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DETERMINANTS OF REPRODUCTIVE FREEDOM AMONG ISRAELI WOMEN AGES 18-
50: A MIXED METHODS STUDY

A Dissertation

Submitted to the School of Nursing

Duquesne University

In partial fulfillment of the requirements for
the degree of Doctor of Philosophy

By

Abigail R. Kra-Friedman

August 2022

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Abigail R. Kra-Friedman

2022

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AGES 18-50: A MIXED METHODS STUDY

By

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ABSTRACT

DETERMINANTS OF REPRODUCTIVE FREEDOM AMONG ISRAELI WOMEN AGES 18-50: A MIXED METHODS STUDY

By

Abigail R. Kra Friedman

August 2022

Dissertation supervised by Dr. Kathleen Sekula, PhD PMHCNS-BC, FAAN

Introduction: Reproductive freedom is a social determinant of health (SDOH) that reduces health disparities and increases health equity. Through the National Health Insurance Plan, Israeli women can access a range of contraceptive methods. Scant data on Israeli women limits development of policies and interventions to meet international benchmarks for reproductive freedom. The purpose of this dissertation study is to synthesize current international multidisciplinary literature using the capability approach for reproductive freedom, explore determinants of reproductive freedom among Israeli women ages 18-50 using Nussbaum's capability approach, and make recommendations for nursing research, practice, and theory.

Methodology: Using Whittemore and Knafll's framework, and integrative literature was conducted in December 2019. A subsequent convergent social justice mixed-methods study was conducted in 2020-2021.

Results: The integrative review resulted in 14 Studies originating from 5 disciplines. No nursing or biomedical articles were found. Extracted themes included: history of capability approach, methodologies, operationalization, and application in different economic environments. Results of the quantitative analysis confirmed the qualitative results. Overall, participants reported high capability for women's health. Significant determinants of reproductive freedom included geographical location, language, educational level, and religion.

Discussion: Until now, lack of data presented a major barrier to understanding social, cultural, political, and economic determinants of reproductive freedom. The results of these studies suggest that more research is needed in rural areas of Israel and among vulnerable populations. Identifying gaps and barriers to accessing services may help create policies that increase women's freedom to make sexual and reproductive health choices.

DEDICATION

This work is wholeheartedly dedicated to my grandparents who have supported my educational journey from nurse, to nurse midwife and nurse practitioner, and now doctor of philosophy. Throughout my life they have offered support, encouragement, guidance, and deep love and have served as a source of personal, professional, and spiritual inspiration.

To my parents, in-laws, and siblings, thank you for your support and encouragement. To my committee members, faculty, colleagues, and mentors: our encounters have molded me into a creative, reflexive educator, paying attention to freedoms, the social determinants of health, transcultural nursing, and spirituality. To my cheerleader and battle buddy, Jayna Moceribrooks: we started this thing together and we finished it together. I am forever grateful for your friendship; I could not have done it without you.

To my husband, Dov, and my children, Netanel, Elyon, Adir, Menucha, Akiva, and Ahuva, you are the lights of my life. Your love and support of my dream gave me opportunities to learn and grow. I hope I can continue to do the same for you all.

To the women of Israel, I honor your openness, honesty, and willingness to share your sexual and reproductive worlds with me. Your contribution to the body of knowledge offers hope that universal access to sexual and reproductive health care can offer freedoms and opportunities to women around the world.

Finally, on marking the momentous occasion of completing this work, I offer my deep and loving gratitude to G-d: Blessed are You, oh Lord, our G-d, King of the Universe, who has granted me life and sustained me, and allowed me to arrive at this time.

ACKNOWLEDGEMENT

This dissertation would not have been possible without the support, guidance, and input from my committee members, Dr. Kathleen Sekula, Dr. Rick Zoucha, and Dr. Sridhar Venkatapuram. Their countless hours of dedication and effort have greatly contributed to this work. Dr. Joan Lockhart and Dr. David Nolfi supported me through the process of the integrative review. Finally, I would like to acknowledge the Lilian Silverstein Foundation for Nursing Research and the Wygonik Family for the financial awards I received to support this study.

