Social Media use by Midwives – an Untapped Potential?

Anna Marsh

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Abstract

Introduction

Whilst many women turn to social media for advice in pregnancy, midwives have little involvement with social media within their professional roles. This research aims to explore midwives' views and experiences of using social media, as well as begin to unpack how midwives are using it.

Methodology

Phase 1 - A scoping review of the literature was undertaken to explore nurses' and midwives' views of using social media. Data were extracted using a tool, codes were generated and then thematic analysis undertaken.

Phase 2 - Social media content analysis was used to assess observational data from midwives' Instagram accounts. Five midwives were identified from the UK, USA, Australia and New Zealand. URLs of their posts about birth from 1/9/20 to 31/08/21 were inputted into a datascraping tool. A coding sheet was then created including elements of birth such as location or mode, and a second developed to further analyse posts categorised as 'Education'.

Ethical Approval

Ethical approval was achieved through Bournemouth University Ethics Committee (Ref:34773).

Results

Phase 1 - Eight papers were identified. Most study participants reported having at least one social media account. Three themes were identified: Knowledge Sharing, Community and Reluctance to Engage.

Phase 2 – A total of 1218 images or videos were included, from 918 posts. Most midwives (n= 17) had personal businesses associated with their accounts and were of white ethnicity (n=18). Many images/videos categorised as 'Education' (47%). Across all countries, 75% of births were vaginal and 42% used hydrotherapy. Most women portrayed were white (69%).

Conclusion

Research into social media and midwifery is limited. Midwives are reluctant to engage with it, but literature suggests that social media training could positively influence communication with people using maternity services. Current Instagram usage by midwives is not

representative of birth. More research is required to understand the motivation behind midwives' posts.

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Abbreviations

ARM	Artificial Rupture of Membranes
IPSO	Independent Press Standards Organisation
NMC	Nursing and Midwifery Council
RCM	Royal College of Midwives
RCOG	Royal College of Obstetrics and Gynaecologists
VBAC	Vaginal Birth After Caesarean Section

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Authors Declaration

I hereby declare that this submission is entirely of my own work, unless stated otherwise, and that to the best of my knowledge all sources used are fully acknowledged and all quotations properly identified.

1.0 Chapter 1 – Introduction

Communication is a key competency for effective midwifery practice (NMC, 2019a). When communication fails it can impact the delivery of safe and effective maternity care, so improving and refining communication across maternity services is a high priority (The King's Fund, 2012). The Ockenden report (Independent Review Group, 2022) highlighted systemic failures in communication between healthcare professionals and women, and the significant repercussions that these failures have on a mother, her family and her newborn baby. Whilst the report explores the failures in communication on a face-to-face basis, it highlights the need to review and regenerate the role of the midwife and midwives they communicate with the modern-day woman.

In the 21st century, communication is no longer purely between a woman, her healthcare professional and the multi-disciplinary team through conversation and literature, but also through new, more digital mediums. Whilst recommendations have been made at national level to harness digital technology as a tool for communication within the maternity services (NHS England, 2016), recent reports suggest that services still have a long way to go to embed this within routine midwifery practice (NHS England, 2018a).

One proposed area for review is communication through the medium of social media. Whilst a relatively new method of communication between maternity services and pregnant women, it is gathering momentum and has been given added impetus with the restrictions imposed by the recent pandemic (Chatwin et al., 2021, Morse and Brown, 2022). The use of social media within healthcare has been a subject shrouded in controversy and professional debate (Q Health, 2020, The Guardian, 2012). Despite this, women are turning to social media for advice and the information that they are receiving is broadly unknown.

1.1 Birth in today's culture

Within today's culture, birth is broadly an 'unseen event'. Modern culture and societal norms mean that where previously a family would have been exposed to the birth of five siblings on average in 1950 (UN, 2019) and far more close-knit communities, smaller families and the 'behind closed doors' nature of childbirth in current society is changing an individual's exposure to birth. Despite this, almost 50% of women in a study reported knowing what type of birth they wanted prior to becoming pregnant (Regan et al., 2013). This suggests birth culture, although different, is still a significant element of community.

For pregnant women, decision making is influenced by an ever broader range of social, cultural, personal and familial factors, with a significant part of decision making surrounding the gathering of information (Yuill et al., 2020). Whilst more traditional methods such as

antenatal education classes and hearing birth stories are still common methods of information sourcing, studies highlight the growing importance of alternative methods of gathering material such as visual media (such as television), peer support, smartphone apps, social media and the internet (Regan et al., 2013, Sanders and Crozier, 2018).

There is some debate about the impact of these new methods of decision making and community support. It is known that fear of birth amongst first time mothers is increasing (Slade et al., 2019, Henriksen et al., 2020, Hildingsson et al., 2017) and links have already been made between sourcing information through the media and anxiety in pregnant women (Sanders and Crozier, 2018). Whilst tokophobia, or fear of birth, is a widely under researched and poorly defined concept (Nilsson et al., 2018), known outcomes are a more negative experience, a higher rate of interventions with longer term health implications during pregnancy, birth and the postnatal period (Nilsson et al., 2012, Sluijs et al., 2020, Handelzalts et al., 2015, Möller et al., 2019). It is known that having a positive birth experience is dependent on a woman feeling empowered and supported (Nilsson et al., 2013), and previous birth experiences can prompt fear of birth in the next pregnancy (Dencker et al., 2019, Størksen et al., 2013). Thus, fear of birth is a concept that can negatively affect the health and wellbeing of any woman, and therefore creating a more positive birth culture and ensuring good communication is a priority.

A significant part of the role of a midwife is to act as a public health promoter, providing evidence-based information to empower a woman to make her own decisions (NMC, 2019b). However, Regan et al. (2013) found that care providers were only cited as influential in decision-making by 19.2% of women, and that care providers normally provided information via verbal or paper form. Sanders and Crozier (2018) found that women felt as though they had to turn to informal, alternative sources of information due to conflicting information from professionals. It is clear that midwives need to be looking more broadly at communication channels to harness health promotion and support women's decision making during their pregnancy and childbirth journey.

1.2 Social Media for Communication

The author proposes that social media is as a key area to improve communication with women. Social media can be defined as:

> *'a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content.' - (Kaplan and Haenlein, 2010)*

From the OFCOM (2022b) report, 98% of internet users use at least one online communication messaging site or app, demonstrating its high prevalence across the UK. There are many different social media platforms. Table 1 demonstrates the platforms on which internet users are most likely to have accounts within the UK. It is known that how different age groups use social media varies. For example, young people are far more likely to engage, including posting, commenting or 'liking' on social media than older people (OFCOM, 2022b).

Table 1 – Social Media Platforms used within the UK - (OFCOM, 2022b)

	% of internet users reported using in OFCOM report
Facebook	74%
YouTube	80%
WhatsApp	72%
Instagram	54%
Snapchat	32%
TikTok	34%

There has been some more global exploration of social media as a tool for communication within healthcare, namely mental health (Karim et al., 2020), child and adolescent health (Hamm et al., 2014, Shaw et al., 2015) and the broader patient-clinician relationship (Smailhodzic et al., 2016). A systematic review of systematic reviews related to the public health impacts of social media (Giustini et al., 2018) found minimal literature with limited impact. However, from the research available, benefits to patients included psychological support and psychological functioning, two areas which are known to be especially beneficial to pregnant women (Kim et al., 2014, Battulga et al., 2021, Morikawa et al., 2015).

Whilst social media may be beginning to arise as a medium of communication within healthcare, with limited professional input there is a risk of incorrect or conflicting information and guidance. A recent systematic review found that health misinformation was high on social media (Suarez-Lledo and Alvarez-Galvez, 2021). The study did not review maternity information specifically but found many inaccuracies on smoking, drugs, vaccination, diet and lifestyle information – all subjects that could be related to a pregnant woman's decision making. Reassuringly, research has begun to demonstrate that the simple provision of a mechanism to correct facts, especially when presented by a credible source such as experts or a government agency, can override incorrect information fairly successfully (van der Meer and Jin, 2020, Walter et al., 2021, Bode and Vraga, 2018).

This highlights a real opportunity for midwives to change the narrative around pregnancy, birth and the postnatal period for future mothers and families. As key public health leaders and promoters of normality, it could be argued that it falls into the job description of a midwife to act as this expert source and correct the misinformation around birth. However, further information is needed on whether midwives are engaged in social media.

1.2.1 Social Media and Women using Maternity Services

The role of the internet in a pregnant woman's journey is clearly significant, and many papers report women turning to it for advice (Baker and Yang, 2018, Wright et al., 2021, Lupton, 2016, Wallwiener et al., 2016, Jang and Dworkin, 2014, Lupton, 2017). The concept of the internet encompasses several aspects, including web pages, discussion forums and social media. Over ten years ago, a large study highlighted the significant impact that the internet was having on pregnant women's decision making and made strong recommendations that healthcare professionals actively need to engage with women and the internet (Lagan et al., 2011). There is also evidence that pregnant women want better access to healthcare professionals on the internet and apps (Lupton, 2016) and that social media could be influencing people's mindset and decision making around childbirth choices such as birth location (Witteman et al., 2016). Without midwifery or maternity health professional involvement and limited research into the field, it is not clear the discussions occurring on social media within childbirth communities. Therefore, it is proposed that healthcare professionals, specifically health promoters such as midwives, could utilise social media as a method of communicating with women during the childbirth journey.

There is very little research exploring communication between women and healthcare professionals on social media. A large area of research is around the platform Mumsnet (Mumsnet, 2022). Mumsnet is a popular social networking and discussion platform for parents in the UK, claiming to be *'the UK's most popular website for parents' (Mumsnet, 2022).* Analysing discourse on Mumsnet is regularly used as a tool to review communication between women and understand social narrative or perceptions amongst the pregnant or postnatal community. So far, areas of research on Mumsnet have focussed around mental health (Kinloch and Jaworska, 2021), placentophagy (eating the placenta) (Botelle and Willott, 2020), gestational diabetes (Eades et al., 2020) and VBAC (Konheim-Kalkstein et al., 2015). Many of the online discourses are positive for both the individuals and broader culture. A study by Kinloch and Jaworska, (2021) found that Mumsnet provided a platform for discussion and the de-stigmatisation of postnatal depression, a known risk factor maternity mortality in the UK (Knight, 2021). However, these supportive and reassuring communities have the potential to become an unhealthy. Eades et al. (2020) found a discussion around gestational diabetes (GDM) that focussed on downplaying it as a non-

serious diagnosis with a distinct lack of discussion about the future implications of GDM on a woman's health. From this, it could be argued that there is clearly a role for midwifery input to moderate, advise and communicate with women within this area, and a need for a broader exploration into other forms of social media.

1.2.2 Social Media, Maternity Services and COVID

The pandemic limited face to face access to healthcare services and professionals and new mechanisms of communication were needed. It was found that social media was a useful tool for the general public to improve their health and wellbeing during the COVID-19 pandemic (Goodyear et al., 2021). People turned to social media more for support and friendship during this time (Stevic et al., 2021), with known links between social media and psychological support in relation to health (Giustini et al., 2018).

Not all social media effects were positive. Research from China suggests a direct link between perinatal mental health concerns and the increased social media use during the pandemic (Wang et al., 2022). Another study reported that anxiety and depression increased amongst pregnant women during the pandemic, especially those with minimal social support (Brik et al., 2021). Work is set to continue to explore the shorter and longer term effects of the COVID-19 pandemic on pregnant women (Freitas-Jesus et al., 2020).

Interestingly, a study by Pinto et al. (2021) found minimal misinformation in a study of news articles, Facebook posts and Mumsnet posts surrounding COVID and pregnancy when compared to the RCOG guidance at the time. This may however be skewed by the relatively small sample size. Posts were largely negative sentiments towards the pandemic, which are known to often be detrimental to an individuals' mental health (Stone and Veksler, 2022, Chao et al., 2020, Akca and Ayaz-Alkaya, 2022, Chu et al., 2022).

Looking to allied health professional fields, an international scoping review of nurses' use of social media during this time found that increased engagement of social media meant they were able to support one another and promote COVID-19 information and behaviours (Glasdam et al., 2022). They found an absence or limited discussion around communication with patients on social media, which they attribute to professional uncertainty about how to use social media. Morse and Brown (2022) found increased use of social media by midwives during the pandemic in the UK, with benefits of finding it a helpful communication tool and method of updating women on changing guidelines. They found that social media improved both midwives' and women's experiences of communication during the pandemic, highlighting the potential of it as a tool for communication during challenging times. It is expected that similar research and further findings will continue as the pandemic continues to progress and services resume to the 'new normal'.

1.2.3 Social Media and Midwifery

After 'Harnessing Digital Technology' was highlighted as a key area in the Maternity Transformation Programme (NHS England, 2016), the Maternity Digital Maturity Report 2018 was released (NHS England, 2018a). This report aimed to explore the current state of digitalisation across maternity services in England, with one element looking into social media usage. It recognised that some NHS trusts were using it to communicate with women and families, but that it was not easy. It recommended that social media needed to be embraced by maternity services, but equally that it is something that they needed to be wary of.

Despite what is known about women's use of social media for information seeking during pregnancy, there is little known about midwives' use of it. With the current significant concerns about communication within maternity services (Independent Review Group, 2022) and role as midwives as public health promoters, social media could be one answer to improving the care that we provide. Despite this, early studies have shown that midwives recognise it as important, but feel that it isn't their responsibility to engage with it and many are concerned about the professional implications of using social media (Hundley et al., 2019).

The NMC released guidance for nurses and midwives under the title 'Guidance on using social media responsibly' on how to use social media within their role (NMC, 2015). However, it is known that seven nurses and midwives were struck off due to improper use of social media between January 2017 and March 2019 (NMC, 2019a), suggesting more guidance and support is needed. As social media is a potential area for improvement of communication within maternity services, it is important to know whether and how midwives are currently using social media. Midwifery engagement with social media could be having a significant impact on the profession as well as women and their experience of maternity services. This research therefore aims to unpick midwives' views and experiences of using social media, as well as how they are currently using it.

1.3 Aim of Thesis

The aim of this thesis is to explore midwives' views and experiences of using social media within their role, and their use of the social media platform Instagram.

1.4 Structure of the Thesis

The thesis is divided into two phases and includes manuscripts submitted for publication as part of an integrated thesis (figure 1).

Phase 1

To provide background and insight into a project exploring midwives' use of social media, phase one set out to review the literature on midwives' views and experiences of using it within their professional roles (chapter 2).

Phase 2

Phase 2 of this Master by Research explored how midwives use the social media platform Instagram to represent birth (chapter 5).

Figure 1 – Thesis Overview

Ch 1 - Introduction

Phase 1

Ch 2 – Literature review Including integrated paper 1 – *Midwifery*

Phase 2

Ch 3 – Background and Justification of the Empirical Study

Ch 4 - Methods

Ch 5 – Empirical study Including integrated paper 2 – *Women & Birth*

Ch 6 - Discussion
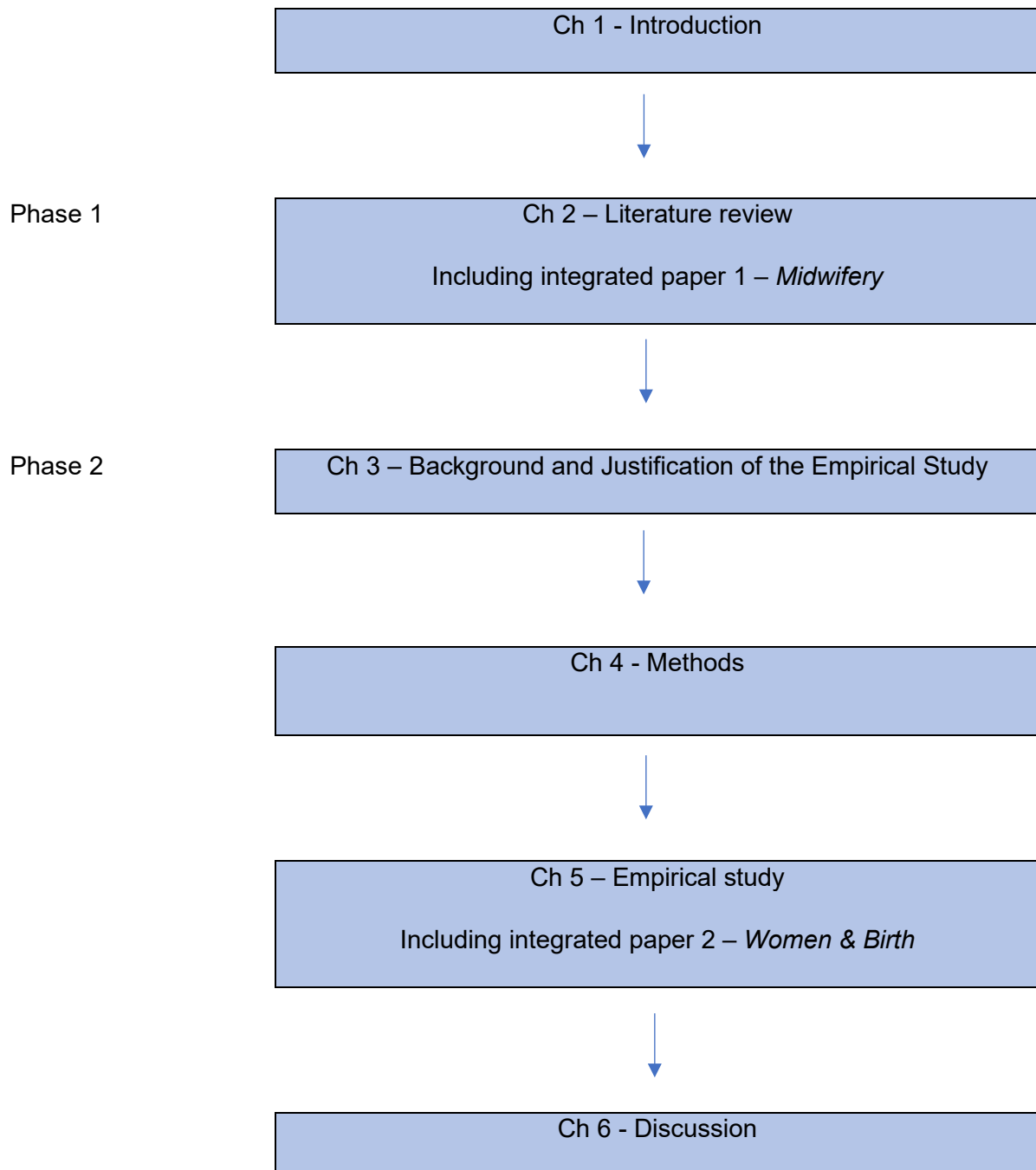
Prior to commencement of this project, ethics approval was achieved through Bournemouth University Ethics Committee (appendix A).

