsequent phases of my study.

6.1. Introduction

Epidemiological studies aim to establish the relationship between exposures and outcomes in human populations. (208) A randomised controlled experiment represent one such approach, but practical and ethical constraints mean this is only possible for a limited range of exposures. (209) Most causal effects must therefore be estimated from observational data, a notoriously difficult task that requires understanding, identifying and attempting to address the many biases that arise in non-experimental data, including confounding, selection and information bias. Causal inference is the process of identifying the causal effects of an exposure on an outcome based on observational data. Different causal inference approaches aim to promote greater transparency by

encouraging observational data researchers to formally define the causal effect(s) they seek before they begin their analysis. (208, 210) This is of particular relevance to my study as I aim to delineate the paths connecting MDC and PNC behaviours.

DAGs are a simple and transparent way to identify and demonstrate knowledge, theories and assumptions about the causal relationships between variables. (211) Although the accuracy of the resulting estimate is contingent on how closely the DAG matches the (true) data-generating process, the act of drawing and sharing a DAG makes these assumptions more explicit and open to scrutiny. This transparency is integral to any study as it allows for better understanding and communication of the proposed associations to be tested.

In this chapter, I briefly discuss the utility of DAGs in epidemiology and how they can help identify potential confounders, effect modifiers and mediators of the relationship between exposures and outcomes. Thereafter, I use this graphical method to illustrate the causal paths for my analysis.

6.1.1. Directed acyclic graphs

DAGs are used to rigorously map all a priori assumptions surrounding a causal question of interest and to graphically describe the underlying hypothesis-testing processes. For example, in the context of my research question, '*How does MDC influence subsequent access to PNC?*', DAGs can facilitate the process of identifying confounders (e.g. socioeconomic factors), potential mediators (e.g. perceived quality of healthcare) and possible effect modifiers (e.g. cultural norms).

DAGs are composed of nodes and arrows. A node represents a random variable and arrows represent the causal paths. (212) A path is a collection of one or more arrows that connects two nodes. Paths may be either open or closed; open paths transmit statistical associations, while closed paths do not. A causal path is one in which all constituent arrows flow in the same direction from one node to another. The total causal effect of a specified exposure (i.e. MDC) on a specified outcome (i.e. access to PNC), which forms the main relationship, is the joint effect transmitted through all causal paths connecting the exposure to the outcome. In a hypothesised relationship (i.e. MDC $\rightarrow$ access to PNC), many other variables come into play that can be potential source of bias, such as confounders, mediators and effect modifiers (i.e. socioeconomic factors $\rightarrow$ MDC and socioeconomic factors $\rightarrow$ access to PNC). Thus, by drawing a DAG, it is possible to determine which covariate adjustment sets are required to remove structural confounding bias and, therefore, which covariates should be measured and included in a statistical model. (213, 214) I briefly expand on the four main source of bias that can occur when assessing causality below.

Confounding: A confounding factor is a variable that is associated with both the exposure and the outcome but is not considered an intermediary step in the hypothesised causal pathway. (213) A confounding path is an open path between the exposure and outcome that passes through one or more confounders. In my study, socioeconomic status could be associated with both exposure and outcome independently; thus, women from lower socioeconomic backgrounds might be more likely to experience mistreatment due to systemic biases and might also be less likely to have access to PNC due to factors like transportation costs or the inability to take time off work. These paths introduce confounding bias, which can be reduced by conditioning on one or more of the nodes on

that path such that it becomes closed; this is typically achieved by including those nodes as covariates in a multivariable regression model.

Effect Modification: Effect modification occurs when the association between the exposure variable and the outcome variable differs depending on the level of a third variable. Effect modification is sometimes referred to as interaction, and an effect modifier is referred to as an interactor. In my research, for example, geographical location may act as an effect modifier in the relationship between MDC (exposure) and subsequent PNC (outcome). Specifically, mistreatment could deter access to PNC among rural dwellers while expediting care-seeking in urban settings to counterbalance the adverse experience. Dealing with effect modification involves examining the association between the exposure and outcome separately for each level of the effect-modifying variable. In my example, it would mean stratifying based on geographical location and looking separately at rural and urban populations. Failure to account for effect modification may lead to biased estimates of the effect of the exposure on the outcome.

Mediation: Mediation occurs when the association between the exposure and outcome operates fully or partially through an intermediate factor(s) within a hypothesised causal chain. (212) In the causal chain leading from MDC (the exposure) to decreased access to PNC (the outcome), the perceived quality of healthcare could serve as a mediating variable. This means that the experience of MDC could negatively influence a woman's perception of the quality of healthcare. This negative perception, in turn, may discourage her from accessing PNC services. If a factor is found to be a mediating variable, this would mean that for the exposure to lead to the outcome, it must first cause the mediating variable, which, in turn, leads to the outcome. Mediation analysis is a useful tool for exploring the causal pathways between exposures and outcomes. In this example, mediation analysis would allow me to explore and quantify the extent to which the perceived quality of healthcare mediates the relationship between MDC and access to PNC.

Collision: A collider path is a closed path between the exposure and outcome that passes through one or more colliders, which are nodes that receive two or more arrows; the simplest example occurs when the exposure and outcome both directly cause another variable (i.e. the collider). (215) Collider paths do not transmit statistical associations unless the constituent colliders or one of their descendants have been conditioned on. Such conditioning can introduce collider bias. In my study, 'psychological distress' could be considered a potential collider. Both the experience of MDC and the accessibility of PNC could independently contribute to a woman's level of psychological distress. Thus, conditioning the analysis on 'psychological distress' could inadvertently introduce collider bias since this conditioning could open up an indirect path between the exposure and outcome, potentially confounding the true effect of MDC on PNC access.

In the pursuit of enhancing transparency within the context of my PhD research, the methodologies of causal inference play a pivotal role, distinctly segregating the identification of the relationship of interest from the estimation of its effect. The latter process is meticulously informed by the former, ensuring a robust analytical approach. Specifically, this chapter is dedicated to detailing the hypothesised causal inference paths that are postulated to exist between the exposure of 'mistreatment during childbirth' and the outcome of 'access to postnatal care'. This articulation is crucial as it lays the groundwork for subsequent steps, such as the selection of confounders for data collection and the estimation of the model. Through these efforts, I strove to generate an all-encompassing understanding of the relationships that underpin the issue under study, which can contribute to the creation of a theory of change for the design of interventions

to reduce mistreatment and increase timely care-seeking behaviours in the postpartum period.

6.2. Methodology

In this section, I introduce the process though which I constructed the DAG. This process was characterised by a systematic, multi-step approach.

Step 1: Listing initial hypotheses. I listed all the hypothetical paths that emerged from the literature review (Chapter 3) and the initial qualitative study (Chapter 5) explaining the potential barriers and facilitators that influence women's decision to access PNC, with a specific focus on those also potentially associated with MDC. The aim was to capture the wider range of hypothesised causal pathways connecting exposure and outcome while also considering the various covariates that could serve as barriers or facilitators within this relationship.

Step 2: Narrowing and adapting initial list. To pinpoint overlap, repetition or similarities, I cross-examined the hypotheses from both the systematic review and the qualitative phase. When encountering two related hypotheses, I combined them into a single proposition according to the principle of parsimony. For instance, individual hypotheses concerning social support and marital status as possible determinants of PNC utilisation were consolidated into the broader concept of social capital influencing women's decision to access care. This unification ensured a more succinct and inclusive portrayal of the factors affecting PNC access in the DAG, thus reducing superfluous repetition and complexity. Additionally, I made necessary adaptations to explicitly delineate each hypothesised association with childbirth mistreatment.

Step 3: Drawing initial DAG. Utilising the DAGitty software (v3.0), I developed an initial DAG based on the finalised list of hypotheses. This involved incorporating all variables, such as exposure, outcome and any covariates, arranged temporally from left to right. Causal relationships, as hypothesised, were represented with arrows, regardless of the possibility of reverse causality. The recommendation when drawing a DAG is to start with its saturated form – a graph including all potential cause-effect relationships (215). Thus, I included additional arrows to mark potential pathways tangential to the initial list of hypotheses. However, I did not reach the full saturation of the graph to avoid excessive clutter, which would have decreased its utility, and only added arrows which had a strong supporting rationale.

Step 4: Finding additional supporting evidence. Once the initial DAG was established, I ran a rapid search of published literature on PubMed and Google Scholar. The aim was to find at least one additional source of evidence, aside from my thesis, to support each outlined hypothesis and pathway, thereby mitigating the risk of overfitting the DAG to my study population. Priority was given to literature reviews, randomised control trials and large-scale observational studies. However, the presence of a single supporting article for a hypothesis was deemed sufficient to maintain the corresponding arrow in the DAG.

Step 5: Assessing causality. If no additional evidence was found, I assessed causality for that arrow using the Bradford Hill criteria. (216) The Bradford Hill criteria are a guide to causal inference based on nine points, including strength of association, consistency, specificity, biological gradient, biological plausibility, coherence, experiment and analogy (Box 2). Due to the complexity of the issue under investigation, specificity and

biological gradient were excluded, recognising that multiple factors may contribute to and modify the severity of an outcome.

Paths lacking supporting evidence were evaluated against the remaining seven Bradford Hill criteria. Temporality, biological (or social) plausibility and coherence were prioritised in the decision-making process. These criteria were weighted heavily as their application did not rely on the presence of further evidence, enabling judgement based on logic. Paths satisfying these criteria were incorporated into the final DAG, while paths failing to meet these standards were removed.

Step 6: Drawing final DAG. The processes conducted in the previous five steps resulted in the final DAG.

Box 2: The nine Bradford Hill criteria

1) Strength of association. A strong association between an exposure and an outcome is more likely to be causal than a weak association.

2) Consistency. This refers to the ability to replicate the association in different populations and settings. A consistent association is more likely to be causal than an inconsistent one.

3) Specificity. A specific association occurs when a particular exposure is consistently associated with a particular outcome and not with other outcomes. A specific association is more likely to be causal than a non-specific one.

4) Temporality. This refers to the temporal relationship between the exposure and outcome. A causal relationship requires that the exposure precedes the outcome, which can be established in longitudinal study designs. Longitudinal study designs are more robust in providing evidence for causality as they allow for temporality to be inferred.

5) Biological gradient. This refers to a dose-response relationship, wherein an increase in exposure is associated with an increase (or decrease) in outcome. A biological gradient suggests a causal relationship.

6) Biological plausibility. This refers to the extent to which the observed association is consistent with existing biological knowledge. An association that is biologically plausible is more likely to be causal than one that is not.

7) Coherence. This refers to the extent to which the observed association is consistent with existing knowledge about the natural history and biology of the disease. An association that is coherent with existing knowledge is more likely to be causal than one that is not.

8) Experiment. Experimental evidence, particularly from randomised controlled trials, is considered the gold standard for establishing causality. Randomised controlled trials can control for confounding and establish temporality, making them more robust in providing evidence for causality.

9) Analogy. Analogical evidence involves comparing the relationship between the exposure and outcome to that of a known causal relationship. Analogical evidence can strengthen the case for causality but is insufficient on its own.

6.3. Results

In the initial step, I listed a total of 19 hypotheses emerging from my systematic review (Chapter 3) and my qualitative analysis (Chapter 5). After removing overlaps and resemblance (Step 2), I finalised the following eight hypotheses for inclusion in the initial DAG:

1. Women who had a good experience of care during childbirth, including culturally sensitive care and effective communication within a functional health system, are more likely to attend their postnatal visits compared to those who had a poor childbirth experience.
2. Women experiencing unequal gender roles within the household and in the community have a higher likelihood of being mistreated during childbirth and being prevented from accessing PNC compared to women from households with more balanced gender roles.
3. Multipara women, especially those with prior breastfeeding experience, are less susceptible to mistreatment and exhibit a higher likelihood of PNC utilisation compared to primipara women.
4. Women who have higher health literacy and more access to information are less likely to experience mistreatment and more likely to access PNC compared to women with less health literacy.
5. Women with larger social networks and more support are less likely to experience mistreatment and more likely to access PNC compared to those with smaller social networks and less support.
6. Women from lower socioeconomic classes or education groups are more likely to experience mistreatment and skip or delay their postnatal visits compared to those with higher socioeconomic status or education levels.
7. Women who receive government benefits are more likely to be mistreated during childbirth and less likely to delay PNC compared to those who do not.
8. Women with low self-esteem and mental health issues are more likely to experience mistreatment and miss their postnatal visits.

In Table 5, I consolidated the hypotheses based on their shared broader themes. From there (Step 3), I constructed the initial DAG by incorporating these consolidated hypotheses. The DAG consisted of eight initial hypotheses and 29 paths or arrows connecting all the relevant factors to both the exposure and the outcomes, apart from interconnecting the factors themselves. The visual representation of this initial DAG can be seen in Figure 9.

The rapid evidence review (Step 4) provided support for 26 out of the 29 pathways in the initial DAG. The three unsupported paths included 1) MDC influencing breastfeeding self-efficacy, 2) breastfeeding practices affecting access to PNC and 3) mental health conditions (depression or anxiety) impacting access to PNC. Upon evaluating these paths using the Bradford Hill criteria (Step 5), only the pathway from mistreatment to breastfeeding self-efficacy fulfilled the criteria for temporality, biological plausibility and coherence. The pathways linking mental health and breastfeeding practices to PNC were removed due to a stronger observed causal effect in the reverse direction (i.e. PNC access influencing mental health and breastfeeding). The removal of these intermediary arrows transformed the variables of breastfeeding practices and mental health from antecedents-to-outcome to outcomes themselves within the final DAG. Consequently, the refined DAG encompassed three distinct outcomes: access to PNC, breastfeeding practices and maternal mental health. I decided to maintain breastfeeding practices and mental health as secondary outcomes impacted by the same variable set (Table 6).

Table 5. Combination of hypotheses emerging from the literature review and qualitative findings (table available at the end of the chapter)

Figure 9. Initial directed acyclic graph (DAG)
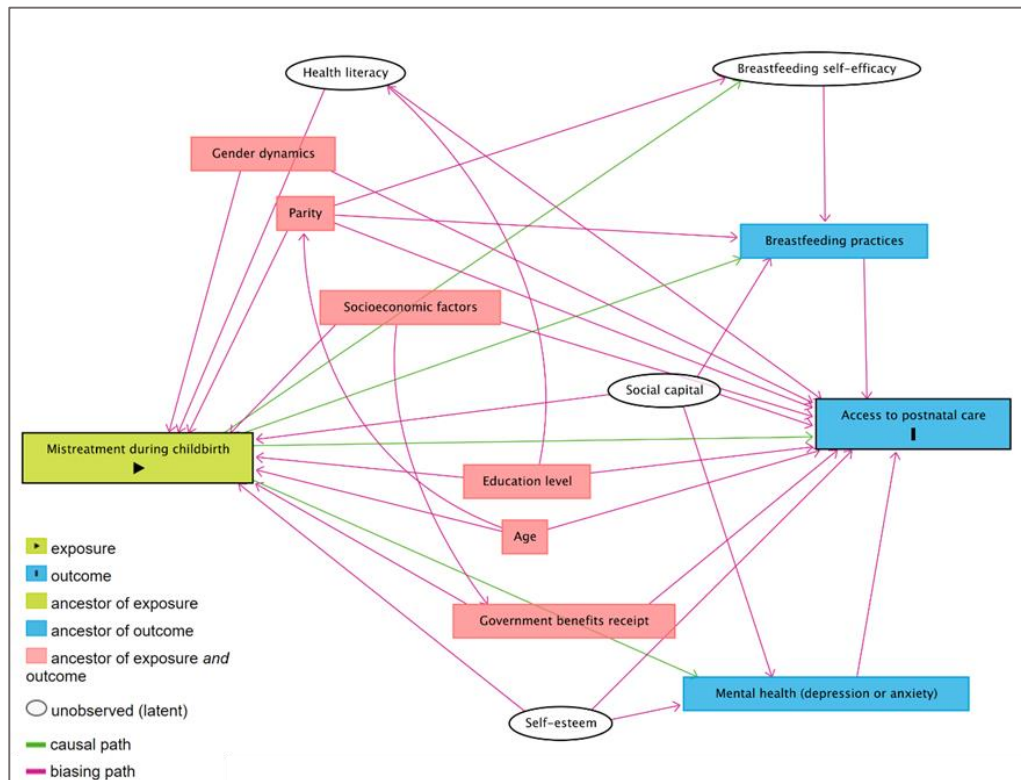
Figure 10. Final directed acyclic graph (DAG)
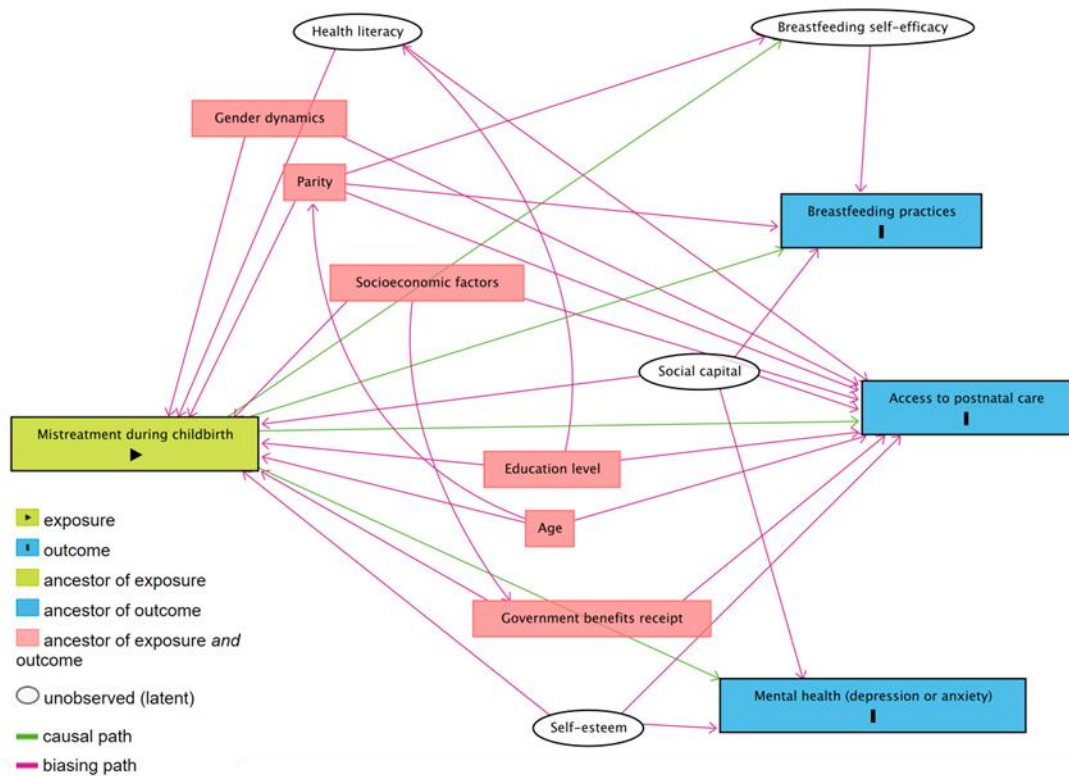
The final DAG is represented in Figure 10, making explicit the hypotheses on the causal connections between sociodemographic and psychosocial factors and MDC, as well as between all these and access to PNC, breastfeeding practices and maternal mental health.

Table 6. Assessment of hypothesised paths (table available at the end of the chapter)

All factors represented by pink squares are hypothesised to be ancestors of the primary exposure of interest and the outcome, indirectly causing both MDC and access to PNC. Ten hypothesised factors directly cause changes in mistreatment and access to PNC. Since these factors are not thought to be on the causal pathway, they are potential confounders in this relationship. The inclusion of these factors in adjusted models is described in Chapter 9.

MDC is hypothesised to lead both directly and indirectly (via breastfeeding self-efficacy) to breastfeeding practices. Self-efficacy is hypothesised to mediate the association between mistreatment and breastfeeding practices. Yet, two direct causal paths (green arrows) show that direct causality goes from mistreatment to breastfeeding practices and from mistreatment to breastfeeding self-efficacy. The modelling of the DAG is described in Chapter 9, along with the variables that were included as confounders in my statistical models.

6.4. Discussion

This chapter endeavoured to explore the causal pathways that link MDC to subsequent access to PNC. Central to this exploration was the development of a DAG, which served to visualise the theoretical causal relationships, thereby providing a robust framework for the identification of key variables for modelling and testing. Additionally, the hypothesised pathways surfacing from this chapter lay the groundwork for developing a roadmap not only to understand the mechanisms and effects linking MDC to postnatal health and care-seeking behaviours but also to highlight opportunities to disrupt these negative effects.

The findings from this chapter reinforce the hypothesis that MDC reduces women's likelihood of accessing timely PNC. These findings align with a recent study by Leite et al., which, drawing upon data from 8,685 women who participated in the 'Birth in Brazil' hospital survey, established a causal relation between MDC and a delay or decrease in the use of postnatal health services. (187) In this study, the authors justify 'avoidance' and 'procrastination' in seeking PNC as common coping responses to a traumatic event during childbirth. However, their explanation might oversimplify the complex interaction of factors that drive women's decision-making.

In this chapter, the development of the DAG proved instrumental in highlighting an array of covariates relating to both childbirth mistreatment and PNC access. These covariates, comprising a combination of sociodemographic and psychosocial factors, expand the understanding of this association to issues other than the direct reaction to the violent episode. The sociodemographic factors included socioeconomic status, education level, maternal age, receipt of government benefits and parity. Women of lower socioeconomic status, lower education and younger age might be more vulnerable due to systemic disadvantages when navigating the health system and, therefore, more susceptible to mistreatment. The reluctance to seek PNC may partly stem from the tension

between employment and childcare duties, coupled with the absence of motivation to pursue care due to past negative experiences. However, in the Argentinian context, the hypothesis might be reversed, as socioeconomically disadvantaged women rely more on government conditional cash transfer benefits as a source of household income, which increases care-seeking behaviours. Thus, the receipt of government benefits might be operating either as a potential confounder or an effect modifier in this community.

The relevance of these sociodemographic covariates is also reflected in Brazilian studies that identified several vulnerability factors, including age, skin colour, marital status, education level, parity, prenatal care access, preferred type of childbirth and the presence or absence of companionship during childbirth. (131, 132, 187, 217) These factors provide insight into the propensity of specific demographics for experiencing mistreatment, which, in turn, influences their PNC access. Interestingly, the study conducted by Leite and her team revealed an influence of delivery mode on the relationship between mistreatment and access to PNC. (187) The authors noted a trend among women who underwent a caesarean section in private settings of delaying PNC, which contrasted with those who gave birth vaginally and showed an increased demand for postpartum health services. Although delivery mode is not included in the final DAG, their result contradicts the findings in the previous chapters of this thesis, where women who underwent caesarean sections reported increased PNC access, specifically for wound monitoring. However, in both scenarios, the association between MDC and delivery mode is ambiguous. The type of delivery could be a part of the exposure under consideration if carried out under non-essential circumstances (unnecessary caesarean sections), a competing exposure (ancestor of the outcome) that influences access to care without influencing mistreatment, or an effect modifier that alters the relationship between mistreatment and PNC uptake. Therefore, additional analyses are necessary to ascertain this variable's role in the context of interest.

The novelty of my study lies in its integration of psychosocial factors into the path graph, including elements such as gender dynamics, health literacy, self-esteem, social capital and breastfeeding self-efficacy. These factors add a layer of complexity to the analysis and interpretation, reflecting the influence of broader societal dynamics – notably, disparities surrounding gender and power imbalances – on the power dynamics within healthcare systems. It is crucial to acknowledge that gender inequality extends beyond individual experiences, deeply permeating the societal structure, shaping laws, steering economies and informing ideologies. (218) While my study does not focus on macro-level structural and societal inequalities, it recognises their inevitable ripple effects at an individual and relational level. Thus, including the psychosocial factors allows for the indirectly measurement of the impact of structural disparities at the individual (e.g. literacy and self-esteem), household (e.g. decision-making, household composition), and community levels (e.g. social networks, access to services). Although outside the scope of this work, the effective management of gender and societal dynamics could catalyse more sustainable and favourable outcomes in maternal healthcare.

Besides the primary hypothesis, the DAG also highlighted secondary outcomes concerning breastfeeding practices and maternal mental health. These areas revealed significant indirect effects, demonstrating that MDC could exacerbate PPD symptoms and hinder breastfeeding. Studies conducted in Brazil have been pioneering in this domain. Another investigation utilising the same 'Birth in Brazil' population demonstrated a correlation between the mistreatment of women during childbirth and PPD across both public and private sectors, regardless of the childbirth method (vaginal or C-section). (217)

Furthermore, an analysis of the Pelotas Cohort revealed that verbal abuse increased the likelihood of experiencing at least moderate PPD by 58% (OR: 1.58, 95% CI: 1.06–2.33), while physical abuse escalated the odds of severe PPD (OR: 2.28, 95% CI: 1.26–4.12). (132) The sociodemographic and psychosocial factors affecting women's PNC-seeking behaviours are expected to simultaneously influence women's ability or decision to breastfeed and their mental health.

The insights derived from this chapter lay a robust foundation for not only testing the impact of childbirth mistreatment on various outcomes but also for cultivating a theory of change that guides intervention design. By gaining a comprehensive understanding of the factors influencing childbirth mistreatment, access to PNC, breastfeeding practices and maternal mental health, interventions can be honed to specifically target these critical areas. This fine-tuning of intervention strategies paves the way for a more effective and impactful approach to mitigate childbirth mistreatment and promote optimal PNC.

6.4.1. Limitations and strengths

I followed a systematic process to develop the hypotheses and assumptions included in the DAG, grounded purely in evidence. However, there are limitations to creating a DAG. Due to the limited evidence in the field, I cannot conclude with certainty that the final DAG is the best possible one, and there may be known and unknown variables that I have left out. A particular shortcoming of DAGs lies in their inability to adequately encapsulate interactions or effect modification, making it hard to depict the role of mode of delivery within the graph. Moreover, although DAGs have a robust capability to visualise relationships, they do not give explicit information regarding the scale or magnitude of interactions, and therefore cannot replace the need for a variety of statistical modelling decisions, which I cover in subsequent chapters.

In the course of identifying the mediation variables, I encountered several challenges. During the DAG's development, it became evident that two initially identified mediation paths – from breastfeeding practices and maternal mental health to PNC access – lacked sufficient evidence and had to be removed. Consequently, these mediating variables were reclassified as outcomes with direct causal paths. Even though the DAG was primarily designed to depict the relationship between mistreatment and PNC uptake, it is presumed that the majority of the identified sociodemographic and psychosocial confounders also apply to the relationships with breastfeeding and mental health outcomes. This shift in categorisation, however, prompts further exploration to validate the proposed causal relationships in the DAG for these two secondary outcomes.

On a positive note, this study's strength lies in its methodological rigour and robustness. The DAG was formulated based on iterative literature reviews and hypothesis-driven decisions. This provided a structured framework to comprehend the relationships and variables influencing women's PNC access after childbirth mistreatment. Thus, the DAG method was helpful for providing a transparent and evidence-based process for identifying confounders to inform adjustment variables in inferential statistical models.

6.5. Conclusion

The primary objective of this chapter was to dissect the causal pathways that underlie the association between instances of MDC and subsequent access to PNC. The

explicit detailing of these causal pathways not only demarcates the directionality and nature of the relationships of interest but also provides a framework for subsequent steps in the research process.

Through the identification and inclusion of relevant confounders, the DAG helps shape the data collection process, and more importantly, guides the statistical analysis plan. In this manner, the DAG fosters a comprehensive understanding of the relationships that underpin the critical issue of MDC and access to PNC, laying the groundwork for designing interventions that can mitigate negative impacts and enhance maternal health outcomes.

Table 5. Combination of hypotheses emerging from literature review and qualitative finding

Hypotheses from literature review	Hypotheses from qualitative findings	Final hypotheses
- Women who experience mistreatment during childbirth are more likely to miss or delay their postnatal visit - Lack of culturally-sensitive care during childbirth leads to women avoiding access to subsequent care - Health system constraints, such as long waiting times, increase the likelihood of women missing or delaying their postnatal visit.	-Women who establish good and effective communication with health providers are more likely to access postnatal care - Women who are more satisfied with the care received during childbirth have a higher chance of visiting postnatal care - Women who perceive the quality of care as poor are more likely to miss their postnatal visit	Women who had a good experience of care during childbirth, including culturally sensitive care, effective communication within a functional health system, are more likely to attend their postnatal visit compared to those who had a poor childbirth experience
- Women's internalised stigma makes them less likely to seek postnatal care	- Feelings of vulnerability due to low self-esteem, fear of being judged and lack of confidence are more likely to result in women missing their postnatal visit - Women experiencing signs of mental health disorders are less likely to attend their postnatal visit	Women with low self-esteem and signs of mental health disorders are more likely to experience mistreatment and miss their postnatal visit
-Unequal gender dynamics within the household reduced women's likelihood of accessing postnatal care - Family and societal norms prevent women from accessing postnatal care		Unequal gender roles within the household and in the community increase women's likelihood of being mistreated during childbirth and prevent them from accessing postnatal care compared to women from households with more balanced gender roles
	- Women who face financial or logistical constraints to access postnatal care are more likely to skip or delay their postnatal visits	Women from lower socio-economic class or lower education groups are more likely to experience mistreatment and skip or delay their postnatal visits compared to those with higher socio-economic or education levels
	- Women who receive government benefits are more likely to be mistreated during childbirth - Women who receive government benefits are more likely to access postnatal care	Women who receive government benefits are more likely to be mistreated during childbirth and less likely to delay postnatal care compared to those not receiving benefits

	- Women with larger social networks and support have a higher chance of accessing postnatal care	Women with larger social networks and support are less likely to experience mistreatment and more likely to access postnatal care compared to those women with less social networks and support
	- Multipara women and those with more breastfeeding experience are less likely to access postnatal care -Women who underwent caesarean section are more likely to access postnatal care	Multipara women, especially those with prior experience, inclusive of breastfeeding practices, are less susceptible to mistreatment and exhibit higher likelihood of postnatal care utilisation compared to primipara women
	- Women who are less knowledgeable about their rights as patients have a higher chance of mistreatment during childbirth. - Women who have access to information and higher health literacy are more likely to access postnatal care.	Women who have higher health literacy and more access to information are less likely to experience mistreatment and more likely to access postnatal care compared to women with less health literacy

Table 6. Assessment of hypothesised paths

Path	Hypothesis	Additional evidence for supporting path	SA	C	T	BP	Co	E	A
Mistreatment during childbirth -> "Access to postnatal care"	Women who are mistreated during childbirth are less likely to access postnatal care	Leite et al, 2022							
Mistreatment during childbirth -> "Breastfeeding practices"	Women who are mistreated during childbirth are more likely to exclusively breastfeed	Leite et al, 2023							
Breastfeeding practices -> "Access to postnatal care"	Women who are facing breastfeeding difficulties are more likely to access postnatal care	No evidence found	red	orange	green	orange		red	
Mistreatment during childbirth -> "Breastfeeding self-efficacy"	Women who are mistreated during childbirth are less likely to feel confident with breastfeeding.	No evidence found	red		green		red	orange	
Breastfeeding self-efficacy -> "Breastfeeding practices"	Women who are less confident breastfeeding are more likely to access postnatal care for breastfeeding support	De Roza et al, 2019							
Mistreatment during childbirth -> "Mental health (depression or anxiety)"	Women who are mistreated during childbirth are more likely to experience postnatal mental health disorder	Paiz et al, 2022							
Mental health (depression or anxiety) -> "Access to postnatal care"	Women who are facing mental health issues are less likely to access postnatal care	No evidence found	red	orange	green	orange		red	
Education level -> "Access to postnatal care"	Lower educated women are less likely to attend postnatal care	Langlois et al, 2015							
Education level -> "Mistreatment during childbirth"	Lower educated women are more like to be exposed to mistreatment during childbirth	Bohren et al, 2019							
Gender dynamics -> "Access to postnatal care"	Gender dynamics and power relations reduce women's use of postnatal care	Morgan et al, 2017							
Gender dynamics -> "Mistreatment during childbirth"	Gender dynamics and power relations contribute to women's experiences of mistreatment during childbirth	Maung Maung et al, 2020							
Government benefits receipt -> "Access to postnatal care"	Women who are part of the conditional cash transfer government programme are more likely to access postnatal care	Lagard M et al, 2009							
Government benefits receipt -> "Mistreatment during childbirth"	Women who are part of the conditional cash transfer government programme are more likely to experience mistreatment during childbirth	Barber et al, 2010							

Health literacy -> "Access to postnatal care"	Women with higher health literacy are more likely to access postnatal care	Bancalari et al, 2022
Health literacy -> "Mistreatment during childbirth"	Women with higher health literacy have more skills to communicate with providers and a lower chance of experiencing mistreatment	Lori et al 2017
Self-esteem -> "Access to postnatal care"	Self-esteem and self-confidence increase women's likelihood to access to postnatal care	Finlayson et al, 2020
Self-esteem -> "Mistreatment during childbirth"	Lower self-esteem has a negative experience on the birth experience	Raudasoja et al, 2021
Self-esteem -> "Mental health (depression or anxiety)"	Women with lower self-esteem have higher chances of developing postpartum depression	Franck et al, 2016
Social capital -> "Mistreatment during childbirth"	Social capital in the form of companionship during birth improves experience of care	Balde et al, 2020
Social capital -> "Access to postnatal care"	Social capital increases access to health care services	Mengesha et al, 2021
Social capital -> "Breastfeeding practices"	Social networks increase the likelihood of breastfeeding	Carlin et al, 2021
Social capital -> "Mental health (depression or anxiety)"	Social capital reduces risks of mental health disorders	Inekwe et al, 2022
Socioeconomic factors -> "Mistreatment during childbirth"	Women from lower socioeconomic groups are more likely to experience mistreatment during childbirth	Bohren et al, 2019
Socioeconomic factors -> "Access to postnatal care"	Women from lower socioeconomic groups are less likely to attend postnatal care	Langlois et al, 2015
Age -> "Mistreatment during childbirth"	Younger women are more likely to be exposed to mistreatment during childbirth	Bohren et al, 2019
Age -> "Access to postnatal care"	The likelihood of maternal and newborn PNC utilisation is higher amongst older age women	Iqbal et al, 2023
Parity -> "Mistreatment during childbirth"	Multiparous women have less chances of experiencing mistreatment during childbirth than primiparous women	Vedam et al, 2019
Parity -> "Access to postnatal care"	Primipara women are more likely to access postnatal care than multipara women	Appiah et al, 2021
Parity -> "Breastfeeding practices"	Primipara women have more chances to exclusively breastfeed than multipara women	Bilal Safdar et al, 2015

SA: strength of association; C: consistency; T: temporality; BP: biological plausibility; Co:coherence; E: experiment; A: analogy.
Green: strong; Orange: weak; Red: none.