TABLE OF CONTENTS

ABSTRACT.....	iv
DEDICATION.....	vi
ACKNOWLEDGEMENT.....	vii
LIST OF ABBREVIATIONS.....	ix
Introduction.....	1
Application of the capability approach to reproductive freedom among women: An integrative review.....	2
Determinants of Reproductive Freedom Among Israeli Women Ages 18-50: A Research Proposal.....	38
Determinants of Reproductive Freedom Among Israeli Women ages 18-50: A mixed methods study.....	86

LIST OF ABBREVIATIONS

Demographic Health Survey	DHS
Fertility Awareness Method	FAM
Intrauterine Device	IUD
Health Care Provider	HCP
Millennium Development Goals	MDG
Organization for Economic Co-operation and Development	OECD
Sexual and Reproductive Health	SRH
Social Determinants of Health	SDOH
Sustainable Development Goals	SDG
United Nations	UN

Introduction

This dissertation is comprised of three chapters; a research proposal and two publishable articles. The first chapter is the integrative review of the literature. The second chapter is the research proposal. The third chapter is the final research article. Both articles will be submitted for publication upon completion of the Doctoral degree.

Application of the capability approach to reproductive freedom among women: An integrative review

Introduction

Nursing, medical, public health, and social justice organizations worldwide view access to sexual and reproductive health (SRH) care as crucial pathways to promoting reproductive and social justice (American College of Obstetricians and Gynecologists, 2016; American Public Health Association, 2015; International Council of Nurses, 2020). The Programme of Action at the International Conference on Population and Development in Cairo in 1994 (hereafter referred to as the Cairo Conference) describes women's rights to reproductive health as the capability to make autonomous decisions about when to have children and how many children to have, as well as the contraceptive method to use (Cohen & Richards, 1994). The United Nations' Sustainable Development Goals number three, General Health and Wellbeing, and five, Gender Equity, specifically identify safe family planning as a crucial tool to delay first births and space pregnancies. Reproductive freedom decreases health disparities and lowers maternal and infant mortality rates; it increases access to education and health care, improves gender equity both inside and outside the home, and allows women to work and earn wages (United Nations Department of Economic Affairs, 2019).

In order to achieve reproductive freedom, women must also have access to SRH services (United Nations Population Fund, 2020). Nurses make up 50% of the world's healthcare workforce; therefore, they are in a unique position to partner with women and offer resources and support for making contraceptive choices. Given that reproductive freedom is often described in terms of capabilities, Martha Nussbaum's (2000) capability approach offers a unique way to explore reproductive freedom by providing people-centered nursing care (Moyle et al.,

2015). Few studies, and no nursing studies, exist that used the capability approach for studying reproductive freedom.

The purpose of this integrative review is to evaluate, synthesize, and critique current international multidisciplinary literature on the application of the capability approach to reproductive freedom. A secondary aim is to look at methodologies and measurement tools used to study the capability approach and reproductive freedom and make recommendations for future research in nursing theory and practice.

Problem Identification

Reproductive Freedom

The Cairo Conference highlighted reproductive freedom as a social determinant of health and secured a commitment by 179 countries to increase health equity globally (Roseman & Reichenbach, 2011). The objective was to decrease the proportion of women with an unmet need for safe and reliable reproductive health services by providing universal access for all (Cohen & Richards, 1994). The Programme of Action was then adopted as the basis for the UN's family planning agenda for the 2015 Millennium Development Goals and the subsequent 2030 Sustainable Development Goals (United Nations Department of Economic Affairs, 2019). Each goal is made up of targets and indicators that specify benchmarks for achieving each goal.

Target 5.6, entitled Ensure Universal Access to Sexual and Reproductive Health and Reproductive Rights, identifies family planning as a key to attaining all 17 goals by decreasing health disparities including maternal mortality (United Nations Population Fund, 2020). Indicator 5.6.1 reflects the aim to increase the proportion of women who "make their own informed decisions regarding sexual relations, contraceptive use, and reproductive health care" (p. 2). The indicator addresses the measurement of the social contexts involved in making autonomous

reproductive choices by asking who makes decisions about health care and contraception, if someone else influences a woman's decisions, and whether a woman can refuse sexual intercourse should she not have access to reliable contraceptive methods. Having access to contraceptive commodities is crucial, but availability of the commodity is not a sufficient indicator. A woman's capability to make her own decisions about her reproductive freedom may influence her ability to reach past inequities and achieve personal goals for her own personal development.

The Capability Approach

Even with evidence-based interventions and access to reliable contraceptive methods and counseling, a distinction exists between a woman's goals and her capability (Gates, 2019). For example, even if a woman lives in a community with a medical clinic that provides reliable methods of contraception, she may still have reproductive goals that she cannot attain. As such, researchers cannot simply measure good reproductive health by measuring the prevalence of contraceptive methods or access to health services.