The next chapter outlines the literature review that underpins this masters work.

2.0 Chapter 2 – Literature Review

This chapter provides a review of the literature regarding social media use by midwives. The chapter begins with some brief context on social media use in midwifery. Next a scoping review is presented that explores the literature on views and experiences of nurses and midwives from the UK when using social media within their professional role. The chapter concludes with a further discussion before the empirical study is introduced in chapter 3.

2.1. The Context in which Social Media is Used in Midwifery

 The use of social media within midwifery practice is currently broadly unmapped. It does appear to be an area of growing interest, with a recent review exploring its use within the context of students (O'Connor et al., 2018). Whilst it found only a few papers within the area, it did find positive correlations between students' knowledge and their experiences. Findings were focussed around creating a network amongst peers for social support. Despite these findings, as well as media campaigns by midwives to encourage their peers to use social media (Byrom, 2014, Cole, 2017), there is limited engagement across the profession.

This formulated the research area of interest for phase one of this project.

2.2 Research Design

In order to understand how midwives' view social media a review of the literature was conducted. A typology of reviews found that there are 14 different types of review, although few are mutually exclusive (Grant and Booth, 2009). It outlined the backgrounds and uses of each methodology, and how the subject matter, time available, type of data and context determine the appropriate review method to utilise.

A systematic review of the literature is a traditional and popular method, known for its structure and rigor to produce high quality, replicable reviews that search, critically appraise and synthesise literature (Gopalakrishnan and Ganeshkumar, 2013). However, their large, reliable nature mean that they require significant bodies of high quality, readily available publications to be included (Aromataris and Pearson, 2014). A preliminary search (see section 2.1.5) indicated that there was little research or published work around this area, and therefore a systematic review would not have been appropriate.

Scoping reviews are the most appropriate type of review in new areas of research and provide a tool for identifying knowledge gaps and mapping the literature within a field (Munn et al., 2018). This was the method chosen for this pioneering review. Due to its new and exploratory nature, there is no set definition for a scoping review, however it is generally agreed that it is a method for providing an overview of a broad topic and an exploration into a new area (Peterson et al., 2017). It is a flexible new approach to mapping the nature and

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extent of literature within a new field (Grant and Booth, 2009); so within the unchartered area of midwifery and social media, this method was ideal. Some argue that the newness of this model leaves room for error in lack of methodological underpinning (Pham et al., 2014), however the research around the method is increasing, with new models being introduced to provide theoretical background (Peterson et al., 2017). For this study, Levac et al.'s (2010) model was utilised to provide structure and ensure rigor.

2.2.1 Research Protocol

A protocol of this study was published on PROSPERO – ID CRD42021244971 (Marsh et al., 2021) (appendix B). PROSPERO is an international database of systematic review protocols, free to submit to and free to read (Schiavo, 2019). Its success since implementation is attributed to its aims: reducing duplication of reviews, improving transparency and therefore reducing bias (Booth et al., 2012). PROSPERO is a peer reviewed system, which is a quality assurance mechanism in which articles are reviewed by others and their feedback and judgement used to improve work and select those appropriate for publication (Ross-Hellauer, 2017). This is largely to ensure high quality work is produced with appropriate interpretation and conclusions (Gannon, 2001). Whilst some argue that peer review is a significant cause of the delay of publication when delays in findings reviewers stalls the process (Kelly et al., 2014), the benefits to the research itself means that it is still considered an essential element of quality publications. In the context of this study, as well as improving quality, another benefit of publishing a protocol in PROSPERO is the publicity of a free, open access article.

2.2.2 Ethics

Commonly ethics approval is not sought for reviews of the literature as publications are already in the public domain, however this phase was approved as part of the two-phase study approved by Bournemouth University Ethics Committee (ID34773 - appendix A).

2.2.3 Pilot

Initially a pilot was undertaken using the data collection strategy outlined below and focussing exclusively on midwives (appendix C). However, only 3 papers were found. To increase the content and scope of the review, the search was broadened. As nurses and midwives in the UK both work to the same NMC Code of Practice (NMC, 2018) and to the same social media guidance (NMC, 2015), both professions were included. This ensured that the outcomes were still relevant to the midwifery profession, but enough studies were included.

2.2.4 Research Question

What are UK nurses and midwives' views and experiences of using social media within their role?

2.2.5 Data Collection

Databases were selected to include papers from both the health and communications fields. It has been estimated that 60% of published systematic reviews do not find 95% of the key literature due to not searching significant databases (Bramer et al., 2017). It is broadly accepted that the number of databases needed for sufficient rigour is varied and differs between specialties and the subject matter (Bethel and Rogers, 2019). A review of 95 neurology systematic reviews found that researchers used on average 2.59 databases per study (Vassar et al., 2017), whereas another review of diabetes-related papers used on average 5 per review (Justesen et al., 2021). Therefore, steps were taken to ensure the appropriate databases were identified for searching. This included reviewing library recommendations, liaising with a specialist librarian and consulting with supervisors who have expert knowledge of the fields. Initially, a target number of databases was not identified to allow for full inclusivity and breadth. However, considerations had to be made in line with time restraints and the databases accessible through BU.

Full details of the methods, including the search strategy, follow in the manuscript below. Data were extracted using a data extraction tool (appendix D) which was trialled by another researcher prior to use.

2.2.6 Data Analysis

Thematic analysis was chosen as the data analysis tool. Thematic analysis is a form of qualitative analysis that can be defined as 'a method for identifying, analysing and reporting patterns (themes) within data' (Braun and Clarke, 2006, pg. 77). Thematic analysis has been identified as an ideal method when the subject matter is largely un-researched as it works in an approach similar to grounded theory – with codes and themes synthesised throughout the process in response to data development (Kiger and Varpio, 2020). This study is exploring a new area of research so therefore thematic analysis is an appropriate tool.

A summary of themes and their development can be seen in appendix E.

2.2.7 Manuscript of Scoping Review submitted to Midwifery Journal

The scoping review is now presented in the form of a manuscript, which has been submitted to *Midwifery* for consideration for publication

See https://eprints.bournemouth.ac.uk/38257/

3.0 Chapter 3 – Background and Justification of the Empirical Study

How midwives are portraying birth could be affecting women and their expectations of birth. Therefore, by analysing their posts on the popular social media platform Instagram, a greater understanding of how they portray birth will provide insight into the content to which pregnant women are exposed.

Exploration of media and birth began with representations of birth in traditional media, finding increased medicalisation (De Benedictis et al., 2018, Luce et al., 2016). Whilst suggestions have been made that this may be linked to the increasing fear of birth rates in the UK (Hundley et al., 2015), research into the area and the subsequent impact on women and their feelings and decision making around childbirth is still in its early stages. There is also little to no research around social media content and its subsequent effect on women, meaning that whether this mirrors the findings of traditional media is unknown. It is known that younger people are now turning to social media more than ever for news consumption and updates (Ofcom, 2022c), and this could be reflected in their information gathering for other areas such as health. Therefore, attention needs to be paid to the content currently on social media to be able to foresee and predict the subsequent impact on women and their families.

How midwives use social media is a further under-researched area, as highlighted in the previous manuscript (chapter 2). Research has even shown that a trusted source can overrule incorrect information on health on social media, subsequently debunking myths and promoting more accurate health information (van der Meer and Jin, 2020, Walter et al., 2021, Bode and Vraga, 2018). Therefore, if information on social media was incorrect about birth or pregnancy related topics, using the same principles it could be proposed that midwives have the opportunity to rectify information that may be incorrect or skewed. Despite this, there is no literature exploring the content that midwives' posts on social media or whether their representation of birth is accurate or informative.

Given that traditional media focusses around a medical narrative of birth and that fear of birth is on the rise in the UK (Dencker et al., 2019), a starting point within this area of research is around birth. It is known that midwives can influence choices around birth within their routine care, using their knowledge, experience and background to consciously or subconsciously influence women (Bringedal and Aune, 2019, Cook and Loomis, 2012, Woog, 2017). Therefore, focus needs to be paid to how midwives are currently using social media to post about birth, to provide background and scope on the current situation.

3.1 Social Media within Maternity Services

Moving towards digital technology has been embedded within national policy for several years, with the NHS Long Term Plan stating that 'Digitally-enabled care will go mainstream across the NHS' (NHS, 2019) and the NHS Patient Safety Strategy highlighting digital developments as a key opportunity for improving safety (NHS England, 2019). Honing in more specifically on social media, it has been recognised as an important tool for communication (NHS Digital, 2022) and within Maternity services, 'Harnessing Digital Technology' is a workstream within the Maternity Transformation Programme (NHS England, 2016). Whilst the role of a 'Digital Midwife' has been outlined by NHS England (NHS England, 2018b), it does not mention the use of social media. However it is beginning to become an established role in some pioneering hospitals, such as Didi Craze, the Social Media and Communications Midwife at BSUH (BSUH, 2020), although this is not standardised across the UK. How this role impacts women is largely un-researched, and there is no clear framework for their job role, how they use social media or how this could be rolled out across the UK.

3.2 Background – Exploring Midwives' use of Instagram

The Kings Fund highlighted that a key way to improve communication is to first identify how effective communication is now (The King's Fund, 2012). Given the limited information regarding how midwives use social media the next phase of this thesis aimed to explore midwives' use, specifically within the context of posting about birth. Considering the time constraints of this project, one social media platform was chosen to explore. The platform chosen was Instagram, and a full rationale behind this decision can be found in section 4.4.2.

3.2.1 Introduction to Instagram

Instagram is a free photo and video sharing app on which users can upload content and share them amongst the community (Instagram, 2022b) and was one of the fastest growing networks amongst young people in 2021 (OFCOM, 2022b). Despite this, the Maternity Digital Maturity Assessment found Instagram to be the least favoured platform for communication by hospitals across the NHS in England (NHS England, 2018a), highlighting further the communication gap between women and maternity services. A rapidly developing platform, Instagram was purchased by what was to become the 'Meta' company in 2021 (Meta, 2012), the company who also currently own Facebook.

3.2.2 Instagram Posts – An Outline

Each post consists of at least one image or video (with a maximum of 10 per post) and a caption. The account's unique name and account image are clearly identified at the top of

the post. Captions are user-generated and can contain text, 'emojis' and often metadata hashtags (#). Other users can interact with posts by 'liking', commenting or sharing a post. Individuals can select privacy settings that protect the identity of individuals who interact with their posts, or their own identity when they like others, but the default setting on Instagram is that this information is public.

A user views posts either by browsing those by a specific individual, or through their own unique 'News Feed'. This is a selection of posts decided by Instagram, including posts from those the user self-selectively follows, as well as some 'recommended' as ones an individual may like. The organisation and promotion of these posts is calculated by the largely classified 'Instagram Algorithm' (Instagram, 2021). Whilst the processes behind this algorithm are widely unknown and constantly evolving, it is suggested that it personalises by user engagement and historical interactions (Mosseri, 2021). The same source proposes that the Instagram algorithm moves user experience away from experiencing posts chronologically, and instead provides the user with a range of posts personalised to the user, based on their previous engagement habits.

3.2.3 Instagram and Birth in the Press

Interestingly, Instagram and birth has already hit the headlines across the globe when Katie Viagos, a nurse from Los Angeles, created the campaign 'The Empowered Birth Project' (Guardian, 2018, Screenshot, 2019, Forbes, 2019). This campaign looked to challenge Instagram's censorship of images and videos of birth, with the aim of celebrating, exposing and opening upon conversation around normal birth. Katie created an Instagram page titled @EmpoweredBirthProject which amassed a following of hundreds of thousands and shortly after, in 2018, Instagram announced that this campaign had led to an updating in the Instagram Community Guidelines (Motherly, 2018). They now therefore read:

"We know that there are times when people might want to share nude images that are artistic or creative in nature, but for a variety of reasons, we don't allow nudity on Instagram. This includes photos, videos, and some digitally-created content that show sexual intercourse, genitals, and close-ups of fully-nude buttocks. It also includes some photos of female nipples, but photos in the context of breastfeeding, birth giving and after-birth moments, health-related situations (for example, post-mastectomy, breast cancer awareness or gender confirmation surgery) or an act of protest are allowed." – Community Guidelines - Instagram (2022a)

Following this, there has been little ongoing discussion of censorship on Instagram. However, pregnancy and birth has continued to be present. In fact, one or both of the top two most liked posts on Instagram in 2017, 2018 and 2021 were related to birth (appendix

F). In 2017, globally renowned singer Beyonce Knowles' pregnancy announcement hit world records on Instagram for its number of likes (Bechler, 2017) (image 1, appendix F). The post depicts the singer in an artistic, flower-shrouded pose, cradling her bump and wearing a green veil, announcing her twin pregnancy. It provoked debate in the media around homebirth, body confidence and feminism (Graham, 2017, Frazier, 2017, McKenzie, 2017, Gibb, 2017), bringing pregnancy and birth to the forefront of the Instagram community. In the same year of 2017, the second most liked image on Instagram was footballer Cristiano Ronaldo's birth announcement of his daughter (Ronaldo, 2017) (image 2, appendix F). Quite conversely, it depicts Ronaldo, his wife, young son and new baby in a very medicalised setting, with all wearing theatre scrub-type hats and outfits and medication pumps clearly in the background. Kylie Jenner's birth announcement in 2018 (image 3, appendix F) takes an alternative approach of her thumb with a pink painted nail being held by her newborn, who is blurred in the background wearing a baby pink outfit. Finally, 2021's second most liked photo of Cristiano Ronaldo with partner Georgina announcing her twin pregnancy, posted as a candid shot taken whilst laid in bed (Ronaldo, 2021, Independent, 2021). Whilst it is clear that portrayals vary, it appears as though pregnancy and birth are popular topics amongst the general population on Instagram.

3.2.4 Literature Review – Birth/Pregnancy/Postnatal Period and Instagram Research

A review of the literature was undertaken of the current studies exploring the use of Instagram within maternity with the intent of scoping current literature. The search was undertaken using broad search terms including 'midwi*' OR 'maternit*' OR 'pregnan*' OR 'birth*' AND 'Instagram*'. The databases searched were CINAHL, Scopus, Web of Science and Academic Search and wider search engine searches were undertaken using Google and Google Scholar. Inclusion and exclusion criteria were used including English language only and full text published. To ensure scope, 'grey literature' was included and studies including qualitative, quantitative or mixed methods.

Table 2 - Articles included in review of the literature

Table 2 - Articles included in review of the literature

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Ref	Key topic	Who's undertaking it	Data Collection design	Study design
MERCIER, R., SENTER, K., WEBSTER, R. AND HENDERSON RILEY, A. 2019. Instagram Users' Experiences of Miscarriage. Obstetrics & Gynecology. 135 (1). 166-173.	Miscarriage	Obstetrician	200 posts collected following #ihadamiscarriage	Qualitative Analysis: Directed content analysis/thematic analysis
MARCON, A., BIEBER, M. AND AZAD, M. 2019. Protecting, Promoting, and Supporting Breastfeeding on Instagram. Maternal & Child Nutrition. 15 (1).	Breastfeeding	Public Health Specialists/ Law	4,089 images and 8,331 corresponding comments posted with popular breastfeeding-related hashtags	Content Analysis/Grounded theory Methodology Analysis: Inductive and Deductive coding methods
LEAVER, T. AND HIGHFIELD, T. 2015. Visualising the Ends of Identity: Pre-Birth and Post-Death on Instagram. Information, Communication & Society. 21 (1).	Ultrasound	Social media/Communications	Sourcing through #ultrasound	Qualitative Analysis
TIIDENBERG, K. AND BAYM, N. 2017. Learn It, Buy It, Work It: Intensive Pregnancy on Instagram. Social Media + Society. 3 (1).	Pregnancy portrayal by pregnant women	Communications	Searched through hashtags to identify accounts to focus on	Discourse Analysis
TIIDENBERG, K. 2015. Odes to Heteronormativity: Presentations of Femininity	Pregnancy portrayal by	Communications	Used an API to collect accounts that	Visual Narrative analysis and visual analysis

in Russian-Speaking Pregnant Women's Instagram Accounts. *International Journal of Communication*. 9. 1746-1758.	pregnant women		used 'tag-words'	
YAM, S. 2019. Birth Images on Instagram : The Disruptive Visuality of Birthing Bodies. Women's Studies in Communication. 42 (1). 80-100.	Portrayals of birth	Digital studies	@Empowered Bodies account	Not specified
WARD, J. 2021. Making Black Motherhood (In)Visible: The Importance of Race, Gender ,and Nation in the Mediation of Meghan Markle on Instagram. Women's Studies in Communication. 44 (2). 231-251.	Portrayal of Meghan Markle	American Language Lecturer	@sussexroyal account	Poststructuralist methodologies of Roland Barthes's (1972) visual semiotic analysis, Michel Foucault's (1989) discourse analysis, and the work of Guy Debord (1994) and his conceptualization of the spectacle.
PAYTON, A. AND WOO, B. 2021. Instagram Content Addressing Pruritic Urticarial Papules and Plaques of Pregnancy: Observational Study. JMIR Dermatology. 4 (1). E262000	Portrayal of pregnancy related skin condition	Psychiatry	428 posts from #PUPPP, #PUPPPs, and #PUPPPrash	Thematic Analysis
OVIATT, J. AND REICH, S. 2019. Pregnancy Posting:	Portrayal of pregnancy	Psychology	Instagram (and Facebook)	Content Analysis

Exploring Characteristics of Social Media Posts Around Pregnancy and User Engagement. Mhealth. 5. 46.			popular accounts chosen	
LOCATELLI, E. 2017. Images of Breastfeeding on Instagram: Self-Representation, Publicness, and Privacy Management. Social Media + Society. 3 (2).	Breastfeeding	Communications	Hashtag mining/review accounts associated with hashtags	Qualitative Analysis of social representations
SANDERS, J. 2019. Sharing Special Birth Stories. An Explorative Study of Online Childbirth Narratives. Women and Birth. 32 (6). E560-566.	Portrayals of birth	Communications	Hashtag mining of #birthstories	Interpretative repertoire analysis
BOGERS, L., NIEDERER, S., BARDELLI, F. AND DE GAETANO, C. 2020. Confronting Bias in the Online Representation of Pregnancy. International Journal of Research into New Media Technologies. 26 (5-6). 1037-1059.	Portrayal of Pregnancy	Communications	Most 'engaged with' posts	Intersectionality Analysis

3.2.4.1 *Researcher Background and Location*

No studies were undertaken by midwives and only one was found that was conducted by an Obstetrician/Gynaecologist (Mercier et al., 2020). Most studies were undertaken by individuals working in the field of journalism, communication or digital or social media studies (Leaver and Highfield, 2018, Tiidenberg and Baym, 2017, Tiidenberg, 2015, Bogers et al., 2020, Locatelli, 2017, Yam, 2019, Sanders, 2019b). Other researchers' backgrounds included psychiatry (Payton and Woo, 2021), public health specialists (Marcon et al., 2019), American language specialist (Ward, 2021) and psychologists (Oviatt and Reich, 2019).