7. Data collection: Part 2 of 2

7.1. Introduction

Following the completion of the qualitative data collection phase and the development of the causal path diagram to identify relevant variables, the subsequent step in this mixed-methods study involved the planning and execution of the quantitative fieldwork. Quantitative approaches to research are empirical in nature and emphasise the measurement of variables and the testing of hypotheses that are connected to general causal explanations. Typically grounded in a positivist paradigm, quantitative methodologies are guided by an objectivist ontology and empiricist epistemology and rely on a detached, objective method that entails the collection of data to measure effects. (219)

Positivist researchers believe that social phenomena are governed by universal laws, and uncovering these laws through systematic processes enables researchers to describe, predict and control such phenomena. (220) In this study, while the collection of quantitative data was informed by positivist methodologies, the process of identifying the required data and interpreting the results involved a combination of qualitative and quantitative approaches and was in line with the central paradigm of the PhD, pragmatism. The pragmatic paradigm tries to find generalisable results to elucidate what works but also accepts the diversity and variability that come with the context.

This chapter speaks to the third objective of my PhD, that is, to measure the relationship between MDC and PNC utilisation, maternal mental health, breastfeeding practices and breastfeeding self-efficacy to assess the postnatal consequences of a negative childbirth experience. In this chapter, I outline and justify the quantitative data collection process that I followed during the development of my work. I explain the process, including the selection of a study design, the measurement tools and the overall implementation of the study within the context of international, national and local restrictions due to the COVID-19 pandemic.

7.2. Quantitative phase

I conducted a longitudinal study to measure the relationship between MDC by health providers and subsequent postnatal healthcare use and health and well-being during the postpartum period. The quantification of the prevalence of MDC and its potential harm aimed to provide a first approximation of the magnitude of this phenomenon and its direct impact on women's and newborns' lives. The fieldwork was conducted between November 2021 and March 2022. Here, I present the objectives and methods of this phase.

7.2.1. Primary and secondary objectives

The quantitative phase of my study is intrinsically linked to the overall objectives detailed in the introductory chapter, where the overarching goal is to explore and measure the consequences of MDC. It particularly examines the implications of MDC for both women's and newborns' health and their care-seeking behaviour.

Thus, the methods employed during this phase aimed to address the following specific primary objectives:

- To measure the impact of MDC on women's uptake of postnatal services at 6 weeks after giving birth in a public hospital in Tucumán, Argentina
- To measure the impact of MDC on time to use of postnatal services among women delivering in a public hospital in Tucumán, Argentina

Additionally, the secondary objectives included the following:

- To measure the impact of MDC on women's mental health (including PPD and postpartum anxiety) at 6 weeks after giving birth in a public hospital in Tucumán, Argentina
- To measure the impact of MDC on women's breastfeeding practices (including exclusive breastfeeding and woman's breastfeeding self-efficacy) at 6 weeks after giving birth in a public hospital in Tucumán, Argentina

7.2.2. Study design and outcomes

The quantitative phase followed a cohort design. Cohort studies are a type of observational study in which a group of individuals sharing a characteristic are followed up over time, with outcomes being measured at one or more time points. A key feature of the cohort study design is the time factor. It begins with subjects who are exposed and not exposed to a condition and then evaluates the subsequent occurrence of an outcome. In clinical research, cohort studies are appropriate when there is evidence to suggest an association between an exposure and an outcome, and the time interval between the exposure and the development of the outcome is reasonable. Due to their longitudinal design feature, cohort studies allow for the calculation of the incidence rate, cumulative incidence, relative risk (RR) and hazard ratio; however, causality cannot be established definitively through a cohort study as they are susceptible to many biases. (221) Nevertheless, cohort studies are useful to provide evidence that suggests causality and information regarding the strength of the association between the risk factors and the outcome.

Cohort studies can be either prospective or retrospective. The type of cohort study is determined by the outcome status. If the outcome has not occurred at the start of the study, then it is a prospective study; if the outcome has already occurred, then it is a retrospective study. A prospective cohort study design is ranked higher in the hierarchy of evidence than a retrospective design because the outcome, predictor and confounding variables can be better measured and controlled. (222) My study followed a prospective cohort design as the outcome had not occurred at time of enrolment. However, I had to split the collection of data on MDC (exposure), with some items collected immediately after birth while others were collected jointly with the outcome during the follow-up visit. The rationale for separating the measurement of the exposure into two time points was, on the one hand, to avoid asking potentially compromising questions regarding the quality of the treatment received while women were still admitted in the hospital – thus reducing the possibility of social desirability bias – and on the other, to decrease the length of the follow-up data collection. More information about the data collection tool and strategy can be found in Sections 7.2.6 and 7.2.7.

7.2.3.   Study settings and eligibility criteria:

The study was conducted in the northwestern province of Tucumán, Argentina. To contextualise the health situation of the province, in 2021, Tucumán had a population of 1.7 million, a birth rate of 12.8% per 1,000 people and a MMR of 123 per 100,000 live births. (223) Of the total 21,971 deliveries occurring that year, 99.9% were in a health facility, with 62% occurring within the public sector. All births were attended by SBAs, with medical doctors responsible for 96% while midwives attended the other 4%. A total of 9% of births were from adolescent women (< 19 years old) and 22% were from women with either no formal education or only primary-level schooling. The prevalence of preterm deliveries (gestational age of < 37 weeks) was 14.3%, with 6.7% of babies born with low birth weight (< 2500 g). The stillbirth rate was 1.6%, while infant mortality was 9.9 per 1,000 live births and neonatal mortality was 7.6‰ (a reduction from 14‰ in 2012). National and local estimates of antenatal and postnatal health care use were not available from official sources; however, informal conversations with primary healthcare facility administrators indicated a 90% coverage of both antenatal and postpartum services.

Women taking part in the cohort study were identified from the Instituto de Maternidad y Ginecología Nuestra Señora de Las Mercedes, a public maternity hospital in San Miguel de Tucumán, the capital of Tucumán, Argentina (hereafter referred as 'maternity hospital'). The maternity hospital is the referral hospital for all of Northwest Argentina and has the highest number of births in the country (around 6,000 births per year). It is run by the province's government, providing all services at no cost to the patient. Information on the facility characteristics can be found in Table 7. All recruited women were followed-up with a home visit by a team of RAs from the NGO Crecer Juntos at Week 6 postpartum. The study implementation processes are further explained in Section 7.2.5.

Table 7. Characteristics of the tertiary maternity hospital

Characteristics	Instituto de Maternidad y Ginecología Nuestra Señora de Las Mercedes
Location	Urban
Management	Public

Cost of birth for patient (vaginal or caesarean section)	No cost
Total births per year (2022)	6,138
Caesarean section rate	59%
Number of obstetricians per shift	8
Number of medical officers/ junior doctors per shift	12
Number of midwives per shift	12
Estimated population in catchment area	790,000
Institutional childbirth in catchment area	99%
Main restrictions implemented by the facility during COVID-19 pandemic	Mandatory mask use and handwashing protocol including 75% alcohol. No visitors allowed in antenatal, postnatal and labour wards. Only one companion in delivery room and operational theatre for SARS-CoV-2 negative mother. SARS-CoV-2 section for positive mothers with no visitors allowed at any stage. Separation of babies from SARS-CoV-2 positive mother during acute phase of disease.

Eligibility criteria:

I included all women who were 16 years of age or more at the time of birth and had delivered a live baby in the participating hospital. Additional eligibility criteria were as follows:

i. Inclusion criteria
   - Women with at least two reliable sources of contact (including phone number and address)
   - Women who lived within 1 hour from the maternity hospital (and were not planning to move in the next 2 months)
   - Women who provided inform consent

ii. Exclusion criteria
   - Women who were in the intensive care unit at the time of contact
   - Women who had multiple births
   - Women with premature delivery (gestational age of < 37 weeks)
   - Women who had a baby with congenital malformations

The rationale behind the eligibility criteria was to reduce the influence of negative birth outcomes on women's perception of care. Therefore, I narrowed the sample to healthy women and newborns who had a 'normal' birth experience and did not require any special care in the ICU/NICU. Further research should be conducted to compare the childbirth experience between woman-baby pairs that did not experience complications and those who were affected by negative outcomes to evaluate how the experience of care is affected by negative life experiences.

7.2.4. Sample size

I calculated the sample size to find a 15% lower use of PNC after hospital discharge (from 94% to 79.9%) at 6 weeks after birth in women who were exposed to any form of MDC in comparison with those who were not.

Current WHO postnatal guidelines recommend a minimum of four postnatal contacts, with one in the facility within 24 hours after birth and at least three additional postnatal contacts (between 48 and 72 hours, between 7 and 14 days, and during week 6 after birth). While planning for the quantitative phase, no published evidence was available to inform the effect size assumption for the sample size calculation regarding the impact of MDC on PNC use. Despite this, I arrived at a determination of 15% through the following reasoning:

- A study conducted in the Tucumán community showed a prevalence of PPD of 31%. (224)
- A Cochrane review showed that interventions initiated in the postpartum period significantly reduce the risk of developing depressive symptomatology (RR: 0.73, 95% CI: 0.59–0.90; 12 trials, 12,786 women). (225)
- If the coverage of PNC is 95%, out of 95 women who attend PNC, approximately 29 would develop depressive symptoms without any intervention (95 * 31%) and 21 would develop depressive symptoms if the intervention is given (95 * 31% * 0.73). Thus, a 95% coverage of postnatal services has the capacity to prevent eight women out of every 100 from developing depressive symptoms.
- If the coverage of PNC goes down to 80%, out of 80 women who attend PNC, approximately 25 would develop depressive symptoms without any intervention (80 * 31%) and 18 would develop depressive symptoms with timely intervention in the postnatal period (80 * 31% * 0.73). Thus, an 80% coverage of postnatal services has the capacity to prevent seven women out of every 100 from developing depressive symptoms.

Thus, I assumed that 15% was the smallest significant difference to be found for reverting at least one case of developing depressive symptomatology. Using Tucumán's 2021 pregnancy numbers (n = 242,0000), approximately 242 cases of PPD could be prevented annually in this population (95% CI: 66–330). (223) Although the numbers are relatively small, these only represent the cases of PPD that could have been prevented, without considering all the other benefits of PNC for maternal and newborn well-being.

Considering these assumptions, I needed to recruit 206 women to be able to detect a reduction in use of PNC of at least 15% with an 80% power and an alpha error of 0.05. In simple terms, the concept of statistical power (usually referred to simply as 'power') refers to the ability of a statistical test to detect a true difference between two groups. In other words, it is a measure of the ability of the test to identify a difference between groups when such a difference truly exists. A type I or alpha error occurs when the null hypothesis of no difference is rejected when, in fact, it is true. In such a situation, we wrongly accept that there is a difference between exposure groups (a 'false-positive' result) and wrongly conclude that one exposure is better than another when, in fact, it is not. (226)

The total of 206 woman was calculated considering a 1:1 ratio per exposure group (50% of women in the mistreatment arm (n = 103) vs 50% of women in the non-

mistreatment arm (n = 103)). However, following regional published estimates, the prevalence of mistreatment was shown to be roughly 40%; thus, the sample size was expanded to 284 to ensure that 103 women were included in the exposure group (40% of women in the mistreatment arm (n = 103) vs 60% of women in the non-mistreatment arm (n = 155)) and to allow for a 10% loss to follow-up. (50) During the fieldwork phase, it became apparent that the prevalence of PNC use was lower than that informally reported during initial conversations with health administrators, necessitating a larger sample size to detect any statistically significant differences. However, due to logistical and financial constraints, we could only increase the sample size to 300 women, thanks to additional resources from the UK Research and Innovation (UKRI) Global Engagement Fund award.

7.2.5.   Study procedures:

All participants were identified from the Delivery Registry by a trained staff member from the hospital (referred to as 'RA' hereafter). All women who had delivered a term baby were included in a screening-enrolment log indicating their name and ward, room, and bed numbers. The RA later accessed the postnatal wards and screened all potentially eligible women using a screening form. All eligible women were invited to the study by explaining its objective and the procedures, including the interview at the hospital, the review of their medical records and the home visit at 6 weeks after delivery.

Women who agreed to participate were asked to sign an informed consent form at the time of enrolment in the study. Prior to the signing, the RA introduced the study's purpose, selection criteria, characteristics of the study, potential benefits and risks of participation, as well as the woman's right to refuse to participate or to withdraw at any time without giving a reason. Additionally, the RA informed each woman that participation in the study was voluntary and that the refusal to participate was not going to result in any penalty or loss of benefits from within or outside the hospital (Appendix 8).

Data collection occurred in two steps (Figure 11):

Figure 11. Cohort study: data collection process

STEP **1** HOSPITAL

- Woman arrives at facility for delivery
- RA reviews delivery register and approaches woman before discharge
- RA screens woman for eligibility
- Woman consents to participate
- RA administers hospital questionnaire on tablet collecting sociodemographic and delivery information
- RA extracts delivery information from clinical records
- RA schedules postnatal home visit and completes contact information sheet

STEP **2** HOME

- OT revises the study's purpose, procedures and goals with woman
- OT reviews postnatal card and extracts information on postnatal visits
- RA extracts postnatal care information from clinical records
- OT administers home questionnaire on tablet which collect data from other secondary outcomes, and covariates
- OT finalises home visit and thanks the woman for her participation
- If requested or if any signs of distress are perceived, OT refers woman to mental health services

RA = Hospital research assistant
OT = Outreach team

Immediate postpartum (within 2 days post-delivery): A questionnaire was administered by the RA before hospital discharge to all participating women to collect sociodemographic and medical data. The clinical records from each participant were also reviewed for obstetric and neonatal clinical data. Information on delivery practices was also collected during this phase. The hospital interview took approximately 20 minutes. At

the end of the interview, the women's follow-up interview was scheduled. Women received a call a week before the scheduled date to confirm the visit.

Postpartum visit at 6 weeks: Six weeks after discharge, at the end of the postnatal period based on the WHO definition, we visited women at home to complete the follow-up interview. I performed these visits jointly with the Crecer Juntos NGO members who had also participated in the qualitative phase. During the home visits, we administered a series of questionnaires to measure the variables of interest, including information about the health of the mother and the newborn since discharge, their experience with care during childbirth, the subsequent postnatal visit, as well as any other relevant covariate emerging from the qualitative phase (the list of variables collected can be found in the next section). We also administered the Edinburgh scale to identify potential symptoms of PPD and the Postpartum Specific Anxiety Scale (PSAS) for anxiety symptoms. Each interview lasted around 45 minutes. Because of the sensitive information extracted at this time point, arrangements with local mental health professional were in place in case the woman needed further support, as for the qualitative phase.

Pictures from the fieldwork can be found in Appendix 11.

7.2.6. Variable of interest and tool selection

i. Tool and indicator selection

To select the tools and indicators to be used during this phase, I conducted a rapid review of the tools available to capture the phenomenon under study. I prioritised validated tools that fulfilled at least one of the following criteria:

1) Validation was conducted in a LMIC or in a semi-urban setting similar to my study context.
2) Validation was conducted in women of reproductive age and/or during the perinatal period.
3) A Spanish translation was available and had been piloted or validated.

I pilot-tested all selected tools before the start of the study on a small sample of women having similar characteristics to those eligible. Field notes were taken during the pilot but no data on the woman were collected. If any issues arose during the pilot, such as questions not being understood or tools being repetitive and long, appropriate changes were made without any further validation. Due to the length of the forms at each stage of the study and the volume of data required, I aimed to reduce any bias that could stem from the exhaustion of the respondent even if it meant reducing comparability with other studies.

ii. Variable of interest

- Exposure variable:

Mistreatment during delivery and postpartum: For the exposure variable, I selected the validated tools that were developed by the WHO following a mixed-methods approach and tested in Ghana, Guinea, Myanmar and Nigeria. (152) These tools have also been translated into Spanish for a previous study conducted in Argentina, (227) but I further adapted them to the specific context of my study based on the findings from the qualitative phase. I did not formally validate the tools, but I piloted them with 10 women from the community to ensure face validity. The tools used were developed following the typology

of mistreatment published by Bohren (Chapter 2, Figure 2) and included two sections, a labour observation and a community survey. (20) Each section was validated for use separately or in combination. Due to COVID-19 restrictions and the impossibility of conducting labour observations, I only used the community survey tools for my study.

The WHO Community Survey tool focuses on responses to items within the domains of physical abuse, verbal abuse, stigma and discrimination, failure to meet professional standards of care, poor rapport between women and providers, and health system conditions and constraints from the mistreatment of women during childbirth typology. For each type of mistreatment, the tool asks whether it occurred or not (e.g. 'You were shouted at or screamed at by a health worker or other staff') and if so, how frequently (e.g. once, twice, three or more times, don't know). Some items had Likert-type response options, for instance, 'During my time in hospital for childbirth, I felt ignored by the health workers or staff: always, most of the time, some of the time, never'. Items regarding professional standards of care referenced a number of possible procedures (e.g. caesarean section, episiotomy). If a procedure was received, each woman was asked whether it was explained and whether she agreed to it. Items were coded so that 0 indicated no mistreatment and 1 (binary) or higher values (categorical Likert responses) indicated the presence of mistreatment. (228)

The final definition of MDC used is discussed at length in the next chapter.

- Outcome variables:

Primary and secondary outcomes:

Access to postnatal visit: This was defined as any postnatal visit for the mother or baby before Week 6 postpartum, regardless of the place of visit. Women were asked whether they attended the postpartum visit or took their baby to their postnatal visit. The date of the visit was verified from the baby's postnatal card or confirmed with the Centralised Perinatal Information System afterwards.

Time to first postnatal visit: This was calculated as the time elapsed from birth to the first postnatal visit and was only calculated for women who accessed PNC.

Symptoms of PPD in women at 6 weeks postpartum: Depressive symptoms were measured using the Edinburgh Postnatal Depression Scale (EDPS). (229) The EPDS is a 10-item self-report questionnaire which screens for postnatal depressive symptomatology. It is commonly utilised and recommended as a screening scale for postnatal depression. Scored out of 30, higher levels of postpartum depressive symptoms are indicated by high scores on the scale, with a score of greater than 13 indicating probable PPD. A validation study done with the 2004 Pelotas Birth Cohort Study, Rio Grande do Sul State, Brazil, showed that the best cut-off point for screening PPD cases was > 10, with 82.6% (75.3–89.9%) sensitivity and 65.4% (59.8–71.1%) specificity. (230) For screening moderate and severe cases, the best cut-off point was > 11, with 83.8% (73.4–91.3%) sensitivity and 74.7% (69.4–79.5%) specificity. Another study performed on the same population as in my current study used two cut-offs to differentiate severity: > 10 and > 13.

When deciding the appropriate cut-off for the present study, I considered an additional factor. The COVID-19 pandemic has had a broad and profound impact on mental health across the globe, increasing the levels of stress, anxiety and depression. The general decline in mental health observed in the population made it more challenging to differentiate PPD from symptoms of general depression exacerbated by the pandemic.

Hence, I decided to adjust the cut-off to a score of 13 in my study to identify potential cases of PPD. This decision was rooted in the premise that a higher cut-off could more effectively differentiate severe PPD from symptoms of general depression that were heightened due to the ongoing pandemic.

Perinatal symptoms of anxiety in women at 6 weeks postpartum: Anxiety was measured using the 12-item short form of the Spanish-language PSAS, which examines the frequency of maternal and infant-focused anxieties experienced by women in the first year of their infant's life. (231) The current findings demonstrate the robustness of the PSAS across diverse psychosocial contexts. A statistically significant receiver operating characteristic (ROC) curve (area under the curve (AUC) : 0 .68, SE: 0.03, $p < 0.001$, 95% CI: 0.62–0.73) revealed that the optimal cut-off for the short-form PSAS score for detecting clinical levels of anxiety was 26 out of a total of 48, with a sensitivity and specificity of 0.62 and 0.64, respectively. The PSAS has been translated into Spanish following traditional methods of psychometric scale translation and an independent back-translator.

Maternal breastfeeding self-efficacy: Maternal breastfeeding self-efficacy is a mother's perceived ability to breastfeed her infant. I selected the Breastfeeding Self-Efficacy Scale-Short Form (BSES-SF), which identifies women at greatest risk of discontinuing breastfeeding and assesses breastfeeding behaviours and cognitions. (232) The BSES-SF is a 14-item, uni-dimensional, self-report instrument developed to measure a mother's confidence in her ability to breastfeed. All items are presented positively and anchored with a 5-point Likert-type scale where 1 indicates 'not at all confident' and 5 indicates 'always confident'. Higher scores indicate higher levels of breastfeeding self-efficacy. Linguistic validation of the Spanish-language BSES-SF was previously done using the standard procedure of translation and blind back-translation, with the aim of ensuring content, semantic and technical equivalence.

Exclusive breastfeeding at 6 weeks postpartum: Using 24-hour recall, I assessed the baby's eating practices. For this study, exclusive breastfeeding was defined as the receipt of mother's milk by suckling or expression but no other food, water or liquids except medicines, oral rehydration satls, vitamins or minerals within the past 24 hours.

- Covariates:

Psychosocial factors:

Health literacy: This was defined as the social and cognitive capacities that determine the level of motivation to access, understand and utilise information to promote and maintain good health. (233) Weak health literacy competencies have been shown to result in less healthy choices, riskier behaviour, poorer health, less self-management and more hospitalisation. The short-form Spanish version of the European Health Literacy Survey Questionnaire (HLS-EU-Q) consists of 16 questions that classify the degree of difficulty of different tasks or situations related to health seeking or health understanding perceived by the respondent as very easy, easy, difficult, very difficult or not known. (234) The score is considered the sum of all responses and categorised as 'inadequate or problematic level' if between 0 and 12 and 'sufficient level' if 13 or more. The standard literacy index is calculated as (mean of answered items − 1) x (16/3).

After piloting the survey with women from the community, the 16-question survey was narrowed down to seven questions, as women lost focus and interest due to the repetitiveness of the questionnaire. The questions removed were those used to verify a

previous answer by re-framing the question from a positive to a negative form. The decision was made to avoid respondents' fatigue when answering the survey. The 7-item questionnaire was not validated, and cut-offs were calculated using an alternative version of the above formula: (mean of answered items − 1) x (7/3).

 Social capital: This was defined as 'features of social organisation, such as trust, norms and networks that can improve the efficiency of society by facilitating coordinated actions'. (235) For my study, I used the Social Capital Assessment Tool related to Maternal Health in Low and middle-income countries (LSCAT-MH), which was developed to measure individual social capital in pregnancy. It is an extensive adaptation of the Social Capital Assessment Tool developed by the World Bank in 1999 and the Adapted Social Capital Assessment Tool, which was developed by the South Bank University, UK (2001). To my knowledge, the LSCAT-MH is the only tool available to date that specifically measures the social capital of women around pregnancy in LMICs. The LSCAT-MH has adequate reliability, face validity, construct validity, concurrent validity and cross-cultural validity. I translated and back-translated the questionnaire into Spanish and piloted it with 10 women from the community. I then re-adapted the questionnaire based on their responses and feedback.

Self-stigma/self-esteem: Self-stigma or perceived social stigma is defined as a type of stigma in which a person recognises and believes that their society holds prejudicial beliefs that will result in discrimination against them. The most widely validated and used scale worldwide to evaluated self-esteem is the Rosenberg Self-Esteem Scale (RSES). (236) The scale consists of 10 items assessing general self-esteem. Items 1, 3, 4, 7 and 10 are positive and Items 2, 5, 6, 8 and 9 are negative. The questionnaire has a 4-point Likert response scale (1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree). Therefore, the total score ranges from 10 to 40 points, with higher scores indicating good self-esteem. To date, the RSES has been translated into Spanish and validated for Spain, Chile and Argentina, and Colombia, showing adequate psychometric properties of the items with alphas of 0.83 and 0.86. (237) I could not find an adequate cut-off for this scale, so I used it in its continuous form.

Sociodemographic and clinical characteristics:

Mother's age: Discrete variable. Valid range 16–45 years. Collected before hospital discharge.

Level of education: Ordinal categorical variable, defined as no formal education, incomplete primary, complete primary, incomplete secondary, complete secondary, university. Collected before hospital discharge.

Nationality: Dichotomous variable, defined as Argentina, foreigner. Collected before hospital discharge.

Marital status: Nominal categorical variable, defined as single, with a partner, married, divorced, separated, widowed. Collected before hospital discharge.

Cohabitants: Nominal categorical variable, defined as partner, parents, alone with children, others. Collected before hospital discharge.

Type of job: Nominal categorical variable, defined as housewife, student, worker, unemployed, other. Collected before hospital discharge.

Recipient of government benefits: Dichotomous variable, defined as yes, no. If yes, participants were asked to list all. Collected before hospital discharge.

Main source of income: Nominal categorical variable, defined as private employer, public employer, self-employed, informal work (odd job), government benefits, pension, church, other. Collected during home visit.

Average monthly income: Discrete variable in Argentinian pesos (ARS). Collected during home visit and later converted to United States dollars (USD).

Health insurance: Nominal categorical variable, defined as public health system, social insurance, private insurance, other. Collected during home visit.

Number of rooms in the house: Discrete variable. Collected during home visit.

Number of people who slept in the house the previous night: Discrete variable. Collected during home visit.

Maternal mental health history (collected before hospital discharge):

Knowledge of family history of depression: Dichotomous variable, defined as yes, no.

Knowledge of family history of psychiatric disorders: Dichotomous variable, defined as yes, no.

Woman's history of mental health disorders while not pregnant: Dichotomous variable, defined as yes, no.

Woman's history of mental health disorders while pregnant: Dichotomous variable, defined as yes, no. Only for multipara women.

Woman's history of mental health disorders after pregnancy: Dichotomous variable, defined as yes, no. Only for multipara women.

Woman's history of mental health treatment: Dichotomous variable, defined as yes, no.

COVID-19 impact (Collected before hospital discharge):

COVID-19 impact on mental health and concerns about pregnancy and childbirth: Ordinal categorical variable. Likert scale: worsened a lot, worsened, did not change, improved, improved a lot.

COVID-19 impact on daily activities: This included categories such as social activities, work, physical activity, quality of food consumption. Ordinal categorical variable. Likert scale: a lot, something, a little, nothing.

Overall impact of COVID-19 on everyday life: Discrete variable from 1 to 10.

Maternal/newborn medical history (Collected from clinical records):

Number of previous pregnancies: Discrete variable

Number of previous abortions (induced or spontaneous): Discrete variable

Number of previous deliveries: Discrete variable

Number of live births: Discrete variable

Number of stillbirths: Discrete variable

Mother's age at first pregnancy: Discrete variable

Number of antenatal visits during this pregnancy: Discrete variable

Gestational age at first antenatal visit (in completed weeks): Discrete variable

Mode of delivery: Categorical variable, defined as: spontaneous delivery, assisted delivery (assisted vaginal, elective caesarean, emergency caesarean)

Procedures during delivery: Dichotomous variable (yes, no)

APGAR score: Ordinal variable

Resuscitation of baby at birth: Dichotomous variable (yes, no)

Birth weight: Continuous variable in grams

Baby's height: Continuous variable in cm

Gestational age at birth: Continuous variable in weeks and days

Sex of baby: Categorical variable (female, male, other)

Woman and baby discharge date: Date format in dd/mm/yyyy

The case record forms can be found in Appendix 9.

7.2.7. Data collection and management

Data were collected electronically through tablets and entered into a Good Clinical Practice (GCP)-compliant electronic data management system (REDCap, https://www.project-redcap.org). I developed the system with intra- and inter-form rules such as valid ranges, skips and consistency checks. The system was first tested with dummy data to ensure that no issues emerged once data collection started. I trained six data collectors (one for the hospital phase and five for the home visits) on the study procedures, data entry, query resolution, REDcap use and overall data management (including the safe storage of informed consent and participant screening logs and strategies to ensure confidentiality), as well as GDPR and local data protection rules. Due to internet connectivity issues, I used the offline App version of REDcap. Several problems emerged regarding the syncing of the data after the initial 40 cases, necessitating further refresher trainings to ensure the highest possible quality of the data.

The following measures were taken to ensure participant confidentiality:

- Each participant was assigned a unique anonymous ID number.
- The local screening-enrolment log linking personal information and ID numbers and containing all personal information on the participants was kept separate from the forms.
- The study documents and tablets were stored securely under lock and key in a safe place and were not accessible, other than to those involved in the research.
- Data were entered directly into the study password-protected data management system to which only study staff had access using the ID number.
- The de-identified database has been digitally archived for permanent storage, and all other study documents have been archived securely for 5 years.

Once the study started, I ran fortnightly quality control checks to evaluate the quality of the collected data, identify potential problems and take action in case of any data issues. For each categorical variable, I checked the total number of observations, number of missing values and percentages. For continuous variables, I checked the total number of observations, number of missing values, minimum and maximum values, means and standard deviations (SDs), and medians and interquartile intervals. Any errors or data inconsistencies were flagged, and attempts were made to resolve inconsistencies by retrieving data from source documents such as the woman's clinical records. Additionally, I evaluated recruitment progress on a weekly basis. The final database was downloaded from REDcap and securely stored on the UCL OneDrive server.

7.2.8. Dealing with missing data and loss to follow up:

Before analysing the data, I checked the amount and pattern of missing data for each key variable to assess whether any bias had been introduced into the final dataset. Missing data are a problem because nearly all standard statistical methods assume the completeness of information on all variables included in the analysis. Even relatively few missing observations for some variables can dramatically shrink the sample size. As a result, the precision of CIs is harmed, statistical power weakens and the parameter estimates may be biased. (238) Appropriately dealing with missing data can be challenging as it requires careful examination of the data to identify the type and pattern of missingness, as well as a clear understanding of how different imputation methods work. Using the **misstable pattern** command in Stata 17, I evaluated the distribution of the missing data. There are different assumptions about missing data mechanisms: 1) missing completely at random (MCAR), which assumes that the probability of missing data on a variable is unrelated to the value of the variable itself or to the values of any other variable in the dataset; 2) missing at random (MAR), which is a weaker assumption than MCAR and assumes that the probability of missing data on one variable is unrelated to the value of that variable after controlling for other variables in the analysis (e.g. missing data on income depends on a person's age, but within an age group, the probability of missing income data is unrelated to income); 3) not missing at random (NMAR), which assumes that missing values depend on unobserved values (e.g. people with a higher income are less likely to report their income).

The extensive rules included in the RedCap system before the start of data collection as well as frequent data monitoring during collection acted as safeguards and ensured that the proportion of missing values was under 1% for most variables and they were completely at random and arbitrary. Thus, there was no need to model the missing data mechanisms as part of the estimation process. However, imputation was used.

For the exposure, the proportion of missing values for any key variable was less than 0.5%. No primary outcome had missing data. Despite expecting no impact on the findings due to missingness, I decided not to exclude any individual from the analysis but impute missing values through different simple imputation strategies:

- For the continuous baseline variables used for analysis, I used the mean imputation technique, replacing the missing values with the mean of that variable after removing outliers. Although this method can lead to biased estimates of variances and covariances, I assumed that the low proportion of missing data would prevent such a limitation.
- For the binary baseline variables used for analysis, I used the most frequent answer to replace the missing values. Although this technique could lead to the overrepresentation of the most frequent value, it is fairly easy to implement to achieve a complete dataset. Again, because of the low proportion of missing data, I assumed that the technique would not introduce bias.
- For exposure variables, I took a conservative approach and imputed the missing values assuming no mistreatment or neutral scenario. For example, if a woman had a missing value on the question '*Were you shouted at by health personnel?*' with the options 'yes' or 'no', I imputed that value as 'no'. On the contrary, if the woman had a missing value on a question such as '*I felt emotionally supported by health personnel*' with the options 'completely agree', 'agree', 'neutral', 'disagree', 'completely disagree', I imputed the variable as 'neutral'.

Only six women were lost to follow-up and could not be found for the home visit, representing 2% of the sample. These women were excluded from all analyses.

7.3. Ethical implications

The ethical considerations that governed the qualitative phase were equally applied to this study, including deploying measures to provide care for participants who exhibited signs of distress or requested assistance during follow-up visits.

Recognising the pivotal role of the RAs in maintaining the ethical stance of the research, I provided comprehensive training to ensure they understood and could respond sensitively to the complexities of the study. This training involved education on ethical issues, including maintaining confidentiality, obtaining informed consent and responding effectively to distress signs.

There was a protocol in place for responding to any signs of distress. This approach was applicable from the qualitative phase onwards and maintained throughout the study. If signs of distress were detected, the RA utilised the established relationships with local healthcare providers to ensure that these women were referred and received the necessary care.

To ensure the quality of the information given to potential participants about the study and the accuracy of the consent process, we developed detailed information sheets explaining the study in clear, non-technical language. The informed consent process was treated as an ongoing dialogue rather than a one-time event. It began with the initial explanation of the study and continued up to the follow-up visit. The RA from the hospital was trained to reiterate the participant's rights during every interaction, including the right to withdraw at any time without consequence. We also ensured that all participants gave their consent voluntarily and without coercion and had the capacity to consent. This process was documented meticulously to ensure the utmost ethical conduct throughout the study. Consent was requested for the study at the time of admission in the hospital and again before initiating the surveys in the community.

Ethical approval for the fieldwork was provided by the UCL Human Research and Ethics committee in the UK (Project ID: 14293/004) and the Institutional Review Board of the Instituto de Maternidad y Ginecología Nuestra Señora de las Mercedes (EXPTE. 3891/413-D-2020).

8. Results: Conceptualising the mistreatment of women during facility-based childbirth: a mixed-methods approach using framework and factor analysis

In Chapter 2, I introduced an extensive conceptualisation of 'mistreatment during childbirth ', explaining the reasoning behind the selection of this specific term. I delved into three alternative domains: structural vs interpersonal, paternalism vs autonomy and intentionality vs institutionalisation. These domains presented a novel theoretical framework for understanding the phenomenon of MDC. This effectively broadened the definition of mistreatment, providing a new theoretical perspective.