Nussbaum's (2000) version of the capability approach offers a productive framework to evaluate women's freedom for reproductive health (Sauvain-Dugerdil, Douptcheva, et al., 2014). Amartya Sen's philosophical approach was expanded upon by Nussbaum (2000), who specified a list of ten central human capabilities. The capabilities are defined as substantive opportunities to lead a valuable life with dignity. Nussbaum's (2000) capabilities include life; bodily health; bodily integrity; senses, imagination, and thought; emotions; practical reason; affiliation; other species; play; and control over one's environment. These capabilities are interdependent and by no means exhaustive; they represent the minimal core of a good life. Many capabilities exist

which bring value to human life; however, these central capabilities reflect the dignity of the human being as a needy, sociable human animal with the capacity to reason.

Robeyns (2017) illustrates Sen's capability approach (Figure 1) and indicates some factors that influence capability and the five building blocks of the capabilities approach. These include: goods and services, conversion factors, capabilities, choice, and freedoms.

Contraceptive methods are goods that, given certain conversion factors, may create capabilities for women to grow and develop according to their values. Individual conversion factors for reproductive freedom may include social structures such as access to reliable methods, religious traditions, or cultural factors influencing reproductive freedom. These social structures and conditions allow goods and services to be turned into capabilities. Capabilities are defined as “the various combinations of beings and doings that a person can achieve...they reflect a person’s freedom to live one type of life or another, and to choose from possible ways of living” (Human Development and Capabilities Association, 2005, p. 2) . If a person chooses to realize a capability, they are actualizing their own value system for what they want to do and how they live their life.

The capability approach is a philosophical framework applied in economics, sociology, political science, and law among other fields. The nature of the approach lends itself to multidisciplinary, collaborative, respectful, community-based work towards reproductive freedom. While some question whether contraception is a commodity or a capability (Sauvain-Dugerdil, Douptcheva, et al., 2014), the Cairo Conference highlighted that access to contraception leads to choices for women to be who they want to be and do what they want to do (Roseman & Reichenbach, 2011).

Methods

A protocol for this integrated review was developed using the framework described by Whitemore and Knafl (2005). It included problem identification, literature search, data evaluation, data analysis, and presentation of synthesis. A well-defined search strategy and inclusion and exclusion criteria helped maintain standards of scientific rigor. Data analysis included data reduction, display, and comparison.

Literature search

A computerized search was conducted for recent sources on the use of the capability approach for contraception research from 2010-2020. This time frame was chosen by considering the worldwide response to the Cairo Conference reports in early capability literature (1994-2010) and the assumption that established knowledge of both would be covered by the articles included in this review.

A search strategy (Appendix A) was designed to include a combination of keywords such as "contracept*", "reproductive freedom," "capabilities approach," "Sen, A." and "Nussbaum, M.C." and all associated major headings and mesh terms. PubMed, CINAHL, Sociological Abstracts, and Scopus databases were searched, and 280 articles were identified.

Only resources with an English abstract that referenced contraception and the capability approach were included. Because of the multidisciplinary nature of the approach, critical reflections on the capability approach and contraception were included. An ancestry approach found one relevant source. Two relevant articles identified in the original search came from a special issue in the journal African Population Studies about a project using the capability approach in two African countries. One French article (Sauvain-Dugerdil, Douptcheva, et al., 2014) with an English abstract was translated using an online PDF translation site (Online Doc

Translator, 2020). After careful review of the issue, two more relevant articles were included (Chiappero-Martinetti & Venkatapuram, 2014; Sauvain-Dugerdil, Bosiakoh, et al., 2014).

Covidence literature management software (Covidence Systematic Review Software, accessed on November 19, 2020) was used to carefully screen, evaluate, and review 283 articles, and removed 92 duplicates. After screening via title and abstract, 191 studies were rejected, 158 were irrelevant, 33 were assessed for eligibility criteria, and 19 were excluded for wrong comparators. A total of 14 articles were included in the final review. Figure 2 shows a PRISMA flowchart (Moher et al., 2009) of the review process.