Four papers were undertaken by researchers based in the USA (Oviatt and Reich, 2019, Payton and Woo, 2021, Yam, 2019, Mercier et al., 2020), two in Estonia (Tiidenberg and Baym, 2017, Tiidenberg, 2015), and one in Italy (Locatelli, 2017), Australia (Leaver and Highfield, 2018), UK (Ward, 2021) and the Netherlands (Bogers et al., 2020). A large systematic review looking at social media influencers mirrored these findings, with the USA leading the research field followed by European countries (Vrontis et al., 2021a).

Two papers out of the twelve declared any source of funding (Oviatt and Reich, 2019, Marcon et al., 2019). Three actively declared that they had had no funding (Tiidenberg and Baym, 2017, Locatelli, 2017, Sanders, 2019b) and seven did not mention funding (Leaver and Highfield, 2018, Tiidenberg, 2015, Bogers et al., 2020, Payton and Woo, 2021, Yam, 2019, Mercier et al., 2020, Ward, 2021). Of the papers funded, one was funded by the National Science Foundation (NSF) through the Smart and Connected Communities (S&CC) grant (Oviatt and Reich, 2019) and the other partially funded by Canada Research Chairs program and the Children's Hospital Foundation of Manitoba (Marcon et al., 2019).

3.2.4.2 *Existing Research Content*

There are currently no studies analysing the content posted specifically by midwives or obstetricians on Instagram. Instead, the studies that are available aimed to scope more broadly around portrayals within society. The subject studied in each paper included: portrayal of pregnancy (Leaver and Highfield, 2018, Tiidenberg and Baym, 2017, Tiidenberg, 2015, Oviatt and Reich, 2019, Bogers et al., 2020, Payton and Woo, 2021), breastfeeding (Locatelli, 2017, Marcon et al., 2019), inequalities in motherhood (Ward, 2021) and miscarriage (Mercier et al., 2020). Additionally, only two studies have analysed portrayals of birth (Yam, 2019, Sanders, 2019b).

3.2.4.3 *Existing research around portrayals of birth*

Of the two papers that analysed portrayals of birth, neither explore posts specifically by healthcare professionals. These papers are small studies with limited breadth but provide a limited background to this study.

Firstly, Yam explores posts from the account @EmpoweredBirthProject, a project aimed to oppose Instagram's censorship rules and draw attention to birth, positively educating and exposing it as a normal, messy physiological process (see section 3.2.3). Only three posts were included in the analysis, limiting its reliability and validity. Research provided a narrative analysis of the response to the posts amongst the Instagram community. These three posts consist of a vaginal birth at home, a breech birth in a clinical room and finally an en-caul vaginal birth (location unknown). It is recognised that this small sample size may not

be representative of all posts posted by the user, but these forms of birth are all considered and discussed as images of rare events.

Most of the analysis focussed around the comments and narrative on the posts of birth. Most comments were positive and empowering in line with the ambitions of the campaign, however some users' comments appeared 'horrified' by the images. Conclusions were made around how the campaign had facilitated healthy conversation and educational discussion around birth, actively challenging the sexualised and stigmatised birth culture online. It proposes that the in-depth, complex discussions from women on the post demonstrate their keenness for open, honest conversations about birth.

The second paper, Sanders (2019a), conducted an interpretative repertoire analysis of 110 posts from Instagram around birth stories, using the #bevallingsverhaal (Dutch for 'birth story') to source posts. It aimed to explore how Dutch women tell their birth stories, further exploring the specific way in which they are told and its connotations. This study focusses on women's portrayal of their own birth stories on social media, as opposed to how others receive or interact with this narrative. Therefore, this study reviews an alternative perspective, providing a broader understanding of how women use Instagram.

Sanders found three distinct narratives amongst the posts: 'Sharing your story', 'Going into details' and 'Doing it yourself'. 'Sharing your story' accounted for the explicit sharing of a woman's story and emotional journey, often because they felt they owed it to themselves or the community. 'Going into details' represented a recognition that there is a limit of 'how much' to share (although this limit varied) as well as a narrative of inferring the negatives for storytelling effect, as opposed to sharing explicit details. Finally, 'Doing it yourself' is not just about the physiological act of birthing a baby, but the positive and negatives surrounding ownership of ones' own birth and the surrounding decision making.

3.2.4.4 *Discussion*

Overall, there are very few papers exploring the role of Instagram within maternity. The papers range broadly in topic, but most are small and of limited quality. This reflects the findings of the literature review (chapter 2) in which very limited, poor-quality evidence was found. This is arguably reflective of the broader state of maternity research surrounding social media.

At present, this research is mainly conducted by media or journalism professionals, as opposed to midwives or healthcare professionals. This is reflected in the majority of papers being published in journalism or communication-based journals. Strangely, this contradicts two large systematic reviews of social media research in healthcare (Suarez-Lledo and Alvarez-Galvez, 2021, Chen and Wang, 2021) in which most papers were published in

health journals, with only small numbers in communication journals. Considering that the systematic review included a much broader scope of health fields, it could be suggested that this different allocation of professionals demonstrates a gap in midwifery and obstetric-led research, especially into this area. The reason for this is broadly unknown, but it could be linked to the key theme of 'Fear' found in Phase One. Alternatively, it could be associated with the lack of financial funding around the field, considering that only two out of the twelve papers declared any funding for their research. This demonstrates the low priority on the public agenda of research within this field.

Across the papers exploring Instagram within maternity services, research methodologies and designs are clearly broad with a range of tools for data analysis and collection. This is reflected across many large systematic reviews of social media-based studies (Suarez-Lledo and Alvarez-Galvez, 2021, Chen and Wang, 2021, Bruguera et al., 2019, Wongkoblap et al., 2017, Miller et al., 2021), affirming this across the broader field of social media research. Whilst limited frameworks have been proposed (Lynn et al., 2015), the contemporary nature of social media means that it is still a very new field which clearly has areas for further research. This review of this literature has provided background and options for methodological underpinning of the empirical work in this thesis (chapter 5).

Current research into portrayals of birth is limited, as often papers explore other elements of a childbirth journey, such as pregnancy or breastfeeding. The reasoning behind this is largely unknown but considering the background of the researchers it could be to do with more marketing or communication motives, as opposed to health promotion. This could be similarly affecting the fact that none of the papers reviewed posts or content specifically by healthcare providers.

The two studies currently in publication exploring portrayals of birth on Instagram (Sanders, 2019b, Yam, 2019) are both small. The discussions and posts explored within these studies suggest that 'normal birth' is being challenged, with emphasis on breech homebirth. However, the size of these studies mean that this suggestion is of limited significance and more research is clearly needed. Interestingly, Sanders (2019b) paper found a higher-than-average number of birth stories including interventions which Sanders attributes to the large proportion of primiparous women included in the study. However, it could argued to be linked to the research around healing from birth trauma by posting birth stories conducted by MacLellan (2015), suggesting that these women are using Instagram as a platform for sharing for their own healing. Whilst these early results are suggestive that social media campaigns could be challenging societal norms around birth and providing a platform for debriefing, the effects of this on childbearing women are unknown.

The next chapter describes the methods for an innovative study bringing together media and midwifery to explore how midwives are using the social media platform Instagram.

4.0 Chapter 4 – Methodology

This chapter reports the methods for phase 2 of the thesis. It provides the methodological background to the empirical study in chapter 5. The chapter begins with a discussion regarding the need for interdisciplinary research methods to address the complex way that social media influences health and particularly maternity care.

4.1 Interdisciplinary Research; What is it and Why is it Important?

Interdisciplinary research approaches a research problem by bringing together insights and approaches from one or more research disciplines (Lyall et al., 2011). Benefits include researchers having wider viewpoints and adding richer input from their backgrounds (Klein, 2008, Van Noorden, 2015); having an interdisciplinary research team is known to increase research impact and citation (Leahey, 2018, Yegros-Yegros et al., 2015). It is argued that, just as national healthcare reviews have highlighted the importance of interdisciplinary clinical work (Independent Review Group, 2022, Health Education England, 2022, NHS England, 2014), healthcare research needs to look to broader disciplines to enrich and develop the current research field.

To understand the complex picture of social media and health there is a need for healthcare researchers to collaborate with disciplines such as communications, media, social sciences and humanities. For example, professionals working within the field of communication have a broader understanding of social media, and their uses and expertise could help the development of interventions, education and engagement of key stakeholders. Furthermore, social scientists would provide insight into the understanding of the behaviour and motivations of social media users and society. It can be seen how interdisciplinary input would broaden the horizons of this project past well-known research practices, creating further depth and insight into the research and its outcomes.

Despite this, research within the field of maternity care on social media has almost exclusively been undertaken by non-healthcare professionals (chapter 3), with only one paper within the literature review undertaken by an obstetrician and none including midwives. This may reflect the more media-focussed research methods currently being used, as professionals are more likely to use methods from their area, as opposed to healthcare methods. Whilst there are frameworks available to support high quality interdisciplinary research (Tobi and Kampen, 2018), it is clear that work still needs to be done to encourage this way of working within healthcare research. Given the modern, complex subject of midwifery and social media, a more complex, inclusive, holistic approach is needed in this field moving forward embracing new methods and ways of working

4.2 Research Designs to Study Social Media Usage

Social media research is a new research innovation within healthcare in comparison to the traditional research methodologies, such as quantitative, systematic methodologies and randomised controlled trials more commonly seen in health research (Bhatt, 2010, Liamputtong, 2019). To understand how midwives use social media, social media research designs, as opposed to more traditional health research designs, needed to be incorporated into the study. Social media methods are broad and range widely (Snelson, 2016). A literature review of social media research designs found that the most popular method was through interviews, focus groups and questionnaires (Snelson, 2016).

As social media acts as a 'real time' data source comprising of text, images, videos and a broad spectrum of interactions, sourcing and defining a method can be challenging (Social Media Research Group, 2016). By providing far more scope and access to data and participants than more traditional questionnaires or focus groups, social media facilitates access to a global dataset and therefore the research design should be matched accordingly. A questionnaire or interviews with midwives could provide some background to their intentions and their perceptions of how they use social media (Boynton and Greenhalgh, 2004, DeJonckheere and Vaughn, 2019). However, to understand the content that midwives post, and to which audience members, including pregnant women, are exposed, analysis is needed of the content itself. Within other areas of research, the need for this analysis of the content of social media is beginning to emerge as an alternative angle for understanding social media exposure, interactions and engagement within a healthcare setting (Bruguera et al., 2019, Miller et al., 2021).

4.3 Research Methods to Analyse Social Media Content

There are many different approaches to analysing data collected from social media (table 3) and the choice is largely led by the type or format of data being considered.

Table 3 - Commonly used social media analysis methods

Name	Description	Ref
Content Analysis	'A research technique for making replicable and valid interferences from texts (or other meaningful matter) to the contexts of their use'	Krippendorff (2004)

	Social media content analysis – the above when applied to the medium of social media.	
Discourse Analysis	'the analysis of language in use'	Brown et al. (1983)
Statistical Analysis	'the organization and interpretation of data according to well-defined, systematic, and mathematical procedures and rules.'	Depoy and Gitlin (2016)
Qualitative Analysis	'a classification process in which objects or materials are assigned to a class on the basis of analytical tests made according to established or implied criteria'	(Ellison, 1998)
Narrative Analysis	'an approach taken to interview data that is concerned with understanding how and why people talk about their lives as a story or a series of stories. This inevitably includes issues of identity and the interaction between the narrator and audience(s).'	Earthy and Cronin (2008)

Discourse analysis has been highlighted as a method useful in health research as it utilises the social and political context to understand language and ideology, which is useful when understanding healthcare related culture (Lupton, 1992, Yazdannik et al., 2017). However, discourse analysis focusses on interpreting written or spoken language only (Brown et al., 1983), whereas social media incorporates a broader range of data including spoken, visual, and textual data.

Statistical analysis focuses on numerical data, specifically when comparing an independent variable on other medial variables (MacKinnon and Luecken, 2011). To apply to this study, social media would be the independent variable and then outcomes, experiences and feelings as the other variables. Considering that social media is already used by 98% of internet users in the UK (OFCOM, 2022b), it would be a very difficult trial to complete as most women will already be using it. Furthermore, there are many other numbers of contributing factors to women's and midwives' thoughts and feelings towards a birth (Coxon et al., 2017, Regan et al., 2013), so the study would be very large, complex and time

consuming. Additionally, this study aims to review the content specifically posted by midwives, rather than its effect on women, midwives or other users.

Narrative analysis explores storytelling and the surrounding interactions within social contexts of relations, agendas and ideologies (De Fina and Georgakopoulou, 2008). Applying to this project, it would provide understanding of the narratives around midwives' posts, including how other users interact with them in the culture of birth. However, considering the limited research around social media and maternity in general, there is limited context to apply to the findings of the analysis. Furthermore, the international element of social media, and often the lack of ability to decipher between users' nationalities, would provide difficulties in contextualising the results, with narratives coming from a range of 'cultural norms' around birth.

Definitions of qualitative analysis can vary (Cuadros-Rodríguez et al., 2016), and it is sometimes broadly assumed as a name for the grouping of analytical methods including qualitative data as opposed to a method on its own (Noble and Smith, 2014). In its traditional format, qualitative analysis outputs are restricted to a binary 'yes/no' outcome (Cárdenas and Valcárcel, 2005). Although this provides a simple tool for data analysis, within the context of this study it would limit analysis, data interpretation and therefore outcomes. Further to this, it is also limited to qualitative data, whereas this study would include both quantitative and qualitative.

Content analysis was chosen for this study because it lends itself to a more flexible approach. Content analysis accounts for the interpretation of text 'and other meaningful matter' which can include both quantitative and qualitative data, as found on social media. Systematic reviews have found content analysis is the most frequently used methodology in healthcare research involving social media (Snelson, 2016, Suarez-Lledo and Alvarez-Galvez, 2021), further supporting its applicability to this study.

4.4 Study Design and Methodology

This was an observational study of existing social media content using content analysis.

4.4.1 Content Analysis

Content analysis is often used when analysing posts on Instagram (Suarez-Lledo and Alvarez-Galvez, 2021). This includes studies examining social media and pregnancy (Oviatt and Reich, 2019, Marcon et al., 2019, Mercier et al., 2020).

Content analysis means different things within the media and health research fields. Within health research, content analysis is a research tool to present both quantitative and qualitative data, often following the steps: data collection, data coding by theme or category

and finally analysis and presentation of the coded data (Bowling, 2014). Although traditionally used for text only data, its use has now been expanded out to include all types of data, due to its flexibility of structure (Cavanagh, 1997). Within the fields of journalism and communication, Content Analysis is more than just a tool, and instead it is a method in its own right. Krippendorff (2004) describes Content Analysis as *'an empirically grounded method, exploratory in process, and predictive or inferential in intent'.*

Although traditionally a journalism method, content analysis lends itself to health research due to its systematic, replicable nature (Krippendorff, 2004). High reliability, or the ability to replicate the research with the same outcome (Lachin, 2004), is a fundamental of high quality health research. Furthermore, the concept of 'valid interferences' mirrors the principle of validity or 'appropriateness' of conclusions known to be an underpinning of health research (Leung, 2015). In the context of this study, this method therefore facilitates a systematic understanding of the use of the platform Instagram by midwives with similar principles to that of health research. In light of the limited research into the area (chapter 2), the grounded, exploratory nature of Content Analysis lends itself to the research, bring together the fields of social media and midwifery to allow flexibility for drawing conclusions in unchartered area.

4.4.2 Selecting a Platform

As outlined in chapter 1, there are a broad range of social media platforms. Within the time and financial restrictions of this Master of Research Study, not all platforms could not be included. To ensure the outcomes were most relevant to service users of maternity services, considerations were made to choose the most appropriate platform. Although it is known that Facebook is the platform with the most users across the UK (OFCOM, 2022b), the age category of users who actively prefer it is much older with 83% of 65+ year olds choosing it as their 'main social media account' versus only 12% of 18-24 year olds. Conversely, the mobile application Instagram is used by 90% of internet users aged 16-24 years, compared to 54% of all total internet users, suggesting it is a platform with a much younger audience, and more importantly, an audience of childbearing age.

Considering that the average age of a first-time mother in England and Wales was 30.7 in 2020 (Office for National Statistics, 2022), more focus was taken onto the apps most commonly used by a childbearing woman. Within the age category of 25-34, the top two social media platforms used were equally Instagram (69%) and Facebook (69%) (OFCOM, 2022a). However, it is known that the age range of pregnant women is much wider than this age category. Therefore, to decide between the two platforms, consideration was made as to the most popular platform across all age groups. When asked to identify their 'top three

'main' social media apps', Instagram was the only social media app to appear in all age groups top three (OFCOM, 2022b). Therefore, Instagram was chosen as the platform within this study to explore how midwives post and therefore understand the content to which pregnant women are exposed. Interestingly, a finding of a review of Maternity Services' use of social media within the UK found that Instagram was the least used platform by NHS Maternity Services (NHS England, 2018a). This further highlights the gap in the literature and practice of this platform, despite it being the most used by people of childbearing age, and the urgent need for research within the area.

4.4.3 Aim

To explore how midwives portray birth on the social media platform Instagram.