While the focus of Chapter 2 was largely theoretical, the present chapter seeks to enhance the definition of MDC by establishing tangible, quantifiable methods to measure mistreatment. My focus here shifts to investigating whether mistreatment should be viewed as a uni-dimensional or multi-dimensional construct and what weight each dimension should carry when counting cases of mistreatment. This becomes particularly relevant for the next chapter, where mistreatment is analysed against its repercussions for postnatal health and care-seeking. For instance, do physical violations, such as being slapped or restrained in bed, have the same impact on woman's care-seeking behaviours as being exposed to long waiting times? The result from this chapter will equip me with a more defined understanding of mistreatment to incorporate in my statistical model.

Therefore, in this chapter I adopt a data-driven approach with the objective of exploring various alternatives that could assist in operationalising the concept of mistreatment. Importantly, the focus remains on the postnatal effects of mistreatment on women's care-seeking behaviours. This chapter employs a combination of qualitative and quantitative methods to dissect the subtleties of this concept using data gathered in Tucumán, Argentina. This comprehensive exploration is designed to translate the theoretical understanding of mistreatment into practical, measurable parameters.

8.1. Introduction

The WHO quality-of-care framework has emphasised the significance of users' experiences in reducing mortality rates and promoting equitable access to and utilisation of care. (239) Within maternity care, MDC is widely recognised as an obstacle to healthcare use and a major contributor to adverse maternal and neonatal health outcomes. (240)

Despite this recognition, the issue is still largely understudied, with most studies focusing on providing prevalence estimates rather than inferential associations with adverse outcomes. While women's experiences are now being given greater consideration in the national and global monitoring of health system performance, and new concise, valid and reliable measures are underway, a critical gap remains in the understanding of how the different components of mistreatment can affect women's health, well-being and care-seeking behaviour. (228)

The global mixed-methods systematic review by Bohren and colleagues (2015) was the first indication of conceptual consensus within the global health community on how to categorise the treatment of women during facility-based childbirth. (20) The authors identified different manifestations of mistreatment and grouped them into seven domains: physical abuse, verbal abuse, sexual abuse, stigma and discrimination, failure to meet professional standards of care, poor rapport and communication between women and providers, and health systems conditions and constraints. Following their publication, 'mistreatment during childbirth' became an umbrella term for all disrespectful and abusive acts faced by women during their hospital admission. Even so, prevalence estimates of mistreatment were ranging from 13% to 98% due to the diversity of contexts, measurement tools, study designs, data collection modes and study samples. (241) In response, the WHO developed and validated two sets of data collection tools (a labour observation checklist and a community survey) to capture MDC and minimise methodological discrepancies. These tools were tested at scale in four countries across Asia (Myanmar) and Africa (Ghana, Guinea and Nigeria). (152) That study showed a prevalence of 41.6% of any episode of mistreatment across the four countries.

Moving beyond prevalence studies presents a new set of challenges that must be addressed: how can we attain a pragmatic, operational definition that can quantify the scale of the problem while also recognising the differential effects of its items on adverse postnatal outcomes? Most prevalence studies to date have used non-weighted, summative scoring or a single binary indicator to determine whether a woman was exposed to mistreatment. (228) This operational decision indicates that all forms of abuse contribute equally to adverse postnatal outcomes. However, while this might be useful in analysing the overall magnitude of mistreatment, as any one episode is one too many, it might not be useful to understand the granularity of the issue. Alternatively, using data-derived weights would place an external valence on which mistreatment items are 'worse', which can vary based on individual experiences, societal norms, context, expectations and preferences.

Therefore, Berger and colleagues (2021) developed a set of three measures of mistreatment (a 7-item Interpersonal Abuse Scale, a 3-item Exams and Procedures Index and a 12-item Unsupportive Birth Environment Index) using data from three West African countries, arguing that different domains of mistreatment do not share a single common underlying factor. (242) These scales and indexes were based on the assumption that the latent constructs underlying the domains of physical abuse, verbal abuse, and stigma and discrimination relate to interpersonal abuse, whereas the latent constructs underlying failures to meet professional standards of care, poor rapport between women and providers, and health systems conditions and constraints are intrinsically tied to broader quality-of-care frameworks. Their rationale was that separate measures assessing different mistreatment dimensions allowed for tailored quality-improvement responses or interventions targeting areas with higher mistreatment scores. While this represents a robust attempt towards the promotion of high-quality, respectful care, it still leaves out the potential effect that the different domains of mistreatment, whether interpersonal or quality-of-care-related, have on women's postnatal health and behaviours.

In evaluating the type of treatment received by women in health facilities as a deterrent to the current and/or future utilisation of facility-based maternal and reproductive care, it is crucial to understand how the different forms of abuse act independently. Being allowed to select the birth position may trigger a different effect on a woman's health and her relationship with the healthcare system from being physically

abused. Expanding the evidence on this aspect will help to formulate a better theory of change and logic model for designing interventions that are evidence-based, targeted and cost-effective. This is not to undervalue one form of abuse relative to others but to highlight the need for more nuanced evidence to understand how each type of mistreatment affects different postnatal outcomes.

Studies examining MDC have been instrumental in understanding the concept and estimating its prevalence and risk factors. This study takes one step further, aiming to address a gap in these conceptualisations by 1) proposing a new framework to assess mistreatment based on its potential postnatal effects and 2) testing the new framework against existing frameworks using data from women who delivered in a public hospital in Tucumán, Argentina.

8.2. Methods

8.2.1. Mixed-methods design

For this chapter, I used the data collected in both the qualitative and quantitative phases of my study in Tucumán, Argentina. Guided by the theoretical ideas from Chapter 2, I analysed the qualitative data to create a link between theory and evidence. To accomplish this, I used the data collected in the semi-structured interviews and FGDs with women from Tucumán, Argentina, to create a new framework to empirically characterise the phenomenon. Subsequently, I evaluated how the quantitative data behaved in relation to prominent frameworks available in the literature and compared them with my self-developed framework. In this section, I expand on these earlier analyses to develop and test alternative frameworks for operationalising MDC. The details of recruitment, sampling, and data collection and management are reported in Chapter 4 and Chapter 7.

8.2.2. Qualitative framework development

In Chapter 2 of my thesis, I presented an in-depth conceptual analysis of MDC. I delved into its complexity by elaborating on three broad dimensions: 1) level: whether mistreatment should encompass both **interpersonal** and **structural** dimensions of violence; 2) dynamic: questioning the role of **paternalism** in obstetric care as opposed to **autonomy**; and 3) subjectivity: evaluating the importance of **intentionality** and **naturalisation** in the recognition of violence.

In this chapter, I produce a new, empirical framework guided by the conceptual understanding from Chapter 2 to analyse the data collected from the semi-structured interviews and FGDs with women from Tucumán, Argentina. This analysis aims to understand how different domains of mistreatment influence women's postnatal health and behaviours.

i. Data analysis: a framework analysis approach

Framework analysis is a comparative form of thematic analysis that was developed by social policy researchers in the UK (243) to address specific, real-world questions. In that sense, it can be seen as an applied research approach that is useful for informing both policy and practice. However, it is not limited to qualitative data in applied policy research

but can also be applied to other types of data. This approach is increasingly being used in healthcare research settings such as midwifery, nursing and health psychology. (244)

One of the strengths of framework analysis is its eclecticism, borrowing principles from different epistemological traditions in the social science field. It employs an organised structure of inductively and deductively derived themes to conduct cross-sectional analysis using a combination of data description and abstraction. The overall objective of framework analysis is to identify, describe and interpret key patterns within and across cases and themes within the phenomenon of interest. The transparency and accessibility of this approach facilitates communication with a variety of audiences, making it an ideal tool for mixed-methods research.

In this study, framework analysis was chosen because it helps to move beyond the thematic description of the phenomenon and develop multi-dimensional typologies. (244) I aimed to explore how women from the community under study perceive MDC based on their responses, guided by the ideas developed in Chapter 2 (level, dynamic and subjectivity). To do so, I followed the five stages of framework analysis outlined by Ritchie and Spencer (1994) (245): familiarisation, identification of a framework, indexing, charting, and mapping and interpretation. I describe how I used each of these steps in my study below.

The first stage involved familiarisation with the data, which required full immersion to achieve a holistic sense of the issues discussed. Given that I was present during all interviews and FGDs, I was already extensively familiar with the data. Nevertheless, I revisited all the recordings and transcripts, annotating the most pertinent issues.

The subsequent stage concerned the identification of a framework. My analysis diverged slightly from that proposed by Ritchie and Spencer, as the analytical framework did not purely emerge from the data but was informed by the conceptual ideas detailed in Chapter 2. I performed a deductive-inductive analysis to identify the framework in a subset of interviews, first using the dimensions and sub-dimensions of my conceptual analysis (structural vs interpersonal level, paternalism vs autonomy dynamic, and institutionalisation vs intentionality subjectivity; Figure 12). From the initial round of coding, a set of organising themes emerged that allowed for a more empirical definition of each of these conceptual dimensions and sub-dimensions. These organising themes pertained to two of my PhD objectives: 1) understanding what women perceive as mistreatment and 2) discerning the postnatal effects of mistreatment. I consequently developed a series of organising categories to define the framework in a more practical manner. These consisted of the following:

1. Women's perceptions, knowledge and feelings about the different types of care and practices
2. Women's reactions and responses to different types of care and practices

Using these organising categories, I performed a second round of coding in which three major themes surfaced, collectively forming my final framework: 1) institutional violence, related to healthcare constraints and practices; 2) explicit violence, that is, the direct use of physical and verbal violence by providers against women; and 3) implicit violence, referring to practices, both clinical and non-clinical, that have become normalised within a hospital context. I named this new framework the 'IEI Mistreatment Model' (IEI-MM).

Figure 12. Guiding concepts from Chapter 2

Dimension 1: Level	Dimension 2: Dynamic	Dimension 3: Subjectivity
STRUCTURAL	**PATERNALISM**	**INSTITUTIONALISATION**
Harm not immediately attributable to a health provider but emerging from systemic deficiencies or built into structures	Dominant attitude of health providers as sole and active decision-makers on best care for the woman	Harmful actions/practices that have been incorporated and naturalised in clinical settings
VS	VS	VS
INTERPERSONAL	**AUTONOMY**	**INTENTIONALITY**
Direct violence in the form of disrespectful or abusive practices by a health provider regardless of harm	Empowerment of women to make their own informed decision about the management of their condition in response to clinical alternatives	Intentional use of disrespectful or abusive practices or unnecessary medical procedures with known risk of adverse effects

Once the framework was defined, I continued with the remaining three steps: indexing, charting and interpretation. First, all study data were systematically and comprehensively indexed against the new organising categories. The purpose of indexing was to organise the transcripts into these new categories. The linking of the data and the categories was done using NVivo12 to facilitate data manipulation in the subsequent steps. I used women as my unit of analysis without differentiating by age or parity. Next, the summarised indexed data were charted in a matrix format. I used the NVivo Framework Matrix option to perform the charting. This way, I could order and abstract the indexed data to examine them systematically and in totality.

Finally, based on the organising categories, I grouped the indexed data into the three domains of my IEI-MM framework. I searched for and compared patterns across and within units of analysis and across and within categories, which led to concrete definitions for each theme (or dimension) in the framework. During this comparison, I examined the aspects of care included within each dimension and whether a clear clustering of the data occurred.

8.2.3. Quantitative method

The quantitative phase of this chapter aimed to assess the validity of two existing frameworks of MDC (Bohren's typology and Berger's framework) using data from women who delivered in a public hospital in Tucumán, Argentina, collected as part of my cohort study and compare them against my IEI-MM framework derived from the qualitative analysis. The overall goal was to determine which categorisation of mistreatment fit the data better and explore the multiple dimensions of the construct. To achieve these objectives, I selected confirmatory factor analysis as my primary analytical tool. This method was chosen because it allows for a disconfirmatory approach to data analysis. Specifically, it helped me to assess the fit of the three theory-driven measurement models to my data and determine whether they adequately reflected the underlying structure. As a post hoc objective responding to the poor fit of the three a priori frameworks, I conducted exploratory factor analysis to analyse alternative patterns of correlation between observed variables that could result in an alternative factor structure that better explained MDC in the studied population.

i.   Factor analysis

Factor analysis is a statistical method used to simplify data by grouping variables into a limited set of clusters (or factors). (246) The process of discovering the simplest method to interpret observed data is known as parsimony, which is essentially the aim of factor analysis. The analysis operates based on the notion that measurable and observable variables can be reduced to fewer latent variables that share a common variance and are unobservable – a process known as reducing dimensionality. (247) Isolating constructs and concepts and summarising data help to better interpret and understand relationships and patterns. The ability of factor analysis to detect underlying constructs makes it an extremely useful tool for researchers who want to demonstrate that their results have construct validity, that is, how well a set of indicators or measures represent or reflect a concept that is not directly measurable.

Factor analysis includes two main techniques: exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). (248) EFA attempts to uncover complex patterns by exploring the dataset and testing predictions, whereas CFA attempts to confirm hypotheses and uses path analysis diagrams to represent variables and factors. CFA differs from EFA in allowing the investigator to impose a structure or model on the data and test how well the model 'fits.' The 'model' is a hypothesis about the number of factors, whether they are correlated or uncorrelated and how items are associated with the factor. (247)

ii.   Data management and item construction

As a first step, I prepared the dataset on mistreatment that was collected as part of my cohort study. I assessed the total number of observations, missing values and percentages. The proportion of missing values in all mistreatment items of the short version of the WHO Community Survey on Mistreatment during Childbirth was less than 0.5%. Despite the small number, I imputed the missing values via a conservative approach, assuming that missing values denoted not experiencing mistreatment. I imputed missing values on binary items such as 'Were you shouted at by health personnel?' with the options 'yes' or 'no' as 'no'. Missing values on categorical items such as 'I felt emotionally supported by health personnel' with the response options 'completely agree', 'agree', 'neutral', 'disagree', 'completely disagree' were imputed as 'neutral'.

Subsequently, I constructed all mistreatment items as binary (0 = no mistreatment, 1 = mistreatment) as the aim of the analysis was not to determine severity but occurrence. 'Neutral' and 'don't know' responses were coded as 'no mistreatment' to provide a more conservative estimate.

I only retained mistreatment items with 10 or more cases of mistreatment for analysis. The lower-frequency items were either combined based on theoretical grounding or, if not possible, removed from analysis. Seven out of the 22 measured items of mistreatment had less than 10 cases. These items were mostly in the domain of physical and verbal abuse. I grouped all the low-prevalence physical abuse items into 'any type of physical abuse' and the two low-prevalence verbal abuse items into 'threatened or received negative comments about sexual activity'. Two items with no cases in the health system domain were removed.

After this, the three frameworks were assessed against the data. Because I used the 22-item short version rather than the 56-item version of the WHO Community Survey, information on some items was not available. Because of the low prevalence of certain

domains as explained above, I had to recombine them for each of the frameworks. In the case of Bohren's framework, the seven dimensions of mistreatment were reduced to five dimensions as sexual abuse is not part of the short form of the data collection tool, and physical and verbal abuse were combined into one dimension due to low frequency. Thus, Bohren's framework was tested as a 5-dimensional model composed of the following: 1) physical and/or verbal abuse, 2) stigma and discrimination, 3) failure to meet professional standards of care, 4) poor rapport and communication between women and providers, and 5) health systems conditions and constraints. Similarly, the short form of the survey tool only collects information on two out of the three items corresponding to Berger's Exams and Procedures dimension. To overcome this, I aggregated this dimension into one single indicator consisting of 1) lack of informed consent and 2) vaginal exams conducted in a manner visible to others. The items included in each dimension of the three a priori frameworks can be seen in Table 8.

Table 8. Items included in the domains for each model (table available at the end of the chapter)

8.2.4. Statistical analysis

As previously stated, factor analysis is a multivariate statistical method aimed at uncovering structures in data. (249) It simplifies complex datasets, by grouping concepts and constructs. Thus, variables that are highly correlated are grouped into the same factor and separated from others that are less correlated.

The key feature of factor analysis is the calculation of the goodness-of-fit of the data to the model based on the estimated variance-covariance matrix. The variance-covariance matrix is the proportion of variance accounted for in all dependent measures by a specific set of independent measures. The model-fit test determines the extent to which the hypothesised variance-covariance matrix differs from the observed sample variance-covariance matrix. (249) A difference that is not statistically significant indicates no evidence against the null hypothesis that the model supports the plausibility of postulated relationships between the variables. (249)

In this chapter, I tested the three a priori models (Figure 13): Bohren's second-order 5-dimensional model (Model 1), Berger's second-order 3-dimensional model (Model 2) and the IEI-MM (Model 3). Each model was first run as a first-order model where all dimensions correspond to distinct-yet-correlated constructs and later as a second-order model where a global 'mistreatment' construct accounts for the relationship between the first-order factors.

As a first step, I evaluated the correlation between the items for each dimension of the models by using tetrachoric correlation coefficient matrices. The purpose of assessing correlation is to determine whether the interrelation between items is strong enough to conduct factor analysis. A low item correlation indicates that the items do not 'belong' to the same construct, defeating the purpose of CFA altogether. In my analysis, items significantly correlated at a 5% level or with a correlation factor above 0.2 were retained for the CFA model.

I used the **sem** command in Stata 17.0 to perform the analysis. Since all variables were dichotomous, the mean-and-variance-adjusted weighted least squares was the estimation method.(247)

In order to evaluate the model fit, the following test results were examined in this chapter: a) a p-value of less than 0.05 and an upper limit of the 90% confidence interval of less than 0.08 for the Root Mean Square Error of Approximation (RMSEA); b) values higher than 0.90 for the Comparative Fit Index and the Tucker Lewis Index (CFI/TLI); and c) Standardized Root Mean Square Residual (SRMR) values of less than 0.8. I did not use the Chi-squared test ($\chi2$) as the expected ratio of sample size to number of parameters was estimated to be relatively small, thus, the chi-square test would over-reject a correctly specified model.(249) Given these limitations, all other model fit indices were used to guide the conclusion as to the model fit.

The CFI and TLI are comparative fit index tests that examine the specified model against the null model where nothing is significantly related (i.e. assumes zero covariances between observed variables). If values are ≥ 0.90 then the model was considered to have a satisfactory fit, and if the values are ≥ 0.95 then the model fit was considered good. (249) Although the TLI tends to produce lower model fit indices to the CFI, the same cut-off values were utilised.

The RMSEA is a more recently proposed test. It is an absolute index of fit test that examines whether the specified model fits the data 'well-enough' instead of comparing it to a null model. (250) The RMSEA measures the average lack of fit per model degree of freedom by adjusting for the degrees of freedom; the error of approximation reflects the lack of fit of the specified model to the population. If the value of RMSEA is ≤ 0.08 then the model was considered to have an adequate fit and if the value is ≤ 0.06 then the model fit was good. Additionally, the value of RMSEA is reported with a 90% confidence interval (CI). In a well-fitting model, the higher confidence limit should be ≤ 0.08.(251) Finally, a close-fit test for the null hypothesis was reported for the RMSEA, if the p-value is > 0.05, the null hypothesis cannot be rejected, and as such it can be suggested that the specified model has a 'close fit'. The Standardized Root Mean Square Residual represents the square-root of the difference between the residuals of the sample covariance matrix and the hypothesized model and should be $< .08$.(252)

Figure 13. Representation of the three a-prior models

Model 1: Bohren's 5-dimensional model

Model 1a: First-order model   Model 1b: Second-order model
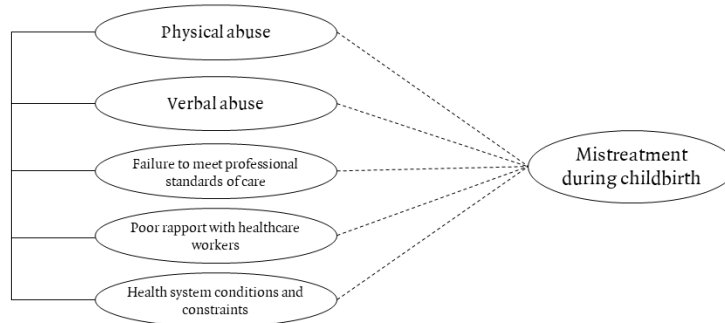
Model 2: Berger's 3-dimensional model

Model 2a: First-order model   Model 2b: Second-order model
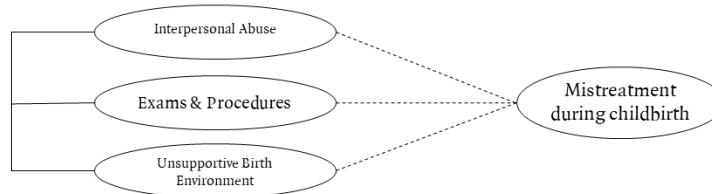
Model 3: IEI-M 3-dimensional model

Model 3a: First-order model   Model 3b: Second-order model
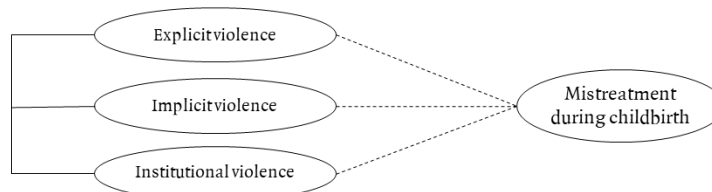
As an ancillary analysis, I conducted an exploratory factor analysis (EFA) to test whether the exploratory analysis confirmed any of the a priori models or assess whether a new factor structure represented the data better. EFA also addresses the restrictive nature of CFA (which presupposes a simple structure without cross-loading and thus often inflates factor correlations). (253)

For this analysis, I used all items collected using the short WHO Community Survey. EFA was conducted on tetrachoric correlation matrices to determine the number of common factors to extract. I selected factor analysis over its alternative exploratory technique of principal component analysis (PCA). The main difference between them is the partitioning of variance. Both methods try to reduce the dimensionality of the dataset down to fewer unobserved variables, but while PCA assumes that their common variances take up all of total variance, factor analysis assumes that total variance can be partitioned into common and unique variance. (254) It is usually more reasonable to assume that the set of items has not been measured perfectly. The other main difference between PCA and factor analysis lies in the goal of the analysis. If the goal is to simply reduce the variable list down into a linear combination of smaller components, then PCA would be the best

method. (254) However, in my analysis, I also assumed that some latent construct defines the interrelationship between items, making factor analysis more appropriate. In this case, I assumed that a construct (MDC) explains why the items in the Community Survey are correlated but also acknowledged that MDC cannot explain all the shared variance among the items, so I modelled the unique variance for each.

To determine the number of factors to extract, I used three criteria: Cattell's scree plot, Kaiser's eigenvalue-greater-than-one rule and total proportion of variance explained. (253, 255) The Cattell (1966) scree test and the Kaiser (1960) rule are the most frequently used procedures to determine the number of factors to extract. They are both based on the inspection of the correlation matrix. Cattell's recommendation is to retain only those components above the point of inflection on a plot of eigenvalues ordered by diminishing size. Kaiser (1960) recommends that only eigenvalues at least equal to one be retained. One is the average size of the eigenvalues in a full decomposition. Although the Kaiser rule was first proposed for PCA, it is widely used within factor analysis, with the caveat that it might overestimate the number of factors as it assumes no unique variance. (256)

After deciding on the number of factors to extract, the next step was to interpret the factor loadings. The goal of factor rotation is to rotate the factor matrix so that it can approach a simple structure in order to improve interpretability. (257) There are two general types of rotations, orthogonal and oblique. Orthogonal rotation assumes that factors are independent or uncorrelated with each other. Oblique rotation assumes that factors are not independent and are correlated. The benefit of orthogonal rotation is that loadings are simple correlations of items with factors, and standardised solutions can estimate the unique contribution of each factor. (258) The most common type of orthogonal rotation is the varimax rotation. The benefit of the varimax rotation is that it maximises the variances of the loadings within the factors while maximising differences between high and low loadings on a particular factor: higher loadings are made higher while lower loadings are made lower.

Loading matrixes were orthogonally rotated following varimax criteria to maximise the distance between the factors. (259) I retained items with standardised loadings above 0.4 on a single dominant factor. If an item loaded into two factors, I omitted it if there was less than a 0.2-unit difference in loading. To determine the suitability of the factor model, I used Bartlett's test of sphericity and Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy. A significant Barlett's test ($p \leq 0.05$) is indicative of sufficient intercorrelations and a KMO test of > 0.5 provides an overall measure of the overlap of shared variance between pairs of variables. Finally, if the proposed domains had no theoretical grounding, the model was rejected regardless of fit.

8.3. Results

8.3.1. The Institutional-Explicit-Implicit Mistreatment Model (IEI-MM): qualitative results

Three main domains of MDC were identified based on woman's perceptions and reactions using framework analysis: 1) institutional violence, related to the constraints and practices ingrained in healthcare institutions; 2) implicit violence, related to women's lack of decision-making power regarding the care received; and 3) explicit violence, that is, the use of direct abuse in the form of physical, verbal or emotional violence (Figure 14). Although not all aspects of mistreatment were found in each interview or FGD, the three dimensions were the most salient as a whole.

i. Theme 1: institutional violence – healthcare constraints and practices

The perception of MDC was largely overshadowed by the normalisation of hospital practices. Most women did not recognise issues such as selecting their birth position, sharing a room with multiple other women or not having an explicit indication that they could move during labour as violence but rather as part of standard hospital practices. As one participant in the focus group stated,

> '*Oh, I didn't even know there were other positions, I gave birth in the normal one - I thought you always had to be on your back. I wouldn't even have thought about it.*'
> (focus groups discussion, primiparas)

As women did not perceive these practices as acts of violence, there appeared to be no notable effect on their health or behaviour. This was also the case for women with diverse experiences in both private and public healthcare facilities, who did not perceive these issues as abuse but rather as symptoms of an under-resourced public system. As a result, many women overlooked these aspects when making decisions about their healthcare, prioritising good clinical care for themselves and the health of the foetus over these issues which they considered 'nice-to-haves'.

> '*My cousin had her baby in a private hospital and she had a room just for herself and people could visit her. I don't know, I trust the doctors at the [public] maternity hospital, I don't think I would change it for that.*' (focus groups discussion, primiparas)

Only a few women who reported having a past negative birth experience recognised that access to private care could potentially improve the overall birthing experience by addressing these issues, which were more common in public facilities.

ii. Theme 2: implicit violence – autonomy control

Most participants described lack of communication from health providers as a prevalent aspect of the care received during birth. This resulted in a lack of clear information on the process of childbirth, medical procedures and alternatives, and post-discharge care. Many women acknowledged experiencing a sense of helplessness and vulnerability as they were unsure of the appropriate actions to take at various stages during hospital admission. Similarly, most participants recognised a lack of emotional support from health providers, which was linked to feelings of being alone, unsupported and abandoned during the birth process.

One participant recounted,

> '*Thank God my mum was there to take care of me - there was a football match when I was at the hospital, and no one was there to look out for me. My mum had to go and call them because the head of the baby was about to come out.*' (JP, interview, 22 years old, mother of one).

The impact of these issues was more pronounced among women who were more educated and prepared, as they acknowledged that they would have wanted to be more involved in the clinical decisions and procedures performed. As a woman explained,

> '*They didn't give me information; they took my baby for 4 hours after delivery, and they wouldn't bring her back. I asked but no one answered. If they had only told me,*

she has this or that, if they had informed me.' (MM, interview, 27 years old, mother of two)

Although participants did not overtly recognise these practices as violent, they described them as making them feel incapable, powerless and abandoned by the medical team. However, many women expressed an attitude of acceptance of and submission to the treatment they received, often justifying healthcare providers' behaviour by citing their busy schedules and an overstretched system with many women in the same position. Most participants recognised these aspects of care as having a profound impact on their birth experience and their relationship with the healthcare system, with many women expressing major concerns when it came to confronting health providers again.

iii.   Theme 3: explicit violence – interpersonal abuse

Physical and verbal abuse were reported by many women, mostly related to their first childbirth experience. Woman would describe episodes of physical abuse that included forceful downward pressure on their abdomen, being restricted to the bed and receiving non-consensual, repeated and painful vaginal exams. As a woman reported,

'They kept telling me to push because the baby was not coming out. I told them that I was pushing. At one point, the nurse climbed to the bed and started pushing my stomach really hard. I was worried that she was going to harm my baby.' (NR, interview, 33 years old, mother of two)

Painful vaginal examinations were very frequently reported across most interviews and FGDs. Meanwhile, verbal abuse was reported by women as being scolded, shouted at or threatened by healthcare providers. Some participants reported receiving comments that were demeaning and accusatory, such as *'If you enjoyed opening your legs back then...'*.

Although subjected to harsh treatment, certain women rationalised healthcare providers' abusive practices as a reaction to their own conduct during childbirth. They held themselves accountable, accusing themselves of being overly emotional or excessively noisy, thereby hindering the doctors in their duties. That said, these women did identify verbal and physical aggression, denial of their rights, and lack of compassion as forms of violence that affected their mental health.

They shared stories of feeling demeaned, reliving their birthing experiences through traumatic flashbacks and enduring emotional distress for an extended period postpartum. The apprehension around returning to healthcare providers was a recurring theme in many participants' accounts, with a few even voicing hesitancy about the prospect of another pregnancy out of fear of enduring such experiences once more. As one participant shared,

'After the birth, I was crying constantly, and I had nightmares. It was a horrible experience, and I am not having another kid.' (GB, interview, 21 years old, mother of one).

Figure 14. Final framework

	INSTITUTIONALISED VIOLENCE	IMPLICIT VIOLENCE	EXPLICIT VIOLENCE
DEFINITION	Harmful actions/practices that have been incorporated and naturalised in clinical settings by women and providers	Paternalistic attitude of health providers as decision-makers on the best care for the woman	Direct use of physical, verbal or emotional abuse.
WOMEN'S PERCEPTION	Not perceived as violence but as routine practice	Perceived as lack of control over the process but not as violence	Perceived as violence by most women
WOMEN'S REACTIONS	Might not affect women's behavior	Might affect women's experience of care, particularly those better educated or prepared to navigate healthcare	Might have direct consequences for women's mental health and relationship with health system
EXAMPLES	Selection of birthing position	Lack of adequate understandable information	Slapping or scolding

8.3.2.   Testing the frameworks: quantitative results

Table 9 shows the sociodemographic and obstetric characteristics of the sample of women who took part in the quantitative phase. The average maternal age was 27.1 years (sd = 5.9). Most women had completed primary education (60.3%). The median monthly income was 184.5 USD (using 1 USD = 156.9 ARS), with 62% of the women receiving most of this income from government benefits (approximately 54 USD per child at the time of interview).

Table 9. Sociodemographic, clinical and obstetric characteristics of the study sample
(table available at the end of the chapter)

Descriptive statistics of the mistreatment items are presented in Table 10, and the correlation coefficients can be seen in Table 11. Correlation was strong and significant in the domains pertaining to physical and verbal abuse across all three models (Bohren's – Model 1 – domain of physical and verbal abuse; Berger's – Model 2 – domain of interpersonal abuse; and the IEI-MM's – Model 3 – domain of explicit violence). The domain of poor rapport between health workers and providers from Bohren's model (Model 1) was the only domain showing adequate tetrachoric correlations between items (> 0.2). All remaining domains both in Bohren's (Model 1) and Berger's (Model 2) models showed no correlations, indicating the lack of a relationship between observed variables and no suggestion of the latent domains being applicable to these data. Finally, the correlations within the domains in the IEI-MM consisting of institutional, implicit and explicit abuse (Model 3) were sufficiently strong across most items. Hence, confirmatory factor analysis was attempted for the first- and second-order model of the IEI-MM.

Table 10. Prevalence of items from the short version of the WHO Community Survey on Mistreatment during Childbirth (table available at the end of the chapter)

Table 11. Correlation matrix using tetrachoric correlation coefficient among all items
(table available at the end of the chapter)

A review of the model fit indexes presented in Table 12 shows that the first-order model (Model 3a) had satisfactory fit considering the pre-defined cut-offs. However, an inspection of the factor loading revealed that seven items (pain relief not provided

appropriately, not allowed to move, ignored by health workers, did not feel emotionally supported, health workers did not listen to concerns, non-consented vaginal examination and non-explained vaginal examinations), mostly from the implicit violence domain, were non-significant, and therefore, redundant. The second-order 3-dimensional model (Model 3b) did not converge.