Data Evaluation

The data evaluation stage involves methodological evaluation of a diverse range of primary sources. The versatile Mixed Methods Appraisal Tool (MMAT) (Hong et al., 2019; Pluye et al., 2009) was used to systematically score the methodological quality of articles. The tool allows for concomitant appraisal of a diverse range of methodologies including quantitative, qualitative, and mixed methods studies. The MMAT has two screening questions to assess the research question and whether the collected data facilitated answering the research question. Methodology-specific questions ask about the sample, the design, the analysis, and the results. Each item was scored zero or one. A summary quality score was calculated by adding up the total score and dividing by the total possible score. High scores indicate higher quality papers (Pluye et al., 2009). No studies were rejected based on their score, but low-scoring studies were weighted less in the analysis. Quality scores for all sample studies are shown in Table 1.

Data Analysis

Data analysis followed Whitemore and Knafl (2005): data reduction, data display, data comparison, conclusion drawing, and verification. Data were extracted and coded by key

variables. Critical examination looked for patterns and relationships, data synthesis, and conclusion drawing and verification. After a critical reading of each study, data were extracted through an iterative, creative, critical process using Atlas.ti qualitative data analysis software (Atlas.ti) for coding themes, which were then used to create a data display in a literature matrix to compare multiple variables for synthesis and conclusion-drawing. Visualization and recognition of patterns in the data assists in the interpretation and drawing conclusion stage (Whittemore & Knafl, 2005). Categories for coding included: major aims, methodology, sample description, country, operationalization of capability concepts, significant findings, quality grade, limitation, and gaps.

Results

Description of the Sample Articles

Because of the multidisciplinary nature of the capability approach and the scope of this review, the fourteen final studies originated from public health, public policy, philosophy, economics, and social work literature. No studies were found that looked at this research problem through a nursing or biomedical context.

One critical reflection (Sen, 2010) and one book chapter (Roseman & Reichenbach, 2011) described global reproductive health rights and the history of the Reproductive Freedom movement. All sources reviewed concepts of the capability approach as per Sen or Nussbaum. Two articles (Chiappero-Martinetti & Venkatapuram, 2014; Sauvain-Dugerdil, 2014) reviewed the operationalization of the capability approach for contraception. The review also found multiple methodological strategies (to be discussed) to apply the approach to reproductive health and freedom. Extracted themes include the history of the capability approach to reproductive freedom, methodologies chosen to study these variables, operationalization of the approach's

building blocks, and use of the approach in low/middle-income vs. high-income countries.

Findings for each of the themes follow.

History of the application of Capability Approach for Contraception

Most studies included an overview of the history of the reproductive and sexual health rights movement, the Cairo Conference, or the capability approach's role in the Programme of Action. Understanding the political and historical context is imperative to addressing the challenges in current reproductive freedom (Sen (2010). Roseman and Reichenbach (2011) note that from 1960-1990, the discussion surrounding reproductive freedom debated the concept of controlling a woman's body. At the time of the conference, there was a global movement for reproductive rights and a period of great debate about reproductive freedoms. The Cairo conference initiated a shift from a coercive fertility regulation paradigm to a framework for reproductive health and freedom (Ebenstein, 2010; Roseman & Reichenbach, 2011). This innovative perspective led to an internationally accepted framework for policy and program development with great potential for change. Respectful partnerships and equity in gendered power relations became central to increasing the number of women who chose to use reliable contraceptive methods (Sen, 2010).

Loosely based on Nussbaum's (2000) ten central capabilities, the UN's Gender Inequality Index was developed in 2010 to focus on empowerment and gender equity among nations. The MDGs for 2000-2015 brought gender and other social determinants of health into focus but continued to describe the unmet need for family planning without describing the social contexts of contraceptive choice. Conceptualized as a clinical problem, the solution was a supply- or commodity-based approach and not human rights-based (Sauvain-Dugerdil, Bosiakoh, et al., 2014). Programs continued to focus on improving internal "endowments" like knowledge and

practice skills, and external conditions like systems, supplies, staff, and space (Chiappero-Martinetti & Venkatapuram, 2014). The Millennium Development Goals aimed to increase contraceptive knowledge to practice programs (systems), technology and reliable contraceptive methods (supplies), and social and physical structures (staff and space) in countries such as Africa and India. Contraceptive supplies were allocated and sent to rural areas worldwide but remained unused in certain areas since they did not fit the social, cultural, or religious contexts in which women lived (Roseman & Reichenbach, 2011). In many of these programs, systems-centered and policy-centered change became the focus for implementation without taking a person-centered approach to capability and agency (Roseman & Reichenbach, 2011). All these goods were supplied but remained situated outside the capability space; women could not use them. The so-called unmet need continued to be driven by providing contraception to women who did not have the agency to use it.