4.4.4 Ethics

Upholding high ethical standards underpins every aspect of health research within the UK and across the global fields (World Health Organisation, 2022a). Within the UK, ethical standards are monitored and regulated within health research by the HRA (Health Research Authority, 2022). Considerations are based around the four ethical principles: autonomy, non-maleficence, beneficence and justice (Beauchamp and Childress, 1979). Autonomy relates to confidentiality and informed consent, which can be applied by the confidentiality of the users included within the study. Non-maleficence means to do no harm to those involved, with beneficence promoting doing the best for the patient or the people involved. Finally, justice relates to fairness and equity. Considerations were made throughout each step of the research to ensure these principles were upheld.

Information on social media is already within the public domain, it is technically available to researchers as long as ethical considerations are made (UKRI, 2021). The Independent Press Standards Organisation (IPSO) released guidance for social media users about the content that journalists can post about, stating that 'unless there is a public interest, journalists should generally not publish information which: … is private information about a person, such as medical information' (IPSO, n.d.). However, the author argues that there is a distinct difference between journalism and research, with different intentions and backgrounds. As the purpose of this research is to improve care, research suggests that social media data can be used in regards to health, as long as it is used ethically (Stevens et al., 2015). Surprisingly, despite this, a scoping review found that when social media images were used within health research, there was very little mention of ethical practice or consideration (Chen et al., 2021).

The ethical and legal considerations of Data Scraping (extracting information from existing data, see below) and Big Data have been argued in depth, exploring concerns around the

large amount of data that can be acquired, privacy and copyrighting (Krotov and Silva, 2018). An example of publicly misused data that forms part of 'Big Data' occurred when the exercise related application Strava showed 'regularly used' exercise routes around a hidden US military base, inadvertently disclosing its location (BBC, 2018). However, with the correct ethical underpinning collecting such large datasets can be incredibly useful.

Approval to conduct the research was sought and received from the BU Research Ethics Committee (REC) (appendix 1). In line with the Research Ethics Code of Good Practice (BU, 2019), efforts were made to anonymise data and sensitively protect data and users. This included storing data in a password protected spreadsheet on a password protected computer, purposively only including accounts where the user had chosen 'publicly available' as opposed to 'private' and anonymising data at the point of use.

4.4.5 Data Collection

4.4.5.1 Choosing Data

Considering the size and breadth of data available on social media, identifying the data to collect is often undertaken in a range of systematic or purposeful approaches. These include:

- Selecting users or groups – Hashtag Mining, Purposeful Selection
- Selecting users' location
- Selecting the posts

4.4.5.1.1 Hashtag Mining

Hashtag mining is a commonly used tool to select data, which is the use of metadata hashtags for data collection (Li et al., 2017). By searching commonly used hashtags such as #pregnancy or #pregnant, millions of posts are collected, with the user able to prioritise them by 'Top' which uses the Instagram algorithm to choose the most engaged with post, or 'Recent' dependent on date. Collecting data directly from hashtag mining is regularly used when a study is reviewing a concept amongst popular culture, or how a certain topic such as pregnancy or breastfeeding was broadly portrayed (Leaver and Highfield, 2018, Bogers et al., 2020, Payton and Woo, 2021, Marcon et al., 2019, Sanders, 2019b, Mercier et al., 2020). Some studies use hashtags as a way of identifying 'influencers' or key accounts to review more in-depth (Tiidenberg and Baym, 2017, Tiidenberg, 2015), and others use a combination of both techniques (Locatelli, 2017). However, this tool is used to explore a concept amongst the general population, as opposed to a specific population (Li et al., 2017). It is also a time consuming process as it often includes posts that are inaccessible or unusable due to being on private accounts or in other languages, producing a low yield of posts (Sanders, 2019b) and this study had limited time available due to author commitments.

Searching for #birth would collect all data on the topics posted by all people, including individuals, businesses and other healthcare professionals as opposed to just midwives. As the aim of this research was to explore the portrayal of birth by the pre-defined population of midwives, as opposed to the narrative around a topic, hashtag mining was not appropriate.

4.3.5.1.2 Purposeful Selection

Another popular method of data collection is to purposively select users or groups and review their posts (Oviatt and Reich, 2019, Yam, 2019, Ward, 2021). This is more commonly used to understand the narrative around a group of individuals, such as an organisation or a celebrity (Yam, 2019, Ward, 2021), or in this research, midwives. Given the limited engagement that midwives currently have with social media, purposively selecting midwives seemed the most likely method to produce a good data set to answer the research question. Purposeful sampling can be defined as the process of identifying and selecting individuals or groups of individuals that are especially knowledgeable about or experienced with a phenomenon of interest (Cresswell and Plano Clark, 2011). Whilst in some instances it can provide the opportunity for sampling bias (Tafur-Arciniegas and Purzer, 2015), it can be useful for identifying an information-rich sample when the population is small or there are other limiting factors (Duan et al., 2015).

Purposeful sampling also lends itself to Instagram, within the context of 'Instagram Influencers'. It is known that Instagram is the most popular platform for social media influencer marketing (Breves et al., 2019, Reinikainen et al., 2020). Within this, Instagram facilitates the global phenomenon of the 'Influencer', or an individual who has developed 'micro-celebrity' status through social media (Khamis et al., 2017). Instagram influencers have become an incredibly powerful marketing tool for businesses, using their credibility, celebrity status and endorsements to attract certain audiences (Vrontis et al., 2021b). Within other areas of healthcare, studies have shown that, when introduced as a public health intervention, social media Influencers can positively effect a user's lifestyle choices such as diet, smoking, and engaging with healthcare services (Folkvord et al., 2020, Ranpariya et al., 2020, De Jans et al., 2021). Whilst no other studies have been found using a midwife or pregnancy-related influencer, it is noteworthy that several studies in other areas that have used influencers selected through purposeful sampling (Eroğlu and BAYRAKTAR KÖSE, 2019, Majidian et al., 2021b, Majidian et al., 2021a).

Some argue there is room for bias in this strategy, but best practice to reduce this and improve transparency is outlined by Patton: 'The point is to do what makes sense, report fully on what was done, why it was done, and what the implications are for the findings' (Patton, 2002, p.72). Purposeful sampling has been proposed as a tool to understand a

phenomenon of interest, including broadening outcomes and providing alternative perspectives, creating a richer understanding of a concept (Benoot et al., 2016). As there is a predefined phenomenon of interest within this study, midwives' use of Instagram, it was deemed the appropriate strategy.

4.4.5.2 Users' Location

Midwives from four countries were chosen: New Zealand, the United Kingdom, the USA and Australia. A four-country sample was chosen because social media is a global phenomenon and women are exposed to midwives' posts from all over the world. The countries were chosen due to their English-speaking nature, as well as the broadly similar practice despite different healthcare systems. Other considerations included the purposeful selection of midwives from each country and the restraints of this project, and broader problem with collecting data during the ever developing 'Internet time' (Karpf, 2012). A total of five midwives from each of the four countries were selected (twenty in total) using the selection criteria in appendix G, with each midwife self-declaring the country that they were from. The number of five midwives from each country was selected to increase breadth but also ensure the content collected was manageable within the allocated time frame. Their posts were collected over a year period from 1/9/2020 to 31/08/2021 to account for the fluctuations in trends over the year. It is recognised that the sample size of 20 midwives is limited, however the large volume of data on each Instagram account meant that there were time constraints.

4.4.5.3 Selecting the Posts

4.4.5.3.1 The Pilot

Due to the complexity and richness of the data that can be collected, the researcher was mindful to ensure datasets were broad but also manageable within the time frame allocated. To answer the research aim, posts were chosen which related to birth. Initial efforts to reduce the posts included focussing on photographic representations alone, excluding cartoons, text-only images or other variations. It was expected that the content analysed would be midwives' own subjective representations of birth, chosen to share with others.

The number of images/videos about birth to be included was not predetermined. In recent studies that explored social media and pregnancy or birth, the number of posts ranged from n=3 (Yam, 2019) to n=16786 (Leaver and Highfield, 2018). Therefore, a pilot was the undertaken to explore the feasibility of this study and to review how many images/videos would be collected from each midwife's account and ensure enough data would be included (appendix H). The researcher reviewed each account and identified all pictures portraying photographic representation of birth over a 13-month period. A total of 4233 images/videos

were found, however only 548 images/videos were identified relating to birth, which was felt to be too small.

4.4.5.3.2 The Empirical Study

Following the pilot, the inclusion criteria were expanded to include cartoons, educational resources or text-only images. Considering that the aim of this study was to explore how midwives post about birth, including more than just the photographic representations provided a more holistic understanding.

All posts by the midwives throughout the period of 1/9/2020 to 31/08/2021, with the URLs of posts about birth were collected. This included 917 posts, containing 1216 images/videos as some post contained more than one image or video. URLs were then inputted into the Data Scraping tool as explained below.

4.4.5.4 Data Scraping

Data Scraping, otherwise known as Web Scraping, is broadly a 'technique for the automated collection of online data' (Marres and Weltevrede, 2013). It falls under the umbrella of 'Big Data', which is the collective term for the collection and analysis of the very large datasets now achievable by using computerised methods (Agnellutti, 2014). Within the finance industry, data scraping is widely used to collect data to determine and predict consumer spending habits across a range of fields (Krotov and Tennyson, 2018, Polidoro et al., 2015, Ganguly et al., 2022). Applying this to health and epidemiology research, a few studies have begun using it as a data collection tool to understand engagement, developing communities and public health content on the internet (Baskaran and Ramanujam, 2018, Rennie et al., 2020, Mooney et al., 2015). Data Scraping has proven to be an innovative technique for creating 'live' data sets that are more efficient to analyse (Marres and Weltevrede, 2013). As health research is an ever changing, contemporary field, it can be seen that the 'live' nature of Data Scraping lends itself to the field.

To Data Scrape, a user identifies the data that they require and location from which to search it, and then a complexity of codes and formulae are created through a programming language such as Python (Zhao, 2017). This then creates a dynamic database of raw information. During this Mastersof Research programme, the researcher was restricted by time and therefore unable to develop the scraping programme from scratch. In this instance, there are a plethora of readily available pre-built Data Scraping platforms from which to choose. When choosing a Data Scraping platform, there are several considerations to be made. Whilst there are many web pages or blogs recommending top tools to use (Aginic, 2020, HEVO, 2021, Guru99, 2022), there is very limited literature around this novel subject

containing only a few basic recommendations (Ratra, 2019, Batrinca and Treleaven, 2015, Ahamad et al., 2017). These include:

- *the nature of the data one is searching for and whether analysis is required*. For this study, where the raw data of midwives' posts was required without analysis, a simple Data Scraping extraction tool was required.
- *the cost* - Several tools require payment and there were limited funds available within this study.
- *the output* - The specific content achievable through each platform is varied, so the required data output must be considered. For this study using Instagram, information about the user is required as well as information about the post itself.
- *Skills of the researcher* - The author's limited computer programming background, the user friendliness and ease of use of the platform were considered.

A review of the recommendations suggested that Octoparse and Phantombuster were popular tools. Both had a capped, free search capacity that would meet the needs of the study, and both were regularly used by studies involving Instagram (Thejas et al., 2019, Razali et al., 2021, Dedema and Fichman, 2021, Goh et al., 2021, Yu and Egger, 2021). Therefore, the author trialled both platforms with a pilot selection of posts. Phantombuster was chosen due to the ease of use.

4.4.6 Data Extraction

Content analysis in the media field often utilises existing code sheets; however, the limited current literature and pioneering nature of this research, meant that there were no existing code sheets available. Therefore a combination of coding strategies was used, including inductive coding, using the NHS birth plan and some categories from another media related study (De Benedictis et al. (2018).

To create a usable database of post content, a coding spreadsheet was built (appendix I). Codes were initially developed from a study by De Benedictis et al. (2018) which analysed the portrayal of birth on the television programme 'One Born Every Minute'. As the author wished to further consider posts in the context of decisions women may have to make around birth, extra codes were added from the NHS Birth Plan template (NHS, 2021), such as presence of a cannula, fetal monitoring and location of birth.

Next, inductive coding was utilised, in line with the 'grounded' element of Content Analysis. Inductive coding is, put simply, 'the economical representation of as much as possible about the sensory messages we receive.' (Barlow, 1974). It is a tool for ensuring a broader analysis, and is known to provide the most fundamental method of deriving a code (Boyatzis,

1998). Pilot data enabled the researcher to create codes of other common topics. Examples of the inductive codes included can be seen in table 2 of appendix I and include 'Category of Image/Video', 'Is this an image of a real life person in real labour?' and 'Image Type'.

Within inductive coding is the prospect of Categorising. It is argued that content analysis is used to describe a phenomena of interest for a specific purpose, and therefore categories are often created to generate knowledge and increase understanding of a particular area (Downe-Wamboldt, 1992). Categorisation is most commonly used within social psychology, as the systematic way ideas or preconceived notions within a discourse of people, collectives or objects are grouped (Potter and Wetherell, 1987). Researchers propose that how an individual categorises is based on prototypes, or typical examples (Cantor and Mischel, 1979).

In this study, this included the development of discrete categories, which interpreted the 'aim' of the image or video. These were developed by reviewing the data collectively and considering the 'sentiment' of each image or video. Once categories were developed, they were presented and discussed with a second researcher to ensure clarity. They were also included in the inter-coder reliability to ensure higher quality interpretation. Where conflicts were identified, outcomes were discussed and agreed. In the case of an image or video overlapping more than one option, images/videos were allocated the most pertinent category. Examples of these images within each category can be found in appendix J. Categories were:

- Education – where the primary focus was on an educational topic about birth
- Birth Positivity – where the primary focus was on celebrating birth positivity or positive affirmations.
- Birth Story – where the primary focus was to share a specific birth story
- Comedy – where the primary focus was for amusement or comedic effect
- Advertisement – where the primary focus was to advertise a product or service

Having categorised the data, the next step was to add codes to the categories. Both manifest and latent coding were used within the data extraction tool. Manifest coding is that which is easily observable and at 'face value' (Kleinheksel et al., 2020) and is considered most reliable (Dooley, 2016). For example, within this study the code 'Cannula visible' was used with the answers of either 'yes' or 'no'. This is considered manifest coding as it clearly a yes or no answer as to whether a cannula was visible. However, latent coding was also used where less obvious codes are used as a tool for interpreting meaning or underlying connotations (Kleinheksel et al., 2020). One example is 'Stage of Labour' which can be less clear, particularly from images, and open to professional judgement. A mixture of manifest

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and latent codes were used throughout this study to identify facts as well as interpret meaning.

Codes were reviewed against known criteria for a quality code: capturing qualitative richness of a phenomenon, valid and usable in analysis, interpretation and presentation of results (Boyatzis, 1998). Once completed, this spreadsheet was trialled by another researcher. Conflicts or differing interpretations were discussed and the codesheet finalised, as seen in appendix I.

4.4.7. Data Analysis

Following Coding, descriptive statistics were the main tool of data analysis, considering the largely quantitative outcomes of the code sheet through categorical and continuous data. Descriptive statistics are '*the numerical procedures or graphical techniques used to organise and describe the characteristics or factors of a given sample.'* (Fisher and Marshall, 2009). Benefits are that they collate and summarise data simply, and are useful for identifying or monitoring trends (Marshall and Jonker, 2010). They are however limited largely to quantitative data.

To review the image/video captions collected via the chosen data scraping tool, a more qualitative data analysis tool would have had to have been used. Due to the time restrictions of this project, captions were collected but have not yet been analysed. Comments were also not actively collected due to the same restrictions but would have required a similar approach.

4.4.8 Intercoder Reliability (ICR)

Since Content Analysis includes human coding, it is open to the potential for bias. To increase reliability and validity intercoder, or inter-rater, reliability testing is strongly recommended (Lacy et al., 2015). In regard to coding, inter-rater reliability ensures that the '*obtained ratings are not the idiosyncratic results of one rater's subjective judgement'* (Tinsley and Weiss, 1975, pg. 358). Inter-rater reliability is a tool used within the field of healthcare research to compare and confirm agreement between two or more individuals who measure or categorize outcomes of a study (Wennberg et al., 2019). Within the field of media, a similar concept is used called Intercoder reliability (ICR), which applies the same principles to codes (O'Connor and Joffe, 2020).

The outcomes of the ICR screening are outlined in the publication of the empirical study. Of the posts, 5% were selected using an online random number generator and were sent to another researcher for inputting into the coding sheet. There is little consensus on the amount of data that should be used in an ICR test (Campbell et al., 2013), so consideration

was made for increasing reliability, but also time and workload pressures. After initial review, efforts were made to increase intercoder reliability by meeting to discuss conflicts and ensure aligned values. It is noteworthy that most of the inconsistent codes were the latent codes, which is to be expected. The final ICR test produced results of over 80% consistency across all codes, which is in line with the broadly accepted acceptable ICR level as outlined by (Miles and Huberman, 1994).

This chapter has reported and justified the methods that underpin the research conducted in the empirical study, phase 2 of the thesis. In chapter 5 the findings from the study are reported. The study is presented in the form of a manuscript and has been submitted to *Women and Birth* for consideration for publication.

Table 5 - Interceder Reliability

5.0 Chapter 5 – Empirical Study – Manuscript of Content Analysis Submitted to Woman & Birth Journal

This chapter reports the study designed to understand how midwives post about birth on the social media platform Instagram. The chapter begins with the study presented in the form of a manuscript for *Women and Birth* and therefore contains some elements of methods as well as findings. Additional findings are then included and the chapter closes with a summary.

See https://eprints.bournemouth.ac.uk/38258/

Phase 2 – Education Sub-Analysis

To further analyse the findings of the data collected, sub-analysis was undertaken of posts categorised as 'Education'. Considering that it represented 47% of the total posts (n=567), exploration further into this proportionately large amount of posts aided the narrative around how midwives post about birth on Instagram.

Methods

To explore the topics and the delivery of education-related information, a second coding sheet was developed (appendix K). This used the NHS Birth plan as a template, since it reflects the decisions that women are encouraged to consider prior to birth (NHS, 2021). In addition, the coding sheet included inducive coding developed after the data were collected. The sheet was reviewed by another researcher prior to use for critique.

Results

A total of 566 images or videos were included (table 4). The largest number came from the USA (n=215), followed by the UK (n=178), Australia (n=171) and finally New Zealand (n=2). Educational images/videos from the UK, New Zealand and Australia were largely teacher-centred , with only the USA having the largest proportion learner-centred (57%).