Table 12. Goodness-of-fit indexes for the first-order, self-developed, 3-dimensional IEI-M model (table available at the end of the chapter)

Figure 15. Scree plot indicating the suitability of a three-factor solution
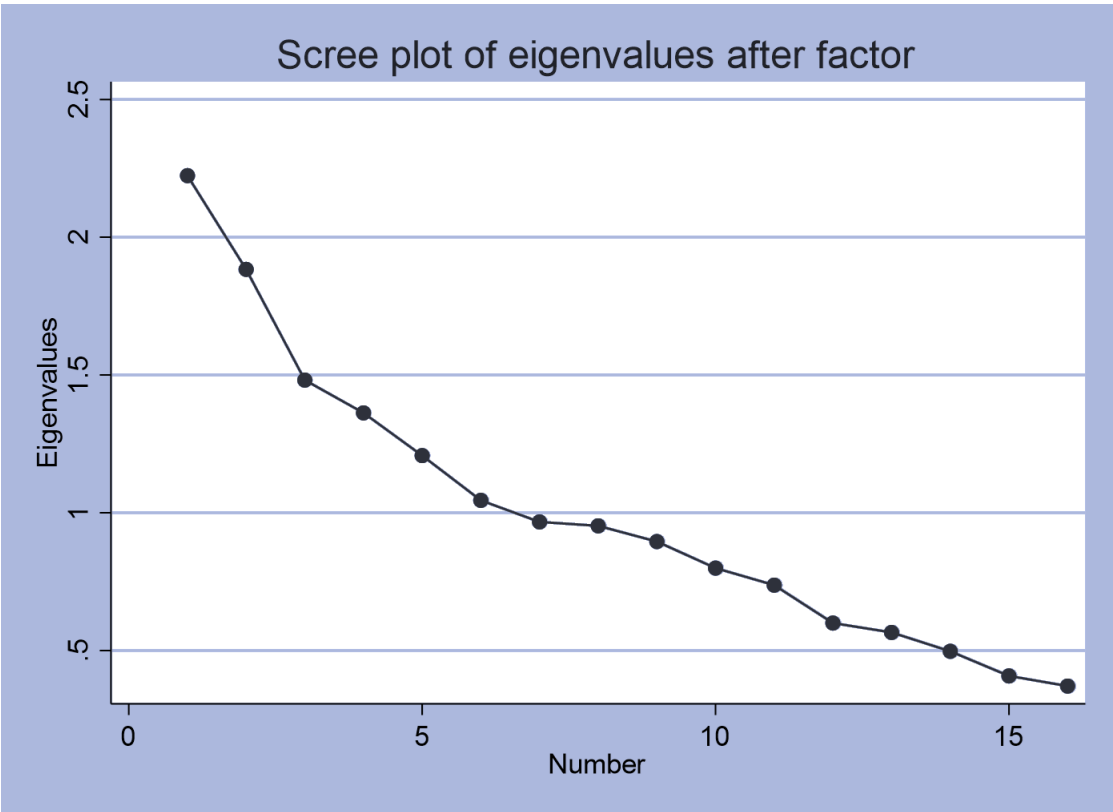
Because none of the a priori models was fully supported by the data, I used an EFA approach to test whether an alternative factor structure better represented the data or whether the underlying structure was consistent with any of the a priori models. The suitability of the factor model was assessed using the KMO measure of sampling adequacy and Bartlett's test of sphericity. The overall KMO was 0.580, and Bartlett's test of sphericity was significant (χ^2: 578.625, p < 0.001). Examination of the scree plot suggested a three-factor solution as providing the best fit (Figure 15), while the eigenvalues and associated total variance were indicative of a six-factor structure. I decided on the three-factor structure following the principle of parsimony. The factor loadings of the three-factor exploratory model are shown in Table 13. The indices of the exploratory model showed poor fit (RMSEA: 0.070 [0.051–0.090], CFI: 0.875, TLI: 0.824, SRMR: 0.061). Five of the 16 items were eliminated as they failed to have a minimum factor loading of 0.4 or above on any factor. These five items comprised 'being asked for a bribe', 'pain relief not appropriately provided', 'health provider not present at delivery', 'non-private vaginal examination' and 'not told could move during labour'. The remaining 11 mistreatment

items with values of above 0.4 loaded on one of the three factors/domains. Four items related to verbal and physical abuse loaded on Factor 1, which suggested construct equivalence with the a priori models. No theoretical grounding could be defined for the remaining factors, which could be a sign of an overfitted model.

Table 13. Factor loadings for the exploratory model (table available at the end of the chapter)

8.4. Discussion

This chapter followed a rigorous mixed-methods approach to introduce and evaluate a new framework for conceptualising the multiple dimensions of MDC based on their potential impact in the postnatal period. Using data from semi-structured interviews and FGDs with women from Tucumán, Argentina, I identified three main types of violence: institutional, implicit and explicit. Institutional violence was related to abusive episodes emerging from health system constraints and practices that were perceived by women as part of routine hospital care. Implicit violence was related to poor communication and participation in decision-making that were perceived as a lack of control over the birthing process, resulting in feelings of powerlessness and resignation. Finally, explicit violence included the use of direct abuse in the form of physical or verbal violence, which had a profound impact on women's mental health, altering the relationship of women with the health system and resulting in emotional distress for a prolonged period after giving birth.

Results from the factor analysis, however, showed that none of the three tested frameworks (Bohren's 5-dimensional typology, Berger's 3-dimensional model and the IEI-MM) had adequate fit as a second-order model. This might indicate that the different dimensions currently encapsulated under 'mistreatment during childbirth' are not part of one global construct. Thus, there might be a discrepancy between the academic conceptualisation of mistreatment and its operational definition. (260) The only domain that consistently showed good fit across all three frameworks was the one corresponding to Bohren's domain of physical and verbal abuse', Berger's domain of interpersonal abuse and the IEI-MM's domain of explicit violence. I hypothesise that women from this community clearly recognise violence when asked about physical and verbal forms of abuse, resulting in a more consistent response pattern compared to other, less-defined forms of violence related to poor quality of care. Thus, if we are to combat mistreatment from a public health perspective, we need to think about the pros and cons of using mistreatment as an umbrella term for practices that do not have the same drivers, do not have the same effect on women, and, most probably, do not even have the same solutions.

In my study, I found that women do not necessarily perceive issues of poor quality of care as mistreatment but rather as clear indications of an overwhelmed, underfunded and stretched public healthcare system that they have accepted as part of routine care. Therefore, although they recognised experiences of poor quality of care, these were not always articulated in negative terms as many prioritised the effectiveness of medical practices over their own experience of care. (260) Despite this, dominant approaches to preventing mistreatment continue to focus entirely on aspects of quality of care as a means to reducing mistreatment, promoting RMC, and equating clinical and non-clinical practices. (44, 261) Currently available multi-component interventions include training in

values or interpersonal communication skills, setting up quality improvement teams and mentorship programs, improving privacy in maternity wards and staff working conditions, and establishing accountability mechanisms or educating women and girls about their rights to ensure that women receive compassionate care, emotional support and effective communication. (262) These interventions operate on the assumption that mistreatment can be prevented by emphasising institutional responsibility and the individual responsibility of health providers who, for reasons of personal idiosyncrasy or lack of skills, fail to comply with the ethical conduct dictated by the discipline. (263, 264) However, as noted by Bohren et al., mistreatment can still occur in the presence of respectful and high-quality care. (47)

What women perceive as mistreatment, largely the interpersonal aspect of care that brings about physical and verbal violence, stems from the systemic power relations inherent within the medical field and in society as a whole. These structural issues cannot simply be resolved from a quality-of-care perspective alone. Training and capacity-building represent one aspect of improvement efforts, but organisational culture also plays a significant role. (29) At the individual level, some providers state that D&A are unintentional but necessary to help women during the birthing process (108, 265), while others blame women's disobedience and lack of cooperation. (266) However, the root causes of interpersonal mistreatment go beyond individual provider behaviours and are embedded in hierarchical relations of power within which both health providers and women are social actors. (33) In some contexts, caring health providers can be seen as diluting their professional identities of being more educated, knowledgeable and skilled than the patients they serve. (267) This impression becomes more prominent when analysing organisational culture and dynamics with pre-established medical hierarchies that view nurses and midwives as inferior within their own professional and organisational structures, contributing to their need to dominate and control even more disempowered patients. (268, 269) These complex, ingrained dynamics demonstrate that to prevent mistreatment, it is not enough to simply train providers on effective communication or the morality of good values; rather, a comprehensive approach is required to address the inherently imbalanced power dynamics within the hegemonic medical model to promote equitable and respectful care for all women.

The insights garnered from this chapter carry significant weight for both research and policy considerations. The key finding that mistreatment is not a uni-dimensional construct suggests that attempts to consolidate various facets of mistreatment to generate a single prevalence estimate overlook many complexities and nuances inherent to this issue. Given that efforts to integrate respectful maternity and newborn care indicators into routine information systems currently have momentum, this chapter serves as a cautionary flag, highlighting the necessity of meticulous consideration of data sources and analytical methods. An important finding from this analysis is the consistent correlation within the categories of physical and verbal abuse. This correlation is maintained irrespective of the adopted framework and distinguishes these categories from the remaining domains of mistreatment. The implications of this finding extend to how mistreatment is considered in the context of postnatal repercussions; women's perceptions of what constitutes violence could significantly influence their responses, be it avoidance or delay of care, switching healthcare providers, or experiencing detrimental effects on their mental health.

Although my analysis did not reach a conclusion on the best way to measure and operationalise mistreatment, my findings do indicate that when exploring the postpartum impacts of mistreatment, conducting a separate analysis for the physical and verbal abuse

category could be valuable. This distinct examination might shed light on how such types of mistreatment differently influence women's behaviours. Therefore, it is essential for future research and policy design to reflect the multifaceted nature of MDC, either considering each category of abuse separately or appreciating the distinct impacts these may have on postnatal outcomes and women's behaviour. This nuanced approach would support the development of more targeted and effective interventions and policies to address this pressing issue.

One strength of this chapter is that I used a mixed-methods approach to arrive at a new theoretical and data-driven perspective to understand MDC, exploring women's perception of mistreatment during childbirth and identifying the different dimensions of mistreatment based on their potential impact on women's postnatal health and behaviours. This can have important implications for policymakers and healthcare providers, who can design targeted interventions to address the different types of abuse. However, this study also has some limitations worth acknowledging. First, the sample size was relatively small and the study was conducted in only one region of Argentina, which limits the generalisability of the findings to other contexts. It is important to replicate this study in other regions and countries to see if the same patterns emerge. Second, the study only represented the perspectives of women and did not include other stakeholders, such as healthcare providers or policymakers. Further research is needed to confirm the applicability of these findings to other settings and to incorporate the perspectives of other stakeholders.

A transformative shift in maternity care is necessary, requiring the rejection of protocols, procedures, rules, hierarchies and relational norms that disrespect, dismiss and exploit the vulnerabilities of women. Key to this transformation is a focus on measurement and meaningful indicators. Each progressive stride, whether it involves empowering women and healthcare providers, nurturing political will, allocating resources or implementing institutional policies, should be underpinned by robust routine data and efficient information systems. With such foundations, we can shape a healthcare system that honours and respects women's childbirth experiences, which will not only contribute to enhanced maternity care but also propel us towards a more equitable society where every individual is respected and valued.

Table 8. Items included in the domains for each model tested with factor analysis

Items	Items after transformation due to low frequency	Domain by model		
		Bohren's 5-dimensional	Berger's 3-dimensional	IEI-M 3-dimensional*
Pinched				
Slapped	Any physical	Physical abuse		
Restrained to bed				
Forceful downward pressure on abdomen			Interpersonal Abuse	Explicit violence
Shouted at	Shouted at			
Scolded	Scolded	Verbal abuse		
Negative comments about woman's sexual activity	Threatened or received negative comments on sexual activity			
Threatened with poor outcome				
Lack of informed consent (including non-consented vaginal exams)	Lack of informed consent (including non-consented vaginal exams)	Failure to meet professional standards of care	Exams & Procedures	Institutional violence
Vaginal exam conducted in a way that other people could see	Vaginal exam conducted in a way that other people could see			Implicit violence
Pain relief not provided appropriately (Not offered, requested and not received, denied)	Pain relief not provided appropriately (Not offered, requested and not received, denied)		Unsupportive Birth Environment	Institutional violence
Ignored by health workers	Ignored by health workers		Unsupportive Birth Environment	Implicit violence
Waited long periods	Waited long periods		Not included	Not included
Skilled birth attendant absent when baby born	Skilled birth attendant absent when baby born		Unsupportive Birth Environment	Implicit violence
Lack of emotional support	Lack of emotional support		Not included	Implicit violence
Healthcare worker did not listen to concerns	Healthcare worker did not listen to concerns	Poor rapport with healthcare workers	Not included	Implicit violence
Birth companion not allowed	Birth companion not allowed		Unsupportive Birth Environment	Institutional violence
Not told could move during labour	Not told could move during labour		Unsupportive Birth Environment	Institutional violence
Lack of privacy/curtains	Lack of privacy/curtains	Health systems conditions and constraints	Unsupportive Birth Environment	Institutional violence
No bed to self post partum	Removed		Unsupportive Birth Environment	Not included
Shared a bed at any time	Removed		Unsupportive Birth Environment	Not included

Asked for a bribe	Asked for a bribe		Unsupportive Birth Environment	Institutional violence

* Additional items added to the Implicit Violence domain: 1) Woman was not asked for preferred birthing position; 2) Woman was not informed about medical procedures (including vaginal exams).
Additional items added to the Institutional Violence domain: woman was not allowed food or liquids during labour

Table 9. Sociodemographic, clinical and obstetric characteristics of study sample (N=300)

	n/Median/Mean	%/IQR/sd
Sociodemographic characteristics		
Education level- n(%)		
No formal education	17	5.7
Primary level	181	60.3
Secondary	95	31.7
University/Tertiary level	7	2.3
Age- mean (sd)	27.1	5.9
Married or in union- n(%)	260	86.7
Recipient of government benefit - n(%)	185	61.7
Person per room- mean (sd)	2.5	1
Monthly household income (USD)*- median (iqr)	184.5	127-191
Clinical/Obstetric history		
Age at first pregnancy- mean (sd)	22	19-25
Gravidity- mean (sd)	1.8	1.3
Parity- mean (sd)	1.65	1.0
Number of ANC visits - median (iqr)	5	5-5
Caesarean section - n(%)	180	60
APGAR (5 minutes)- n(%)	9	9-9

* Based on "official" exchange rate on 1/11/2022: 1 USD=156.9 ARS

ANC = antenatal care; Sd = standard deviation; iqr = interquartile range

Table 10. Prevalence of items from the short version of the WHO mistreatment during childbirth Community Survey (N=294)

Items from the WHO Community Survey (Short version)	n (%)
Pinched	1 (0.3%)
Slapped	0 (0.0%)
Restrained to bed	4 (1.4%)
Forceful downward pressure on abdomen	21 (7.2%)
Shouted at	11 (3.7%)
Scolded	24 (8.2%)
Negative comments about woman's sexual activity	2 (0.7%)
Threatened with poor outcome	8 (2.7%)
Lack of informed consent (including non-consented vaginal exams)	12 (4.1%)
Vaginal exam conducted in a way that other people could see	45 (15.3%)
Pain relief not provided appropriately (Requested and not received, denied)	2 (0.7%)
Ignored by health workers	66 (22.5%)
Waited long periods	110 (37.4%)
Health providers absent when baby born	12 (4.1%)
Lack of emotional support	48 (16.3%)
Healthcare worker did not listen to concerns	31 (10.5%)
Birth companion not allowed	16 (5.4%)
Not told could move during labour	74 (25.2%)
Lack of privacy/curtains	27 (9.2%)
No bed to self	0 (0%)
Shared a bed at any time	0 (0%)
Asked for a bribe	18 (6.1%)

Table 11. Correlation matrix using tetrachoric correlation coefficient among all items

	Any physical abuse	Shouted	Scolded	Threated or negative comments	Lack of informed consent	Non private VE	Pain relief not appropriate	Ignored by HW	Waited long periods	Health provider not present at delivery	Not emotionally supported	HW did not listen to concerns	Birth companion not allowed	Not told could move during labour	Lack of privacy
Any physical abuse	1														
Shouted	0.4855*	1													
Scolded	0.4012*	0.8042*	1												
Threated or negative comments	0.6186*	0.6072*	0.5247*	1											
No informed consent	0.2361	0.2666	0.0126	-1	1										
Non private VE	0.4574*	0.3114	0.227	-0.0271	0.0458	1									
Pain relief not appropriate	-0.1984	0.2102	-0.0409	-0.0037	0.1915	0.0422	1								
Ignored by HW	0.0173	0.3311	0.0775	-0.1367	-0.0763	-0.2469	-0.0112	1							
Waited long periods	0.1593	0.0151	0.0021	0.0752	0.2189	-0.2032	-0.0503	0.6154*	1						
HW not present at delivery	0.2361	0.2666	0.0126	-1	0.188	0.3167	-0.0351	0.0664	0.0018	1					
Not emotionally supported	0.0529	0.2965	0.2082	0.1804	-0.1635	0.0874	0.0756	0.214	-0.009	0.5067*	1				
HW not listened to concerns	0.0874	0.4146*	0.4352*	0.0695	-0.0511	0.0497	-0.005	0.4841*	0.2065	0.3043	0.8313*	1			
Birth companion not allowed	0.2894	-1	-1	0.2258	0.6021*	0.0832	0.0324	0.0614	0.0499	0.1106	-0.0682	-0.1327	1		

Not told could move during labour	-0.1167	0.1515	-0.05	0.0393	-0.1164	**-0.2962***	**0.2409***	-0.076	0.1428	-0.1164	-0.1417	**-0.2274**	0.0166	1
Lack of privacy	0.1381	0.0738	-0.1923	**0.3378**	**0.5751***	0.1913	0.0122	**-0.2153**	-0.1085	0.1983	0.003	**-0.2568**	**0.8951***	-0.1683	1

HW: Health workers; VE: vaginal examination; * statistically significant correlations at 5% significance level; bold: correlation coefficient >0.2

Table 12. Goodness-of-fit indexes for the first-order self-developed 3-dimensional model (model 3a)

	Fit indexed for each domain			Fit indexed for first-order model
	Institutional	Implicit	Explicit	
Degrees of freedom	16	13	24	62
RMSEA	0.019	0.016	0	0.042
90% CI	0.000-0.075	0.000-0.065	0.000-0.085	0.028-0.054
CFI	0.997	0.995	1	0.915
TLI	0.993	0.99	1.048	0.893
SRMR	0.032	0.038	0.002	0.066

Table 13. Factor loadings for the exploratory model*

Item	Factor1	Factor2	Factor3	Uniqueness
Scolded	**0.67**	-0.12	0.13	0.52
Shouted at	**0.66**	-0.03	0.18	0.53
Any physical abuse	**0.58**	0.14	0.05	0.64
Threatened or received negative comments on sexual activity	**0.52**	0.06	0.05	0.73
Non private vaginal exam	0.39	0.06	-0.24	0.79
Asked for bribe	-0.33	0.06	0.20	0.84
Health providers absent at delivery	0.24	0.12	0.23	0.87
Not told could move during labour	-0.19	0.01	-0.02	0.96
Birth companion not allowed	-0.12	0.01	0.06	0.98

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Pain relief not provided appropriately	-0.05	**0.86**	0.02	0.27
Lack of privacy/curtains	0.03	**0.83**	-0.09	0.31
Lack of informed consent	0.03	**0.62**	0.01	0.62
Health worker did not listen to concerns	0.17	-0.06	**0.72**	0.45
Ignored by health workers	0.02	-0.02	**0.68**	0.53
Not felt emotionally supported	0.14	-0.02	**0.59**	0.63
Waited long periods	-0.05	0.01	**0.50**	0.74

*Loadings > |.40| are in **bold**.

9. Results: Assessing the association of the mistreatment of women during facility-based childbirth with postnatal care use, maternal mental health and breastfeeding

Having established a foundation in the preceding chapters, I now delve into the final results chapter of my thesis. The focus of this chapter aligns with the third objective of my PhD study, that is, to quantify the relationship between instances of MDC and PNC utilisation. Moreover, it examines the impact of MDC on maternal mental health, breastfeeding practices and breastfeeding self-efficacy among women in a community in Northwest Argentina. The intention is to assess the potential effect of a negative childbirth experience on the postnatal period.

I previously articulated my exposure, MDC, in Chapter 8 and introduced the potential causal pathways that might link such experiences to PNC utilisation, maternal mental health and breastfeeding patterns in Chapter 6. Following this groundwork, this chapter empirically evaluates these associations. Consequently, I used the quantitative data from my cohort study to examine the influence of childbirth mistreatment on the uptake of PNC, maternal mental health, breastfeeding self-efficacy and exclusive breastfeeding at 6 weeks postpartum.

9.1. Introduction

Maternal morbidity and mortality are pressing public health issues that not only affect women but also hinder the development of nations. The UN has recognised the gravity of the situation and called for the provision of high-quality, respectful care during pregnancy and childbirth to ensure maternal-neonatal survival. (16) However, women who do access health facilities for delivery are exposed to verbal disrespect, physical or psychological abuse, discrimination, neglect, lack of privacy, limited access to information and the application of unconsented procedures. (50) Considering that the mistreatment of women

during childbirth seems to be a deterrent to care-seeking, it becomes relevant to further explore this association, making it possible to intervene to promote women's quality of life, including a positive motherhood experience.

Effective PNC is important for the optimal care of women and newborns, which includes promoting health and well-being, identifying and treating clinical and psychosocial concerns, and providing support for families. Yet, the uptake of formal PNC services is low and inequitable in many countries. Increasing the number of women who receive postpartum care has become the focus of numerous interventions globally. (186) A recently study analysed the impact of mistreatment on access to PNC using the 'Birth in Brazil' national hospital-based survey of puerperal women and their newborns, including almost 20,000 women. (187) The study found a causal association between MDC and the decreased and/or delayed use of health services after birth for both women and their newborns. However, this study did not cover all possible definitions of mistreatment, such as discrimination, neglect and sexual violence, nor did it use a validated instrument. Research exploring the consequences of mistreatment on maternal and child health and well-being, including their access to care, is still scarce. (217)

To date, most studies have been dedicated to exploring and measuring the experiences of women during childbirth in healthcare institutions. A cross-sectional study in four LMICs in Africa and Asia found that over a third of women experienced MDC (47), while a review of evidence from five Latin American countries (Brazil, Chile, Mexico, Peru and Venezuela) revealed an aggregated prevalence of 43%. (50) In Argentina, a study conducted in two public health facilities found that around one-quarter of women suffered from at least one episode of mistreatment, including unnecessary interventions undertaken without medical or obstetric indication, such as fundal pressure in the second stage of labour. (227) Given the high prevalence of MDC and the importance of keeping women and newborns in contact with health services during the postpartum period, more research is necessary to better understand their relationship. (18)

Despite increasing global efforts to ensure high-quality RMC, a concerning prevalence of MDC persists. This situation is not just a grave violation of women's rights but also appears to have potential ripple effects on postnatal healthcare-seeking behaviour. While some studies have started investigating this critical issue, many, such as the large-scale study in Brazil, have limitations concerning the spectrum of mistreatment considered and the absence of a validated instrument. Additionally, there is a paucity of research investigating the broader consequences of mistreatment, including its impact on maternal mental health and breastfeeding practices. Specifically, in the context of Argentina, where a significant proportion of women have reported experiences of mistreatment, a comprehensive understanding of these relationships is missing.

This chapter directly addresses these gaps in the literature. With the use of a validated instrument to capture the spectrum of mistreatment during facility-based childbirth, I aim to provide a robust, detailed examination of its association with PNC use, maternal mental health and breastfeeding. This analysis could offer invaluable insights, contributing to the design of interventions that not only ensure respectful care during childbirth but also foster favourable postnatal outcomes. It is hoped that such a focused exploration will provide actionable insights, leading to improved maternal-neonatal health in Argentina and potentially informing similar contexts globally.

9.2. Methods

9.2.1. Objectives and study design

I conducted a prospective cohort study to measure the effects of MDC on access to PNC within the first 6 weeks after birth (postpartum period) in women delivering in a public maternity tertiary hospital in Tucumán, Argentina. The secondary objectives were to determine the effect of mistreatment on time to access PNC, signs of PPD, signs of perinatal anxiety, exclusive breastfeeding and breastfeeding self-efficacy at 6 weeks postpartum.

All women were identified from the postnatal ward before discharge and invited to participate. Eligible women who provided consent were enrolled in the study and followed up via a home visit at 6 weeks postpartum. A more detailed explanation of the methods and consent procedures is provided in Chapter 7.

9.2.2. Study setting, population and sample size

The study was conducted in a tertiary-level public hospital (Instituto de Maternidad y Ginecología Nuestra Señora de Las Mercedes) in the capital of the province of Tucumán, Argentina. This hospital was selected because of the high load of women delivering daily. The hospital serves as a referral centre and teaching hospital, receiving patients from the northwestern region of the country, with an average of 6,000 deliveries a year. All women who were 16 years of age or older and delivered a singleton live healthy baby in the participating hospital were eligible to participate in the study. Women who required ICU care after birth or who gave birth to a premature baby (gestational age of < 37 weeks) or a baby with congenital malformations were not eligible.

Preliminary unpublished data obtained from interviews with the primary healthcare administrators of the area indicated that the rate of access to postnatal visits among women from the community was about 90%. Thus, I calculated the sample size hypothesising a 15% lower utilisation of PNC (94% vs 79.9%) at 6 weeks postpartum among women who experienced MDC in comparison to those who did not, with a power of 80% and a significance level of 5%. Thus, the sample size for the comparison of two proportions was 206 women, assuming a 50% prevalence of mistreatment. However, following regional published estimates, the prevalence of MDC is roughly 40%; thus, the sample size was expanded to 284 to ensure the inclusion of 103 exposed women and account for a 10% loss to follow-up. The sample size was later increased to 300 women due to the availability of additional funding to compensate for a lower coverage of PNC than initially expected.

9.2.2.1. Data collection and analysis

This sub-section provides a brief overview of the definition and analysis used for this chapter. A more detailed explanation, including strategies for missing data imputation and loss to follow up, is given in Chapter 7.

i. The exposure

All enrolled women were allocated to exposed and non-exposed groups based on their responses to the short-form version of the WHO Community Survey tool. (152, 228) However, as demonstrated in the previous chapter, the complex nature of MDC makes the

concept difficult to operationalise. Based on the results of the qualitative research and factor analysis shared in Chapter 8, I decided to define MDC in two separate ways and, therefore, performed two rounds of analyses. In the first round, mistreatment was defined as experiencing at least one episode of any form of abuse. This meant having a positive response to any items within the domains of physical abuse, verbal abuse, stigma and discrimination, failure to meet professional standards of care, poor rapport between women and providers, and health system conditions and constraints. In the second round of analyses, I defined mistreatment as experiencing at least one episode of explicit violence, including physical and verbal abuse. The rationale for conducting two analyses is based on the results of the previous chapter (Chapter 8) showing good internal coherence among the explicit violence domains, unlike the other domains. The spectrum of experiences covered under MDC is vast and varied; therefore, classifying women merely as exposed or non-exposed to any form of mistreatment may not fully encapsulate the complexity of these experiences.

In my first round of analysis, I chose to define mistreatment as experiencing at least one instance of any form of abuse. This broad definition ensured that I captured a comprehensive range of negative experiences that women might encounter during childbirth, including instances of verbal abuse, stigma and neglectful care. It provided a complete picture of how any form of mistreatment, no matter how subtle, might influence PNC uptake, maternal mental health and breastfeeding.

However, in the second round of analysis, I narrowed down the definition of mistreatment to only encompass explicit violence, such as physical and verbal abuse. This was done to distinctly analyse the effects of more direct forms of mistreatment. My hypothesis was that such explicit violence may have a more pronounced impact on PNC uptake, maternal mental health and breastfeeding. By undertaking these two different analyses, I aimed to provide a nuanced understanding of how varying types of MDC can differently influence PNC use, maternal mental health and breastfeeding practices. The results from both rounds of analyses are presented in this chapter.

9.2.3. Statistical analysis

All women and newborns who were followed up as part of my study were divided into exposed and non-exposed groups as previously defined. The analytical method explained in this sub-section was followed during both rounds of analyses using the different definitions of mistreatment.

i. Descriptive statistics

I first performed descriptive statistical analysis of the sociodemographic and clinical characteristics of the women and newborns by exposure group. For continuous variables, I used mean, SD, median and interquartile intervals according to distribution. For categorical variables, I report the corresponding numbers and percentages. I carefully evaluated and compared the baseline characteristics between groups by bivariate regression and visual inspection to detect important imbalances in prognostic variables that could bias the results. Differences in baseline characteristics between the exposure groups were used to adjust for confounding in the main model.

ii. Inferential statistics

- Logistic regression:

The primary outcome and most of the secondary outcomes were binary variables. I used multivariate logistic regression to compare the effect of the exposure on these outcomes, adjusting for potential confounding variables. Logistic regression is a powerful tool, especially in epidemiological studies, to analyse the effect of a group of independent variables on a binary outcome. (270, 271) It measures the relationship between the dependent variable and one or more independent variables by estimating probabilities using the underlying **logit function.** In statistics, the logit function or the log-odds is the logarithm of the odds. The use of the logit transformation allows for the modelling of the log-odd as a linear function of the explanatory variables: $\ln(x) = \ln(x/(1-x)) = b_0 + b_1 x_1 + b_2 x_2 + \ldots b_n x_n$. Given a probability p, the corresponding odds are calculated as $p/(1-p)$. Because of the difficulty in interpreting the log-odds, ORs are calculated by exponentiating the coefficients. (272)

I used the generalised linear model (GLM) command **glm** in Stata17 to calculate the model. (272) GLM is a flexible generalisation of ordinary linear regression that allows for response variables that have error distribution models other than a normal distribution. GLMs consist of a family of regression models that are fully characterised by a selected distribution and a link function. (273) The distribution determines the nature of the conditional mean and variance of the outcome under study, whereas the link function determines how the exposure and confounders relate to the conditional mean. It has the benefit that it can be formulated for various statistical models, including linear regression, logistic regression and Poisson regression.

There is an important relationship between the chosen link function and the interpretation of the coefficients from a GLM. For models of a binary outcome and the logit or log link, this relation stems from the properties and rules governing the natural logarithm. The quotient rule states: $\log(X/Y) = \log(X) - \log(Y)$. Because of this relationship, the natural exponent of the coefficient in a logistic regression model yields an estimate of the OR. However, by the same reasoning, exponentiating the coefficient from a GLM with a log link function and a binomial distribution (i.e. log-binomial regression) yields an estimate of the risk ratio. (274)

All sociodemographic and psychosocial variables identified in Chapter 6 were compared between the groups to detect imbalances in prognostic variables that could bias the results. These variables included age, education, marital status, receipt of government benefits, household characteristics, parity and age at first pregnancy, history of mental health disorders, number of antenatal visits, mode of delivery, baby's status at birth, social capital, health literacy and self-esteem. All variables that were significantly different between the exposure groups (for any exposure definition) were incorporated in the models. Additional adjustment variables in the secondary outcome models were included if there was a clear clinical rationale, even if the difference between groups was not statistically significant.

As a first approach to the multivariable analysis, I used a log-binomial model to obtain risk ratios; however, owing to the sparseness of the data, this model failed to converge. (275) Therefore, I opted for a logit link function with a binomial distribution and report ORs. I made this methodological decision while aware that the final estimates might exaggerate the real effect size.

After running the model, I ensured that relevant assumptions were met, including independence of errors, linearity in the logit for continuous variables, absence of multicollinearity, and lack of strongly influential outliers. (272) The assumption of independence of errors, whereby all sample group outcomes are separate from each other, has been covered in the study design, along with multicollinearity. The linearity in the logit for any continuous independent variable was checked by creating a statistical term representing the interaction between each continuous independent variable and its natural logarithm and assessing statistical significance, and the presence of influential outliers was assessed by looking at the residuals (the difference between predicted and actual outcomes). (272)

The resulting logistic regression model's overall fit was assessed using various goodness-of-fit measures. (270) Two of the most common methods for assessing model fit are the Pearson chi-square and residual deviance statistics. Both measure the difference between observed and model-predicted outcomes, while a lack of good model fit is indicated by higher test values signifying a larger difference.

Finally, results were reported as ORs with 95% CIs. ORs reveal the strength of the independent variable's contribution to the outcome and are defined as the odds of the outcome occurring versus not occurring. 95% CIs are routinely reported with ORs as a measure of precision (i.e. whether the findings are likely to hold true in the larger unmeasured population).

- Linear regression:

For the analysis of the continuous secondary outcome, I used linear regression models to evaluate mean difference. Multiple linear regression is a statistical analysis method to test the effect of explanatory variables on continuous responses, determining the mean response difference of exposed and unexposed subjects. (272) The standard estimation method is given by the method of ordinary least squares (OLS), which results in a fitted regression line that minimises the average of the squared deviation of the line from the observed data. The fundamental assumption of simple linear regression is that the true association of Y and X is, in fact, linear. Other assumptions such as homogeneity of variance (homoscedasticity) – meaning that the size of the error in my prediction does not change significantly across the values of the independent variable – and residual terms are normally distributed with mean 0. Because my sample size was sufficiently large, I assumed the normal distribution of residual terms to be met. The **glm** command in Stata17 was also used to calculate the model with an identity link and a gaussian distribution. (272) The inclusion of covariates in the linear model followed the same process as for the logistic regression model.

9.3. Results

Figure 16. Flow chart of study participants


```
┌──────────────────────────────────────┐
│ 346 screened before hospital discharge │
└──────────────────────────────────────┘
        │
        │      ┌──────────────────────────────────────────────┐
        ├─────▶│ 37 excluded*                                    │
        │      │     22 lived more than 1 hour away from facility │
        │      │     11 did not have two contact numbers          │
        │      │     2 had connections with facility health providers │
        │      │     3 had a multiple pregnancy                   │
        │      │     3 had a premature delivery (gestational age of < 37 │
        │      │     weeks)                                       │
        │      └──────────────────────────────────────────────┘
        ▼
┌──────────────────┐
│ 309 eligible      │
└──────────────────┘
        │
        │      ┌──────────────────────────┐
        ├─────▶│ 9 did not give consent     │
        │      └──────────────────────────┘
        ▼
┌──────────────────┐
│ 300 enrolled      │
└──────────────────┘
        │
        │      ┌──────────────────────────┐
        ├─────▶│ 6 lost to follow-up        │
        │      └──────────────────────────┘
        ▼
┌─────────────────────────────────────────────┐
│ 294 included in final analysis (eligible, identity │
│ confirmed, gave consent, followed up at 6 weeks │
│ postpartum, completed survey)                   │
└─────────────────────────────────────────────┘

* more than one ineligibility criteria could be present at the same time
```

From December 2021 to January 2022, 346 women were screened for eligibility. A total of 37 women were ineligible to participate, with the most common reason for ineligibility being not having at least two contact numbers (n = 11) and living more than 1 hour away from the facility (n = 22; Figure 16).

9.3.1. Prevalence of mistreatment by the different domains

Of the 294 women followed up until 6 weeks postpartum, 237 (81%) reported having experienced at least one mistreatment episode during childbirth and the immediate postpartum period (Table 14). The majority experienced one (91/237, 38%), two (68/237, 29%) or three (42/237, 18%) episodes of mistreatment. Frequently reported types of mistreatment included long waiting times (110/294, 37%), not being told that they could move during labour (74/294, 25%) and being ignored by health providers (66/294, 22%). While women in the older age category (> 30 years) most frequently reported long waiting times (38% in > 30 years vs 24% in < 19 years), the younger group reported not receiving any indication that they could move (43% in < 19 years vs 17% in > 30 years).

Of the 294 women, 205 (70%) reported receiving a vaginal examination during their hospital stay. In 29/205 (14%) cases, the women did not receive any explanation regarding why the examination was necessary, 32/205 (16%) were not requested for their authorisation before the examination was started, and 45/205 (22%) examinations were conducted in a public space where other people could see. Younger women with no formal education received more un-authorised vaginal examinations (82, 40%) than older, more educated women (34, 17%).