As the Millennium Development Goals 2014 target date approached, researchers and public health workers noted that the world was farther from the goals than expected (Duvendack & Palmer-Jones, 2017). Some UN agencies continued to use the capability approach in indices for gender and human development, but most efforts remained oriented to the means (contraceptive use) and not the ends (reproductive freedom) (Sauvain-Dugerdil, 2014). Critics noted the challenging nature of measurement of the capability approach concepts, particularly in reproductive health areas. In 2014, demographers and capability scholars designed an issue of the journal *African Population Studies* giving examples of appropriate methodologies and ways to operationalize the concepts of the capability approach in future research (Sauvain-Dugerdil, 2014). As the MDGS approached the target date, world governments dedicated to SRH and freedom set new global agendas that reflected the Programme of Action. These became crucial

elements of the Sustainable Development Goals for 2015-2030 and noted contraception as a key driver of human development (Duvendack & Palmer-Jones, 2017).

Methodologies

Secondary Data Analysis

Six studies (Duvendack & Palmer-Jones, 2017; Ebenstein, 2010; Fahlen, 2013; Jayasundara, 2010; Juraqulova & Henry, 2020; Sauvain-Dugerdil, Douptcheva, et al., 2014) used secondary data analysis to determine capability. As per the inclusion criteria, all referenced Sen, Nussbaum, or the capabilities approach. Big data sets like the demographic health survey (DHS), a nationally representative household survey, are available for secondary analysis through both government and non-government organizations. The DHS monitors and evaluates critical indicators of population health (Jayasundara, 2010). Indicators used for reproductive freedom represent many social determinants of health (Juraqulova & Henry, 2020). Clustering among social determinants of health complicates the identification of capability in DHS studies.

Some researchers try to determine capability using elementary combinations of indicators. Duvendack and Palmer-Jones (2017) suggest that the most widely used items from DHS studies may not give researchers enough insight to determine women's reproductive freedom. Authors go so far as to call DHS studies "naïve" (p. 669) for trying to show correlations between social determinants of health like education, employment, empowerment, and contraceptive use. This data cannot show if women were passive or active in making choices for reproductive freedom, whether they can rely on certain privileges, nor whether women are choosing not to use contraception for their own religious or cultural reasons.

Chiappero-Marinetti and Venkatapuram (2014) note that secondary data analyses may obscure deep inequalities and significant correlations between variables. Although DHS studies

may show that in the past a woman had capabilities for making choices, they cannot say for sure whether those choices were made from their own free will for a good life.

Qualitative methodologies

Three studies (Greco et al., 2015; Samb & Ridde, 2018; Sauvain-Dugerdil, Bosiakoh, et al., 2014) used qualitative methods. Besides asking questions specific to capability, these methods allow for less bias in the results. The capability approach was originally designed to evaluate an individual's life as well as that of groups and populations. To create freedoms, researchers and public health workers must consider each person's idea of a valuable life. Interviews and focus groups may provide a richer context for identifying individual capabilities that researchers may miss in empiric studies (Chiappero-Martinetti & Venkatapuram, 2014). Secondary data analyses cannot evaluate individual-level freedoms, while qualitative methods can. Also, conducting individual interviews and focus groups gives a nod to the extent that social arrangements "let women down and constrain their choices" (Sahoo & Pradhan, 2020, p. 18). Using qualitative participatory methods further acknowledges this complexity.

Samb and Ridde (2018) used a multiple case-study design to compare capabilities among women in Bangladesh with access to free or partially free healthcare. Sauvain-Dugerdil, Bosiakoh, et al. (2014) used grounded theory to assess the social and cultural norms and conversion factors for individual reproductive rights in Mali and Ghana. Greco et al. (2015) used qualitative methods in a community-based participatory action approach to understand women's perspectives on reproductive freedoms.

All three qualitative studies used purposive sampling techniques. Samb and Ridde (2018) interviewed individual women and non-government organizations (NGO) health workers, observed the community through immersion experiences, and watched an NGO-made

documentary on the health care system. The possibility of NGO-related bias is noted by Chiappero-Martinetti and Venkatapuram (2014); Samb and Ridde's (2018) inclusion of the video may have increased bias related to the NGO's core values and goals.