Table 4 - 'Education' Images/Videos Summary

	UK		USA		NZ		Aus	
	n	%	n	%	n	%	n	%
Total 'Education' Images/Videos	178		215		2		171	
Method of Education								
Teacher centred - imparting knowledge only	131	*74%*	92	*43%*	2	*100%*	122	*71%*
Learner centred - women invited to contribute	47	*26%*	123	*57%*	0	*0%*	49	*29%*
No. images/videos that directs user to further content	21	*12%*	60	*28%*	1	*50%*	30	*18%*
Challenging practice								
No. of images/videos encouraging the woman to challenge or doubt HCPs	7	*4%*	25	*12%*	0	*0%*	19	*11%*
No. of images/videos actively encouraging the woman to go directly against advice	3	*2%*	16	*7%*	0	*0%*	16	*9%*
UK Guidelines								
Images/Videos providing advice from a NICE guideline?	84	*47%*	63	*29%*	1	*50%*	76	*44%*
Images/Videos advising the opposite of a NICE guideline	0	*0%*	11	*5%*	0	*0%*	5	*3%*

Subject matter varied largely (table 5), and despite there being 27 different education subject categories to code to, a large proportion of images/videos were coded 'Other' (25%). A total of 37% of all educational images/videos were coded to categories contained within the NHS birth plan. Of these, pain relief was the most common across the UK, Australia and USA, representing 7%, 7% and 6% of educational images/videos respectively. No images or videos from New Zealand were coded to the subjects within the NHS Birth plan.

Regarding challenging practice, there were a number of posts that encouraged women to doubt or challenge their healthcare professional (table 4). The largest number of these posts were from the USA with 25 images/videos (12%), followed by Australia with 19 (11%), the UK with 7 (4%) and finally New Zealand with zero. Further to this, some images/videos encouraged women to go actively against healthcare professionals, with 16 from Australia (9%), 16 from the USA (7%), 3 from the UK (2%) and none from New Zealand.

Table 5 - 'Education' Images/Videos Subject Matter

	UK		USA		NZ		Aus	
	n	%	n	%	N	%	n	%
Total Educational Images/Videos	178		215		2		171	
Subjects from NHS Birth Plan Template								
Pain Relief	13	7%	12	6%	0	0%	12	7%
Maternal positions in labour	12	7%	9	4%	0	0%	8	5%
Fetal Monitoring	8	4%	7	3%	0	0%	1	1%
Birth Partners	6	3%	3	1%	0	0%	10	6%
Location of birth	6	3%	0	0%	0	0%	0	0%
Caesarean Section	6	3%	11	5%	0	0%	9	5%
Perineal Trauma	4	2%	3	1%	0	0%	2	1%
Instrumental Birth	3	2%	8	4%	0	0%	0	0%
Placenta/Delivering the Placenta (Not DCC)	3	2%	7	3%	0	0%	6	4%
Birth Equipment	2	1%	2	1%	0	0%	6	4%
Cannula in Labour	1	1%	2	1%	0	0%	0	0%
Episiotomy	1	1%	0	0%	0	0%	0	0%
Students at Birth	0	0%	0	0%	0	0%	0	0%
Skin to Skin Contact	0	0%	1	1%	0	0%	4	2%
Infant Feeding	0	0%	1	1%	0	0%	0	0%
Vitamin K	0	0%	0	0%	0	0%	0	0%
Subjects from Inducive Coding								
Other	38	21%	54	25%	1	50%	47	27%
Physiology of Birth	16	9%	13	6%	0	0%	15	9%
Emergencies in Birth	12	7%	4	2%	0	0%	11	6%
Umbilical Cord/Delayed Cord Clamping (DCC)	10	6%	14	7%	1	50%	2	1%
Birth Environment	8	4%	6	3%	0	0%	10	6%
Induction	6	3%	12	6%	0	0%	7	4%
Waters/Membranes Breaking (inc ARM)	6	3%	3	1%	0	0%	4	2%
Pooing in Labour	6	3%	1	1%	0	0%	1	1%
Latent Phase	5	3%	8	4%	0	0%	7	4%
Other Labour 'Taboo'	3	2%	9	4%	0	0%	1	1%
Birth Trauma/Reflection	2	1%	8	4%	0	0%	2	1%
Coping with Labour	1	1%	19	9%	0	0%	6	4%

Discussion of taboos or unusual events was also noted to be higher than expected (table 5). Instrumental birth education represented 2% of images/videos from the UK and 4% from the USA. Furthermore, education around emergencies in birth were present in 7% of images/videos from the UK (n=12), 6% from Australia (n=11) and 2% from the USA (n=4). Pooing in labour also was discussed in 8 images/videos in total (1%) and other taboos in 13 (2%).

The top five most represented topics from each country by proportion are shown in table 6. Physiology of birth was in the top three most popular from the UK, USA and Australia. Umbilical Cord/DCC was also in the top five of images/videos from the UK, New Zealand and USA. Emergencies in birth was also the 3rd most common topic in images/videos from the UK and 4th most common in the USA. Out of the most common topics, 31% were from codes derived from the NHS Birth Plan template, with the remaining 69% derived from inducive coding.

Table 6 - Top Five Most Popular Topics in 'Education' Images/Videos by Country

Country	Topic	No. of Images/Videos		Birth Plan Code (BPC) or Inducive Code (IC)?
		n	%	
UK				
	Physiology of Birth	16	9%	IC
	Pain Relief	13	7%	BPC
	Maternal positions in labour	12	7%	BPC
	Emergencies in birth	12	7%	IC
	Umbilical Cord/DCC	10	6%	IC
USA				
	Coping with Labour	19	9%	IC
	Umbilical Cord/DCC	14	7%	IC
	Physiology of birth	13	6%	IC
	Pain Relief	12	6%	BPC
	Induction	12	6%	IC
New Zealand				
	Umbilical Cord/DCC	1	50%	IC
Australia				
	Physiology of birth	15	9%	IC
	Pain Relief	12	7%	BPC
	Emergencies in birth	11	6%	IC
	Birth Environment	10	6%	IC
	Birth Partners	10	6%	BPC

5.2.3 Discussion

Within the UK, providing Antenatal Education to mothers is recommended in the NICE Antenatal Care Guidelines (NICE, 2021). It is also underpins the role of the midwife as a public health advocate and promoter, as outlined in the Nursing and Midwifery Council Standards of Proficiency for Midwives (NMC, 2019b). Therefore, it is not surprising that such a large proportion of posts were educational. However, considering the differences in practices and cultural norms between the UK, Australia, USA and New Zealand, there is a

chance that women could be provided with differing or incorrect information without recognition of the varied practice between countries.

Many studies have demonstrated the benefit of holding group sessions with new parents, finding that interactions between parents can be as important as the interactions with a healthcare professional (Brixval et al., 2016, Brixval et al., 2015). However, during the COVID-19 pandemic it was not possible to hold group gatherings. Many hospitals introduced varying online education alternatives, although due to the contemporary nature and rapid onset there is limited evidence available about the format or success of these, but early evidence does show some success (MacFarlane et al., 2022). It is suggested that creating a birthing community on social media could emulate this group session online, although more research is needed into the field.

It is known that Antenatal Education can have significant positive outcomes on women's birth experience, reduce anxiety, lower the need for caesarean section or epidural and overall improve self-efficacy (Ferguson et al., 2013, Hong et al., 2021). Furthermore, women feel that it is important to receive some form of Antenatal Education prior to birth (Gottfredsdottir et al., 2016). The content to be included in Antenatal Education in relatively vague within the literature, but NICE (2021) recommend it should include information on preparing for labour and birth, partner support, common events in labour and birth, how to care for the baby, emotional attachment to the baby and infant feeding. Some research suggests that education is best received if a woman can see that it is directly link to having a better pregnancy outcome, providing topics such as ways to improve maternal and fetal health, nutrition and fetal growth (Hollins Martin and Robb, 2013). However, other interventions have had more success with teaching parenting broader topics such as adult learning principles and problem-solving skills, more loosely related to labour and birth (Svensson et al., 2009). It is broadly agreed that the purpose of Antenatal education is to provide expecting parents with skills and strategies to support pregnancy, birth and the postnatal period (Ingegerd Ahldén et al., 2012), which clearly encompasses a wide range of topics. Therefore, this further analysis will be exploring the topic matter discussed by midwives on Instagram.

The high proportion of educational posts could indicate some response from midwives to the known statistics of women turning to social media for advice during pregnancy (Baker and Yang, 2018, Gleeson et al., 2019). In the absence of a formalised element of social media within the professional role of a midwife, midwives are clearly still aiming to provide some form of education to women and to ensure evidence-based information is being provided. Research has found that midwives were struggling to provide the quality of antenatal care

that they wanted, feeling as though time pressure was present and outreach did not include the most vulnerable women (Fabian et al., 2015). Social media could therefore be providing an extension of their professional roles, providing further opportunity to advance antenatal education and therefore higher quality care. With the current lack of research, midwives' motivations behind their posts is unknown. It is also possible that this high proportion of education posts could be linked to the high proportion of midwives with associated business accounts selling Antenatal Education.

The fact that the majority of posts did not actively engage with users, but in fact provided teacher-centred education, across the UK, Australia and New Zealand may be reflective of the respective healthcare systems. In the USA, professional accountability and regulation varies immensely across each state. The literature review reported in chapter 2 however found that midwives are largely fearful of using social media in the UK and that there was very little discussion of interactions between healthcare providers and patients on it. This is mirrored in this empirical study, with midwives not seeking active engagement with women.

The education findings mirror the broader study in that birth is largely under-medicalised with low levels of instrumental birth. However, there was a high representation of emergencies in labour. The high levels of discussion around taboos in labour such as emergencies and opening bowels would also indicate that midwives were more prepared to discuss these topics in the context of providing information for women on social media. This could be related to the ongoing movement from midwives to 'humanise birth' and open the doors to the currently unseen image of birth (Mobbs et al., 2018, Newnham et al., 2019, Newnham et al., 2018). Conversely, it could be used as a way of humanising midwives, breaking down barriers and creating a more equal care provider-patient relationship (Menage et al., 2020, Way and Scammell, 2016). More research is clearly needed to explore midwives' intentions around these posts.

This chapter has reported the findings from the empirical study, phase 2 of the thesis. It comprised a manuscript submitted to *Women and Birth* and additional findings on education and a commentary written.

In chapter 6 the implications of both phases of the research will be discussed.

6.0 Chapter 6 – Discussion

This is the first study to examine how midwives use social media to communicate with women. A clear finding is the lack of midwifery presence within the field of social media and maternity services. Of the small existing midwifery presence on social media, midwives have limited reach and engagement, and this is reflected in the research available (chapter 2). It appears that midwives do use social media, but not often within their professional role. The question is, does this matter?

Failures in communication across maternity services are known to be linked to poorer experience of care and outcomes for pregnant women and their babies (Chang et al., 2018, Independent Review Group, 2022, Lippke et al., 2021). Digital technologies have been suggested as a means of improving communication (Huo et al., 2019, World Health Organisation, 2022b). Maternity services, and in fact the broader NHS, are increasingly using digital technologies within their daily roles through mediums such as digital health records, and have plans to expand this further (NHS, 2019). This is evident in the number of new roles, such as digital midwives, appearing within NHS Trusts. Social media has clearly had a developing role across the UK throughout the last couple of decades (OFCOM, 2022b), with its outreach including healthcare. Women are turning to social media for advice in pregnancy (Baker and Yang, 2018, Gleeson et al., 2022, Jang and Dworkin, 2014, Lupton, 2017, Zhu et al., 2019), as well as for important decision making on topics such as place of birth or how to feed their babies (WHO and UNICEF, 2022, Witteman et al., 2016). Although social media is being used as a digital means of communication, the midwifery profession is far behind the curve and has only begun to scratch the surface of professional social media use.

Work needs to be done to integrate social media as a tool for communication into the midwifery profession and broader maternity services. This is reflected in the Digital Maturation Assessment (DMA) report (NHS England, 2018a), a report commissioned to map current use of digital technologies across NHS maternity services. It found significant opportunity and scope for use of social media within midwifery and broader maternity care for communication, and this is likely to be even more relevant following the increased use of social media by women and maternity services during the pandemic (Chatwin et al., 2021, Morse and Brown, 2022). Despite this, the studies in chapter 2 and 5 found that few midwives that are using social media within their professional role and that maternity services are still not keeping up with national drivers.

To understand how midwives are using social media, this research focussed on the exploration of midwives' use of the platform Instagram (chapter 5). Despite being a popular

platform amongst people of childbearing age, very little research has been undertaken exploring Instagram and its role in maternity services (chapter 4). A systematic review of the role of Instagram within the field of mental health found similarly limited literature, but did find negative links between its use and social comparisons (Faelens et al., 2021). Within dentistry, research found a missed opportunity for dentists to engage in oral health promotion on Instagram (Oliveira et al., 2022). There is also some early suggestion that health promotion interventions on Instagram can have positive impacts on an individual's lifestyle choices around diet and exercise (Al-Eisa et al., 2016, Fernandez-Luque et al., 2017, Kinard, 2016), suggesting there is potential for midwives to have a role on the platform.

There are some early innovative examples of where social media has been introduced into maternity care in the UK, although none on Instagram specifically. Whilst these studies are beginning to demonstrate the potential of social media within maternity services, they are experimental and small. One of the most well-known is the 'Facemums' project by McCarthy et al. (2020) in which small closed Facebook groups were created with pregnant women and two midwives within a caseloading model. Although this was a small study, benefits were found for women of increased social support and better overall experience. Interestingly, the benefits to midwives were also significant with increased job satisfaction as a key outcome, which is ever relevant considering the current workforce challenges. This project continued throughout the pandemic and found further benefits of support during periods of isolation and for disseminating information such as policy or visiting changes (Chatwin et al., 2021). There are clearly a lot of transferable elements that could add new levels to communication across current maternity services, although further research would have to explore replicability on a nationwide scale.

Another intervention is 'Edie the E-Midwife', introduced at a large London hospital (Labriola, 2015). By working with the trust communications, governance and local maternity teams, accounts were made on Twitter and Facebook as an accessible source of information and channel of communication with women. Although the published literature on the effectiveness of the intervention is limited, it proved very popular amongst pregnant women, receiving many contacts on each platform. Another UK hospital launched 'Maternity Direct+', an internet midwife using Facebook (Tranter and McGraw, 2017). Women found the resource to be an excellent source of non-urgent information and advice.

There is a clear difference between institutional social media use, where a midwife or team of midwives run an account or service on behalf of the Trust, compared to the midwives included in chapter 5 who were running their own accounts. However, this provision of non-

urgent information appears to be mirrored in the findings of chapter 5 where midwives focussed on education in the majority of posts. Considering the above, there is clear scope for positive outcomes from social media interventions and from introducing social media into the role of midwives, although these studies are very small and there is little evidence of national plans to scale them up.

6.0.1 Challenges

There are challenges associated with midwives' professional social media usage. The scoping review of the literature (chapter 2) demonstrated an overarching reluctance and fear of using social media which may be a key driver behind the lack of engagement. It is not surprising that these challenges of fear, professional boundaries and change in culture are in fact reflected across the bigger picture of healthcare professionals using social media (Househ et al., 2014, Khan and Loh, 2021). Many challenges are even reflected across far broader industries such as business and financial sectors, where social media training is currently being argued as an essential element of an induction into a new role (Business2Community, 2015, Forbes, 2012, Industry, 2020). Therefore, it is suggested that social media usage presents professional challenges across our wider society, but as women continue to turn to it, it is not something that midwives can afford to ignore.

Changing the culture of midwifery practice to include social media usage would require enthusiasm and open mindedness from a profession known to currently be suffering from widespread burnout (Birchley, 2022, Hunter et al., 2019). Further exploration is therefore needed into why midwives don't engage with social media to be able to support midwives during this transition.

Although midwives feel that there is a role for media and social media engagement within the role of a midwife (Hundley et al., 2019), there is a significant theory-practice gap. Fear of retribution and an uncertainty of how to use social media within a professional capacity are the key reasons why midwives don't use social media (chapter 2). This could explain why the midwives who do engage with social media are those who have a private business (chapter 5), and therefore are less likely to be under the scrutiny of a larger hospital employer. Arguably they still practice midwifery under the same professional regulations, so it appears likely that there are broader reasons that are stalling the embedding of social media within the role of a midwife.

Another reason may be the current guidance available within the UK. As the governing body of nurses and midwives in the UK, the Nursing and Midwifery Council released guidelines titled 'Guidance on using Social Media responsibly' in 2015 (NMC, 2015). It aimed to provide principles for social media use, while maintaining professionalism and protecting the public.

In reality, the guidance is a list of 'should nots', including: breaching privacy, discussing non-evidence based information or aspects that fall outside of your competence, harassing people or using it to build relationships with patients. A quote from the first paragraph of the guidance, is:

"Nurses, midwives and nursing associates may put their registration at risk, and students may jeopardise their ability to join our register, if they act in any way that is unprofessional or unlawful on social media including…" – (NMC, 2015, pg. 3)

The 'shoulds' section of the guidance is very small in comparison and based at the bottom of the document, outlined under the titles: 'be informed', 'think before you post' and 'protect your professionalism and your reputation'. It is not surprising therefore, given the disparities between emphasis on 'dos' and 'don'ts' within the guidelines, that midwives feel uncertain about its use and fearful for their professional role. The limited guidance may also explain the inaccuracies and skewed representation of birth found in the empirical study (chapter 5). One could argue that while the midwives included may be fulfilling these guidelines and not breaking privacy rules, they are clearly not using social media to accurately portray birth, demonstrating that these guidelines may not be fit for purpose.

Although the above considerations may outline some key reasons as to why midwives are not using social media within their professional roles, conclusions cannot be made without speaking to midwives. A significant gap in the literature has been found exploring midwives' views on social media (chapter 2) and to overcome this, research needs to be undertaken asking midwives directly why they don't engage, barriers they are facing and opportunities to overcome these.

6.0.2 Supporting Midwives' Professional Use – Training

The findings in chapters 2 and 5 suggest that a training intervention for midwives in how to use social media may be needed. Chapter 2 found that training could improve midwives' job satisfaction and experience, giving the benefits of community and knowledge sharing amongst professionals. More research is needed to explore this further but considering that 90-96% of participants had at least one social media account anyway, this training is needed soon.