Of the 294 women, 205 (70%) reported having a companion during labour and 278/294 (95%) reported having one during delivery. In 82% of cases, the companion was the mother or another family member. In total, 224/294 (76%) women reported having a preferred position for delivery and 99% (222/224) of them reported giving birth in that preferred position. Only six women reported giving birth on their side, while the remaining 216 reported giving birth in the lithotomy position. In total, 96% (282/294) of women reported that healthcare providers discussed the medical procedures being performed during the birth and that they were asked for consent before these proceeded. In total, 170/296 (58%) women reported being able to place the baby on their chest immediately after birth, but 90% of these women reported that they had skin-to-skin contact with the baby for less than 10 minutes before they were taken for a routine medical check-up.

Of the 294 women followed up, 66 (22%) reported feeling ignored by health providers, with 48 (16%) feeling a lack of emotional support. Feelings of neglect were more frequently reported by more educated women (25% vs 18%). A total of 193/294 women received pain relief medication during their hospital stay, 126/294 (43%) women reported being offered medication by health personnel and 106/294 (36%) requested it. Of those who requested pain medication, 2% were denied its provision (2/106).

Physical or verbal mistreatment was reported by almost 17% of women (49/294), with most experiencing a single episode (34/49, 69%). The most prevalent form of physical mistreatment was downward pressure on the abdomen, occurring in 7% of women (21/294), independent of age, education, parity or delivery mode. Four women reported being tied to the bed, of whom three were women undergoing a caesarean section. Verbal abuse was slightly more prevalent than physical abuse, with 14% (41/294) of women reporting at least one episode. Being scolded was the most frequent form of verbal abuse (24/294, 8%) and was reported more frequently by younger women < 19 years (19%) than by the older age groups (7%). In total, 16% of women (48/294) experienced both physical and verbal mistreatment and some other form of non-explicit mistreatment.

The majority of women (287/294, 98%) received breastfeeding counselling during hospital admission. When asked about satisfaction, 97% (286/2194) were either very satisfied or satisfied with the care received by themselves and 85% (249/294) with the care received by the baby.

Table 14. Women exposed to MDC by number of episodes and type of abuse (table available at the end of the chapter)

9.3.2. Sociodemographic characteristics

Three-hundred women were enrolled in the study, with a mean age of 27.1 years (SD: 5.9). Most of the women had primary (177, 60%) or secondary education (95, 32%), while 5% (n = 15) did not have any formal education. Almost 89% of women reported being in union, either married or living with their partners. The average household income was 184.5 USD, with a mean of 2.5 people living per room in the house. Most women (188/300, 64%) reported being stay-at-home mothers, with their main source of household income being government benefits (122/291, 42%) or informal odd jobs (120, 40%). The remaining 28% were either employees or students. In total, 238 women (79%) recognised that their work activities were strongly impacted by the COVID-19 pandemic, with 40%

reporting that it had some effect on their capacity to purchase food. Forty-three women (14%) also had private or union-based social insurance.

9.3.3. Clinical or obstetric characteristics

Almost all women had at least four antenatal visits during this pregnancy as per their electronic clinical records, with the first visit during the first trimester of pregnancy. Primipara women represented more than half of the enrolled sample (52%). Among multipara women, the average number of deliveries was 2 (IQR: 2–3), with a median age at first pregnancy of 22 years (IQR: 19–25). A total of 59/300 women (20%) had had a previous induced or spontaneous abortion, and 36/300 (12%) had had at least one previous pregnancy that resulted in stillbirth. The caesarean section rate in the study sample was 60% (n = 180), of which most were elective (n = 147) or indicated due to a previous caesarean section (n = 19). Induction of labour occurred in 29/300 cases (10%), 3/300 women (1%) had an episiotomy and 19/300 women (6%) underwent sterilisation after the delivery through tubal ligation. Gestational age at birth and birth weight were, on average, 39 completed weeks and 3.4 kg, respectively.

9.3.4. Psychosocial characteristics

When asked about their history of mental health disorders, 21/300 women (7%) reported having had depression at some point in their lives, and 34 of the 146 multipara women (23%) reported having a history of PPD. Only 12/278 women (4%) reported any family history of depression or other mental health disorders. More than 70% of women (n = 214) recognised that their mental health was either significantly or slightly worse because of the COVID-19 pandemic and that their concerns regarding the current pregnancy had also increased significantly or slightly because of the pandemic.

Health literacy was inadequate or problematic in 24% of women (71/294), with two-thirds reporting finding it challenging to look for and assess the credibility of health information.

Regarding social capital, more than 40% of women reported a large social network when it came to daily or weekly contact with their family and friends. However, women expressed a low sense of community with their neighbours, indicating that they would not seek their help in case of need, nor would they spend time with their neighbours. In total, 229/294 women (78%) reported having childcare support, mostly from a family member (158/229, 69%), primarily their mother or partner (86/229, 38%).

The women's mean score of self-esteem as measured by the Rosenberg scale of 10 to 40 was 21.7 (SD: 2.6), indicating that they fluctuated between feelings of approval and rejection. While the majority of women felt satisfied with themselves and had many things to feel proud of, 127/294 (43%) recognised feeling useless and 279/294 (95%) stated that they would like to have more respect for themselves. In total, 36/294 women (12%) recognised that they felt ashamed of their socioeconomic situation and 28/294 (10%) of their education level.

Most covariates had no missing information, except for the baseline characteristics of receipt of government benefits and family history of mental health disorders, which were missing for less than 3% and 7% of cases, respectively. All baseline characteristics

of the participants by exposure can be found in Table 15. Of the total number of enrolled women, 98% (n = 294) completed follow-up at Week 6.

Table 15. Characteristics of women overall and by exposure group (table available at the end of the chapter)

9.3.5. Primary outcome: access to postnatal care

Of all women followed up until 6 weeks postpartum (n = 294), only 75 (26%) had attended their postpartum care visit. Neonatal PNC use was more frequent than maternal care use, with 70% of babies receiving at least one postnatal visit (206/294). Women who were exposed to any type of mistreatment had 1.43 (95% CI: 0.68–3.00, p = 0.342) greater odds of attending PNC (63, 27%) compared to the non-exposed group (12, 21%) after adjusting for the woman's age, education, parity, receipt of government benefits, social capital and health literacy. This difference increased among women who experienced physical or verbal mistreatment compared to those who did not (41% vs 22%, respectively; adjusted OR: 1.85, 95% CI: 0.89–3.84, p = 0.099). Although the directionality in the point estimates showed an increase in use of care among mistreated women, these differences were not statistically significant at a 5% significance level.

Among women who accessed PNC, the overall average time to access PNC was 26.4 days (SD: 12.5), with those who had undergone a caesarean section attending 3.2 days earlier than those delivering vaginally. The adjusted mean difference of time to access PNC was 1.15 days (95% CI: −7.85; 10.14, p = 0.803) between those exposed to any mistreatment and the non-exposed; however, if they experienced physical or verbal mistreatment, they accessed PNC 1.74 days earlier (95% CI: −9.40; 5.92, p = 0.656) after adjustment for sociodemographic and psychosocial factors. The odds of returning to the same facility of delivery after being exposed to any mistreatment was 0.42 (95% CI: 0.05–3.76, p = 0.445).

9.3.6. Secondary outcomes

A total of 263 (89%) women reported exclusively breastfeeding their baby at 6 weeks postpartum. The likelihood of exclusively breastfeeding at 6 weeks postpartum was 24% lower among women who had experienced physical or verbal mistreatment in comparison to those that had not (adjusted OR: 0.76, 95%: CI 0.25–2.29, p = 0.630), although the findings were not statistically significant. Among those exclusively breastfeeding (n = 263), women reported average to high levels of breastfeeding self-efficacy scores, with an average of 37.9 (SD: 4.8). These women's main concerns included feeling unsure about whether they should be using milk supplements or formula (109/263, 41%), whether the baby was drinking enough breastmilk (52/263, 18%) and breastfeeding in front of others (35/263, 13%).

Overall, the prevalence of mental health disorders was high, with signs indicating perinatal anxiety (using a PSAS score ≥ 26) in 21.4% of women and signs of PPD in 67.4%. A total of 5% (16/294) of women reported sometimes having thoughts of suicidal ideation. Signs of perinatal anxiety were more prevalent in the older age group than in younger women (23% vs 9%) and in women with higher health literacy than those with lower health literacy (24% vs 15%). Signs of depression were less frequent in the less-educated

group (60% vs 71%). A total of 30% of women showed signs of both anxiety and depression.

The results of the analysis show no statistically significant differences in mental health outcomes by exposure group. The results of the model for all primary and secondary outcomes by type of mistreatment experienced are shown in Tables 16 and 17 and the full regression models outputs are presented in appendix 10 .

Table 16. Primary and secondary outcomes by exposure to any mistreatment (table available at the end of the chapter)

Table 17. Primary and secondary outcomes by exposure to physical or verbal mistreatment (table available at the end of the chapter)

9.4. Discussion

This chapter aimed to measure the impact of mistreatment during childbirth on PNC use in women from Tucumán, Argentina. A concerning finding was the overall low rate of maternal use of PNC, with only one-quarter of women taking up services regardless of their reported experience of care during delivery. While I did not have sufficient power to show significant associations, the directionality of the results is also noteworthy. There is a potential trend showing that women who reported physical or verbal MDC appeared to have an increased demand for postnatal health services in comparison to those who did not. This contrasts with previous evidence from the Latin American region reported by Leite et al., which indicated the opposite. (187)

My main hypothesis to explain the potential trend in my results is that women who experienced mistreatment may be less engaged with information exchange at the time of discharge from the hospital and therefore require multiple re-consultations to request additional information from healthcare providers. (276) This hypothesis is further supported by the way the Argentinian public health system works, where PNC services are provided by different healthcare professionals from those involved at the time of birth, thus enabling women to return for their consultation without having to confront the health provider who was an actor in the mistreatment episode. This could also explain why, despite the majority attending the primary healthcare centre for their visits, those who experienced this type of mistreatment were more likely to return to the place of delivery where more specialised health providers are available, although the numbers were fairly small which might lead to overinterpretation.

Another important finding is that the uptake of postnatal services was three times more frequent for babies than for women, although this did not appear to be related to the experience of care during childbirth. This finding might be explained by the payment incentive system that the government implemented to improve national neonatal health estimates after the deep economic crisis the country faced in 2001/2002. (73) Monthly payments within the conditional cash transfer modality are dependent on the health checks and vaccinations of newborns being up to date, thus, increasing access. (277) Nevertheless, the quality of postnatal services is still questioned by women who only attend as an administrative step to receive the government benefits, as reported during the qualitative phase of the study. Thus, there is an opportunity for integrating maternal and newborn care into one consultation and improving the overall quality of the services provided to also increase access for women.

Overall, the study found a high prevalence of any mistreatment, doubling previous evidence from Latin America (50) and other regions (47) and tripling the frequency found by Correa et al. in a population from the same area. (227) This may partially be explained by the additional constraints placed on the healthcare system by the COVID-19 pandemic, which affected the routine provision of services, with long waiting times being the most frequent form of mistreatment reported, along with feelings of being neglected by health professionals. (278) In contrast, it is worth noting that the study found a lower prevalence of verbal and physical mistreatment than that found by Correa et al. and Bohren et al. using the same tool. (13, 227) This could be due to the time elapsed from birth to the conduction of the survey, as the WHO Community Survey tool only specifies that the survey should be conducted within 8 weeks but is not stringent regarding timing. (152) Thus, while in my study, all follow-up surveys were conducted at Week 6 postpartum, those in the work of Correa et al. were conducted between the third and fourth week postpartum, which may have reduced recall bias and resulted in the reporting of further episodes of violence.

Signs of PPD were present in two-thirds of the women in my study sample. This estimate was much higher than the 18% found by Pham et al. in the same population in 2017 (224), even considering the evidence showing that the COVID-19 pandemic triggered a 25% increase in the prevalence of mental health disorders. (279) Signs of clinical-level perinatal anxiety were found in 21% of women, in line with evidence suggesting that postnatal depression and anxiety may occur independently. (280) Despite being close to the overall global estimate of 20.7% (95% highest density interval:l 16.7%–25.4%), this prevalence is lower than expected considering the potential impact of the COVID-19 pandemic and national lockdown restrictions. (281) A possible explanation might be the methodological limitation in defining an appropriate cut-off for this population, as the cut-off scores used were based on a sample of women from the UK and are most probably not relatable to this community. Although the evidence is weak, its directionality supports current evidence suggestive of PPD being more prevalent in women who have suffered MDC. (217, 282) However, a controversial finding is that the association between mistreatment and signs of perinatal anxiety indicated a lower likelihood of anxiety among those who experienced any mistreatment compared to those not exposed. It is important to conduct additional research with a larger sample size to measure whether this trend holds true.

One of the main limitations of this study was the small sample size, which hindered the detection of statistically significant associations between the exposure and outcomes. This limitation was caused by the lack of available estimates on PNC use in Argentina and the low reliability of the informal estimates. Additionally, despite the study being conducted in between two waves of the COVID-19 pandemic, when hospital and national restrictions were lifted, the healthcare system was still facing a significant backlog and challenges in coping with the population's demand, impacting the overall use of services. This may also explain why the mistreatment rates related to the poor provision of services were higher compared to those found by Bohren et al. and Correa et al. (13, 227) Although labour observation was initially planned for as a more objective measure of mistreatment that reduces recall bias, this plan had to be dropped due to hospital restrictions on the access of non-hospital personnel to the delivery room caused by the COVID-19 pandemic. As a result, the data collection was purely reliant on self-report from the study participants, which can be significantly affected by social norms, expectations of care, power dynamics and recall issues during birth that may contribute to the underreporting of certain forms of mistreatment and the overreporting of others. (228) Another important element when

interpreting the results is related to potential reporting bias, such as those women with higher education being able to identify and report episodes of MDC more than those women of lower education levels who might not have the knowledge base to discriminate mistreatmet from routine clinical practices. Finally, the main reason for participant non-eligibility was distance and the lack of a contact number, which may have imposed a selection bias.

Despite these limitations, this study has several strengths. First, it is the first study conducted in Argentina to measure both PNC use and the impact of mistreatment on outcomes post COVID-19. Second, a validated questionnaire was used, and qualitative interviews were conducted to test the face validity of the questionnaire with a similar population, which increases the reliability of the data collected. Thirdly, there were almost no losses to follow-up, and the completeness of the data guarantees a robust analysis. Finally, the study provides adequate estimates of PNC use, breastfeeding and mental health disorders in this community to inform subsequent research.

9.4.1.   Implications for policy and practice

Improving PNC is critical to MNH but requires more than just the provision of basic health services. This study underscores the necessity for a comprehensive strategy aimed at reducing the incidence of MDC and increasing the utilisation of PNC services.

The emerging trend suggesting that women who experience MDC are more likely to seek PNC, probably due to their desire for additional information and more positive interactions with healthcare providers, emphasises the potential role of PNC services in addressing the mental health consequences of MDC for those women who access these services. Thus, policymakers and healthcare institutions should enhance the focus on PNC service delivery, taking into account the specific need and experiences of women who have encountered MDC, maximising the positive impact of these services on maternal health outcomes.

The cornerstone of any strategy addressing this issue must be in the integration of psychosocial support within maternal healthcare services. The evidence generated by this study, which highlights a high prevalence of MDC and a subsequent low uptake of services, indicates an urgent need for robust, comprehensive training for healthcare providers. This training should not only emphasise the harms of MDC but also underline the importance of adhering to professional standards of care and fostering positive patient-provider relationships. This approach seeks to alleviate the potentially negative association between experiences of mistreatment and the subsequent utilisation of PNC.

Further, urgent action is required in response to the study's evidence pointing to a high prevalence of mental health disorders. The damaging impact of the COVID-19 pandemic on maternity and mental health services is clear, leaving numerous women without the critical care and support they need to manage their health requirements. Therefore, equipping healthcare providers with the essential skills to offer care that not only caters to the physical needs of women but also recognises and supports their psychological and social needs is crucial. The magnitude of this crisis accentuates the requirement for governments and health systems to better prepare for future health emergencies by ensuring the establishment of resilient health systems capable of withstanding the pressures of such crises.

There is a need to strengthen community linkages to create awareness of the need for and importance of using postnatal services for women. This includes engaging critical

actors, such as male partners, mothers-in-law, community leaders, community midwives and community health workers. These actors can play a critical role in creating awareness and supporting women and newborns in receiving the care they need. (283) Implementing community education programmes could help disseminate information about the significance of PNC, the rights of women during childbirth and the processes in place for reporting instances of mistreatment. These initiatives should cultivate an environment that advocates for respectful care and encourages the use of postnatal services.

Finally, it is crucial to empower women through education and economic support. This study's findings underscore the influential role that socioeconomic status and education level play in shaping women's experiences of mistreatment and their engagement with PNC services. Initiatives like educational programmes and economic empowerment can potentially lessen vulnerability, increase women's agency in healthcare settings and encourage their active engagement with PNC.

These proposed interventions sketch a path towards a healthcare environment that actively dissuades mistreatment, nurtures respectful care and stimulates women to utilise PNC services. This approach, rooted in evidence, forms the basis upon which effective, enduring change can be built.

Table 14. Women exposed to mistreatment during childbirth by number of episodes and type of abuse (N=294)

		Exposure to any mistreatment	
		No.	%
Any mistreatment during childbirth		237/294	80.6
Number of episodes among exposed to any mistreatment			
	1	91	38.4
	2	68	28.7
	3	42	17.7
	4	18	7.6
	5+	18	7.6
Any physical or verbal abuse		49/294	16.7
Number of episodes of physical or verbal abuse among exposed to physical or verbal abuse			
	1	34	69.4
	2	10	20.4
	3	3	6.1
	4	2	4.1
Mistreatment during childbirth by type (N=294)			
Pinched		1	0.3
Restrained to bed		4	1.4
Forceful downward pressure on abdomen		21	7.1
Shouted at		11	3.7
Scolded		24	8.2
Threatened or received negative comments		10	3.4
Lack of informed consent (including non-consented vaginal exams)		12	4.1
Vaginal exam conducted in a way that other people could see		45	15.3
Pain relief not provided appropriately (Requested and not received, denied)		2	0.7
Ignored by health workers		66	22.4
Waited long periods		110	37.4
Health providers absent when baby born		12	4.1
Lack of emotional support		48	16.3
Healthcare worker did not listen to concerns		31	10.5
Birth companion not allowed		16	5.4

Not told could move during labour	74	25.2
Lack of privacy/curtains	27	9.2
Asked for a bribe	18	6.1

Table 15. Characteristics of women overall and by exposure (N=294)

	Total		Exposure to any mistreatment					Exposure to physical or verbal abuse				
			No (n=57)		Yes (n=237)		p	No (n=245)		Yes (n=49)		p
	No./Mean	%/SD	No./Mean	%/SD	No./Mean	%/SD		No./Mean	%/SD	No./Mean	%/SD	
Sociodemographic characteristics												
Level of education												
No formal education	15	5.1	5	33.3	10	66.7	0.031	13	86.7	2	13.3	0.771
Primary	177	60.2	41	23.2	136	76.8		150	84.7	27	15.3	
Secondary	95	32.3	11	11.6	84	88.4		75	78.9	20	21.1	
College or above	7	2.4	0	0.0	7	100.0		7	100.0	0	0.0	
Age category												
>15-19	21	7.1	3	14.3	18	85.7	0.026	15	71.4	6	28.6	0.299
>19-29	178	60.5	27	15.2	151	84.8		149	83.7	29	16.3	
>30	95	32.3	27	28.4	68	71.6		81	85.3	14	14.7	
Civil status												
Single/ separated/Widow	34	11.6	10	29.4	24	70.6	0.116	26	76.5	8	23.5	0.254
Married or in union	260	88.4	47	18.1	213	81.9		219	84.2	41	15.8	
Recipient of government benefit (UDH)*												
Yes	181	61.6	38	21.0	143	79.0	0.378	157	86.7	24	13.3	0.047
No	105	38.4	17	16.2	88	83.8		86	81.9	19	18.1	
Monthly household income (USD)	184.5	136.8	188.2	146.9	169.2	81.8	0.348	184.5	142.7	184.8	103.8	0.987
Number of people per room	2.5	1	2.5	1	2.6	1.1	0.45	2.5	1	2.6	1.1	0.58
Childcare support												
Yes	229	77.9	42	18.3	187	81.7	0.394	192	83.8	37	16.2	0.66
No	65	22.1	15	23.1	50	76.9		53	81.5	12	18.5	
Clinical and obstetric history												
Gravidity												
1	154	52.4	25	16.2	129	83.8	0.151	121	78.6	33	21.4	0.022
2+	140	47.6	32	22.9	108	77.1		124	88.6	16	11.4	

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Age at first pregnancy	22.6	5.1	22.9	4.8	22.5	5.2	0.561	22.5	5.1	23	5.1	0.583
Family history of mental health disorders**											
Yes	12	4.3	1	8.3	11	91.7	0.575	7	58.3	5	41.7	0.04
No	260	95.7	56	21.5	193	74.2		238	91.5	25	9.6	
Personal history of mental health disorders											
Yes	21	7.1	2	9.5	19	90.5	0.235	14	66.7	7	33.3	0.033
No	273	92.9	55	20.1	218	79.9		231	84.6	42	15.4	
Personal history of pregnancy-related mental health disorders (among multigravida; N=140)											
Yes	34	23.4	6	17.6	28	82.4	0.545	27	79.4	7	20.6	0.278
No	106	76.6	26	24.5	80	75.5		97	91.5	9	8.5	

Characteristics of current pregnancy

Number of antenatal visits											
<4	2	0.7	0	0.0	2	100.0	0.488	1	50.0	1	50.0	0.209
≥4	289	99.3	57	19.7	233	80.6		241	83.4	48	16.6	
Delivery mode											
Vaginal	118	40.1	27	22.9	91	77.1	0.215	100	84.7	18	15.3	0.595
Caesarean Section	176	59.9	30	17.0	146	83.0		145	82.4	31	17.6	
APGAR score at 5 min [median (iqr)]	9	(9;9)	9	(9;9)	9	(9;9)	0.676	9	(9;9)	9	(9;9)	0.6

Other characteristics

Social Capital (LSCAT-MH)											
1st quartile (lowest)	84	28.6	18	21.4	66	78.6	0.121	73	86.9	11	13.1	0.082
2nd quartile (low)	72	24.5	14	19.4	58	80.6		65	90.3	7	9.7	
3rd quartile (high)	74	25.2	8	10.8	66	89.2		58	78.4	16	21.6	
4th quartile (highest)	64	21.8	17	26.6	47	73.4		49	76.6	15	23.4	
Self-Esteem (Rosenberg Scale 0 - 40)	21.7	2.6	27.2	2.6	26.9	2	0.472	26.8	2.2	27.6	1.9	0.023
Health literacy (HLS-EU-Q16)											

Inadequate	31	10.5		6	19.4	25	80.6	0.864		23	74.2	8	25.8	0.157
Problematic	40	13.6		9	22.5	31	77.5			31	77.5	9	22.5	
Sufficient	223	75.9		42	18.8	181	81.2			191	85.7	32	14.3	

** 22 missing values (22 among exposed to any violence and 19 among expose to physical or verbal abuse)

* 8 missing values (2 among non-exposed and 6 among exposed)

Table 16. Primary and secondary outcomes by exposure to any mistreatment

	Exposure to any mistreatment during childbirth				Estimate (95% CI)	adjusted estimate (95% CI)	p [1]
	No (n=57)		Yes (n=237)				
	No./Mean	%/SD	No./Mean	%/SD			
Primary outcomes							
Access to postpartum care visit (woman) - (ref=no access)	12	21.1	63	26.6	1.36 (0.67 ; 2.73)	1.43 (0.68; 3.00)	0.342
Time to access postpartum care visit (in days) **	23.6	11	27	12.8	3.42 (-4.36; 11.19)	1.15 (-7.85; 10.14)	0.803
Secondary outcomes							
Access to postnatal care visit (newborn) - (ref=no access)	35	61.4	171	72.2	1.59 (0.87 ; 2.91)	1.47 (0.76 ; 2.84)	0.254
Exclusive breastfeeding at 6 weeks postpartum [2] - (ref=no exclusive breastfeeding)	51	89.5	212	89.5	1.00 (0.39 ; 2.56)	1.22 (0.45 ; 3.36)	0.688
Breastfeeding self-efficacy score[2] ¥	38.9	6	37.7	4.4	-1.21 (-2.66 ; 0.24)	-0.92 (-2.5 ; 0.65)	0.25
Signs of postpartum depression (Edinburgh score $\geq$ 13)- (ref=no signs) [3]	37	64.9	161	67.9	1.66 (0.86 ; 3.22)	1.44 (0.90; 3.00)	0.336
Signs of perinatal anxiety (PSAS-RSF-C score $\geq$ 26)- (ref=no signs) [4]	16	28.1	47	19.8	0.63 (0.36 ; 1.23)	0.70 (0.34;1.45)	0.342
Return to place of delivery for postpartum care visit (ref=different place of delivery) **	2	16.7	9	14.3	0.88(0.17 ; 4.71)	0.42 (0.05; 3.76)	0.445

** Among women who accessed postpartum care

[1] All models were adjusted by woman's age, education, parity, delivery mode, being recipient of government benefits, social capital, and health literacy

[2] Additionally adjusted by exclusive breastfeeding and breastfeeding self-efficacy, respectively

[3] Additionally adjusted by history of mental health disorders, family history of mental health disorders, impact of covid-19 and perinatal anxiety

[4] Additionally adjusted by history of mental health disorders, family history of mental health disorders, impact of covid-19 and postpartum depression

¥ Breastfeeding self-efficacy (BSES-SF): higher scores indicate higher levels of breastfeeding self-efficacy

Odd ratios are reported for all outcomes except time to access postpartum care visit and breastfeeding self-efficacy score for which the estimate is mean differences.

PSAS-RSF-C = Postpartum Specific Anxiety Scale 12-item research short-form

Table 17. Primary and secondary outcomes by exposure to physical or verbal mistreatment

	Physical or verbal mistreatment				unadjusted estimate (95% CI)	adjusted estimate (95% CI)[1]	p
	No (n=245)		Yes (N=49)				
	No./Mean	%/SD	No./Mean	%/SD			
Primary outcomes							
Access to postpartum care visit (woman) - (ref=no access)	55	22.4	20	40.8	2.38 (1.25 ; 4.53)	1.85 (0.89 ; 3.84)	0.099
Time to access postpartum care visit (in days)**	26	12.7	27.6	12.3	1.56 (-5.04; 8.16)	-1.74 (-9.40; 5.92)	0.656
Secondary outcomes							
Access to postnatal care visit (baby) - (ref=no access)	171	69.8	35	71.4	1.08 (0.55; 2.12)	1.22 (0.56 ; 2.69)	0.605
Exclusive breastfeeding at 6 weeks postpartum - (ref=no exclusive breastfeeding)[2]	219	89.4	44	89.8	1.04 (0.38 ;2.87)	0.76 (0.25; 2.29)	0.630
Breastfeeding self-efficacy score[2] ¥	37.6	4.5	39.2	5.9	1.52 (-0.01; 3.07)	1.2 (-0.04 ; 0.17)	0.146
Signs of postpartum depression (Edinburgh score $\geq$ 13) - (ref=no signs)[3]	161	65.7	37	75.5	1.61 (0.80 ; 3.25)	0.99 (0.44; 2.22)	0.742
Signs of perinatal anxiety (PSAS-RSF-C score $\geq$ 26) - (ref=no signs) [4]	53	21.6	10	20.4	0.93 (0.44;1.98)	1.20 (0.51; 2.87)	0.669
Return to place of delivery for postpartum care visit (ref=different place of delivery) **	7	13.2	4	21.1	1.71 (0.44; 6.63)	2.43 (0.31; 18.80)	0.396

** Among women who accessed postpartum care

[1] All models were adjusted by woman's age, education, parity, delivery mode, being recipient of government benefits, social capital, and health literacy

[2] Additionally adjusted by exclusive breastfeeding and breastfeeding self-efficacy, respectively

[3] Additionally adjusted by history of mental health disorders, family history of mental health disorders, impact of covid-19 and perinatal anxiety

[4] Additionally adjusted by history of mental health disorders, family history of mental health disorders, impact of covid-19 and postpartum depression

¥ Breastfeeding self-efficacy (BSES-SF): higher scores indicate higher levels of breastfeeding self-efficacy

Odd ratios are reported for all outcomes except time to access postpartum care visit and breastfeeding self-efficacy score for which the estimate is mean differences.

PSAS-RSF-C = Postpartum Specific Anxiety Scale 12-item research short-form

10. Conclusions

Upon entering a labour ward in most LMICs, you might witness a woman in labour who is receiving little attention from medical staff. She might be asking for care without being heard. She might be surrounded by six medical students clinically observing her without really seeing her. She might deliver a healthy newborn. She might be separated from her newborn after birth as she waits for a family member to bring her warm water to clean herself. She might be requested to sit on a wooden bench in the waiting area for hours after delivery, waiting for someone to discharge her, with no food or drinks. Definitely with no companion. Unfortunately, scenarios like these are all too common and highlight not only inadequate healthcare systems or a lack of resources but also the outright neglect of women's rights in childbirth.

Efforts to reduce maternal mortality and morbidity have focused on improving the availability of and access to facility-based childbirth for many decades. As a result, the number of facility-based births has increased globally. Now, mortality and morbidity indicators have slowly taken a downward trend; however, this has come at the cost of women being subjected to frequent D&A during their hospital stay. A new shift in focus to improving the quality of care is now at the top of the MNH care agenda, but achieving this will definitely take time, especially considering how underfunded and overstretched MNH care services are across the world. In the meantime, we still need to understand and deal with the consequences of abuse and MDC.

During my PhD, I evaluated these consequences from multiple perspectives, but always with one goal in mind: determining what can be done to improve the situation. I have contributed to the current body of evidence using a pragmatic approach not only to understand MDC– even though expanding knowledge is an inherent attribute of research – but also to identify what can be done (or should not be done) to fix it. In Chapter 1, I provided a historical overview of the issue of MDC and how it evolved globally and regionally. I highlighted the progress that has been made in inserting women's childbirth experiences into the legal and political spheres since the 70s in Latin America and during the last decade globally. I also recognised the participation of different actors, emphasising the WHO's role in pushing a portfolio that has reached health systems around the world. Nevertheless, I also recognised that achieving sustainable change

requires significant effort, and in the interim, it is imperative to comprehend and tackle MDC not merely as a breach of quality of care and women's rights but also as a catalyst of adverse and inequitable health outcomes.

The complexity of the issue meant that many different approaches and terminologies had been presented and published. In fact, the initial phase of the global debates regarding the issue of MDC was mainly focussed on semantics. Although many of these discussions are still ongoing and more work is required to reach a consensus, at least we are now at a stage where we have developed global typologies and standardised measurement tools. I positioned my thesis within this global debate to situate my work within the large body of existing evidence. In Chapter 2, I introduced the most relevant terminologies and concepts needed to evaluate the phenomenon of mistreatment. This chapter contributed to developing a comprehensive definition of 'mistreatment during childbirth' in line with my PhD's first objective and was a key guide for the subsequent chapters (particularly Chapter 8). Here, I conceptually analysed mistreatment from three angles: the level at which it occurs (structural or interpersonal), the dynamic involved (medical paternalism and women's autonomy) and the role of subjectivity in its identification (providers' intentionality contrasted with the institutionalisation of clinical practices). I concluded the chapter with a definition that informed the rest of my research: 'mistreatment during childbirth' is any violent act occurring at a woman-provider level that causes harm while restricting the woman's autonomy, whether its intentional, foreseeable or institutionalised, recognising that structural disadvantages are both the foundation and the consequence of this type of violence.

As defined a priori, the focus of my thesis was to study MDC in relation to its negative effects. In Chapter 3, I systematically reviewed all available qualitative and quantitative evidence associating mistreatment with the uptake of PNC services, maternal mental health, breastfeeding practices and infant growth. When analysing the quantitative findings, I encountered difficulty in drawing conclusions based on a limited existing literature base, with a lack of consistency in the measurement tools and no clear definition of the exposure. To address this barrier, I identified many individual, community, health system and systemic societal factors that influence women's care-seeking behaviours and relate to MDC. Because of the dynamic and mainstream nature of this issue, more studies have emerged since the publication of my literature review that evaluate the relationship between mistreatment and postnatal outcomes. These studies were incorporated into the subsequent chapters of the thesis (mainly Chapters 6, 8 and 9). While it did not capture the totality of evidence published to date, the literature review in Chapter 3 was instrumental in highlighting conceptual discordances in the choice of outcomes and guiding the development of a clear theory of change linking MDC and potential adverse health outcomes.

The qualitative methodology implemented for the initial phase of my PhD research was presented in Chapter 4. In collaboration with a local NGO from a community in Tucumán, Argentina, I facilitated 20 interviews and three FGDs with pregnant women or women from the community who had recently given birth. The purpose of these discussions was to delve into their childbirth experiences and understand the impact of these experiences on healthcare-seeking behaviours following hospital discharge post-delivery. The data procured during this phase of the fieldwork not only informed the subsequent quantitative data collection process but also offered invaluable insights into the treatment women receive when seeking care within this community.

In Chapter 5, I used the COM-B framework to explore the factors that affect women's behaviours in accessing PNC in Tucumán, Argentina, with a specific focus on the impact of the experience of care during childbirth. The purpose of this chapter was to extract capabilities, opportunities and motivations that could act as pathways to women's behaviours of seeking or delaying PNC, in line with the second objective of my PhD. Key findings highlighting women's and newborns' health, awareness, physical and financial access, social support, experience of care and self-stigma reflected a variety of practical, personal, interpersonal and health systems considerations that influence timely access to PNC.

The findings from Chapter 3 and Chapter 5 resulted in a set of hypothesised mechanisms by which MDC leads to changes in PNC-seeking behaviour and health outcomes. In Chapter 6, I addressed the second objective of my PhD and outlined a roadmap by which MDC could affect PNC-seeking based on the findings from earlier chapters. I followed a systematic process for the development of a DAG that identified sociodemographic characteristics (maternal age, education, socioeconomic factors and parity) and psychosocial factors (gender dynamic, health literacy, self-esteem and breastfeeding self-efficacy) as confounders of the relationship between MDC and health outcomes and specified access to PNC, maternal mental health and breastfeeding practices as outcomes. This chapter resulted in a narrow list of hypotheses regarding the mechanisms by which mistreatment could relate to the defined outcomes.