Sauvain-Dugerdil, Bosiakoh, et al. (2014) and Greco et al. (2015) conducted focus groups. The former was the only study reviewed with participants of both genders and looked at partnership relationships as recommended by Duvendack and Palmer-Jones (2017).

All of the studies identified concepts of capabilities and agency for reproductive freedoms. Samb and Ridde (2018) found that women reported low contraceptive use despite access to free reproductive health services. Women attributed this to husband refusal fueled by social and cultural norms against family planning practices (conversion factors). Some women used hidden contraceptive methods secretly despite their husband's reluctance. Low contraceptive prevalence despite access to free reproductive health care may indicate some form of agency or choice about contraceptive use. Thus, the authors note the "transformative power of free healthcare" (p. 14), which increased women's agency and capability. Still, conversion factors such as cultural barriers and social partnerships limited women's capability to use contraception and achieve things valued as contributing to a good life.

Sauvain-Dugerdil, Bosiakoh, et al. (2014) focused on understanding the differences in values about contraception expressed in the social setting of focus groups and individual interviews in Mali and Ghana. Using grounded theory, researchers identified themes relating to courtship and pre-marital dating, choice of spouse and marriage, first birth, subsequent births and family planning, and individual life trajectory and opinions. They compared the spaces of freedom for making reproductive decisions for each theme in both countries. All themes were connected to conversion factors such as personal resources, schooling, and the relational/familial

network in making family planning decisions. Notably, individual values were sometimes different than group values. In critique of the study, differences between countries were presented in a schematic form that was difficult to read and understand. The comparison of the two countries may have been better suited to analysis after performing two separate studies. Authors conclude that national empowerment programs and policies can enhance individual capacity for capability by encouraging the improvement of life conditions and creating supportive relationships. Still, the recommendations for policy change seem vague and lack direction. The question remains: can the authors make national policy-level recommendations for reproductive freedom based on findings from this type of qualitative research?

In contrast, Greco et al. (2015) used a qualitative community-based participatory action focus group approach to assess women's quality of life in Mali by identifying health-related capabilities, asking "what is a good life?" (p. 69). According to Sahoo and Pradhan (2020), community-led research may lead to the development of programs and policies based on stakeholder's input. Greco et al. (2015) identified six themes for capabilities: physical strength, inner well-being, household well-being, community relations, economic security, and happiness. Reproductive freedom was found to be intertwined with each theme. For example, one subtheme of physical strength was "being able to space births" (p. 72). Spacing births offered women the capability to do physical work, have enough food to eat, and avoid diseases. Using reliable contraceptive methods allowed women to take care of the children they already had. Fewer mouths to feed meant more money to educate children and increase the hygienic environment of the home. Fewer pregnancies meant availability to work, earn wages, and maintain the household.

It is important to note that logically it is relatively impossible to determine national or regional capabilities and freedoms based on small sample sizes from qualitative studies. These results are not enough to establish public health policy or create interventions for contraceptive behavior. Still, interviews and focus groups in all three studies provided a richer context for individual capabilities that may be missing from DHS studies. Including stakeholders in the development of regional programs has been shown to increase the use of health services (Greco et al., 2015). Although big data studies and original surveys provide a broader view of the research problem, individual or group capabilities and freedoms are much more easily explored in qualitative results and community-based participatory action programs.

Mixed Methods

Sahoo and Pradhan (2020) suggest that mixed methods studies offer a clearer, richer understanding of the research question. Deliberate aggregation of quantitative and qualitative individual and population-level data may help explore and measure capability for reproductive freedom. This method is respectful of the capability approach's core values and looks at both the individual and the wider population context. In accordance with Chiappero-Martinetti and Venkatapuram (2014), the authors used an explanatory-sequential mixed methods approach to ask displaced tribal women in India about their reproductive health status and use of health services before and after relocation. The quantitative strand collected data using a structured questionnaire. The subsequent qualitative strand used a content analysis approach to help explain quantitative findings.

Sahoo and Pradhan (2020) surveyed and interviewed focus groups consisting of 194 displaced tribal women in India to achieve a richer understanding of their capability. The survey questions for the quantitative strand were based on Greco et al.'s (2015) dimensions for

capability and women's health, and the interviews confirmed the same dimensions. This study was the only one reviewed for this paper where authors designed their own survey and did not rely on secondary data analysis methods. Demographics were collected along with types of contraceptives used and reasons for using or not using contraception. After explaining the concept of capability to participants, researchers measured capability using a three-point scale; capable, less capable, and not capable (to be discussed).