When the NHS Patient Safety Strategy encouraged embracing digital technology across the NHS, it proposed that it would 'equip patients, staff and partners with the skills and opportunities to improve' (NHS England, 2019). However, there is currently no widely available training package for midwives on best practice of social media. Within other fields, social media training has been optimised to respond to crisis, marketing and broader

industries with significant success, formed by collaborations between current online training platforms and industry experts (Absah et al., 2018, Helpful Digital, 2022). Further interdisciplinary collaboration could offer scope to build similar tools for midwives and midwifery students to educate them on appropriate usage.

Where this training would fit into midwifery is not clear. The majority of the literature around social media and midwifery involves student midwives, who had training in social media introduced to their curriculum (chapter 2). With positive links between this, their education and their experience, there is clear room for the standardised introduction of social media training into the undergraduate curriculum. However, while this may highlight an opportunity for training midwives of the future, this does not reach the current midwifery workforce.

To remain on the NMC register, midwives in the UK have to revalidate every three years and demonstrate they have met the requirements outlined by the NMC (NMC, 2021). One of these is the 35 hours of continuous professional development, which highlights the area where this training could fit. Often midwives utilise their yearly mandatory training required within each Trust (NHS Resolution, 2022) to count towards these hours, so it could be proposed that this is an optimal opportunity to reach all midwives. Research is clearly needed to explore the content, presentation and evaluation of a training pack for midwives and student midwives around using social media within their professional role. One suggestion could be through simulation-based training. Within midwifery, simulation-based training has been identified as an optimal way of learning practical skills such as this and would allow safe navigation and exploration of the sensitive topics included such as confidentiality (Cooper et al., 2012, Tabatabaeian et al., 2018).

6.0.3 Implications – Within the Research Field

This thesis has shown a dearth of research into the field of social media, maternity services and midwifery (chapter 2). Where research is available, it is often small of limited quality and therefore of limited use to guide practice.

Midwives are not at the forefront of the research field of social media and maternity services (Chapter 3). In their absence, professions with alternative priorities and intentions have been able to fill the gaps. Whilst journalists work by a code of conduct (National Union of Journalists, 2022) and there are national guidelines on reporting on sensitive topics (Independent Press Standards Organisation, 2021), their role includes crafting stories and narratives often for commercial gain. Consequently, stories within the traditional media have tended to focus on portraying birth in an excessively dramatic, medicalised way (De Benedictis et al., 2018, Luce et al., 2016). The result is an unrepresentative image of birth that may have an impact on women's and society's perceptions. Without a healthcare

background, journalists do not have the clinical knowledge or experience of a midwife, meaning their clinical understanding and the repercussions of their portrayals is limited. It is noteworthy that within the IPSO guidelines, there are recommendations and regulations around reporting of suicide, grief and discrimination, but no mentions of health or more specifically, birth.

Undertaking this research has also highlighted the lack of standardisation of practice within the field of social media research. Methods are often broad, conflicting and varied. For example, looking at the existing field of pregnancy and Instagram, studies examining social media and pregnancy/birth use Content analysis, (Oviatt and Reich, 2019, Marcon et al., 2019, Mercier et al., 2020), followed by Qualitative Analysis (Leaver and Highfield, 2018, Locatelli, 2017) Discourse Analysis (Tiidenberg and Baym, 2017), Interpretative Repertoire Analysis (Sanders, 2019b), Visual Narrative Analysis (Tiidenberg, 2015), Intersectionality Analysis (Bogers et al., 2020), Thematic Analysis (Payton and Woo, 2021), or a mixed approach analysis (Ward, 2021). Research is rarely undertaken in an interdisciplinary format and there is little use of methods more familiar with healthcare fields. Further work needs to be undertaken to optimise research methods to provide clarity and structure, which will in turn facilitate and encourage interdisciplinary working.

6.0.4 Implications - for Women

This research did not explore the effect of midwives' use of social media on women and their experience. Hypotheses could be drawn between midwives' under-medicalised portrayals and how this changes women's perception of birth, however without involving women in the research, valid conclusions cannot be drawn. There is very little research surrounding the role of social media in women's expectation, decision making, thoughts or feelings around birth or their maternity journey within the UK. A further understanding of this would enable a more tailored approach from midwives and provide enhanced insight into the training package that will be created for midwives.

From a global perspective, considerations also need to be made about the varying practice across the world and how that could affect a woman's exposure to birth-related content. Considering the uniqueness of a country's healthcare system, especially the NHS, it is proposed that social media influences could vary across the globe, in a similar way to how local cultural influences vary (Coast et al., 2014, Kang, 2014). Equally, it is known that the role, perception and training of a midwife varies around the globe (UNFPA, 2021, WHO, 2016). Although it is recognised that social media facilitates a global platform and the ability to interact with people around the world, it exposes women to information content from areas where practice is very different. This is demonstrated by the differing portrayals of birth found

in chapter 5 from the midwives from the four countries, shaped further by their different roles and healthcare systems. Whether this is positively or negatively influencing women is unknown. Further research is recommended to explore the effects of social media on women during their childbearing journey, specifically the impact of global exposure should be studied further and the potential significance of this.

6.0.4 Strengths/Weaknesses

The thesis has several strengths. It is the first study of its kind led by a midwife, bringing a new perspective to the area. It is not only unique in having a midwife-led researcher background, but in its approach and area resulting in an innovative study in a relatively sparse area of health research. Having a multidisciplinary supervisory group has enabled this researcher to use a greater range of methodological underpinning associated with interdisciplinary work, resulting in a study with broader impact. Finally, including four countries in Chapter 5 has enabled a global aspect to the findings, increasing applicability as well as impact.

There are several weaknesses to this study. The small size of both the available literature (chapter 2) and the empirical sample (chapter 5) limits the study's applicability, and more research around social media is required. It could be argued that purposeful sampling aims not to generalise but to highlight a problem or issue (Patton, 1990). Thus, while the outcomes may not represent how every midwife posts, the findings highlight the key issues with midwives' current use of Instagram. With less restraints (time and financial), a much larger study could have been undertaken including different language posts and a broader spectrum of countries, as well as interviewing women and midwives to understand their motivation.

There are also some weaknesses in regard to the methodology. Firstly content analysis is argued to have limited reliability and replicability due to its technique, flexibility and often disputed definition (Lovejoy et al., 2014). Whilst this can be somewhat mitigated by systematic working and transparency of research design, sample selection and the background rationale (Lovejoy et al., 2014), this could be significant to this piece of work. Within the context of this study where a human is the coder, there is the risk of human error. Whilst computer coders are beginning to be introduced, the nature of social media, interpretation of images and videos as well as text and the presence of latent codes meant that this was not an appropriate choice for this study (Zamith and Lewis, 2015). Efforts have been made throughout to promote transparency, and intercoder reliability was introduced to reduce the effects of human error.

Secondly, it is recognised that the researcher who undertook the coding in phase 2 is a midwife, providing opportunity for the expectancy effect, also known as the observer or the experiment effect, which is where research outcomes or conclusions are swayed by the researcher's pre-conceived expectations (Rosenthal, 1976). As the researcher uses Instagram in her personal life and follows some midwives, there is potential that she already had expected outcomes, although a conscious effort was made to disregard that. Furthermore, there is significant opportunity for confirmation bias, or the 'interpreting of evidence in ways that are partial to existing beliefs, expectations, or a hypothesis in hand' (Nickerson, 1998, ph. 175). Efforts were made to reduce this through intercoder reliability testing (chapter 5), but it is acknowledged that the second researcher is also a midwife.

Due to the 'health promoter' element of midwifery, there may be some element of bias from these priorities within the data analysis, known to affect coding and subsequent intercoder reliability (Weber et al., 2018). Having two midwives as the coders has potential to magnify this and give false reassurance of accuracy. However, considering this study analyses midwives' posts specifically, the researcher argues that their background overrides this and provides further richness of understanding of the midwives' content due to the knowledge set. There is conflicting discussion about who should complete intercoder reliability intercoder testing, with some encouraging use of a person external to the team as they would be more objective (Kolbe and Burnett, 1991). Others however argue that ICR testing can be conducted within the team, using it as an opportunity to prompt discussion and therefore improving analysis (O'Connor and Joffe, 2020). Due to this reason, as well as financial and time-restraint based factors, the second researcher was chosen from within the team.

6.1 Conclusion and Recommendations

Failures in communication between midwives and women across maternity services in the UK are having significant repercussions on the health and experience of women (Independent Review Group, 2022). The need to improve communication was highlighted in the Ockenden report. Social media could be an alternative or an adjunct to face to face communication between women and midwives and could improve women's experiences throughout their pregnancy journey. This thesis has highlighted it as a specific area of communication in which midwives are not meeting the needs of women.

Despite national recommendations for digitalisation across Maternity Services and the broader NHS (NHS, 2019, NHS England, 2016), there is very limited research around social media use by midwives or women within the maternity services. This is the first midwife-led study to explore how midwives use the social media platform, Instagram to communicate

with women. The findings that posts misrepresent birth, with under-medicalisation compared to known statistics is surprising given the picture painted in traditional media. This has implications for the messages that are being communicated to women and the impact it may have on their expectations. Current research into the field is limited and the effect that this is having on women is unknown. Whilst some comparisons can be made to the research exploring the conversely over-medicalised portrayal of birth on television (Luce et al., 2016), conclusions about the negative effects of increased fear on women cannot be drawn. However, research has shown that pregnant women are turning to social media for advice (Baker and Yang, 2018), therefore there is clear need to improve communication on social media across maternity services and to support midwives to ensure that it is used effectively. work is clearly needed to explore midwives' professional use of social media and the effect that this is having on women during their childbirth journey.

Furthermore, the photographic representations of birth that midwives and women posted were primarily white, which has the potential to exclude women from marginalised groups. However, these are exactly the women that midwives need to reach because they are often at a higher clinical risk (Knight, 2021). It is possible that social media is used differently by pregnant women and midwives from different ethnic groups, highlighting an area of future research. With the move of many NHS Trust towards greater communication through social media, consideration of how this will be received by different groups is important.

There is a clear need for education in relation to communication, and specifically in relation to social media. When midwives were provided with training and guidance on using social media, outcomes were much better for both women and midwives. It is therefore proposed that a training package for midwives be developed, which would include how to use social media within their professional roles. Such a package may be a solution to overcoming this gap in communication within the maternity services.

Recommendations for Practice:
- Midwives should be mindful of the content that they post on social media regarding birth.
- Conversations with women can address the misrepresentation found within this research.
- Training for midwives should be prioritised on safe, effective use of social media.

Recommendations for Research:
- Research should explore midwives' use of social media further, including their motivations when posting, and how they could be supported to use it within their professional role.
- Research should explore the effect that social media has on women and their feelings and decision-making during pregnancy, birth and the postnatal period, and how maternity services could use it more effectively. Within this, exploration should also consider how

women from differing ethnicities use social media.

- Co-creation, implementation and evaluation of an evidence-based social media training package for midwives should be developed by interdisciplinary stakeholders, including service users and healthcare professionals.

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YUILL, C., MCCOURT, C., CHEYNE, H. & LEISTER, N. 2020. Women's experiences of decision-making and informed choice about pregnancy and birth care: a systematic review and meta-synthesis of qualitative research. *BMC Pregnancy and Childbirth,* 20**,** 343.

ZAFAR, A. U., QIU, J., LI, Y., WANG, J. & SHAHZAD, M. 2021. The impact of social media celebrities' posts and contextual interactions on impulse buying in social commerce. *Computers in Human Behavior,* 115**,** 106178.

ZAMITH, R. & LEWIS, S. C. 2015. Content analysis and the algorithmic coder: What computational social science means for traditional modes of media analysis. *The ANNALS of the American Academy of Political and Social Science,* 659**,** 307-318.

ZHAO, B. 2017. Web Scraping.

ZHU, C., ZENG, R., ZHANG, W., EVANS, R. & HE, R. 2019. Pregnancy-Related Information Seeking and Sharing in the Social Media Era Among Expectant Mothers: Qualitative Study. *J Med Internet Res,* 21**,** e13694.

Appendix A – Ethics Checklist – Ref 34773

Research Ethics Checklist

About Your Checklist

Ethics ID	34773
Date Created	27/11/2020 13:25:57
Status	Approved
Date Approved	15/12/2020 12:29:44
Date Submitted	27/11/2020 13:48:37
Risk	Low

Researcher Details

Name	Ann Luce
Faculty	Faculty of Media & Communication
Status	Staff
Course	Staff - FMC
Have you received funding to support this research project?	No
Please list any persons or institutions that you will be conducting joint research with, both internal to BU as well as external collaborators.	Anna Marsh MRES in January

Project Details

Title	Bridging the gap? An exploration of Midwives' and Womens' use of Instagram
Start Date of Project	25/01/2021
End Date of Project	23/01/2023
Proposed Start Date of Data Collection	25/01/2021
Supervisor	
Approver	Research Ethics Panel

Summary - no more than 500 words (including detail on background methodology, sample, outcomes, etc.)

Midwives current impact on the culture of childbirth on social media is unknown. Although there are some midwives on Instagram, studies have shown that many feel that it is not within their role to engage with social media platforms and fear reprisal from incorrect usage (Byrom and Byrom 2014). For those who use it, there is limited guidance on appropriate content to post and and how they should interact with women. Considering this, it appears as though Instagram could be a 'missed opportunity' for creating a dynamic, interactive environment for women and healthcare professionals to share public health information and influence childbirth culture. Further to this, a lack of insight into the content to which women are exposed means that midwives are uninformed and unable to tailor the care that they provide to mitigate negative content on the platform.

This research aims to explore how midwives and women portray birth on Instagram with consideration for elements such as location of birth, mode of delivery and attendants present. Additionally, by examining interactions between these groups around this content, it will uncover if Instagram could be used as a tool to promote public health and a more positive birth experience.

Phase 1 - A scoping review will be undertaken to explore the current research regarding social media and midwifery.

Phase 2 - Following ethics approval, data will be collected from Instagram by identifying two stakeholder groups: midwives and pregnant women. Within each group, 10 Instagram accounts will be chosen by identifying 'Influencers' based on a search engine search and review of current statistics (including follower count, regularity of postings). From these accounts, posts portraying birth shall be identified throughout a one month period and their information, including the image/video post, caption, 'like' number, comments and location, scraped using data scraping tool Phantom Buster. This will create a database of dynamic qualitative and quantitative data. From this, thematic coding will be used to identify themes within the data with consideration for factors such as location of birth, mode of delivery, attendants present, mood. These themes will be compared and contrasted to decipher common trends or contentions between stakeholder groups.

Filter Question: Does your study involve the use or re-use of data which will be obtained from a source other than directly from a Research Participant?

Additional Details	
Please describe the data, its source and how you are permitted to use it	Phase 1 – A scoping review of current literature, including published materials and grey literature that are already in the public domain. Phase 2 - Instagram accounts that have been set by the user to 'public' sharing (as opposed to private) will identified and their posts shall be collected throughout a one month period. This data will include a image/video post, caption, 'like' number, comments and location, scraped using a data scraping tool. Data will then be stored in a secured document on the BU server space.Instagram is a social media site and therefore considered public domain, enabling it to be used for research. The terms and conditions of Instagram's Data Policy agreed by each user confirms that information shared publicly (such as posts, captions, user handles etc) on the site can be used, reshared or downloaded by anyone including individuals or third parties using search results or tools (such as data scrapers).

Research Data	
Will identifiable personal information be collected, i.e. at an individualised level in a form that identifies or could enable identification of the participant?	Yes
Please give details of the types of information to be collected, e.g. personal characteristics, education, work role, opinions or experiences	
Phase 2- Information already in the public domain collected from social media site Instagram, including name, country, social media posts (images and text).	
Will the personal data collected include any special category data, or any information about actual or alleged criminal activity or criminal convictions which are not already in the public domain?	No
Will the information be anonymised/de-identified at any stage during the study?	Yes
Will research outputs include any identifiable personal information i.e. data at an individualised level in a form which identifies or could enable identification of the individual?	No

Storage, Access and Disposal of Research Data	
During the study, what data relating to the participants will be stored and where?	Phase 1 – NA Phase 2 - This data will include image/video posts, including the poster account name, caption, 'like' number, comments and location. This will be stored in a password secure excel spreadsheet on a password secure laptop. The data scraping tool to be used, Phantom Buster, will be used to scrape the raw data from the public domain.

	This information is kept in line with GDPR regulations.
How long will the data relating to participants be stored?	For the duration of the study (approx. 2 years) and then 3 years subsequently to allow time for publication.
During the study, who will have access to the data relating to participants?	The researcher and supervisors. (this ethics form is being submitted on behalf of Anna Marsh, an MRes student who will start in January, but because of her funding must have ethics approval before she starts the programme. Vanora Hundley has already had this approved).
After the study has finished, what data relating to participants will be stored and where? Please indicate whether data will be retained in identifiable form.	Anonymised data shall remain secured in the BU server space for three years.
After the study has finished, how long will data relating to participants be stored?	3 years, to allow time for publications following the study.
After the study has finished, who will have access to the data relating to participants?	Researcher and supervisors only.
Will any identifiable participant data be transferred outside of the European Economic Area (EEA)?	No
How and when will the data relating to participants be deleted/destroyed?	Removed from hard drive, including all copies and metadata.
Once your project completes, will any anonymised research data be stored on BU's Online Research Data Repository "BORDaR"?	No

Please explain why you do not intend to deposit your research data on BORDaR? E.g. do you intend to deposit your research data in another data repository (discipline or funder specific)? If so, please provide details.

It is not standard practice in the Communication and Media fields.

Dissemination Plans

How do you intend to report and disseminate the results of the study?

Peer reviewed journals,Internal Report,Conference presentation,Publication on website,Participant newsletter,Other Publication

Will you inform participants of the results?	No

If Yes or No, please give details of how you will inform participants or justify if not doing so

I am studying online content and as such will not have contact details or real names of people included in this study. It also would not be appropriate to contact them.