In Chapter 7, I delineated the methodology employed to collect the quantitative data for my study. I identified and followed a cohort of 300 individuals who had given birth to healthy babies in a public maternity hospital located in Tucumán, Argentina. Women were contacted prior to their hospital discharge post-delivery and followed up at 6 weeks postpartum via a home visit. Information pertaining to their childbirth experiences was gathered using validated WHO tools in conjunction with information on other relevant outcomes such as access to PNC, mental health status and breastfeeding practices. The data procured during this phase of fieldwork formed the backbone of the analyses conducted in Chapters 8 and 9 of my thesis.

Using Chapter 2 as a guide, the next step was to transform my conceptual understanding of MDC into a measurable concept as per the first objective of my PhD. By combining my conceptual framework with the data collected in both the qualitative and quantitative phases of my research, I set out to find a quantitative and concrete operational definition of mistreatment. In Chapter 8, factor analysis showed that the different dimensions currently encapsulated under 'mistreatment during childbirth' are in fact not part of the same global construct operationally, thus highlighting the discrepancy between the academic conceptualisation of mistreatment and its potential operational definition. I identified verbal and physical abuse (which I called 'explicit violence') as the only domain that consistently showed good fit. I hypothesised that women from this community clearly recognise violence when asked about physical and verbal forms of abuse, resulting in a more consistent response pattern compared to other, less-defined forms of violence directly related to poor quality of care. This finding formed the precedent for the analyses conducted in Chapter 9.

Chapter 9 revealed the surprisingly low rate of use of PNC among women from Tucumán, Argentina, and the high prevalence of postnatal mental health disorders. The statistical models that assessed the impact of MDC (in its sensitive form of any one episode as well as physical and verbal abuse exclusively) generated inconclusive and ambiguous results that posed challenges for interpretation. To address this issue, I formulated a set

of hypotheses aimed at providing an explanation, including, but not limited to, the potential impact of the COVID-19 pandemic and methodological limitations in the data collection process. These hypotheses are exploratory in principle and may require further confirmatory studies to verify them.

Each of the results chapters presents a concise summary and interpretation of the findings, situating them within the existing literature and evaluating the limitations of the analyses. In the following section, I elaborate on the three primary findings of my thesis.

10.1. Summary of main thesis findings:

My thesis was focused on expanding knowledge on the issue of MDC that could contribute to the body of evidence within Argentina, Latin America and across the globe. I recognise three major contributions of my PhD, detailed below:

10.1.1. Contribution 1: acknowledging mistreatment as an umbrella term

One of the main objectives of my doctoral research was to establish a comprehensive conceptual and operational definition of MDC from the perspective of end-users, namely women, rather than that of healthcare providers and academics. Understanding how different forms of mistreatment are perceived by women is crucial for mitigating their consequences. My research revealed that MDC and substandard quality of care are closely linked; nevertheless, women tend to perceive them differently. Specifically, physical and verbal abuse are commonly regarded as coherent forms of violence, whereas inadequacies in the quality of care are less likely to be acknowledged as an intrinsic aspect of violence. This implies that even though the term 'mistreatment during childbirth' has been used as a comprehensive concept in academic and advocacy dialogues, it should not be viewed as a uniform construct in terms of its effects on women.

Much of the existing research on MDC has been based on the premise that it negatively impacts women's health and access to care despite a lack of robust evidence to substantiate this statement. My PhD contributed to the understanding of the various domains of mistreatment and their effects on women's perceptions and behaviours to enable the creation of more targeted interventions to prevent or mitigate the negative consequences of mistreatment.

My PhD research posits that the repercussions of physical and verbal mistreatment during childbirth might necessitate distinctive approaches that contrast with the strategies used for other forms of mistreatment. The manifest nature of explicit mistreatment is unmistakably perceived as violence by women. Consequently, the approach required here aligns more closely with strategies employed to counteract other forms of VAW. These strategies need to be both preventative and curative. Women who have endured verbal or physical mistreatment may require specific therapeutic interventions. Such interventions could include psychological counselling, trauma-informed care, and support groups to aid in their emotional recovery and strengthen resilience. Moreover, protective measures should be put in place to safeguard these women from further harm. From a public policy perspective, this suggests the need for legislation mandating RMC standards in healthcare institutions. These policy changes combined with staff training, legal safeguards and regular audits to ensure compliance could contribute to a safer healthcare environment. Such comprehensive strategies can ensure that the dignity and mental well-being of women are upheld, promoting more positive childbirth experiences in the future.

On the other hand, other forms of mistreatment that have been normalised in the context of an inadequate and flawed healthcare system may negatively affect women's trust and expectations of care during delivery, as well as their care-seeking behaviours. Nevertheless, these forms of mistreatment may not have the same magnitude of impact on women's experienced bodily integrity as physical and verbal abuse. The results from my PhD provide the grounding for enhancing the articulation of VAW and RMC frameworks, enabling their comprehensive and practical implementation in real-world settings and emphasising the urgent need for more pragmatic and action-oriented strategies.

10.1.2. Contribution 2: uncovering possible causal pathways

In my PhD, I was determined to take a pragmatic approach to my research. I recognised the urgent need to identify the underlying mechanisms that connect MDC with adverse outcomes for women and newborns. As Sara Ahmed argues in her book *The Promise of Happiness*, '*If the exposure of violence is read as the origin of violence, then the violence that is exposed is not revealed*'. (284) My PhD looked beyond the surface level and delved deeper into some determinants of the relationship between mistreatment and its postnatal consequences.

Through a mixed-methods approach, my research identified several sociodemographic and psychosocial factors that are closely associated with MDC, as well as with care-seeking behaviours, mental health and breastfeeding practices. Factors such as self-esteem, social capital and health literacy can confound the relationship between mistreatment and postnatal outcomes, highlighting the role of social and systemic factors in creating an environment where mistreatment can occur and impact the health and well-being of women and newborns.

By uncovering the causal pathways between mistreatment and adverse outcomes, my research provides critical evidence for policymakers and stakeholders. In conjunction with the development of an evidence-based, standardised tool to measure mistreatment, it is now imperative to establish a practical theory of change evaluating not only its prevalence but also its consequences. My PhD initiates a discussion that can guide the development of a theory of change that serves as a roadmap for measuring success.

Targeted interventions need to extend beyond the mere prevention of mistreatment; they should also address the underlying factors contributing to adverse outcomes. For example, initiatives aimed at enhancing women's health literacy and confidence in communicating with health providers could help balance the power dynamics during facility delivery and prepare women to navigate the health system more effectively. Encouraging women's groups and activities to boost social capital could enlarge their support networks, provide more assistance with childcare and promote the prioritisation of their health.

Raising awareness about the health-promoting and preventive role of PNC could change women's perceptions of it, encouraging them to see it as a supportive tool during their transition into motherhood rather than merely a resource in case of illness. Training health providers to understand and respect cultural and individual differences can enhance women's self-esteem and promote a more open relationship between women and their providers. It is important to note that these interventions are only at the individual and relationship levels. More structural and societal interventions are necessary to address inequalities related to gender, culture and socioeconomic imbalances, which could yield more sustained changes.

To effect tangible change, research on MDC must extend beyond prevalence studies to explore and measure the causal pathways connecting mistreatment with adverse outcomes. Intermediate indicators and measurements should be established to understand the requirements for real change. A multi-dimensional approach needs to be developed, with the process of implementation and evaluation transparently tackling the broader issue.

10.1.3. Contribution 3: producing estimates and determining trends

Although not initially part of the research objectives, my PhD study produced the first coverage estimate of PNC use in Tucumán, Argentina, and the first estimates on maternal mental health after the COVID-19 pandemic. The low rate of maternal use of PNC was a concerning finding, with only a quarter of women in the study sample taking up these services, regardless of their reported experience of care during delivery. Moreover, the study revealed a higher prevalence of PPD in the study population than has been reported by previous studies conducted on the same population, which might be due to the COVID-19 pandemic.

My research yielded some inconclusive and ambiguous results, which created challenges during interpretation. These results hint at a potential trend where women who reported physical or verbal MDC might access postnatal health services more than those who did not experience such mistreatment. This challenges previously established evidence from studies conducted in Latin America and necessitates further investigation to comprehend the underlying causes. One hypothesis that emerged from my PhD research is that women who have been mistreated may receive less information upon discharge from the hospital or be less receptive to the information they receive, which can lead to an increased need for additional PNC. In contrast, women who receive adequate care and useful information may not prioritise their health and skip PNC altogether. Therefore, strategies to improve PNC uptake should address both situations separately.

By demonstrating a greater incidence of MDC, increased prevalence of mental health disorders and reduced access to postnatal care in Tucumán, Argentina, this study provides valuable insights for policymakers, healthcare professionals and the community. It highlights the importance of prioritising the postnatal period and integrating maternal and newborn services to achieve this goal. The implications of this research are significant for both clinical and public health practices, emphasising the urgent need for effective interventions to enhance maternal healthcare quality, uphold women's rights, and prevent the detrimental impact of mistreatment on MNH.

10.2. Implications for policy and practice

Most discussions thus far have focused on defining and measuring mistreatment and operationalising its components to ensure an improved experience for both women and newborns during childbirth. However, the strategies and interventions applied until date have not been adequately embedded in health systems. These interventions suffer from numerous challenges around acceptability and feasibility, particularly in low-resource settings where health systems are plagued with issues of governance and accountability. This means that women continue to suffer the consequences of a violent environment during childbirth.

My study not only supported the current evidence showing high levels of mistreatment and mental health disorders combined with low levels of PNC utilisation, it also demonstrated the absolute resignation of women to delivering in health institutions that do not respect their basic human rights and their overall mistrust of the health system. Improving trust in the health system is essential.

We are now at a critical turning point. The focus must shift from increasing access to facility-based delivery to ensuring that women feel supported, respected and cared for both inside and outside of healthcare facilities. My PhD highlighted four strategic areas for action: 1) improving quality of care in health facilities by ensuring service provision and addressing health systems constraints; 2) addressing the systemic imbalances of power between health providers and women by ensuring that women know and feel empowered to exercise their rights within health facilities; 3) tackling the psychosocial factors that influence women's behaviour through adequate education, counselling and support; and 4) improving the availability and integration of services to create a flexible health environment that adapts to women's needs.

In this regard, collaborative efforts to transform knowledge into action should focus on developing effective strategies to enable

1. policymakers to utilise national and sub-national policy change to account for larger societal factors that bring about this type of violence;
2. health programme managers and health workers to enhance their skills to incorporate respectful maternal and newborn care into their programmes and measure its provision;
3. implementation researchers to explore and develop implementation models for ensuring respectful maternal and newborn care and testing its impact on health outcomes;
4. women and advocacy groups to participate more meaningfully at all levels of the healthcare delivery, legal and policy decision-making processes;
5. regulatory bodies and health professional associations, including national human rights institutions, to oversee public and private birthing facilities and ensure accountability;
6. women who face mistreatment to receive sufficient support and compensation from both state and non-state actors;
7. legal actors and the public to be aware of the applicability of claims regarding women's sexual and reproductive rights in the context of childbirth to ensure the effective use of remedies in these cases; and
8. women, their families and communities to participate in jointly designing and testing effective, meaningful interventions.

All these measures should be implemented while ensuring that routine and high-quality data collection systems for key indicators are in place for monitoring performance and supporting accountability mechanisms.

10.3. Further research

My PhD has paved the way for a larger, multi-centre study to assess the consequences of MDC on postnatal outcomes. This study should further explore how the different types of mistreatment impact women differently – and in different contexts – and how interventions can be tailored to address these differences. Understanding this can help to further improve a theory of change that serves as a roadmap for measuring success, examining and measuring the causal pathways linking mistreatment with adverse outcomes, and identifying intermediate indicators and measures to understand the requirements for achieving real change.

Additional studies can further leverage the discoveries from my PhD research by deeply exploring into the observed trend, which hints at a potentially higher access to postnatal health services for women who experienced physical or verbal MDC, compared to those who did not. This could be substantiated with more evidence by increasing the sample of the current research or analysing the correlation between MDC and the uptake of PNC in various other settings. Finally, there is a critical need to develop and test interventions that address MDC and its underlying causes. This includes examining the root causes of mistreatment, such as implicit biases and power imbalances, and developing strategies to mitigate them. By taking a proactive approach to preventing mistreatment and addressing its consequences, we can ensure that all women have access to safe, respectful and supportive childbirth experiences.

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12.   Appendices

Appendix 1. Search Strategy (10th March 2020)

1. PUBMED

Mistreatment	#1	"disrespect"[tw] OR "disrespects"[tw] OR "disrespectful"[tw] OR "disrespected"[tw] OR "respectful"[tw] OR "abuse"[tw] OR "abused"[tw] OR "abusive"[tw] OR "abuses"[tw] OR "neglect"[tw] OR "neglected"[tw] OR "neglects"[tw] OR "confidentiality"[tw] OR "confidential"[tw] OR "non-confidential"[tw] OR "informed consent"[tw] OR "violence"[tw] OR "violent"[tw] OR "humiliation"[tw] OR "humiliate"[tw] OR "condescend"[tw] OR "condescending"[tw] OR "condescension"[tw] OR "intimidation"[tw] OR "intimidate"[tw] OR "yelling"[tw] OR "yell"[tw] OR "non dignified"[tw] OR "non-dignified"[tw] OR "undignified"[tw] OR "discrimination"[tw] OR "discriminate"[tw] OR "abandon"[tw] OR "abandonment"[tw] OR "detention"[tw] OR "human rights"[tw] OR "maltreatment"[tw] OR "mistreatment"[tw] OR "humanization"[tw] OR "humanized"[tw] OR "dehumanized"[tw] OR "dehumanization"[tw] OR "dignified"[tw] OR "undignified"[tw] OR "stigma"[tw] OR "dignity"[tw] OR "bullying"[tw] OR "bully"[tw] OR "Patient-Centered Care" [Mesh]	671720
	#2	"confidentiality"[mesh] OR "informed consent"[mesh] OR "women's rights"[mesh] OR "violence"[mesh] OR "social stigma"[mesh] OR "health services/ethics"[mesh] OR "health care quality, access, and evaluation/ethics"[mesh]	212172
	#3	#1 OR #2	720410
Facility based deliveries	#4	"facility based delivery"[tw] OR "facility based deliveries"[tw] OR "facility delivery"[tw] OR "facility deliveries"[tw] OR "facility based births"[tw] OR "facility based birth"[tw] OR "facility-based childbirth"[tw] OR "facility-based child birth"[tw] OR "facility birth"[tw] OR "facility births"[tw] OR "clinic delivery"[tw] OR "clinic deliveries"[tw] OR "clinic births"[tw] OR "clinic birth"[tw] OR "hospital delivery"[tw] OR "hospital deliveries"[tw] OR "hospital birth"[tw] OR "hospital births"[tw] OR "hospital childbirth"[tw] OR "hospital childbirths"[tw] OR "hospital based deliveries"[tw] OR "hospital based delivery"[tw] OR "hospital based births"[tw] OR "institutional birth"[tw] OR "institutional births"[tw] OR "institutional childbirth"[tw] OR "institutional childbirths"[tw] OR "institutional delivery"[tw] OR "institutional deliveries"[tw]	3125
	#5	"perinatal service"[tiab] OR "peri natal service"[tiab] OR "perinatal services"[tiab] OR "peri natal services"[tiab] OR "perinatal health service"[tiab] OR "peri natal health service"[tiab] OR "perinatal health services"[tiab] OR "peri natal health services"[tiab] OR "maternal care"[tiab] OR "maternal health care"[tiab] OR "maternal healthcare"[tiab] OR "maternal service"[tiab] OR "maternal health service"[tiab] OR "maternal services"[tiab] OR "maternal health services"[tiab]	5652
	#6	(#4 OR #5) AND #3	756
PNC	#7	"Postnatal Care"[Mesh] OR "Maternal-Child Health Services"[Mesh] OR "post natal service" [tiab] OR "postnatal service*"[tiab] OR "postnatal health service"[tiab] OR "post natal health service"[tiab] OR "postnatal health services"[tiab] OR "postnatal care"[tiab] OR "neonatal care"[tiab] OR "Postpartum Period"[Mesh] OR "postpartum care"[tw] OR "post partum care"[tw]	74478
Outcomes	#8	**MATERNAL MENTAL HEALTH AND WELLBEING: "Depression, Postpartum"[Mesh] OR "Puerperal Disorders"[Mesh] OR "Depressive Disorder"[Mesh] OR "Depression" [tw] OR "postpartum depression" [tw] OR "maternal depression"[tiab] OR "perinatal depression" [tiab] OR "mental disorder" OR "adjustment disorder" OR "affective disorder" OR "dysthymic disorder" OR "psychiat*" OR "behaviour control" OR "psychological phenomena" OR "depression" OR "mental health" OR "stress disorder" OR "anxiety disorder" OR "maternal welfare" OR "maternal health"	719002
	#9	** FEEDING PRACTICES "Breast Feeding"[Mesh] OR "Feeding Behavior"[Mesh] OR breastfeed* [tiab] OR "child nutrition" OR "Lactation"[Mesh]	218485

	#1 0	**** INFANT HEALTH** "Infant weight gain" [tiab] OR "newborn weight gain" [tiab] OR "wasting" [tiab] OR ("Weight gain" [Mesh] AND "Infant" [Mesh]) OR "Infant, low birth weight" [Mesh]	54007
	#11	#6 AND (#7 OR #8 OR #9 OR #10)	531

2. EMBASE

	Searches	Results
1	(disrespect* or respectful or abuse* or neglect* or confidential* or non-confidential* or humiliat* or violence or violent* or condescen* or yell* or abandon* or dignified or non-dignified or discriminat* or maltreatment* or mistreatment or humaniz* or dehumaniz* or undignified or dignity or stigma or bully*).tw.	729421
2	(perinatal service* or peri natal service* or perinatal health service* or peri natal health service* or maternal care or maternal health care or maternal healthcare or maternal service* or maternal health service*).ab.	4469
3	(facility based deliver* or facility deliver* or facility based birth* or facility birth* or facility-based child birth* or facility-based childbirth* or clinic deliver* or hospital birth* or hospital childbirth* or hospital based deliver* or hospital based birth* or institutional birth* or institutional childbirth* or institutional deliver*).tw.	3035
4	(postnatal care* or maternal-child health services* or post natal service* or postnatal service* or postnatal health service* or post natal health service* or neonatal care* or postpartum period* or postpartum care* or post partum care*).tw.	18380
5	(depressive disorder* or depression* or postpartum depression* or maternal depression* or perinatal depression or mental disorder* or adjustment disorder* or affective disorder* or dysthymic disorder* or psychiat* or behaviour control or psychological phenomena or mental health or stress disorder* or anxiety disorder* or maternal welfare or anxiety).tw.	949147
6	(mother-child relation* or attachment* or bonding or child attachment or newborn attachment or maternal-newborn attachment).tw.	184933
7	(breast feeding or feeding behavior or breastfeed* or child nutrition or lactation).tw.	83600
8	(infant weight gain or newborn weight gain or wasting or (weight gain and infant*)).tw.	29597
9	2 or 3	7176
10	1 and 9	627
11	4 and 10	38
12	5 or 6 or 7 or 8	1233478
13	10 and 12	151
14	11 or 13	184

3. WEB OF SCIENCE

Set	Results	Save History
# 14	289	#13 OR #11
# 13	262	#12 AND #10
# 12	2,406,740	#8 OR #7 OR #6 OR #5
# 11	33	#10 AND #4
# 10	711	#9 AND #1
# 9	6,345	#3 OR #2
# 8	363,541	TS=("infant weight gain" OR "newborn weight gain" OR wasting OR ("weight gain" AND infant*))
# 7	100,461	TS=("breast feeding" OR "feeding behavior" OR "feeding behaviour" OR breastfeed* OR "child nutrition" OR lactation)
# 6	1,049,938	TS= ("mother-child relation" OR attachment* OR bonding OR "child attachment" OR "newborn attachment" OR "maternal-newborn attachment")
# 5	919,639	TS=("depressive disorder" OR depression* OR "postpartum depression" OR "maternal depression" OR "perinatal depression" OR "mental disorder" OR "adjustment disorder" OR "affective disorder" OR "dysthymic disorder" OR psychiat* OR "behaviour control" OR "psychological phenomena" OR "mental health" OR "stress disorder" OR "anxiety disorder" OR "maternal welfare" OR "anxiety")
# 4	12,112	TS=("postnatal care" OR "maternal-child health services" OR "post natal service" OR "postnatal service" OR "postnatal health service" OR "post natal health service" OR "neonatal care" OR "postpartum period" OR "postpartum care" OR "post partum care")
# 3	1,158	TS=("facility based deliver"OR "facility deliver" OR "facility based birth" OR "facility birth" OR "facility-based child birth" OR "facility-based childbirth" OR "clinic deliver" OR "hospital birth" OR "hospital childbirth" OR "hospital based delivery" OR "hospital based birth" OR "institutional birth" OR "institutional childbirth" OR "institutional delivery")
# 2	5,325	TS=("perinatal service" OR "peri natal service" OR "perinatal health service" OR "peri natal health service" OR "maternal care" OR "maternal health care" OR "maternal healthcare" OR "maternal service" OR "maternal health service")
# 1	1,034,335	TS=(disrespect* OR respectful OR abuse* OR neglect* OR confidential* OR non-confidential* OR humiliat* OR violence OR violent* OR condescen* OR yell* OR abandon* OR dignified OR non-dignified OR discriminat* OR maltreatment* OR mistreatment OR humaniz* OR dehumaniz* OR undignified OR dignity OR stigma OR bully*)

4. SCOPUS

(((TITLE-ABS-KEY (disrespect* OR respectful OR abuse* OR neglect* OR confidential* OR non-confidential* OR humiliat* OR violence OR violent* OR condescen* OR yell* OR abandon* OR dignified OR non-dignified OR discriminat* OR maltreatment* OR mistreatment OR humaniz* OR dehumaniz* OR undignified OR dignity OR stigma OR bully*)) AND ((TITLE-ABS-KEY ("perinatal service" OR "peri natal service" OR "perinatal health service" OR "peri natal health service" OR "maternal care" OR "maternal health care" OR "maternal healthcare" OR "maternal service" OR "maternal health service")) OR (TITLE-ABS-KEY ("facility based deliver" OR "facility deliver" OR "facility based birth" OR "facility birth" OR "facility-based child birth" OR "facility-based childbirth" OR "clinic deliver" OR "hospital birth" OR "hospital childbirth" OR "hospital based delivery" OR "hospital based birth" OR "institutional birth" OR "institutional childbirth" OR "institutional delivery")))) AND (TITLE-ABS-KEY ("postnatal care" OR "maternal-child health services" OR "post natal service" OR "postnatal service" OR "postnatal health service" OR "post natal health service" OR "neonatal care" OR "postpartum period" OR "postpartum care" OR "post partum care"))) OR (((TITLE-ABS-KEY (disrespect* OR respectful OR abuse* OR neglect* OR confidential* OR non-confidential* OR humiliat* OR violence OR violent* OR condescen* OR yell* OR abandon* OR dignified OR non-dignified OR discriminat* OR maltreatment* OR mistreatment OR humaniz* OR dehumaniz* OR undignified OR dignity OR stigma OR bully*)) AND ((TITLE-ABS-KEY ("perinatal service" OR "peri natal service" OR "perinatal health service" OR "peri natal health service" OR "maternal care" OR "maternal health care" OR "maternal

healthcare" OR "maternal service" OR "maternal health service")) OR (TITLE-ABS-KEY ("facility based deliver" OR "facility deliver" OR "facility based birth" OR "facility birth" OR "facility-based child birth" OR "facility-based childbirth" OR "clinic deliver" OR "hospital birth" OR "hospital childbirth" OR "hospital based delivery" OR "hospital based birth" OR "institutional birth" OR "institutional childbirth" OR "institutional delivery")))) AND ((TITLE-ABS-KEY ("depressive disorder" OR depression* OR "postpartum depression" OR "maternal depression" OR "perinatal depression" OR "mental disorder" OR "adjustment disorder" OR "affective disorder" OR "dysthymic disorder" OR psychiat* OR "behaviour control" OR "psychological phenomena" OR "mental health" OR "stress disorder" OR "anxiety disorder" OR "maternal welfare" OR "anxiety")) OR (TITLE-ABS-KEY ("mother-child relation" OR attachment* OR bonding OR "child attachment" OR "newborn attachment" OR "maternal-newborn attachment")) OR (TITLE-ABS-KEY ("breast feeding" OR "feeding behavior" OR "feeding behaviour" OR breastfeed* OR "child nutrition" OR lactation)) OR (TITLE-ABS-KEY ("infant weight gain" OR "newborn weight gain" OR wasting OR ("weight gain" AND infant*))))))

N=1100

5. LILACS

(((disrespect* OR respectful OR abuse* OR neglect* OR confidential* OR non-confidential* OR humiliat* OR violence OR violent* OR condescen* OR yell* OR abandon* OR dignified OR non-dignified OR discriminat* OR maltreatment* OR mistreatment OR humaniz* OR dehumaniz* OR undignified OR dignity OR stigma OR bully*) AND (tw:(perinatal service OR peri natal service OR perinatal health service OR peri natal health service OR maternal care OR maternal health care OR maternal healthcare OR maternal service OR maternal health service OR obstetric*)) OR (tw: (facility based deliver OR facility deliver OR facility based birth OR facility birth OR facility-based child birth OR facility-based childbirth OR clinic deliver OR hospital birth OR hospital childbirth OR hospital based delivery OR hospital based birth OR institutional birth OR institutional childbirth OR institutional delivery))) AND (tw: (postnatal care OR maternal-child health services OR post natal service OR postnatal service OR postnatal health service OR post natal health service OR neonatal care OR postpartum period OR postpartum care OR post partum care))) OR (((tw: (disrespect* OR respectful OR abuse* OR neglect* OR confidential* OR non-confidential* OR humiliat* OR violence OR violent* OR condescen* OR yell* OR abandon* OR dignified OR non-dignified OR discriminat* OR maltreatment* OR mistreatment OR humaniz* OR dehumaniz* OR undignified OR dignity OR stigma OR bully*)) AND ((tw:(obstetric* OR perinatal service OR peri natal service OR perinatal health service OR peri natal health service OR maternal care OR maternal health care OR maternal healthcare OR maternal service OR maternal health service)) OR (tw: (facility based deliver OR facility deliver OR facility based birth OR facility birth OR facility-based child birth OR facility-based childbirth OR clinic deliver OR hospital birth OR hospital childbirth OR hospital based delivery OR hospital based birth OR institutional birth OR institutional childbirth OR institutional delivery)))) AND ((tw:(depressive disorder OR depression* OR postpartum depression OR maternal depression OR perinatal depression OR mental disorder OR adjustment disorder OR affective disorder OR dysthymic disorder OR psychiat* OR behaviour control OR psychological phenomena OR mental health OR stress disorder OR anxiety disorder OR maternal welfare OR anxiety)) OR (tw:(breast feeding OR feeding behavior OR feeding behaviour OR breastfeed* OR child nutrition OR lactation)) OR (tw: (infant weight gain OR newborn weight gain OR wasting OR (weight gain AND infant*)))))
LILACS: 29

Appendix 2. Quality assessment of quantitative studies included in the review

Criteria	Creanga 2017	Bishanga 2019	De Sá 2016	Silveira 2019
1. Was the research question or objective in this paper clearly stated?	YES	YES	YES	YES
2. Was the study population clearly specified and defined?	YES	YES	YES	YES
3. Was the participation rate of eligible persons at least 50%?	CD	YES	CD	YES
4. Were all the subjects selected or recruited from the same or similar populations (including the same time period)? Were inclusion and exclusion criteria for being in the study prespecified and applied uniformly to all participants?	YES	YES	YES	YES
5. Was a sample size justification, power description, or variance and effect estimates provided?	NO	YES	YES	NO
6. For the analyses in this paper, were the exposure(s) of interest measured prior to the outcome(s) being measured?	NO	NO	NO	YES
7. Was the timeframe sufficient so that one could reasonably expect to see an association between exposure and outcome if it existed?	NA	NA	NA	YES
8. For exposures that can vary in amount or level, did the study examine different levels of the exposure as related to the outcome (e.g., categories of exposure, or exposure measured as continuous variable)?	NO	NO	NO	YES
9. Were the exposure measures (independent variables) clearly defined, valid, reliable, and implemented consistently across all study participants?	YES	YES	YES	YES
10. Was the exposure(s) assessed more than once over time?	NA	NA	NA	NO
11. Were the outcome measures (dependent variables) clearly defined, valid, reliable, and implemented consistently across all study participants?	YES	YES	YES	YES
12. Were the outcome assessors blinded to the exposure status of participants?	NA	NA	NA	NO
13. Was loss to follow-up after baseline 20% or less?	NA	NA	NA	YES

14. Were key potential confounding variables measured and adjusted statistically for their impact on the relationship between exposure(s) and outcome(s)?	YES	YES	YES	YES

Overall quality*	M	H	M	H

*Overall quality was defined as high" (≥75% of applicable criteria), "medium" (50-<75% of applicable criteria) or "low" (<50% of applicable criteria) quality

Tool: NIH Quality Assessment Tool for Observational Cohort and Cross-Sectional Studies.

Appendix 3. Quality assessment of qualitative studies included in the review*

	Section A: Are the results valid?						Section B: What are the results			Section C: Will the results help locally?	Quality
	1. Was there a clear statement of the aims of the research?	2. Is a qualitative methodology appropriate?	3. Was the research design appropriate to address the aims of the research?	4. Was the recruitment strategy appropriate to the aims of the research?	5. Was the data collected in a way that addressed the research issue?	6. Has the relationship between researcher and participants been adequately considered?	7. Have ethical issues been taken into consideration?	8. Was the data analysis sufficiently rigorous?	9. Is there a clear statement of findings?	10. How valuable is the research?	
Chen 2014	YES	YES	YES	YES	YES	NO	YES	YES	YES	+	H
Dol 2019	YES	YES	YES	YES	YES	YES	YES	CT	YES	+	H
Ganle 2015	YES	YES	YES	YES	YES	YES	YES	YES	YES	+	H
Kane 2018	YES	YES	YES	YES	YES	YES	YES	YES	YES	+	H
Mahiti 2015	YES	YES	YES	YES (-)	YES	CT	YES(-)	YES (-)	YES	+	M
McMahon 2014	YES	YES	YES	YES (-)	YES	CT	YES	YES	YES	+	H
Melberg 2016	YES	YES	YES	YES	YES	YES	YES	YES	YES	+	H
Mselle 2017	YES	YES	YES	YES (-)	YES	YES	YES	YES	YES	+/-	H
Morgan 2017	YES	YES	YES	YES(-)	YES (-)	YES	YES	YES	YES	+	H
Ochieng 2019	YES	YES	YES	YES (-)	YES	YES (-)	YES	YES	YES	+	H
Ongolly 2019	YES	YES	YES	YES	YES	CT	YES	CT	YES	+	H
Probandari 2017	YES	YES	YES	YES (-)	YES	YES	YES	YES (-)	YES	+	M
Sialubanje 2014	YES	YES	YES(-)	YES	YES	NO	YES	YES	YES	+	H
Sacks 2017	YES	YES	YES	YES (-)	YES	NO	YES	YES (-)	YES	+	M
Yakong 2010	YES	YES	YES	YES	YES	YES	YES	YES	YES	+	H
Yevoo 2018	YES	YES	YES	YES	YES	YES	YES	YES	YES	+	H
Zamawe 2015	YES	YES	YES	YES	YES	YES	YES	YES	YES	+	H

*CT: Cannot tell; +: significant value; +/-: some value; -: low value
Tool: Critical Appraisal Skills Programme (CASP) quality-assessment tool

Appendix 4. Assessment of confidence of qualitative findings: CERQual approach

Themes and subthemes	Contributing studies	Confidence in the Evidence*	Explanation of confidence in the evidence
Women direct experience			
Health system's constraints:			
Women, men and health providers reported lack of space, staff shortages, and long waiting times as major factors experienced during childbirth and deterring women from using PNC. Facility cleanliness was mentioned by women as a deterrent for accessing care.	Chen 2014 , Ganle 2015 , Mahiti 2015, Mselle 2017, Sialubanje 2014, Zamawe 2015,	Moderate	6 studies with minor methodological limitation. High relevance and coherence. Adequate data from 5 countries from Asia and Africa.
D&A during previous contacts with health system:			
Major complaints in this category were verbal abuse and condescension towards women. Many women reported being scolded or receiving derogatory comments during their previous contact with the clinical. The time and type of communication about postnatal care was also reported by many women. Many women expressed concerns about health workers inability to ensure privacy. Many women reported feeling neglect as they indicate that health workers sometimes delay services during their official work hours.	Dol 2019, Mselle 2017, Morgan 2017, Probandari 2017, Sacks 2017, Sialubanje 2014, Yevoo 2018, Yakong 2010	High	8 studies with moderate to minor methodological limitations. High relevance and coherence. Fairly thick data from 5 countries of Asia and Africa
Women's expectations			
Internalised stigma:			
Many of the papers reported that women would not seek postnatal care because they fear being embarrassed. These claims went from the embarrassment of giving birth to a child with poor health, to not having money to pay "a penalty" for using the services. In addition, many women reported not seeking care because they were embarrassed of not having proper clothing for the baby to wear. Fear of repercussion and denial of care was also mentioned in relation with the woman failing to follow health provider's recommendations from past visits .	Kane 2018, McMahon 2014, Morgan 2017, Melberg 2016, Ochieng 2019, Sacks 2017	High	6 studies with moderate to minor methodological limitation. High relevance and coherence. Fairly thick data from 7 countries from Africa.
Beliefs and traditions:			
Lack of culturally sensitive care acted as deterrent or delaying factor to PNC use. In this category it stands out the fear of medicalization and vaccination that still exists associated with Western medicine.	Dol 2019, Probandari 2017, Ochieng 2019	Low	3 studies with moderate to minor methodological limitations. High relevance and adequate coherence. Reasonable data from 3 countries in Asia and Africa.
Women's expectations			
Male involvement and gender dynamics:			
The role of father during pregnancy, childbirth and the postnatal period was often ambiguous. Maternity care was understood to be a woman's issue, deterring man's involvement. Traditional gender roles removed decision making power of the woman, affecting use of PNC. Some women referred that delays in care or certain practices from health care providers might have violent consequences when they return home.	Ganle 2015, Mselle 2017, Morgan 2017, Ongolly 2019	Moderate	4 studies with moderate to minor methodological limitations. High coherence. Reasonable data from 4 countries only in Africa.
Family influence: Women who live in the same house as their parents, parents in law or grandparents were more susceptible to allowing their opinion to influence their health seeking behaviour. Even if the	Dol 2019, Mselle 2017, Ochieng	Low	4 studies with moderate to minor methodological limitations. Reasonable

advice provided by the family members contradicts the recommendation of health providers, women reported to feel oblige to go by what the family member says.	2019, Probandari 2017		relevance and coherence. Reasonable data from 4 countries only in Africa.