In the data analysis phase, Sahoo and Pradhan (2020) gave equal weighting to each capability. Sixty-four percent of women reported less capability for choosing contraception; 9.8% were not capable. 57.2% were less capable of spacing births; 3.6% were not capable. Prevalence results showed that about 67.5% of women did not use any contraceptives. Of those who did, 49.2% used female sterilization, 22.2% used indigenous medicines, 17.4% used intrauterine devices (IUD)s, and 11.2% used oral contraceptive pills. The most common reasons for not using contraceptives included lack of access (35.8%) and fear of sterilization (31.5%).

After quantitative data was collected, women were asked open-ended questions based on the dimensions of women's quality of life. Participants acknowledged eight out of Nussbaum's ten central capabilities but did not think they had reproductive freedom where they lived. They noted many decisions about contraceptive use were made by health workers and worried that workers were getting incentives to recommend sterilization and increase contraceptive prevalence. This fed their fear of sterilization and suspicion of modern healthcare workers. The study offers an excellent example of using mixed methods to address capability. Researchers operationalized capability and gave displaced Indian tribal women space to express their reproductive freedom capability in a respectful, concrete, and rich manner.

Operationalization of the Capability Approach for contraception

The multiplicity of the capability approach building blocks makes domains of investigation a challenge to identify. Variables or indicators of capability, units of analysis, conversion factors, and relationships between components can present measurement issues. Chiappero-Martinetti and Venkatapuram (2014) attempt to provide insight into critical steps to design a procedure to operationalize the capability approach for empirical analysis and give examples of studies that have successfully dealt with measurement issues. At the onset, authors seem to assume that secondary data analyses are the best option for capability approach research; however, they also describe other methods that may be more worthwhile.

Chiappero-Martinetti and Venkatapuram (2014) identify methodological challenges to quantification and how to address them during the research process. Researchers must be explicit about the area of investigation, in this case, health, and decide which part of capability they want to study or if they want to look at overall capability. They suggest mapping variables in a matrix form and empirical strategies for analyzing big data. Authors suggest asking: Who is the primary unit of analysis (individual/family/specific population/subgroup/nation)? What kinds of contexts would be considered conversion factors for this population (physical/social/environmental/relational/familial)? How are they identified? How can proxy indicators be used in surveys? Are they standalone measures? Can they be aggregated into indices to identify capabilities? Are they just the social determinants of health? The researchers discuss empirical strategies for measurement and indices to compare populations, however, seem to be presenting a general guide to population health research not specific to the capability approach. The authors also note that it is "beyond the scope of this paper to offer a highly detailed and ready-to-go procedure" (p. 712) which is precisely what seems to be missing from capability literature.

Low/Middle Income vs. High Income Countries

Chiappero-Martinetti and Venkatapuram (2014) call for capability scholars to study and compare development opportunities in rich and developing countries to inspire policy changes. Eight studies examined capabilities in low/middle-income countries: five studies in Africa, one in India, one in Bangladesh, and one in post-Soviet Tajikistan. One analyzed DHS data in China, considered an upper-middle-income country. One aggregated data from developing countries to test Sen's theory. Only one study analyzed data from 10 high-income countries in Europe. Fahlen (2013) performed a secondary data analysis from the European Social Survey to look at capabilities and childbearing intentions. The author identified and examined relationships between economic uncertainties, work-family reconciliation policies, and women's short-term childbearing intentions. These issues may not be relevant to women struggling with family planning in low-middle income countries (Jayasundara, 2010). These studies reference a different application of the capability approach in high income countries and may offer insight into opportunities to develop similar freedoms in low/middle income countries.

Discussion

This section presents a discussion on the capability approach as a grand theory for nursing followed by its application for research on reproductive freedom. Within the theoretical nursing literature, the capability approach could be considered a grand theory. According to Meleis (2018), grand theories in nursing address metaparadigm components of person, nursing, health, and environment. Grand theories are broad in scope and complex. They describe relationships between many abstract concepts, are hard to operationalize and test empirically, and do not guide specific patient interventions but offer a general approach to health problems. The research problem is often based on the theorists' own history or personal experience. The wide use of the capability approach and its abstract nature may represent a grand theory that

could be used for nursing research by operationalizing the building blocks for nursing theory and practice. It is a far-reaching multidisciplinary approach that can and should involve nurses when addressing health-related freedoms and functioning. Like many grand theories, operationalizing the capability approach is challenging. Reviews such as this may offer insight into theoretical strategies used thus far to measure capability concepts and bring them to a middle-range level.