Final Review

Are there any other ethical considerations relating to your project which have not been covered above?	No

Risk Assessment

Have you undertaken an appropriate Risk Assessment?	Yes

Researcher Statement

JOURNALISM / BROADCAST RESEARCHERS: I confirm that I have consulted and understand the Research Ethics Supplementary Guide: For Reference by Researchers Undertaking Journalism and Media Production Projects (available on the Research Ethics page)	Yes

Appendix B – Phase 1 - PROSPERO

Citation

Review question
What are UK nurses and midwives' views and experiences of using social media within their role?

Searches

The electronic databases searched will be:

- PubMed,

- CINAHL,

- Scopus,

- Web of Science,

- Academic Search Complete,

- Communication Source.

Databases will be searched using search terms related to the key themes of social media, midwifery, nursing and experiences within the Title and Abstract. Further to this, Google Scholar, reference lists and forward citation searching will be screened. Key Authors will be also be contacted to identify upcoming literature.

Articles published from 2006 until the present will be considered, in line with the mass uptake of social media within UK culture, and grey literature will be incorporated.

Articles not written in English will be excluded.

Search terms will be used within Title and Abstract fields, and will be:

"Social Media" OR Instagram OR Facebook OR Twitter OR "Social Network*" OR Whatsapp OR "Social Media Site*" OR Blog* OR Website*

AND

Midwi* OR Nurs*

AND

Attitude* OR Experience* OR Perception* OR Percei* OR Engage* OR Account* OR Feeling* OR Thought* OR View* OR Opinion* OR Belie* OR Philosoph* OR "Point of View*" OR Perspective*

Types of study to be included
All types of papers including qualitative, quantitative or mixed methods shall be considered to ensure breadth. Full text articles referencing nurses and midwives will be included, whereas broader health

professions or allied healthcare providers will be excluded.

Studies including UK nursing or midwifery only will be included.

Furthermore, midwives outside of the UK will be excluded, as well as articles not written in English.
Criteria will include published from 2006 until present, in line with the mass uptake of social media within UK
culture, and grey literature will be incorporated.

Condition or domain being studied
Social media, nursing and midwifery.

Participants/population

Inclusion: nurses, midwives, student nurses and student midwives within the UK.

Exclusion: allied or alternative healthcare professionals, or nurses or midwives outside of the UK.

Intervention(s), exposure(s) [1 change]

UK nurses and midwives' views and experiences of using social media within their role.

Social media (SM) is defined as internet-based channels that allow users to opportunistically interact and
selectively self-present, either in real-time or asynchronously, with both broad and narrow audiences who
derive value from user-generated content and the perception of interaction with others (Carr and Hayes,
2014). Common platforms include Twitter, Facebook, Instagram and Whatsapp. Within healthcare, SM has
been identified as an opportunity to network and share evidence-based practice, however regulations around
professionalism by governing bodies highlight the associated risks. Whilst research has found that 89% of
pregnant women turn to SM for advice regarding pregnancy (Baker and Yang 2018) and 72% of adults have
at least one SM account (OFCOM 2020), there is limited research around SM from a nursing or midwifery
perspective. This study reviews the literature around nursing and midwives' views and experiences of SM
within the profession.

Baker, B. and Yang, I. (2018) 'Social Media as a Social Support in Pregnancy and the Postpartum', Sexual
and Reproductive Healthcare, 17, 31-34.

Carr, C. and Hayes, R. (2014) 'Social Media: Defining, Developing and Divining', Atlantic Journal of
Communication¸ 23 (1), 46-65.

OFCOM (2020) [online] Available at: https://www.ofcom.org.uk/_data/assets/pdf_file/0031/196375/adults-
media-use-and-attitudes-2020-report.pdf (16/2/21)

Comparator(s)/control
Not applicable.

Main outcome(s)

The main outcome will be an analysis of the views and experiences of nurses and midwives from the UK
when using social media within their professional role.

Measures of effect
Views and experiences.

Additional outcome(s)

Other outcomes of this will be a review of social media presence by midwives, nurses, student nurses and student midwives. This will include factors associated with their current usage and the context of their social media use within their professional role. Further to this, it will identify gaps within the current research.

Measures of effect

Factors associated with current usage and context.

Data extraction (selection and coding) [1 change]

Level 1: All calibre of papers, including qualitative, quantitative and mixed methods papers will be identified in line with the strategy above. Duplicates will be removed, and then Titles and Abstracts screened manually for inclusion. Level 2: Finally, full text papers will be reviewed by two reviewers to verify eligibility.

When the papers have been selected, a data extraction tool will be used to review full texts and collect data. A second reviewer will extract data to ensure consistency and accuracy. Discrepancies will be discussed and addressed by including a third reviewer if required. Extracted information will include: Author name, Publication year, title, aim of the study, study design, study participants, number of participants, context/practice setting(s), the primary outcome, including social media experiences and views, and the secondary outcomes, including social media usage and the context to social media usage. The quality of the study will also be assessed (see below) and strengths and limitations recorded.

The data will be coded manually in line with Braun and Clarke (2006) and thematically analysed.

Braun, V. and Clarke, V. (2006) 'Using Thematic Analysis in Psychology', Qualitative Research in Psychology, 3, pp. 77-101.

Risk of bias (quality) assessment

It is anticipated that the majority of papers will be qualitative and therefore The CASP Tool for Qualitative research (CASP, 2018) will be utilised to appraise papers systematically and reduce bias. Mixed-method and quantitative papers will be reviewed using the appropriate CASP tool. CASP tools are endorsed by the Cochrane Qualitative and Implementation Methods Group.

Strategy for data synthesis [1 change]

A summary of included studies will be presented in a table that includes setting, design, participant population, sample size and methodology, outcomes.

Thematic analysis will be utilised as a qualitative data analysis methodology, following the Braun and Clarke (2006) model. Considering this, initially, the principal investigator will become familiarised with the data, by re-reading, transcribing and note making. Initial codes will then be proposed and grouped into loose themes. These will then be validated by reviewing comparatively to the broader data set to ensure validity. ENTREQ (Enhancing transparency in reporting the synthesis of qualitative research) will provide a framework for reporting the data synthesis.

Braun, V. and Clarke, V. (2006) 'Using Thematic Analysis in Psychology', Qualitative Research in Psychology, 3, pp. 77-101.

Tong, A., Flemming, K., McInnes, E., Oliver, S. and Craig, J. (2012) 'Enhancing Transparency in Reporting the Synthesis of Qualitative Research: ENTREQ', BMC Medical Research Methodology, 12, 181.

Analysis of subgroups or subsets
Nurses, midwives, student nurses and student midwives will be considered.

Contact details for further information
Anna Marsh
amarsh@bournemouth.ac.uk

Organisational affiliation of the review
Bournemouth University

Review team members and their organisational affiliations
Ms Anna Marsh. Bournemouth University
Professor Vanora Hundley. Bournemouth University
Dr Ann Luce. Bournemouth University
Dr Yana Richens. Whittington Health NHS Trust

Type and method of review
Service delivery, Systematic review

Anticipated or actual start date
02 March 2021

Anticipated completion date
23 July 2021

Funding sources/sponsors
This work is supported by Wellbeing of Women in partnership with the Royal College of Midwives and the Burdett Trust for Nursing

Grant number(s)

State the funder, grant or award number and the date of award

Award Ref ELSM1001

Conflicts of interest

Language
English

Country
England

Stage of review
Review Ongoing

Subject index terms status
Subject indexing assigned by CRD

Subject index terms
Attitude of Health Personnel; Delivery of Health Care; Humans; Maternal Health Services; Midwifery; Nurse Midwives; Nurses; Nursing; Pregnancy; Professional Role; Social Media; Students, Nursing; United Kingdom

Date of registration in PROSPERO
15 April 2021

Date of first submission
30 March 2021

Stage of review at time of this submission

Stage	Started	Completed
Preliminary searches	Yes	No
Piloting of the study selection process	Yes	No
Formal screening of search results against eligibility criteria	No	No
Data extraction	No	No
Risk of bias (quality) assessment	No	No
Data analysis	No	No

The record owner confirms that the information they have supplied for this submission is accurate and complete and they understand that deliberate provision of inaccurate information or omission of data may be construed as scientific misconduct.

The record owner confirms that they will update the status of the review when it is completed and will add publication details in due course.

Versions

15 April 2021

Appendix C – Phase 1 - Pilot

Question: What are UK midwives views and experiences of using social media within their role?

SPIDER:

Sample	Midwives in the UK
Phenomenon of Interest	Social Media
Design	Questionnaires, Interviews, focus groups, discourse analysis, content analysis
Evaluation	Viewpoints, attitudes, motivation, experiences, beliefs,
Research Type	Qualitative

Search terms:
Title and Abstract only.

Social media OR Instagram OR Facebook OR Twitter OR Social Network* OR Whatsapp OR Social Media Site* OR Blog* OR Website*
AND
Midwi*
AND
Attitude* OR Experience* OR Perception* OR Percei* OR Engage* OR Account* OR Feeling* OR Thought* OR View* OR Opinion* OR Belie* OR Philosoph* OR Point of View* OR Perspective*

Inclusion and Exclusion Criteria

Inclusion	**Exclusion**
Midwives or Student Midwives within the UK only	Not published in English
Published 2006-present	Other health professionals
Full text published	
'Grey Literature' – inclusive of commentaries, editorials, conference presentations.	
Qualitative, Quantitative or mixed methods research	

Databases to be searched:
Pubmed, CINAHL, Scopus.

Databases not searched (for purpose of trial):
Web of Science, Medline, MIDIRS, Academic Search Complete, JSTOR, Communication Source, EBSCO, Communication Abstracts, Communication Source, Gale Reference Complete. Google Scholar and 'Related Article' search tools also not utilised.

Trial Outcomes

Database	Papers Found	Excluded	Included	Paper No.
PubMed	189	186	3	1,2,3,

Scopus	10	10	0	
CINAHL	413	402	11	2,3,4,5,6,7,8,9,10,11,12

No.	Ref	Type of Paper
1	Ménage, D., 2015. Connecting for compassion. *Pract Midwife*, 18 (3), 32-35.	Commentary
2	McCarthy, R., Byrne, G., Brettle, A., Choucri, L., Ormandy, P. and Chatwin, J., 2020. Midwife-moderated social media groups as a validated information source for women during pregnancy. *Midwifery*, 88, 102710.	Primary Qualitative Research Article (repeat of below study)
3	McCarthy, R., Choucri, L., Ormandy, P. and Brettle, A., 2017. Midwifery continuity: The use of social media. *Midwifery*, 52, 34-41.	Qualitative Primary Research Article
4	Newman, L., 2019. Bullying: the issue in (and beyond) midwifery. *British Journal of Midwifery*, 27 (9), 541-541.	Editorial
5	Hundley, V. A., Luce, A., van Teijlingen, E. R. and Edlund, S., 2019. Changing the narrative around childbirth: whose responsibility is it? *Evidence Based Midwifery*, 17 (2), 47-52.	Qualitative Primary Research Article
6	Uppal, E., Davies, S., Nuttall, J. and Knowles, H., 2016. Exploring undisturbed birth through art and social media: An interactive project with student midwives. *British Journal of Midwifery*, 24 (2), 124-129.	Qualitative Primary Research Article
7	Omand, C., 2013. The Role of Social Media in Midwifery. *Midwifery Matters*, (139), 17-17.	Commentary
8	Byrom, S. and Byrom, A., 2014. Social media: connecting women and midwives globally. *MIDIRS Midwifery Digest*, 24 (2), 141-149.	Commentary
9	Mockler, J., 2013. Social networking for students. *British Journal of Midwifery*, 21 (8), 606-606.	Commentary
10	Jones, C., 2012. Social networking in the health professions. *Essentially MIDIRS*, 3 (7), 32-36.	Commentary
11	Cole, C., 2017. 'Twitter has changed my life'. *Midwives*, 20 (1), 26-26.	Commentary
12	Wylie, L., 2012. What's in a Tweet? *Midwifery Matters*, (133), 24-24.	Commentary

Appendix D – Phase 1 – Data Extraction Tool

Data Extraction Tool – Record No:

Question: What are UK nurses and midwives' views and experiences of using social media within their role?

General Information

1. Data form completed	
2. Name of person extracting data	
3. Report Title	
4. Author(s)	
5. Journal published in	
6. Peer Reviewed?	
7. Publication Type	
8. Country in which the study was conducted	
9. Funding	
10. Ethical Approval	
11. Potential Conflicts of Interest	

Eligibility – Initial Screen

	Review Inclusion Criteria	Location
Type of Study		
Population Description		
Outcome Measure		
Decision		

Stop here if excluded

Population and Setting

	Description	Location
Setting of the Population (hosp/university?)		
Method of Recruitment		

Methods

	Description	Location
Aim of Study		
Study start date		
Study duration		

P

Participants

Total number of participants		
Participant's professional role(s)		

Qualification status		

Screening Summary

Paper to be included?		

Outcomes

Outcome 1 – Views and Experiences	Description	Location
Method of receiving outcomes (questionnaire, focus group, etc)		
Method validated?		
Themes:		
o Reluctance to use social media		
o Fear of reprisal		
o Uncertainty of what to say		
o Knowledge sharing		
o Communication with peers		
o Communication with MDT		
o Communication with patients		

Outcome 2 – Context of social media use	Description	Location

Context of use:
   o As part of undergraduate study
   o As part of postgraduate study
   o As formal part of job role
   o Not formally part of job role		

Participation in social media:
   o Voluntarily
   o Mandatory element of role
   o Mandatory element of study		

Results and findings

Outcome 1 – Views and Experiences	Description	Location
Response rate		
Results		

Methodology of analysis		
Appropriateness of methodology		

Outcome 2 – Context of use	Description	Location
Response rate		
Results		
Methodology of analysis		
Appropriateness of methodology		

Limitations

	Description	Location
Strengths		
Limitations		
Strategies to overcome limitations		

Conclusion

Key conclusions		

Appendix E – Phase 1 - Summary Table – Themes

Ref	Paper	Reluctance to Use Social Media	Fear	Uncertainty of what to say	Knowledge Sharing	Communication with peers	Communication with MDT	Communication with patients
I1	Proctor et al				X	X		
I2	Uppal et al	X	X		X			
I3	Graham et al	X		X	X			
I4	Hundley et al	X	X					
I5	Mistry	X		X	X	X	X	
I6	Price et al	X	X	X	X	X	X	
I7	McCarthy et al	X			X			X
I8	Jones et al	X			X	X	X	X
I9	McCarthy et al							

Summary Table – Social Media

Ref	Paper	Facebook	Instagram	Twitter	Other
I1	Proctor et al	X			
I2	Uppal et al				Youtube
I3	Graham et al	X (not intervention)			Teleconferencing/Mobile Apps
I4	Hundley et al				Not specific
I5	Mistry			X	
I6	Price et al			X	
I7	McCarthy et al	X			
I8	Jones et al			X	
I9	McCarthy et al	X			

Appendix F – Most liked photos on Instagram of the year 2017

<u>2017</u>

Image 1 – Most Liked Post of 2017 on Instagram – Beyonce

Image 2 – Second Most Liked Post of 2017 on Instagram – Cristiano Ronaldo (Ronaldo, 2017)

<u>2018</u>

Image 3 – Most Liked Photo of 2018 on Instagram – Kylie Jenner (Jenner, 2018)

2021

Image 4 – Second Most Liked Photo of 2021 on Instagram – Cristiano Ronaldo

Appendix G – Phase 2 – Instagram Midwife Selection Summary

Account Ref	Country	No. of followers	No. following	Date of first post	Ethnicity	No. of posts	Personal Business linked?	What does personal business sell?
UKMW1	UK	69652	3983	18/1/2017	White British	549	Yes	Book Antenatal Education
UKMW2	UK	1899	554	10/6/2017	White British	98	No	N/A
UKMW3	UK	118929	1567	17/9/2018	Minority Ethnic	816	Yes	Book Antenatal Education Resources for birth professionals
UKMW4	UK	46564	572	9/8/2018	White British	534	Yes	Antenatal Education Baby Massage
UKMW5	UK	15401	1401	26/5/2020	White British	762	Yes	Antenatal Education Fitness Classes Hypnobirthing
AUMW1	Aus	13914	76	22/6/2016	White Australian	228	Yes	Antenatal Education
AUMW2	Aus	58330	1929	11/11/2013	White Australian	3252	Yes	Phone/In person Consultations Antenatal Education Book
AUMW3	Aus	93456	3552	6/11/2015	White Australian	2000	Yes	E-book Antenatal Education
AUMW4	Aus	3628	1751	19/01/2017	White Australian	744	Yes	Antenatal Education Hypnobirthing
AUMW5	Aus	14857	984	3/4/20	White Australian	169	Yes	Antenatal Education
NZMW1	NZ	978	203	14/01/2018	White NZ	142	No	N/A

NZMW2	NZ	15087	1710	18/6/2014	White NZ	1537	No	N/A
NZMW3	NZ	10711	1915	1/5/2011	White NZ	2435	Yes	Antenatal Education
NZMW4	NZ	1472	520	8/8/2018	White NZ	53	Yes	Antenatal and Postnatal Education
NZMW5	NZ	432	122	9/4/2020	White NZ	30	Yes	Midwifery services – AN care/birth/PN Antenatal Education
USMW1	USA	399138	988	5/2/2018	White USA	956	Yes	Antenatal Education
USMW2	USA	80510	1642	23/12/2015	Black USA	1420	Yes	AN/birth/Postnatal care Antenatal Education Gynaecology check ups Pre-conception counselling STD screening/Birth control/Pregnancy testing
USMW3	USA	30586	579	9/12/2011	White USA	1008	Yes	AN/birth/Postnatal care Antenatal education
USMW4	USA	42098	1418	9/4/2017	White USA	703	Yes	E-book
USMW5	USA	101850	431	14/9/2014	White USA	4569	Yes	Yoga Antenatal and Postnatal Education HCP training

Appendix H – Phase 2 - Pilot 1

All posts from June 1st 2020 to June 30th 2021

UK

Account	No. of posts in this time	No. of posts portraying birth
@the_modern_midwife	194	27
@student.midwife	21	1
@midwifemarley	362	37
@thehonestmidwife	220	16
@midwife_pip	611	8
	1408	89

Australia

	No. of posts in this time	No. of posts portraying birth
@peacewithbirth	65	21
@midwifecath	598	25
@themidwifemumma	534	18
@hannahwillsmoremidwife	180	45
@birthwithbeth_	93	2
	1470	121