* This approach considers four components: 1) Methodological limitation; 2) relevance to the review question; 3) Coherence and 4) adequacy of the data. The methodological limitation was assessed by the CASP tool in Appendix 3. The relevance refers to the extent to which the body of the data supporting the review finding is applicable to the context from the review question. The coherence is the assessment of how clear and cogent the fit is between the data from the primary studies and the review finding. Finally, adequacy is the degree of richness and quantity of data supporting the review finding.

Appendix 5. Summary of quantitative findings of the association between different domains of disrespect and abuse during childbirth and outcomes as reported in original article

Study	Outcome	Reported exposure domain*	Reported measures of effect*	Effect size (95% CI)	Adjustment variables
Creanga 2017	Maternal or neonatal healthcare services utilization	Perception that staff ensures patient's privacy (ref=no)	Adjusted Odds Ratio (95% CI)	1.43 (0.8;2.58)	Adjusted for socio-demographic characteristics (parity, religion, ethnicity, marital status, reading level, and household wealth), for women's perceptions of the quality of care at the closest health facility to their homes and for the time needed to reach this facility
		Perception that staff provides high quality services (ref=no)		1.54 (0.98;2.43)	
		Perception that facility is clean (ref=no)		1.24 (1.34;3.55)	
Bishanga 2019	Maternal healthcare services utilization	Experience any disrespect and abusive (ref=yes)	Adjusted Risk Ratio (95%CI)	1.23 (1.05;1.22)	Adjusted for region, mother's age, women's education, number of children, mode of delivery, cadre of provider attending the delivery, the type of health facility, and the number of ANC visits
		Offered choice of birth position (ref=no)		1.18 (1.02;2.23)	
		Offered opportunity to have a companion during labour and delivery (ref=no)		1.13 (0.97;1.84)	
		Perceiving facility to have good cleanliness (ref=no)		1.54 (1.54;3.02)	
	Neonatal healthcare service utilization	Experience any disrespect and abusive (ref=yes)		1.14 (1.02;1.92)	
		Offered choice of birth position (ref=no)		1.12 (0.93;1.84)	
		Offered opportunity to have a companion during labour and delivery (ref=no)		1.21 (1.02;1.69)	
		Perceiving facility to have good cleanliness (ref=no)		1.62 (1.70;3.71)	
de Sà 2016	Breastfeeding within an hour	Physical violence during delivery (ref= yes)	Adjusted Prevalence Ratio (95% CI)	0.96 (0.85;1.15)	Adjusted for maternal age, education, race, socioeconomic status, assistance to prenatal care, delivery care, children's health and characteristics (gender, birth weight, gestational age, Apgar score at 5 min)
		Verbal violence during delivery (ref=yes)		1.03 (0.92;1.15)	
		Companion at delivery (ref=yes)		0.95 (0.84;1.03)	
		Companion at postpartum (ref=yes)		1.03 (0.94;1.14)	
		Neglect during delivery (ref=yes)		0.98 (0.88;1.19)	
		Rooming-in (ref=yes)		0.28 (0.18;0.44)	
Silveira 2019	Postpartum depression [EPDS score>=13]	Any disrespect and abuse (ref=no)	Adjusted Odds Ratio (95% CI)	1.54 (1.15;2.05)	Adjusted for maternal education, family income, skin colour, age, parity, desire of pregnancy, marital status, father reaction when discovering pregnancy, pregnancy morbidities, deliver type and history of depression.
		Physical abuse (ref=no)		1.54(0.9;2.65)	
		Verbal abuse (ref=no)		1.58 (1.06;2.33)	
		Undesired procedures (ref=no)***		1.34(0.82;2.20)	
		Denial of care (ref=no)		1.48 (0.91;2.41)	
	Postpartum depression [EPDS score>=15]	Any disrespect and abuse (ref=no)		1.86 (1.32;2.63)	
		Physical abuse (ref=no)		2.28 (1.26;4.12)	
		Verbal abuse (ref=no)		1.69 (1.06;2.70)	
		Undesired procedures (ref=no)***		1.32 (0.71;2.46)	
		Denial of care (ref=no)		1.56 (0.86;2.80)	

CI= confidence interval

* Presented exactly as shown in the original article, without transformation.

***Included any procedure conducted against women's will or without explaining the need to conduct it, such as episiotomy or medication to induce labour

Appendix 6: qualitative data collection tools

1. Topic guide: Semi-structured interview with women who delivered within the previous 2 years

Introduce yourself to the woman. Describe the purpose of the SSI and how the information will be used. Obtain written consent.

"During this interview, I would like to ask you about your experience and expectations related to the care received during and after giving birth. Also, I would like to know how that experience affected you when you sought care for yourself and your baby after discharge from hospital. And finally, if or how that experience could affect your health and your baby's"

Childbirth experience: "First, I would like you to tell me about your experience in the hospital when you went to give birth to your last baby and was your relationship with the care providers"

Thinking about your last delivery, tell me what happened since the moment you started with labour pains and decided to go to the hospital up to the time you had your baby.
Probe: how did it start, who was with her, type of delivery.

Thinking about this period, tell me about the treatment you received from the hospital staff and the doctors.
How did you feel?
How would you describe the doctor's attitudes?
Probe: at the time of admission to the hospital, during labour, during delivery, after the baby was born.

Tell me about the time immediate after birth, once your baby had already born.
How did you feel about the treatment your baby received by the health providers? Why?
Is there anything you would change about the attitude or the type of care your baby received from the doctors?
Probe: how long until you could hold your baby, what did the providers did to the baby, skin-to-skin, breastfeeding.

During pregnancy, what were your expectations about the type of care you could receive during birth? Did they happen? Why yes/Why not?
Probe: expectations about providers' attitude

If the woman has more than one baby, ask:
Comparing your last experience with your previous deliveries:
Was it different? Why?
Probe: positive and negative aspects of each experience

In which hospital did you have your babies?
What made you decide to delivery your baby/babies in those hospitals?
What factors did you take into consideration at the time of choosing those hospitals and not others?

Would you choose the same hospital again in the future or would you recommend it to a friend? Why yes/ why not?

Changes after birth:

How did you and your baby feel during the first month after discharge from hospital?
Probe: health morbidities, mental health, attachment, breastfeeding

Did you go (or take your baby) to the primary healthcare centre during the first month after birth? If yes, why?
How do you think your childbirth experience affected your health and your babies after discharge?
Probe: depression, breastfeeding, bonding

What factors could prevent you from attending to your postpartum visit? What factors could prevent you from taking your baby to the postnatal visit?
Probe: time, support, waiting time, experience of care

Have you heard of anyone that did not take their baby for the postanal visit because of the treatment received by health providers? Tell me more about that.

Finally, what type of treatment you would like to receive from health providers during and after delivery? And what type of care would you like your baby to receive from them?

Final remarks:
Ask if she has any other comments or questions that they would like to share. Thank her for her time and remind her that the information will be kept confidentially.

2. Topic guide: FGD with pregnant women or women who delivered within the previous 2 years

Introduce yourself to the group. Describe the purpose of the FGD and how the information will be used. Obtain written consent.

"During this FGD we are going to hold some discussions around issues of access and decisions around health care, as well as experiences and expectations of care during delivery and the postnatal period"

Sometimes women or their newborns might be poorly treated during childbirth by health workers and health staff at health facilities. This type of treatment may take several different forms, some might be more obvious or aggressive while others are not easily perceived. I will now present different scenarios depicting ways in which women and their newborns might be treated during delivery and the postpartum period. For each scenario request a woman to explain the image. Ask:

What do you think of the way the health provider is treating the woman/newborn in this scenario? Probe: discuss positive and negative aspects. Justify

Do you think it is acceptable the way that the woman/newborn is being treated in this scenario? Please explain.

Are there any situations in which it would be acceptable for the woman /newborn to receive this type of treatment?

How would you feel if this scenario happened to you, your newborn or any close relative/friend?

Impact of mistreatment

Would this type of experience during delivery deter you from going or taking your baby to the clinic/PHC? Why yes or why not?
Probe: health seeking behaviour, change of hospital, change of provider

What do you know/ what have you heard from others about the postnatal visit?
Probing: when should you go, why is it important, what services are provided, where should you go.

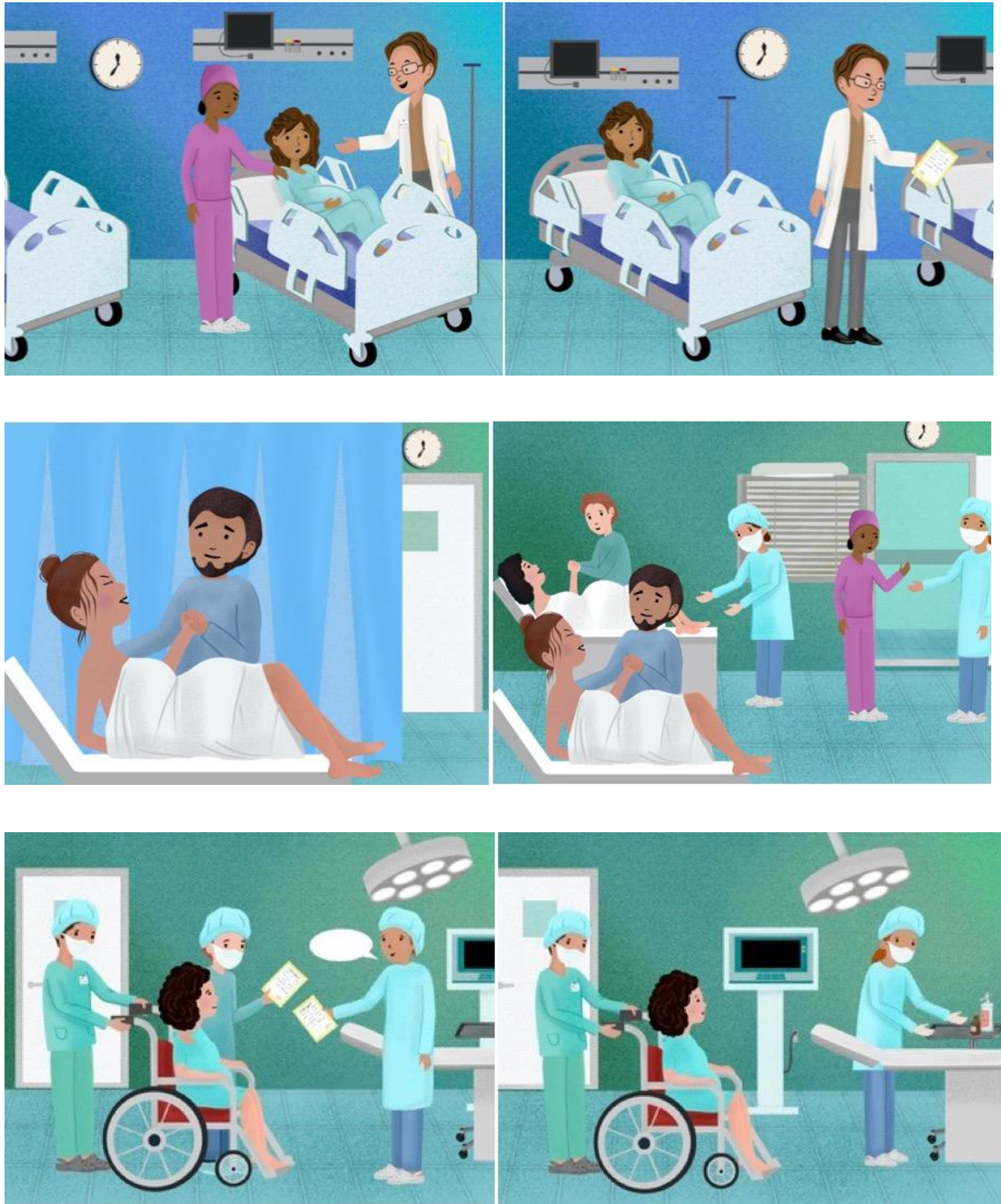Do you think the treatment received during delivery could affect your relationship with your baby? Why?
Probe: bonding, breastfeeding, depression

Final remarks:
Ask if anyone has any other comments or questions that they would like to share. Thank women for their time and remind them that the information will be kept confidentially.

Appendix 7: Illustrations for the adapted choice experiment

Appendix 8: Informed consent forms

1. Qualitative phase

Title of Study:
Experience of care during childbirth and the immediate postpartum period and its impact on the use of post - natal services, and women and newborns' health

Department: Institute for Global Health, University College London
Name and Contact Details of the Researcher(s): Nicole Minckas, nicole.minckas.16@ucl.ac.uk
Name and Contact Details of the Principal Researcher: Jenevieve Mannell, jenevieve.mannell@ucl.ac.uk

1. Invitation Paragraph

You are being invited to take part in a research project. Before you decide, it is important for you to understand why the research is being done and what your participation will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether you wish to take part or not. Thank you for reading this.

2. What is the project's purpose?

The first six weeks after birth, known as the postnatal period, are critical to the health and well-being of the woman and the newborn. During this time, there are several factors that can affect the health of women and their newborn, for example, their access to health care. The purpose of this study is to understand what women expect and experience in health care when going to a facility to give birth, and to explore if or how the service received during childbirth affects their decision to assist to the postnatal health checks for themselves and their newborns. This project is being conducted by a research team from University College London (UK), and Crecer Juntos (Argentina).

3. Why have I been chosen?

We are inviting all women from San Miguel de Tucumán between 16 and 47 years old who are either pregnant or have had a child less than 2 years ago. The organisation Crecer Juntos has identified you to be eligible, so we would like to invite to participate in this study. We are selecting 20 women to be part of an individual interview and 12 women to form part of group discussions. You will only need to be taking part either in the interview or the group discussion according to your availability or preference.

4. Do I have to take part?

Taking part in the study is entirely voluntary and will in no way affect your access to assistance or other services you are receiving from Crecer Juntos or any health care centre or facility. If you change your mind about participating later and decide to leave the study, you will be able to decide what you want us to do with the data you have provided up that point. If you decide to take part you will be given this information sheet to keep and be asked to sign a consent form, although you are still free to withdraw at any time and without giving a reason.⌊1⌋

5. What will happen to me if I take part?

We will be conducting interviews and focus group. If you were invited to the interview, you will be asked questions about your experience during childbirth and your relationship with the healthcare centre during the first month of your child's life. You will not have to share any personal information you do not feel comfortable sharing. This interview will happen in a safe place of your choice and only the people selected

by you will be allowed in the room. The interview will last around 45 minutes, but you can stop it at any point.

If you were invited to the focus group, you will be sharing a room with other 4-5 women. They are all going to be around your same age and have been through a similar experience to you. During that group activity, we will discuss about your views on childbirth and healthcare, actions that you consider would improve your experience during birth and others that might harm it, and provide a space for everyone to share their opinion on the current health system. The group discussions will happen in a safe and private place and only selected people will be allowed in the room; however, confidentiality cannot be guaranteed. The group discussion will last between 60 and 90 minutes.

6. **Will I be recorded and how will the recorded media be used?**

We will record the interviews and group discussions, but the recording will be destroyed as soon as we have transcribed the information into written form. All the information that we collect about you during the course of the research will be kept strictly confidential from anyone who was not present at the time of the interview/group discussion. Once the recordings are destroyed, you will not be identified in any ensuing document, reports or publications. After the research is finished, we may publish what you have said in academic journals and reports but your real name will never be used. No other use will be made of your personal information without your written permission, and no one outside the project will be allowed access to the original recordings.

7. **What are the possible disadvantages and risks of taking part?**

You might feel distress when disclosing any information because the nature of topic might be sensitive. You will be able to take a break, stop the interview or leave the group whenever you feel necessary. You will not have to share with us any information that might create discomfort to you. If you should require further support, we can refer you for an appointment with a clinical psychologist at the local health care centre. Please, feel free to request it either during the interview or after it. We will be contacting you within the month after the interview/group discussion to check on your wellbeing – unless you state otherwise.

8. **What are the possible benefits of taking part?**

Whilst there are no immediate benefits for those people participating in the project, it is hoped that this work will help us influence decision-makers to improve the experience of mother and babies during childbirth.

9. **Will my taking part in this project be kept confidential?**

All the information that we collect about you during the course of the research will be kept strictly confidential, in a password protected computer for 10 years, after which they will be deleted. You will not be able to be identified in any ensuing reports or publications. This information will not be shared with anyone outside the research team. You will have access to your personal information, and you can rectify it if you consider it necessary up to 2 months after your participation. You can withdraw from the study at any time you wish, without suffering any harm.

10. **Limits to confidentiality**
Please note that confidentiality will be maintained as far as it is possible, unless during our conversation I hear anything which makes me worried that you or someone might be in danger of harm, I might have to inform relevant agencies of this.

11. **What will happen to the results of the research project?**
The results of the study will be presented within a PhD thesis and disseminated in academic articles in peer-reviewed journals, and for additional or subsequent research within the same research group. If you wish, we can share a copy of the published results once the research is published.

12. **What if something goes wrong?**

If you wish to submit a complain regarding the treatment received by the interviewers and researches, please contact Nicole Minckas (nicole.minckas.16@ucl.ac.uk). If the complaint has not been handle to your satisfaction you can contact the Chair of the UCL Research Ethics Committee – ethics@ucl.ac.uk

13. **Data Protection Privacy Notice**

Notice:
The controller for this project will be University College London (UCL). The UCL Data Protection Officer provides oversight of UCL activities involving the processing of personal data, and can be contacted at data-protection@ucl.ac.uk. Data will be processed on the legal basis of public interest. If you are concerned about how your personal data is being processed, please contact UCL in the first instance at data- protection@ucl.ac.uk. If you remain unsatisfied, you may wish to contact the Information Commissioner's Office (ICO). Contact details, and details of data subject rights, are available on the ICO website at: https://ico.org.uk/for- organisations/data-protection-reform/overview-of-the-gdpr/individuals-rights/

14. **Who is organising and funding the research?**
This research is organised by University College London and funded by the Economic and Social Research Council from the UK.

15. **Contact for further information**
For further information please contact Nicole Mincka████████████████████████.

Thank you for reading this information sheet and for considering to take part in this research study.

CONSENT FORM FOR WOMEN PARTICIPATING IN INTERVIEWS AND GROUP DISCUSSIONS

Please complete this form after you have read the Information Sheet and/or listened to an explanation about the research.

Title of Study: Experience of care during childbirth and the immediate postpartum period and its impact on the use of post - natal services, and women and newborns' health.

Department: Institute for Global Health, University College London
Name and Contact Details of the Researcher(s): Nicole Minckas ████████████████████
Name and Contact Details of the Principal Researcher: ████████████████████████████
Name and Contact Details of the UCL Data Protection Officer: Alex Potts alex.potts@ucl.ac.uk
This study has been approved by the UCL Research Ethics Committee: Project ID number: 14293/004

Thank you for considering taking part in this research. The person organising the research must explain the project to you before you agree to take part. If you have any questions arising from the Information Sheet or explanation already given to you, please ask the researcher before you decide whether to join in. You will be given a copy of this Consent Form to keep and refer to at any time.

I confirm that I understand that by ticking/initialling each box below I am consenting to this element of the study. I understand that it will be assumed that unticked/initialled boxes means that I DO NOT consent to that part of the study. I understand that by not giving consent for any one element that I may be deemed ineligible for the study.

		Tick Box
1.	*I confirm that I have read and understood the Information Sheet for the above study. I have had an opportunity to consider the information and what will be expected of me. I have also had the opportunity to ask questions which have been answered to my satisfaction and would like to take part in the study.	
2.	*I understand that I will be able to withdraw my data up at any time during your participation up to 2 months after.	
3.	**Use of the information for this project only** *I understand that all personal information will remain confidential and that all efforts will be made to ensure I cannot be identified unless during our conversation there is anything which makes the interviewer worried that you or someone else might be in danger of harm. In the case of the group discussions, confidentiality will not be able to be maintained within the group. I understand that my data gathered in this study will be stored anonymously and securely. It will not be possible to identify me in any publications.	
4.	*I understand that my participation is voluntary and that I am free to withdraw at any time without giving a reason. I understand that if I decide to withdraw, any personal data I have provided up to that point will be deleted unless I agree otherwise.	
5.	I understand the potential risks of participating and the support that will be available to me should I become distressed during the course of the research.	
6.	I understand the larger societal benefits of participating.	
7.	I understand that I will not benefit financially from this study or from any possible outcome it may result in in the future.	
8.	I hereby confirm that I understand the inclusion criteria as detailed in the Information Sheet and explained to me by the researcher.	
9.	I am aware of who I should contact if I wish to lodge a complaint.	
10	I voluntarily agree to take part in this study.	
11	Use of information for this project and beyond I would be happy for the data I provide to be archived at a safe password-secured encrypted OneDrive. I understand that other authenticated researchers will have access to my anonymised data.	

.

_____   _____   _____

Name of participant   Date   Signature

_____   _____   _____

Researcher   Date   Signature

2. Quantitative phase

<u>**Participant Information Sheet for Women who gave birth at the Maternity Hospital**</u>
UCL Research Ethics Committee Approval ID Number: 14293/004

YOU WILL BE GIVEN A COPY OF THIS INFORMATION SHEET

Title of Study:
Experience of care during childbirth and the immediate postpartum period and its impact on the use of post - natal services, and women and newborns' health
Department: Institute for Global Health, University College London
Name and Contact Details of the Researcher(s): Nicole Minckas, nicole.minckas.16@ucl.ac.uk
Name and Contact Details of the Principal Researcher: Jenevieve Mannell, jenevieve.mannell@ucl.ac.uk

1. **Invitation Paragraph**
   You are being invited to take part in a research project. Before you decide, it is important for you to understand why the research is being done and what your participation will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. Thank you for reading this.

2. **What is the project's purpose?**

   The first six weeks after birth, known as the postnatal period, are critical to the health and well-being of the woman and the newborn. During this time, there are several factors that can affect the health of women and their newborn, including their access to health care. The purpose of this study is to explore how the experience of the care received by the women and newborn during facility-based childbirth impact on their health care seeking behaviour during the postnatal period and on a series of maternal and newborn outcomes such as breastfeeding, newborns growth and maternal mental health. The results of this study will be used to plan possible programs to improve the quality of care received by the mother and the newborn, and to help the health care community to understand how to increase the number of women who attend postnatal services.
   This project is being conducted by a research team from University College London (UK), and Crecer Juntos (Argentina).

3. **Why have I been chosen?**
   We are inviting all women aged 16 years old and older years who gave birth to a live baby in the Instituto de Maternidad y Ginecología Nuestra Señora de Las Mercedes, during the period of this study and who lives within two hours of the maternity. We will be inviting 254 women to participate in this study. If you decide to take part, you will be given this information sheet to keep and be asked to sign a consent form.

4. **Do I have to take part?**
   It is up to you to decide whether to take part or not. If you decide not to take part or withdraw from the study, this will in no way affect your access to assistance or other services you are receiving from this facility, or any other healthcare centre. If you decide to withdraw you will be asked what you wish to happen to the data you have provided up that point. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form, although you are still free to withdraw at any time and without giving a reason. [SEP]

5. **What will happen to me if I take part?**
   We invite you to complete the first questionnaire in the hospital. The questionnaire will last approximately 20 minutes. Within the questionnaire, we ask you to answer questions regarding your health and your experience during birth. We will also review your medical records as part of the data collection.

Afterwards, 6 to 8 weeks later, a trained social worker will visit your house in order to complete a new survey. This survey will explore information about the mother and newborn's health since discharge. At the same time, we will ask questions that will allow us to determine your experience during delivery, your relationship with the health system, some family dynamic as well as your mood state in the past 7 days. This interview will last approximately 45 minutes. There are no right or wrong answers; we only want to know your experience and mood state after pregnancy.

6. **How will the data be recorded?**

    All the information that you provide is completely anonymised and will be recorded using a computer. All the information that was used to contact you for the home visit will be destroyed after the visit is finalised or at the time of withdraw if you decide to withdraw from the study. All the information that we collect about you during the course of the research will be kept strictly confidential. You will not be identified in any ensuing reports or publications. After the research is finished, we may publish what you have said in academic journals and reports but your real name will never be used. No other use will be made of your personal information without your written permission, and no one outside the project will be allowed access to the original recordings.

7. **What are the possible disadvantages and risks of taking part?**

    We do not foresee any risk in your participation. Because the topic might be sensitive, you will be able to take a break, ask the researcher to leave or withdraw from the study whenever you wish. You will not have to share with us any information that might create discomfort to you. If you should require further support, we can refer you for an appointment with a clinical psychologist at the local health care centre. Please, feel free to request it either during the interview or after it. We will be contacting you within the month after the interview to check on your wellbeing – unless you state otherwise.

8. **What are the possible benefits of taking part?**

    Whilst there are no immediate benefits for those people participating in the project, it is hoped that this work will help us shape future research to improve the experience of mother and babies during childbirth, and to improve the health and wellbeing of women and their future newborns.

9. **Will my taking part in this project be kept confidential?**

    All the information that we collect about you during the course of the research will be kept strictly confidential. You will not be able to be identified in any ensuing reports or publications. This information will not be shared with anyone outside the research team. You will have access to your personal information, and you can rectify it if you consider it necessary up to 2 months after your participation. You can withdraw from the study at any time you wish, without suffering any harm.

10. **Limits to confidentiality**

    Please note that confidentiality will be maintained as far as it is possible, unless during our conversation I hear anything which makes me worried that you or someone might be in danger of harm, I might have to inform relevant agencies of this.

11. **What will happen to the results of the research project?**

    The results of the study will be presented within a PhD thesis and disseminated in academic articles in peer-reviewed journals, and for additional or subsequent research within the same research group. If you wish, we can share a copy of the published results once the research is published.

12. **What if something goes wrong?**

    If you wish to submit a complain regarding the treatment received by the interviewers and researches, please contact Nicole Minckas (nicole.minckas.16@ucl.ac.uk). If the complaint has not been handle to your satisfaction you can contact the Chair of the UCL Research Ethics Committee – ethics@ucl.ac.uk

13. **Data Protection Privacy Notice**

   Notice:
   The controller for this project will be University College London (UCL). The UCL Data Protection Officer provides oversight of UCL activities involving the processing of personal data, and can be contacted at data-protection@ucl.ac.uk. . Data will be processed on the legal basis of public interest. If you are concerned about how your personal data is being processed, please contact UCL in the first instance at data- protection@ucl.ac.uk. If you remain unsatisfied, you may wish to contact the Information Commissioner's Office (ICO). Contact details, and details of data subject rights, are available on the ICO website at: https://ico.org.uk/for- organisations/data-protection-reform/overview-of-the-gdpr/individuals-rights/

14. **Who is organising and funding the research?**
   This research is organised by University College London and funded by the Economic and Social Research Council from the UK.

15. **Contact for further information**

   For further information please contact Nicole Minckas, ███████████████████

   Thank you for reading this information sheet and for considering to take part in this research study.

   CONSENT FORM FOR WOMEN PARTICIPATING WHO GAVE BIRTH AT THE MATERNITY HOSPITAL

   Please complete this form after you have read the Information Sheet and/or listened to an explanation about the research.

   Title of Study: Experience of care during childbirth and the immediate postpartum period and its impact on the use of post - natal services, and women and newborns' health.

   Department: Institute for Global Health, University College London
   Name and Contact Details of the Researcher(s): Nicole Minckas ███████████████████
   Name and Contact Details of the Principal Researcher: Jenevieve Mannell ███████████████████
   Name and Contact Details of the UCL Data Protection Officer: Alex Potts alex.potts@ucl.ac.uk
   This study has been approved by the UCL Research Ethics Committee: Project ID number: 14293/004

   Thank you for considering taking part in this research. The person organising the research must explain the project to you before you agree to take part. If you have any questions arising from the Information Sheet or explanation already given to you, please ask the researcher before you decide whether to join in. You will be given a copy of this Consent Form to keep and refer to at any time.

   I confirm that I understand that by ticking/initialling each box below I am consenting to this element of the study. I understand that it will be assumed that unticked/initialled boxes means that I DO NOT consent to that part of the study. I understand that by not giving consent for any one element that I may be deemed ineligible for the study.

		Tick Box
1.	*I confirm that I have read and understood the Information Sheet for the above study. I have had an opportunity to consider the information and what will be expected of me. I have also had the opportunity to ask questions which have been answered to my satisfaction and would like to take part in the study.	
2.	*I understand that I will be able to withdraw my data at any time during your participation up to 2 months after.	
3.	**Use of the information for this project only** *I understand that all personal information will remain confidential and that all efforts will be made to ensure I cannot be identified unless during our conversation there is anything which makes the interviewer worried that you or someone else might be in danger of harm. I understand that my data gathered in this study will be stored anonymously and securely. It will not be possible to identify me in any publications.	
4.	*I understand that my participation is voluntary and that I am free to withdraw at any time without giving a reason. I understand that if I decide to withdraw, any personal data I have provided up to that point will be deleted unless I agree otherwise.	
5.	I understand the potential risks of participating and the support that will be available to me should I become distressed during the course of the research.	
6.	I understand the larger societal benefits of participating.	
7.	I understand that I will not benefit financially from this study or from any possible outcome it may result in in the future.	
8.	I hereby confirm that I understand the inclusion criteria as detailed in the Information Sheet and explained to me by the researcher.	
9.	I am aware of who I should contact if I wish to lodge a complaint.	
10	I voluntarily agree to take part in this study.	
11	Use of information for this project and beyond I would be happy for the data I provide to be archived at a safe password-secured encrypted OneDrive. I understand that other authenticated researchers will have access to my anonymised data.	

_____   _____   _____
Name of participant   Date   Signature

_____   _____   _____
Researcher   Date   Signature

Appendix 9: Case record forms (quantitative phase)

1. SCREENING FORM

<u>Instructions:</u>
All women who gave birth to a live baby in hospital should be screened **<u>before discharge.</u>**

Screening number: XXXX

1. Screening date: DD/MM/YY
2. Screening time: HH:MM (24hr format)
3. Did you give birth in the last 72hr?
    1= No; 2= Yes; 3= NS/NC
4. Are you 15 or older?
    1= No; 2= Yes; 3= NS/NC
5. Are you related to any of the maternity health providers?
    1= No; 2= Yes; 3= NS/NC
6. Did you give birth to more than one baby?
    1= No; 2= Yes; 3= NS/NC
7. Was the baby born at 37 weeks or more gestational age?
    1= No; 2= Yes; 3= NS/NC
8. Was the baby born with any birth defects?
    1= No; 2= Yes; 3= NS/NC
9. Will you live within 1hr of maternity for the next 2 months after discharge?
    1= No; 2= Yes; 3= NS/NC
10. Can you provide two contact numbers (landline and cell phone)?
    1= No; 2= Yes; 3= NS/NC

<u>Instructions:</u> If the woman meets all eligibility criteria, proceed with informed consent.

11. Do you consent to participate in this research?
    1= No; 2= Yes

Number of participants: XXXX

2. HOSPITAL SURVEY

<u>Instructions</u>: Conduct the hospital survey of all women enrolled in the study (who meet the eligibility criteria and have consented to participate) <u>**at discharge within 3 days of delivery.**</u>

Screening number:
Participant number:
1. Survey date:
2. Survey time:

<u>In this survey, I will ask you some personal questions. Please listen carefully and answer each question. If you do not understand any questions, ask me to clarify your doubts.</u>

<u>SECTION 1: The first are personal questions of a general nature:</u>

3. How old are you? XX years
4. What is the maximum level of formal education you have achieved?
    1= No formal education; → Skip to question 5
    2= Primary;
    3= Secondary;
    4= University;
    5= Not applicable, does not know → Skip to question 5

   4a. Did you complete it?
    0= Yes
    1=No

5. Where were you born?
    1= Argentina;
    2= Bolivia;
    3= Paraguay
    4= Venezuela
    5= Other
            5x. If 'Other', specify: _____

6. What is your current marital status?
    1= Single
    2= In couple/de facto union
    3= Married
    4= Divorced
    5= Separate
    6= Widow
    7=Don't know/don't want to answer

7. Who do you live with? (Check all applicable options)
    1. Alone   □
    2. Couple   □
    3. Parents   □

4. Children   ☐
5. With other family members   ☐
6. Other   ☐
7. Don't know/don't want to answer   ☐

8. What activity do you do?
       1= Housewife
       2=Student
       3= Dependent work with fixed remuneration
       4= Independent work
       5= Other
       6= Don't know/don't want to answer
              8x. If 'Other', specify: _____

9. Do you receive any social plans or programs from the government?
       0= Yes
       1=No→ skip to question 10

       9a. Which/Which One? (Check all applicable options)
       Plan Nacer
       Feed card
       Universal Child Allowance
       Empowering Work Program
       Enhance accompaniment program
       Other.
              5x. If 'Other', specify: _____

SECTION 2: We would like to know more about your health history. Next, we will ask you questions about your medical history. If you do not understand any questions, ask me to clarify your doubts.

10. Did any family members (parents, siblings, uncles, etc.) have depression?
       1= No; 2= Yes; 3= NS/NC

11. Did any family members have a psychiatric history?
       1= No; 2= Yes; 3= NS/NC

12. Have you had depression at any point in your life while you were not pregnant?
       1= No; 2= Yes; 3= NS/NC

Questions 13-14 should be asked only if this was not the first pregnancy

13. Have you had depression in previous pregnancies?
       1= No; 2= Yes; 3= NS/NC

14. Have you had postpartum depression in previous pregnancies?
       1= No; 2= Yes; 3= NS/NC

15. How did the Covid-19 pandemic affect your mental health (including your stress level) before and during pregnancy?

    1= Worsened significantly
    2= It gets a little worse
    3= Not changed
    4= Improved a little
    5= Improved significantly

16. What impact did the Covid-19 pandemic have on your level of concern about pregnancy and childbirth?
    1= My worries increased significantly
    2= My worries increased a little
    3= Did not change
    4= My worries decreased a bit
    5= My worries decreased significantly

17. Thinking about the period before or during pregnancy, how much has the COVID-19 pandemic affected your ability to...
        17a. Participate in social activities
                1= A lot; 2= Something; 3= Little; 4= Nothing; 5=NS/NC
        17b. Participate in work activities
                1= A lot; 2= Something; 3= Little; 4= Nothing; 5=NS/NC
        17c. Physical activity (any form of exercise such as walking, running, playing on sports teams, or exercise classes)
                1= A lot; 2= Something; 3= Little; 4= Nothing; 5=NS/NC
        17d. Access to healthy food
                1= A lot; 2= Something; 3= Little; 4= Nothing; 5=NS/NC

18. From 1 to 10, how much would you say Covid-19 impacted your daily life?

19. During labor, were you accompanied by someone you trust?
        1= NO→ skip to question 20
        2= Yes
        8= I don't remember→ skip question 20
        9= I don't want to answer→ Skip to question 20

        19a. Who was your companion?
                1= Couple

2= Family
3= Friend
4= Doula
5= Other

20. During labor, were there curtains, separation, or measures that ensured their privacy?
    1= No
    2= Yes
    8= I don't remember/I don't know
    9= I don't want to answer

21. At the time your baby was born, were youaccompanied by someone you trusted?
    1= No→ skip to question 22
    2= Yes
    8= I don't remember → skip question 22
    9= I don't want to answer→ Skip to question 22

    21a. Who was your companion?
        1= Couple
        2= Family
        3= Friend
        4= Dula
        5= Other

22. During childbirth, were there curtains, separation, or measures that guaranteed your privacy?
    1= No
    2= Yes
    8= I don't remember/I don't know
    9= I don't want to answer

23. Before giving birth, did you have a preference for any birthing position (e.g., squatting, sideways, etc.)?
    1= No → skip to question 24
    2= Yes
    8= I don't remember → skip question 24
    9= I don't want to answer→ Skip to question 24

    23b. Did your doctor, nurse or midwife ask you about your preferred birthing position?
    1= No
    2= Yes
    3= Gave birth by caesarean section
    8= I don't remember/I don't know
    9= I don't want to answer

    23c. Did you give birth in your preferred position?
    1= No
    2= Yes
    8= I don't remember/I don't know
    9= I don't want to answer

23d. In what position did you give birth?
1=Dorsal/supine (lying on her back)
2=Lithotomy
3= In four
4= Squatting
5= Sitting
6= Lying on your side
7= Other
9= NS/NC

24. During delivery, were you told about medical procedures being performed on you or your baby?
   1= No
   2= Yes
   8= I don't remember/I don't know
   9= I don't want to answer

25. During the birth, were you asked for consent to carry out any medical procedure?
   1= No
   2= Yes
   8= I don't remember/I don't know
   9= I don't want to answer

26. Did you hear your baby crying immediately after delivery?
   1= No
   2= Yes
   8= I don't remember/I don't know
   9= I don't want to answer

26. Immediately after delivery, were you given your baby to be held in skin-to-skin contact?
   1= No → skip to question 27
   2= Yes
   8= I don't remember → skip question 27
   9= I don't want to answer→ Skip to question 27

   26a. How long were you able to hold your baby in skin-to-skin contact after delivery?
   1= Less than 10 minutes
   2= 10 to 20 minutes
   3= More than 20 minutes
   8= I don't remember/I don't know
   9= I don't want to answer

27. Immediately after delivery, were you able to breastfeed your baby or put it on your breast?
   1= No
   2= Yes
   8= I don't remember/I don't know
   9= I don't want to answer

28. Did you share the room/ with your baby during the time you were admitted to the maternity ward?

> 1= No
> 2= Yes
> 8= I don't remember/I don't know
> 9= I don't want to answer

29. Did you receive breastfeeding counselling during the time you were admitted to the maternity ward?

> 1= No
> 2= Yes
> 8= I don't remember/I don't know
> 9= I don't want to answer

30. Overall, how satisfied are you with the service and care your baby received during the time in the hospital?

> 1=Very satisfied
> 2= Satisfied
> 3= Neutral
> 4= Dissatisfied
> 5= Very dissatisfied
> 9= I don't want to answer

31. Overall, how satisfied are you with the service and care you received during your time in the hospital?

> 1=Very satisfied
> 2= Satisfied
> 3= Neutral
> 4= Dissatisfied
> 5= Very dissatisfied
> 9= I don't want to answer

Thank you very much for participating in this survey. I will take your contact details and they will be contacting you to schedule the next interview in the next 6 weeks.

3. CLINICAL HISTORY REGISTRY

Instructions: The following information will be obtained from the medical record by hospital staff for all participating women prior to discharge:

Screening number:
Participant number:
1. Date of admission:
2. Date of delivery:
3. Time of delivery:

Women's data:

4. Indicate number of pregnancies (including induced and spontaneous abortions and births): →
   If '0', skip to question 14
   (Complete with '99' if information is not available)
   4a. Number of induced or spontaneous abortions: _____
   4b. Indicate the total births (including this one): _____
   4c. Total stillbirths _____
   4d. Total babies born alive _____
   4e. Number of vaginal births _____
   4f. Number of Caesarean sections _____

5. Age of the woman at first pregnancy (in years):

6. Did the woman receive any antenatal care during this pregnancy?
       1= No→ skip to question 7
       2= Yes
       3= Information not available→ Skip to question 7

   6a. How many antenatal checkups?
   6b. At what gestational age was the first prenatal checkup? _____Weeks

7. Delivery modality:
       1= Spontaneous birth → Skip to question 8
       2= Induced labor→ Skip to question 8
       3= Forceps-assisted vaginal delivery→ Skip to question 8
       4= Vacuum-assisted vaginal birth → Skip to question 8
       14=Elective caesarean section, planned
       6= Emergency caesarean section
       7= Not available   → Skip to question 8

   7a. Indication for cesarean section:
       1=Previous caesarean section
       2= Prolonged pregnancy
       3= Premature rupture of membranes
       4= Preeclampsia
       14= Eclampsia
       6= Maternal Diabetes
       7= Placental abruption
       8= Abnormalities of the placenta (i.e. placenta previa)
       9= Dystocia
       10= Fetal distress
       11= Poor fetal position
       12= Mother's preference
       12= Other (please specify): _____
       12= Not available

8. Indicate if any of the following procedures were performed during labor, delivery, or postpartum: (Check all that apply)

8a. Stimulation of labour: 1=No; 2= Yes; 9= Not available

8b. Induction of labor: 1=No; 2= Yes; 9= Not available

8c. Enema: 1=No; 2= Yes; 9= Not available

8d. Perineal shaving: 1=No; 2= Yes; 9= Not available

8E. Episiotomy: 1=No; 2= Yes; 9= Not available

8f. Hysterectomy: 1=No; 2= Yes; 9= Not available

8g. Tubal ligation/Sterilization: 1=No; 2= Yes; 9= Not available

8h. Manual removal of the placenta: : 1=No; 2= Yes; 9= Not available

8i. Postnatal IUD placement: : 1=No; 2= Yes; 9= Not available

9.COVID-19 condition at time of admission:

   1= Suspicious; 2=Positive; 3= Negative; 4= Not tested

<u>Newborn data:</u>

10. APGAR score at the first minute: _____
   (Complete with 99 if information is not available)

11. APGAR score at 14 minutes: _____
   (Complete with 99 if information is not available)

12. Newborn resuscitation
   1= Yes
   2= No
   3= Not available

13. Newborn in ICU:
   1= Yes
   2= No→ skip to question 14
   3= Not available → Skip to question 14

   13a. Reason for hospitalization:
   1= Breathing problems
   2= Infectious
   3= Prematurity
   4= Low Weight
   14= Jaundice
   6= Trauma problems
   7= Feeding difficulties
   8= COVID-19
   9= Other (please specify) _____
   10= Not available

14. Gestational age at birth:
   _____ Weeks _____ days (Information not available)

15. Birth weight: _____ g (Missing)

16. Height (length) at birth: _____ cm (Information not available)

17. Sex of the baby
    1=Female
    2= Male
    3= Not confirmed

18. Date of discharge of the woman:
19. Newborn discharge date:

4. FOLLOW-UP SURVEY (AT HOME)

<u>Instructions</u>: Administer this form to all women participating in the study within 6 weeks of discharge

Screening number:
Participant number:

1.   Survey date:
2.   Survey time:

<u>"In this survey, I'm going to ask you some personal questions. It will last around 45 minutes. Please listen carefully and answer each question. If you do not understand any questions, ask me to clarify your doubts. If there are any questions you prefer not to answer out loud, ask me to pass you the tablet and you can complete it on your own."</u>

3.   Do you consent to participate in this survey?
      1= No → end the survey here
      2= Yes

SECTION 1: General Information
<u>'To start, I'm going to ask you some general questions'</u>

4.   Who have you lived with since you were discharged from the hospital? (Check all applicable options)
      1= Alone (with baby)
      2= With your partner
      3= With parents
      4= With another family member
      14= Other
      9= Does not want to answer

5.   Do you get help caring for your baby?
      1= No → skip to question 6
      2= Yes
      9= Does not want to answer→ Skip to question 6

      14a. Who helps you the most in caring for the baby?
      1= Partner
      2= Mother
      3= Other family member
      4= Other
      9=Doesn't want to answer
            14x. If 'Other', specify: _____

6.   Who is the head of household?
      1= You
      2= Your partner

3= Other family member
4= Other
9= Does not want to answer

7. What has been your household's main source of income for the past 3 months?
1= Employment in a dependency relationship (private)
1= Employment in a dependency relationship (state)
2= Self-employed
3=Informal work ('changas')
4= Social/government plan or programs
14= Retirement or Unemployment Insurance
6= Church, school, donations
7= Other

8. What is your household's average monthly income (in pesos)?

9. What kind of health coverage do you have? (check all that apply):
9th. Public system
9b. Union-based work
9c. Private/ mutual
9d. Other

10. How many rooms does your home have for your exclusive use?

10a. Of those, how many do they habitually use for sleep?

11. How many people (including children) slept in this home last night?

SECTION 2: Care Experience

Some women tell us that when they give birth they are treated with disrespect while they are in the hospital. We would like to know how common this problem is, so we would like to ask you your own experiences with childbirth. There are no right or wrong answers to these questions. It is only important to us to understand your experiences.
Nothing you tell us will be linked to your name, the names of your children, or affect you or your family members' ability to access health care in the future. Some of these questions can be stressful. You can skip any question you don't feel comfortable answering and you can stop the interview at any time.

12. At some point during your hospital stay, did any of the following events occur?

12a. Weres youpinched by any health personnel (doctor, nurse, obstetrician, etc.) or other maternity employee?
1= No; 2= Yes; 3= Does not want to answer; 4= Don't know/ Don't remember

12b. Were you slapped by any health staff or other maternity worker?
1= No; 2= Yes; 3= Does not want to answer; 4= Don't know/ Don't remember

12c. Were youtied to the bed by any health staff or other maternity worker?

1= No; 2= Yes; 3= Does not want to answer; 4= Don't know/ Don't remember

12d. Did your abdomen was pushed down hard before the baby came out (fundal pressure)?
1= No; 2= Yes; 3= Does not want to answer; 4= Don't know/ Don't remember

12e. Did anyone from the health staff or other maternity employee yell at you?
1= No; 2= Yes; 3= Does not want to answer; 4= Don't know/ Don't remember

12f. Did anyone from the health staff or other maternity staff scolded you?
1= No; 2= Yes; 3= Does not want to answer; 4= Don't know/ Don't remember

12g. Did anyone from the health staff or other maternity staff make negative comments about your sexual activity?
1= No; 2= Yes; 3= Does not want to answer; 4= Don't know/ Don't remember

12h. Did anyone from the health staff or other maternity staff employee threaten you that you or your baby would suffer a bad outcome if you did not do as directed?
1= No; 2= Yes; 3= Does not want to answer; 4= Don't know/ Don't remember

13. <u>During labor and delivery, women often receive vaginal exams:</u>

13a. Did you have any vaginal exams during your hospital stay?
1= No → skip to question 14
2= Yes
3= Does not want to answer → Skip to question 14
4= Don't know/ Don't remember → Skip to question 14

13b. Did anyone from the health staff explain to you why vaginal exams were necessary?
1= No; 2= Yes; 3= Does not want to answer; 4= Don't know/ Don't remember

13c. Did they get your permission before performing the vaginal examination?
1= No; 2= Yes; 3= Does not want to answer; 4= Don't know/ Don't remember

13d. Were the vaginal exams conducted privately (so that other people could not see)?
1= No; 2= Yes; 3= Does not want to answer; 4= Don't know/ Don't remember

14. During your time in the hospital, were you <u>offered</u> any pain-relieving medications (e.g., epidural)?
1= No; 2= Yes; 3= Does not want to answer; 4= Don't know/ Don't remember

14a. Did you <u>ask</u> for any medication to relieve pain?
1= No; 2= Yes; 3= Does not want to answer; 4= Don't know/ Don't remember

14b. During your time in the hospital, were you <u>given</u> pain relief medications (e. epidural)?
1= No; 2= Yes; 3= Does not want to answer; 4= Don't know/ Don't remember

14x. During your time in the hospital, were you <u>denied</u> pain relief medication?
1= No; 2= Yes; 3= Does not want to answer; 4= Don't know/ Don't remember

15. <u>Thinking about your hospital stay when you gave birth</u>, indicate whether you agree or disagree with the following statements:

  15a. I felt ignored by health professionals or other maternity employees.
  1= Completely agree; 2= Agree; 3= Neutral; 4= Disagree; 5= Strongly disagree

  15b. I had to wait a long time to be seen by a health professional.
  1= Completely agree; 2= Agree; 3= Neutral; 4= Disagree; 5= Strongly disagree

  15c. I felt emotionally supported by health professionals or maternity employees.
  1= Completely agree; 2= Agree; 3= Neutral; 4= Disagree; 5= Strongly disagree

  15d. Health professionals listened to my concerns.
  1= Completely agree; 2= Agree; 3= Neutral; 4= Disagree; 5= Strongly disagree

16. During your time in the hospital:
  16a. Did you have access to water or other liquids?
  1= No; 2= Yes; 3= Does not want to answer; 4= Don't know/ Don't remember

  16b. Were you allowed to eat?
  1= No; 2= Yes; 3= Does not want to answer; 4= Don't know/ Don't remember

  16c. Were you allowed to drink?
  1= No; 2= Yes; 3= Does not want to answer; 4= Don't know/ Don't remember

  16d. Were you able to walk or move during labor?
  1= No; 2= Yes; 3= Does not want to answer; 4= Don't know/ Don't remember

17. <u>After the birth</u>, did anyone on staff suggest or ask you (or your family or friends) for a bribe, informal payment, or gift?
  1= No; 2= Yes; 3= Does not want to answer; 4= Don't know/ Don't remember

18. Which health worker cared for you most of the time in the hospital?
  1= None; 2=Obstetrician; 3= Resident physician; 4= Midwife/Obstetrician; 5= Nurse; 6=Medical/nursing student; 7= Other; 9= Don't know/Don't remember

19. Were any health workers present when the baby came out?
  1= No; 2= Yes; 3= Does not want to answer; 4= Don't know/ Don't remember

20. At some point, did you have to share a bed with another woman or women?
  1= No; 2= Yes; 3= Does not want to answer; 4= Don't know/ Don't remember

SECTION 3: Postnatal visit

'Now we're going to ask you some questions related to the period since you and your baby were discharged from the hospital until now.'

21. Has your baby been admitted to the hospital after being discharged?
    1= No; 2= Yes; 3= Does not want to answer; 4= Don't know/ Don't remember

22. Have you had to be admitted to the hospital after being discharged?
    1= No; 2= Yes; 3= Does not want to answer; 4= Don't know/ Don't remember

23. After hospital discharge, did you attend a postnatal visit?
    1= No → skip to question 24
    2= Yes
    3= Does not want to answer → Skip to question 24
    4= Don't know/ Don't remember → Skip to question 24

    23a. What date was your first postnatal visit after discharge?
    (Complete with 99/99/99 if not remembered)

    23b. Where was your first postnatal visit after discharge?
    1= Same hospital as childbirth; 2= Other hospital; 3= CAPS; 4=Private practice; 5= Other

24. After discharge from the hospital, did your baby attend his/her postnatal visit?
    1= Not → skip to question 25
    2= Yes
    3= Does not want to answer → Skip to question 25
    4= Don't know/ Don't remember → Skip to question 25

    24a. What date was his/her first postnatal visit after discharge?
    (Check the health booklet)

    24b. Where was his/her first postnatal visit after discharge?
    1= Same hospital as childbirth; 2= Other hospital; 3= CAPS; 4=Private practice; 5= Other

    24c. What was your baby's weigh during his/her first postnatal visit? (in grams)
    (Complete with 9999 if you do not have the information)

    24d. What was your baby's length during his/her first postnatal visit? (in centimeters)
    (Complete with 9999 if you do not have the information)

SECTION 4: Breastfeeding
Now we are going to ask you some questions related to baby feeding and breastfeeding.

25. Is your baby currently being breastfed?
1= No → skip to question 26
2= Yes
3= Does not want to answer → Skip to question 26
4= Don't know/ Don't remember → Skip to question 26

26. Did you breastfeed the baby in the past 24 hours?
1= No → skip to question 26b
2= Yes
3= Does not want to answer → Skip to question 26b
4= Don't know/ Don't remember → Skip to question 26b

26a. How many times did you breastfeed the baby in the last 24 hours?
(Complete with 99 if you don't remember)

26b. In the past 24 hours, the baby received some of the following:
26i. Another woman's breast milk
1= No; 2= Yes; 3= Does not want to answer; 4= Don't know/ Don't remember

26ii. Other milk (formula, cow's milk, etc.)
1= No; 2= Yes; 3= Does not want to answer; 4= Don't know/ Don't remember

26iii. Vitamins, minerals or oral rehydration salts
1= No; 2= Yes; 3= Does not want to answer; 4= Don't know/ Don't remember

26iv. Water
1= No; 2= Yes; 3= Does not want to answer; 4= Don't know/ Don't remember

26v. Other liquid (juice, tea, sugar water, etc.)
1= No; 2= Yes; 3= Does not want to answer; 4= Don't know/ Don't remember

26vi. Some solid or semi-solid (porridge, puree, etc.)
1= No; 2= Yes; 3= Does not want to answer; 4= Don't know/ Don't remember

27. We are going to present you with different statements. For each, indicate how confident you are about breastfeeding your baby. There are no right or wrong answers.

27a. I always know if my baby is getting enough milk
1 = not at all confident 2 = not confident 3 = confident 4 = fairly confident 5 = very confident

27b. I always manage well when breastfeeding as with other demanding tasks
1 = not at all confident 2 = not confident 3 = confident 4 = fairly confident 5 = very confident

27c. I can always breastfeed my baby without using formula supplements
1 = not at all confident 2 = not confident 3 = confident 4 = fairly confident 5 = very confident

27d. I can always check that my baby is well held to the breast throughout the feeding
1 = not at all confident 2 = not confident 3 = confident 4 = fairly confident 5 = very confident

27E. I can always manage breastfeeding in a way that is satisfactory for me.
1 = not at all confident 2 = not confident 3 = confident 4 = fairly confident 5 = very confident

27f. I always manage to breastfeed even when my baby is crying
1 = not at all confident 2 = not confident 3 = confident 4 = fairly confident 5 = very confident

27g. I always want to keep breastfeeding
1 = not at all confident 2 = not confident 3 = confident 4 = fairly confident 5 = very confident

27h. I can always breastfeed comfortably even if family members are present
1 = not at all confident 2 = not confident 3 = confident 4 = fairly confident 5 = very confident

27i. I can always be satisfied with the breastfeeding experience
1 = not at all confident 2 = not confident 3 = confident 4 = fairly confident 5 = very confident

27J. I can always assume the fact that breastfeeding consumes part of my time.
1 = not at all confident 2 = not confident 3 = confident 4 = fairly confident 5 = very confident

27k. I can always end up with one breast before I switch to the other.
1 = not at all confident 2 = not confident 3 = confident 4 = fairly confident 5 = very confident

27l. I am always able to breastfeed my baby at every feeding
1 = not at all confident 2 = not confident 3 = confident 4 = fairly confident 5 = very confident

27m. I am always able to meet my baby's milk demands
1 = not at all confident 2 = not confident 3 = confident 4 = fairly confident 5 = very confident

27n. I always know when my baby has finished breastfeeding
1 = not at all confident 2 = not confident 3 = confident 4 = fairly confident 5 = very confident

SECTION 5: Mental Health
Since you recently had a baby, we'd like to know how you've been feeling. Please choose the answer that comes closest to how you have felt in the last 7 days. If you don't understand a question, ask the pollster to clarify your doubts.

28a. I've been able to laugh and see the funny side of things
1= As much as ever; 2= Not so much now; 3=Much less now; 4= No, nothing

28b. I've enjoyed looking forward
1= As much as ever; 2= Less than before; 3=Much less than before; 4=Almost nothing

28c. When things have gone wrong I've blamed myself unnecessarily.
1= Yes, most of the time; 2= Yes, sometimes; 3=Not very often; 4=No, never

28d. I've been nervous or restless for no reason
1= No, never; 2= Almost never; 3= Yes, sometimes; 4= Yes, very often

28E. I've been scared or worried for no reason
1= Yes, quite; 2=Yes, sometimes; 3=No, not much; 4= No, never

28f. Things have been overwhelming me
1= Yes, most of the time I haven't been able to do things at all
2= Yes, sometimes I haven't been able to do things as well as usual
3= No, most of the time I've done things pretty well
4= No, I've been doing things as well as ever

28g. I've felt so miserable that I've had difficulty sleeping
1= Yes, most of the time
2= Yes, sometimes
3= Not very often
4= No, never

28h. I've felt sad or miserable
1= Yes, most of the time
2= Yes, quite often
3= Not very often
4= No, never

28i. I've felt so miserable that I've been crying.
1= Yes, most of the time
2= Yes, quite often
3= Only occasionally
4= No, never

28J. I have come up with the idea of hurting myself
1= Yes, quite often; 2= Sometimes; 3= Almost never; 4= Never

29. <u>Below we will read some statements, please choose the answer that comes closest to how you have felt in the last 7 days.</u>

29a. I have been worried more about my relationship with my partner than before the baby was born.
1= Yes, quite often; 2= Sometimes; 3= Almost never; 4= Never; 5= Not applicable

29b. I'm worried about my baby's weight.
1= Yes, quite often; 2= Sometimes; 3= Almost never; 4= Never

29c. I've been worried about creating a routine for my baby.
1= Yes, quite often; 2= Sometimes; 3= Almost never; 4= Never

29d. I'm worried that someone or something, by accident, will hurt my baby.
1= Yes, quite often; 2= Sometimes; 3= Almost never; 4= Never

29E. I have felt insecure or unable to meet my baby's basic needs.
1= Yes, quite often; 2= Sometimes; 3= Almost never; 4= Never

29f. I have had negative thoughts about my relationship with my baby.
1= Yes, quite often; 2= Sometimes; 3= Almost never; 4= Never

29g. I'm worried about how much milk my baby drinks
   1= Yes, quite often; 2= Sometimes; 3= Almost never; 4= Never

9pm. I'm worried my baby will stop breathing while sleeping
   1= Yes, quite often; 2= Sometimes; 3= Almost never; 4= Never

29i. I have felt that my baby would be better cared for by someone else
   1= Yes, quite often; 2= Sometimes; 3= Almost never; 4= Never

29J. I have felt resentment towards my partner.
   1= Yes, quite often; 2= Sometimes; 3= Almost never; 4= Never; 5= Not applicable

29k. I have repeatedly checked on my babywhile he was sleeping.
   1= Yes, quite often; 2= Sometimes; 3= Almost never; 4= Never

29l. I've felt tired even after a good rest.
   1= Yes, quite often; 2= Sometimes; 3= Almost never; 4= Never

SECTION 6: HEALTH CARE MANAGEMENT

30. On a scale from "very easy" to "very difficult", indicate how difficult you would be doing the following activities:

30a. Find information about treatments for certain diseases or conditions
1= Very easy; 2= Easy; 3= Difficult; 4= Very difficult; 5= Don't know/No answer

30b. Find out where to get professional help when you are sick (e.g., doctor, pharmacist, or psychologist)
1= Very easy; 2= Easy; 3= Difficult; 4= Very difficult; 5= Don't know/No answer

30c. Understand what your doctor is telling you
1= Very easy; 2= Easy; 3= Difficult; 4= Very difficult; 5= Don't know/No answer

30d. Understand your doctor's or pharmacist's instructions on how to take prescription medicines
1= Very easy; 2= Easy; 3= Difficult; 4= Very difficult; 5= Don't know/No answer

30e. Assess when you may need a second opinion from another doctor
1= Very easy; 2= Easy; 3= Difficult; 4= Very difficult; 5= Don't know/No answer

30f. Use information provided by your doctor to make decisions about your condition
1= Very easy; 2= Easy; 3= Difficult; 4= Very difficult; 5= Don't know/No answer

30g. Follow your doctor's or pharmacist's instructions
1= Very easy; 2= Easy; 3= Difficult; 4= Very difficult; 5= Don't know/No answer

30h. Find information on how to address mental health problems, such as stress or depression
1= Very easy; 2= Easy; 3= Difficult; 4= Very difficult; 5= Don't know/No answer

30i. Understand health warnings related to habits such as smoking, little exercise, or excessive alcohol drinking
1= Very easy; 2= Easy; 3= Difficult; 4= Very difficult; 5= Don't know/No answer

30J. Understand why you need to have disease screening tests or checkups (e.g., mammogram, blood sugar and blood pressure test)
1= Very easy; 2= Easy; 3= Difficult; 4= Very difficult; 5= Don't know/No answer

30k. Assess the reliability of information about health risks in the media (e.g., television, Internet, or other media)
1= Very easy; 2= Easy; 3= Difficult; 4= Very difficult; 5= Don't know/No answer

30l. Decide how to protect yourself from disease based on information provided by the media (e.g., newspapers, brochures, Internet, or other media)
1= Very easy; 2= Easy; 3= Difficult; 4= Very difficult; 5= Don't know/No answer

30m. Find activities that are good for your mental well-being (e.g., meditation, exercise, walks, pilates, etc.)
1= Very easy; 2= Easy; 3= Difficult; 4= Very difficult; 5= Don't know/No answer

30n. Understand health advice from family and friends
1= Very easy; 2= Easy; 3= Difficult; 4= Very difficult; 5= Don't know/No answer

30th. Understand information provided by the media on how to improve your health (e.g., Internet, newspapers, magazines)
1= Very easy; 2= Easy; 3= Difficult; 4= Very difficult; 5= Don't know/No answer

30p. Assess which of your daily habits affect your health (e.g., alcohol-related habits, eating habits, exercise, etc.)
1= Very easy; 2= Easy; 3= Difficult; 4= Very difficult; 5= Don't know/No answer

SECTION 7: SOCIAL CAPITAL

31. Thinking about your pregnancy and your postpartum period, to what extent do you agree with the following statements?

31i. There are times when my partner and I argue and fight.
1= Always; 2=Most of the time; 3=Sometimes; 4=Almost never; 5=Never; 6= Not applicable (without partner)

31ii. There are times when my family members and I (other than the couple) argue and fight
1= Always; 2=Most of the time; 3=Sometimes; 4=Almost never; 5=Never

31iii. I Feel Loved and Cared for by My Neighbors

1= Always; 2=Most of the time; 3=Sometimes; 4=Almost never; 5=Never

31iv. I enjoy spending time with my neighbors
1= Always; 2=Most of the time; 3=Sometimes; 4=Almost never; 5=Never

31v. In this neighborhood we help each other with our needs
1= Always; 2=Most of the time; 3=Sometimes; 4=Almost never; 5=Never

31vi. In general my neighbors are trustworthy
1= Always; 2=Most of the time; 3=Sometimes; 4=Almost never; 5=Never

31vii. There Is Someone Who Can Help Me with Housework
1= Always; 2=Most of the time; 3=Sometimes; 4=Almost never; 5=Never

31viii. In case of emergency, there is someone who can help me financially.
1= Always; 2=Most of the time; 3=Sometimes; 4=Almost never; 5=Never

31ix. If the people of this ward face a common problem, I would join them in solving it.
1= Always; 2=Most of the time; 3=Sometimes; 4=Almost never; 5=Never

31x. How often do you participate in the following activities?
　　31x1. Meeting with friends or family in the neighborhood.
　　1= Daily/several times a week; 2= Once a week; 3= Once a month; 4= Almost never; 5= Never

　　31x2. Contact with friends and family outside this neighborhood via phone/facebook, etc.
　　1= Daily/several times a week; 2= Once a week; 3= Once a month; 4= Almost never; 5= Never

　　31x3. Participate in events / festivals / cultural trips.
　　1= Daily/several times a week; 2= Once a week; 3= Once a month; 4= Almost never; 5= Never

SECTION 8: OWN ASSESSMENT

32. Thinking about your feelings over the past 6 months, respond by stating how much you agree or disagree with each of the following statements:

32i. I feel like I'm looked down on because of my financial situation or my level of education.
1= Completely agree; 2= Agree; 3=Neutral; 4= Disagree; 14= Strongly disagree

32ii. There have been times when I have felt ashamed about my economic situation or level of education.
1= Completely agree; 2= Agree; 3=Neutral; 4= Disagree; 14= Strongly disagree

32iii. I Never Feel Self-Conscious When I'm in Public
1= Completely agree; 2= Agree; 3=Neutral; 4= Disagree; 14= Strongly disagree

32iv. I am never ashamed of my financial situation or level of education.
1= Completely agree; 2= Agree; 3=Neutral; 4= Disagree; 14= Strongly disagree

33. Finally, respond by indicating how much you agree or disagree with each of the following statements:

33i. In general I am satisfied with myself.
    1 = Strongly disagree; 2 = Agree; 3 = Disagree; 4 = Strongly disagree

33ii. Sometimes I think I'm not good at all.
1 = Strongly disagree; 2 = Agree; 3 = Disagree; 4 = Strongly disagree

33ii. I think I have good qualities.
    1 = Strongly disagree; 2 = Agree; 3 = Disagree; 4 = Strongly disagree

33iii. I am able to do things as well as most people.
    1 = Strongly disagree; 2 = Agree; 3 = Disagree; 4 = Strongly disagree

33iv. I think I have many things to be proud of.
    1 = Strongly disagree; 2 = Agree; 3 = Disagree; 4 = Strongly disagree

33v. Sometimes I feel useless
    1 = Strongly disagree; 2 = Agree; 3 = Disagree; 4 = Strongly disagree

33vi. I think I'm just as valuable to most people
    1 = Strongly disagree; 2 = Agree; 3 = Disagree; 4 = Strongly disagree

33vii. I Would Like to Respect Myself More
    1 = Strongly disagree; 2 = Agree; 3 = Disagree; 4 = Strongly disagree

33viii. I tend to think I'm a failure
    1 = Strongly disagree; 2 = Agree; 3 = Disagree; 4 = Strongly disagree

33ix. I have a positive view of myself.
    1 = Strongly disagree; 2 = Agree; 3 = Disagree; 4 = Strongly disagree

Thank you for your participation. We highly value your ideas and opinions.

Appendix 10: Regression model outputs

Table a10.1. Adjusted model of impact of any mistreatment on women's access to PNC (N=294)

Primary outcome (Woman's access to PNC)	adjusted odds ratios	Standard error	z	P>|z|	[95% conf. interval]	
Any mistreatment (ref: no mistreatment)	1.430	0.279	-0.140	0.342	0.680	0.300
Women's age	1.007	0.022	0.320	0.752	0.965	1.050
Education						
No formal (ref)	ref					
Primary outcomes	0.953	0.585	-0.080	0.937	0.286	3.172
Secondary	1.202	0.752	0.290	0.768	0.353	4.094
College or above	1.131	1.087	0.130	0.898	0.172	7.438
Parity	1.062	0.306	0.210	0.834	0.604	1.867
Delivery Mode (ref: vaginal delivery)	1.308	0.339	1.040	0.300	0.787	2.175
Receiving government benefits	0.928	0.254	-0.270	0.785	0.543	1.587
Social capital						
1st quartile	ref					
2nd quartile	0.604	0.252	-1.210	0.227	0.267	1.368
3rd quartile	1.248	0.420	0.660	0.511	0.645	2.413
4th quartile	1.664	0.538	1.580	0.115	0.883	3.135
Health literacy						
Inadequate	ref					
Problematic	0.929	0.450	-0.150	0.879	0.359	2.401
Sufficient	0.885	0.346	-0.310	0.755	0.411	1.904
Self-stigma	1.063	0.059	1.090	0.274	0.953	1.185

*generalised linear model with logit link function

Table a10.2. Adjusted model of impact of physical or verbal mistreatment on women's access to PNC (N=294)

Primary outcome (Woman's access to PNC)	adjusted odds ratios	Standard error	z	P>|z|	[95% conf. interval]	
Physical or verbal mistreatment (ref: no mistreatment)	1.850	0.704	1.930	0.099	0.890	3.840
Women's age	1.009	0.026	0.370	0.714	0.960	1.061
Education						
No formal (ref)	ref					
Primary outcomes	0.952	0.683	-0.070	0.945	0.233	3.882
Secondary	1.315	0.965	0.370	0.709	0.312	5.542
College or above	1.535	1.786	0.370	0.713	0.157	15.023
Parity	1.149	0.398	0.400	0.688	0.583	2.266
Delivery Mode (ref: vaginal delivery)	1.401	0.431	1.100	0.273	0.767	2.561
Receiving government benefits	0.928	0.307	-0.230	0.820	0.485	1.773
Social capital						
1st quartile	ref					
2nd quartile	0.531	0.245	-1.370	0.171	0.214	1.314
3rd quartile	1.261	0.494	0.590	0.553	0.586	2.716
4th quartile	2.031	0.796	1.810	0.071	0.941	4.380
Health literacy						
Inadequate	ref					
Problematic	0.930	0.541	-0.120	0.901	0.298	2.908
Sufficient	0.923	0.433	-0.170	0.865	0.368	2.317
Self-stigma	1.083	0.075	1.150	0.249	0.946	1.240

*generalised linear model with logit link function

Appendix 11: fieldwork pictures