New Zealand

	No. of posts in this time	No. of posts portraying birth
@kiwistudentmidwife	27	2
@katiehawkey	69	1
@carmenlett	68	0
@libbyandco_nz	10	0
@beccaoleary.midwife	19	4
	193	7

USA

	No. of posts in this time	No. of posts portraying birth
@mommy.labornurse	266	6
@midwifeangelina	376	59
@barefootmidwife	72	45
@babytalk.birthnurse	99	0
@homesweethomebirth	349	221
	1162	331
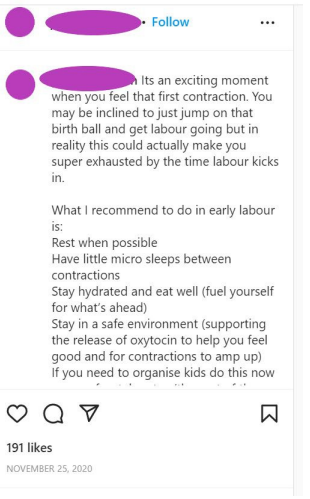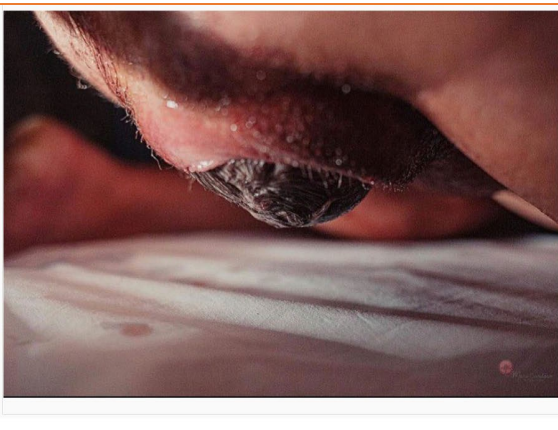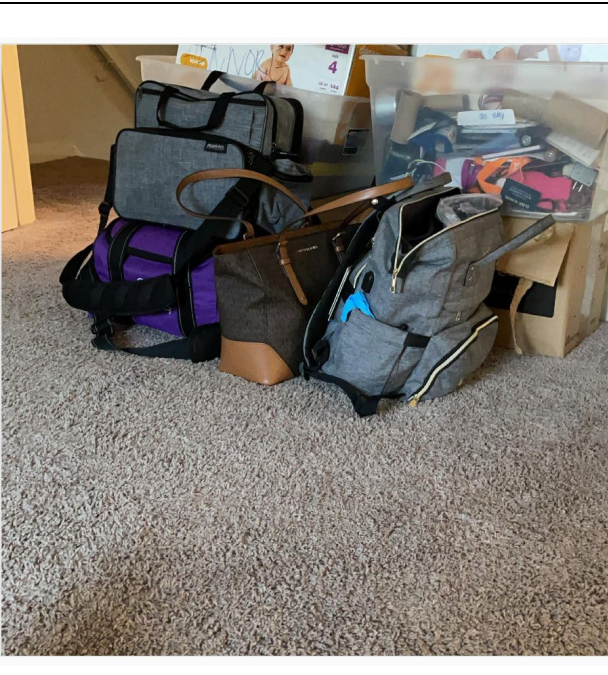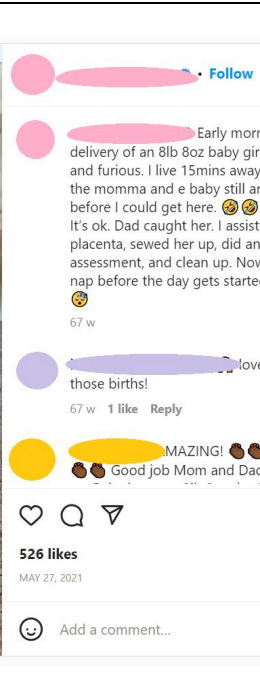
Overall total no. of posts: 548
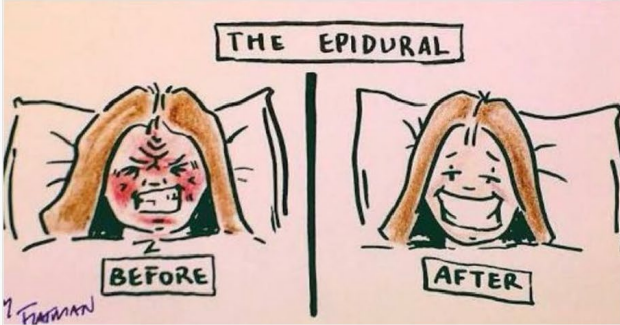
Appendix I – Phase 2 - Data Collection Code Sheet

Column name	Options				
Post Ref					
Post URL					
Account @					
Country	USA	Australia	New Zealand	UK	
Full Name					
Account URL					
Bio					
Private Account	Yes	No			
Verified user	Yes	No			
Qualification					
Midwife work in private or public sector?					
Business Account?					
Link on account to Business page?					
What selling?					
No. of posts					
No. of followers					
No following					
Collection titles					
Account owner race/ethnicity	White	Minority Ethnic	Black	Not Clear/Unknown	
Category of image/video	Birth Positivity	Humour	Education	Advertisement	Birth Story
If birth, was the account user present?					
If education, which topic					
If multiple post, what no?					
Race of birthing person	White	Black	Minority Ethnic	Unclear/Unknown	N/A
Mode of birth	Forceps	Kiwi/Vento use	LSCS (elective)	LSCS (emergency)	LSCS (unknown)
	MoD not clear – clearly vaginal	MoD not clear – unsure if vaginal or not	N/A	SVD in pool	SVD on land
Stage of labour	Latent Phase	First stage	Second Stage	Third Stage	After third stage

	Not clear	N/A			
Birth location	Home	Birth centre	Clinical labour room	Theatre	None of the above
	Unknown	N/A			
Pain relief	Epidural	Entonox	Hydrotherapy	Nil evident/nil visible	N/A
Cannula visible	Yes	No	N/A		
CTG visible	Yes	No	N/A		
Outcome	Livebirth	Stillbirth	N/A		
Birth position (1st stage)	Lying Down	N/A	Recumbent/Semi Recumbent	Sitting/Squatting/Kneeling	Standing
Birth position (2nd stage)	Lying Down	N/A	Recumbent/Semi Recumbent	Sitting/Squatting/Kneeling	Standing
Birth professional	N/A	Non-uniformed healthcare professional	Noone in image	Not clear	Uniformed healthcare professional
Date posted					
No. of likes					
No. of comments					
Caption					
Media Type	Image	Video			
Image type	Cartoon	Photo	Photo of model/lego	Text and Cartoon	Text and photo
	Text only				
Is this an image of a real life person in real labour?	Yes	No			
If text, what does it say?					
Censored/Sensitve post?	Yes	No			
Advert/selling something?	Yes	No			
If advert, what selling?					
Comments?					

Appendix J – Example images of Categories

Education	
Birth Positivity	
Birth Story	

Advertisement	
Humour	

Appendix K – Education Code Sheet

Post Ref	<free text>	
Post URL	<free text>	
Account @	<free text>	
Post no.	<free text>	
Country	<free text>	
What topic?	<free text>	
Teaching Type		
Teacher centred - imparting knowledge only	Yes	No
Learner centred - women invited to contribute	Yes	No
Does this post direct to other resources?	Yes	No
Does this post encourage the woman to doubt/challenge Healthcare Professionals?	Yes	No
Subject Matter	Yes	No
Location of birth	Yes	No
Birth Partners	Yes	No
Birthing Equipment	Yes	No
Fetal Monitoring	Yes	No
Maternal Positions in Labour	Yes	No
Skin to Skin Contact	Yes	No
Students at birth	Yes	No
Pain relief	Yes	No
Instrumental Birth	Yes	No
LSCS (Lower segment caesarean section)	Yes	No
Episiotomy	Yes	No
Perineal Trauma	Yes	No
Placenta/Delivering the placenta (not delayed cord clamping)	Yes	No
Infant Feeding	Yes	No
Vitamin K	Yes	No
Cannula in labour	Yes	No
Latent Phase	Yes	No
Umbilical Cord/Delayed cord clamping	Yes	No
Induction	Yes	No
Pooing in labour	Yes	No
Other labour 'taboos'	Yes	No
Birth Environment	Yes	No
Birth trauma/reflection	Yes	No
Coping with labour	Yes	No
Emergencies in birth	Yes	No
Waters/membranes breaking (inc ARM)	Yes	No
Other	Yes	No

Going against professional advice	Yes	No

Appendix L – RCM Article

<u>RCM article</u>

Alongside this empirical study, the author also wrote a commentary article that was published in the Royal College of Midwives' (RCM) magazine Midwives titled 'Social media friend request – to accept, or not to accept?'. This magazine is free to all RCM members and is either posted or digitally sent to each member (depending on their individual preference). According to their website, the RCM has over 40,000 members of both midwives and midwifery support workers (RCM, 2022) meaning a broad outreach across midwives in the UK. The aim of this article was to encourage midwives to consider social media within their professional role and whether they could or should be using it more. At the end of the article, several questions were posed to the reader about their thoughts and feelings towards using social media and about what they thought should be done, with instructions to respond via twitter to the author's account handle or the hashtag #MidwivesOnSocialMedia. It is noteworthy that the author received no response. Why there was no engagement is largely unknown, and there are no studies about Midwives magazine and engagement. However, it could be suggested that it echoes the previous findings of Chapter 2 that outlined a reluctance and fear from midwives to engage with social media. Similarly, this could mirror Hundley et al. (2019)'s findings of midwives feeling as though social media engagement is not within their professional responsibilities. This highlights further the need for professional support and training.

<u>Article</u>

Social media friend request – to accept, or not to accept?

We've all been there: you get home from a 12-hour shift caring for a woman on one of the biggest days of her life, welcoming her new baby into the world. In fact, you might have even been lucky enough to look after her for the last nine months throughout her pregnancy too. You sit on the sofa and open your phone, and the first thing you see is a friend request on social media from that very woman. As you hover over the Accept button, thinking about that friendship that you have developed and of all the cute baby pictures you'll be able to watch over the coming years, you hesitate.

It's that hesitation that interests me.

Social media has been one of the fastest growing industries of the last few decades, but it doesn't quite seem that maternity services have kept up. A study found that 89% of women turn to social media for advice in pregnancy (Baker and Yang 2018), yet as midwives we have very little involvement with social media in our professional lives. Whilst 'Social Media Midwife' job roles have started to appear in a couple of Trusts across the country, these are both few and far between, and arguably still do not address the problems. Briefly these issues can be summarised as:

-   The role of social media within the Midwifery profession is not clear.
-   We don't know what 'best practice' is for midwives when using social media.
-   Women could be affected by how midwives and the childbirth community use social media, but we don't how.
-   Using social media is a professional minefield for midwives.

Given the proliferation of social media and its everyday use in all realms of life from politics to schools, it is incredible that health care professionals, and midwives in particular, don't know how to use social media professionally. There is evidence that using social media professionally is a minefield for midwives (Hundley et al, 2019), and despite some guidance

from the regulatory body (NMC 2019) it is clear that nobody really knows what good midwifery use of social media is.

It really is a wonder that there is so little research or guidance around the topic when social media plays such an important role in so many of our lives. Sheena and Anna Byrom have figure headed campaigns over the years to get all midwives onto social media for professional networking and support (Byrom and Byrom 2014). As well as this, the use of social media by women within our care has rocketed over the last 15 years since the introduction of social media, but we just haven't kept up as a profession. Whether this is because of the overarching under-funding and lack of recognition surrounding women's health research (Winchester 2021), the fact that our midwifery workforce is aging and therefore less likely to use social media than our tech-obsessed younger generations (CNO 2010; RCM 2017), or just a hangover from our reluctance to let go of our traditional practices, it isn't clear.

The NMC Social Media Guidance (2019) provides some information on correct professional usage for midwives, however some would argue that it provides principles of professionalism rather than practical advice. Whilst it clarifies standards, it doesn't provide 'best practice' examples or where we stand on that increasingly blurry boundary between our personal and professional lives. Is accepting that friend request building the relationship between healthcare professional and patient that we know improves their experience and health? Or is it damaging ourselves and our professional reputation?

Without practical guidance or clearly defined boundaries, it is not surprising that midwives are reluctant to engage with social media. The headlines in national news do not help either – 'Mental Health Nurse struck off for Facebook posts' and 'Nurses sanctioned for improper use of social media' (BBC 2017, RCN 2016). Further to this, we know that between the years of 2017-2019, seven NMC registrants were struck off after allegations involving social media (NMC 2019). Unsurprisingly, studies have emerged reporting midwives fear and reluctance of using social media professionally (Uppal et al. 2016; Hundley et al. 2019).

But it's not just midwives who struggle with the use of social media during pregnancy. For women, it is hard to know whether social media is providing them with clear, accurate public health information, or perhaps the opposite. Considering that social media is a global phenomenon, the content to which women are exposed could be representative of very different birth and healthcare cultures to that of the NHS in the UK. With COVID-19 stopping most antenatal classes and the ongoing pressures on midwifery staffing, social media could now be becoming more and more of a central tool in women learning about childbirth, their options and what they want their birth to look like. Midwives' failure to engage in this arena is a missed opportunity for us to provide public health and childbirth education

Nationally and internationally, research has begun to demonstrate that social media use within healthcare has bridged communication between healthcare professionals and patients (Årsand et al., 2019, Carlsson et al., 2020, Wilson et al., 2020). This includes strengthening relationships and trust, something that we strive to do as midwives every day. Research, such as that of McCarthy et al. (2017 and 2020) and their Facemums project, shows how small-scale social media projects involving pregnant women and midwives have been beneficial to both groups. Furthermore, some hospitals have begun to use social media within maternity services (NHS 2018), such as the introduction of an 'Internet Midwife' who responded via social media to women's questions and was found to have a positive impact on women's experience (Trainer and McGraw 2017). However, studies are limited and only adopted by a few Trusts across the UK, so much more research is needed before we could roll this out nationally.

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It could be proposed that providing in-depth training may be the answer to bridging the gap on social media between women and midwives, but without research into the area to provide training content, it is hard to know where to start.

I am currently working on a research project funded by an Entry-level Research Scholarship for Midwives from Wellbeing of Women in partnership with the Royal College of Midwives and the Burdett Trust for Nursing, in which I am exploring midwives' views and experiences of social media, as well as how they post birth-related content on the social media platform Instagram.

Part of my research project so far has been a scoping review of the literature around nurses and midwives' views and experiences of using social media within their professional roles (Marsh et al., 2021). The next stage of my project will explore the current content posted by midwives across the UK, USA, Australia and New Zealand on the platform Instagram. I hope to explore and compare how birth is portrayed by midwives to understand the content to which women are exposed.

Social media and midwifery is an ongoing debate that just isn't going to go away. So I'm starting the conversation: What do you think midwives' boundaries should be on social media? How could you use social media to make you a better midwife, and provide better care? Or in fact, should midwives use social media at all?

Post your answers on Twitter to @AnnaMarshMW #MidwivesOnSocialMedia

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Appendix M – Funding

Wellbeing of Women Final Report Feedback

ELSM1001 "**Bridging the gap? An exploration of Midwives' and Women's' use of social media**" Final Report Feedback

1.   Quality of work:

The research is of high quality. Anna has clearly taken time to produce this report, and the report is comprehensive and informative. I particularly like the illustrations which really bring her project to life by showing picture and text capture from the posts created by midwives across the world.

2.   Progress and outcome of project:

Taken from the original proposal:

This research was designed to examine the experiences of midwives using social media, and how they have portrayed birth on the social media platform Instagram. The specific objectives were to:

- explore how midwives and childbearing women use Instagram regarding information sharing, community and health promotion.

- To discover if Instagram could be used to promote health and wellbeing of people using maternity services and midwives.

- To pioneer research into the effects of social media on pregnant women and midwives, opening up opportunity for further studies.

Anna has met all objectives, and is currently building on the original objectives, supported by a well-developed dissemination and future research plan of activities.

3.   Significant deviations from the original proposal:

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None.

4.   Major problems identified:

None.

5.   Number and quality of publications or publications in press, to date:

Anna outlines 3 academic publications in under review/in development:

1. What are UK nurses and midwives' views and experiences of using social media within their role? A review' – Midwifery (under review) 2022.

2. A paper relating to the main findings. Working title: Content Analysis of how Midwives portray birth on the social media platform Instagram Target journal: Women and Birth.

3. A methodology paper – journal to be decided.

6.   Any other notable outputs/outcomes:

It is notable that Anna is already disseminating her findings widely via a well thought through dissemination plan to gain maximum impact.

Other notable outputs include:

Research protocol for the review – registered in PROSPERO 2021.

Commentary article for RCM Midwives Magazine 2022.

Via conferences (local/national) e.g. RCM Education and Research Conference 2022. She also plans to submit abstracts to 2 forthcoming highly relevant conferences: Normal Labour and Birth (2022) and the ICM, Bali (2023).

She has provided several guest lectures highlighting this research area, and this work as led to a collaboration between UCL and Bournemouth University.

Anna has provided feedback on her key findings via the UCLH Maternity Voices Partnership and midwives (locally).

Anna has applied for an NIHR ICA Programme Pre-doctoral Clinical and Practitioner Academic Fellowship (PCAF) submitted in March 2022. Outcome of this application was in June 2022. The outcome is not recorded in the report, however I do hope she was successful. If not, I would encourage Anna to keep applying for doctoral fellowships so that she can build on the innovative research and develop a career as a clinical academic midwife.

7.   Any other specific points inc. value for Wellbeing of Women:

Anna has produced an innovative piece off research which focusses on how midwives currently use social media, explored the context of the material online and has identified what support needs they may have going forward. This is important since a large proportion of women globally gain education, knowledge and advice via social media during the perinatal period. It is important that midwives engage on these platforms to ensure that the information women receive is evidence based. This project has revealed that midwives in general are currently under confident and unsure about how to use social media in order to support women through pregnancy and childbirth.

In summary, important and innovative work, which is currently being widely disseminated to ensure maximum impact. The value to Wellbeing of Women is high, excellent return on the investment of an ELSM is apparent. The report was a joy to read!

8.   Recommended Classification:

GRADE A = Very Good

GRADE B = Good

GRADE C = Acceptable

GRADE D = Concerns expressed; action required

GRADE E = Unsatisfactory; action required

GRADE A