Like Lopez et al. (2016), Fahlen (2013) suggests that other theoretical approaches to family planning are not as useful. She points out that childbearing intentions are often associated with the theory of planned behavior – our intentions motivate us to act. Yet this theory does not work without considering the broader social context; childbearing intentions may be institutionally embedded through conversion factors like culture, religion, familial and social relations, and policies. Since the 1970's health behavior researchers have been searching for the best theoretical explanation for contraceptive behavior (Hall, 2012). In the latest Cochrane review, Lopez et al. (2016) looked at theory-based interventions for contraceptive practice. Social Cognitive Theory and Motivational Interviewing were the only theories found to be minimally useful. All other behavioral theories were not found to be useful. Based on our study, it may be possible to operationalize a grand theory like the capability approach into a middle-range theory or even a practice-level theory like Motivational Interviewing for contraceptive choice. Using capability approach concepts could help health workers guide women to identify conversion factors for capability and reproductive freedom.

The question remains: How do we study and measure capability? Choosing a methodology requires careful consideration of the research problem and question (Polit & Beck, 2014). Secondary data analyses are appealing because big data sets exist but cannot necessarily determine women's current capability for reproductive freedom. Qualitative research gives richer

insight into individual freedoms; focus groups highlight social, cultural, familial, relational, and political contexts. Because both qualitative and big data analyses are rarely enough to demonstrate capability, a mixed methods approach offers valuable strategies to find capabilities and freedoms. Moreover, a community-based participatory action framework may provide an appropriate setting for focus groups and capability research, assuming there is no bias in non-governmental organization partnerships.

Researching freedoms in rich countries gives insights into ideal policies to develop and achieve freedoms. All people, rich and poor, deserve the dignity to achieve function and freedoms, and governments must provide these in different ways for different regions and populations. Scholars in the Human Development and Capability Association call for more research in wealthy countries as well as low/middle income countries. This goal aims to increase the literature on countries with reproductive health capabilities and use them as models for increasing freedoms and functioning in more vulnerable areas. Thus, more capability research must be undertaken in high-income countries to make comparisons and policy recommendations.

Limitations

Whittemore and Knafl (2005) note that in the search terms generally limit the review. Using capability approach terms in the integrative review search strategy was problematic. Keywords like agency, choice, social structure, commodities, resources, freedom, functioning, and capability resulted in tens of thousands of irrelevant sources. To ensure a more manageable result, these capability approach keywords were left out of the final search strategy. It is possible that using additional capability terms may result in more literature to review.

A thorough search of grey literature or public health databases may have identified other relevant sources. To address this, four diverse and multi-disciplinary databases were chosen.

Also, because this review's scope was 2010-2020, the early capabilities literature from 1990-2000 was excluded.

Implications for Future Nursing Research

Nurses are in a key position to work collaboratively with other professionals to impact reproductive freedom, yet no nursing studies were identified. Future research should look at outcomes for reproductive health and freedoms from nurse-led care and the holistic perspective of nursing practice. Although demographic studies look at capability from a policy or national perspective, nursing studies may explore the capability approach to inform practice change through knowledge translation. Mixed methods studies appear to offer the broadest scope of information on this complex issue. Abstract concepts can be explored through qualitative measures, while tools like Sahoo and Pradhan's (2020) three-point scale can measure capability more directly than secondary data analyses.

In addition, more studies are needed in countries with high levels of reproductive freedom as well as high birth rates; they may reveal cultural values and beliefs associated with increased birth rates and less contraceptive use. This could be a new paradigm of reproductive freedom that is not represented in the literature.

Conclusion

Universal access to SRH services is a driver of all 17 SDGs (FP2020, 2021). Nurses can help drive the goals through interventions that address conversion factors and capability. Understanding regional reproductive capabilities and freedom through rigorous research is crucial to addressing this global public health issue.

References

- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211. [https://doi.org/https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/https://doi.org/10.1016/0749-5978(91)90020-T)
- American College of Obstetricians and Gynecologists. (2016). Committee Opinion No. 654 Summary: Reproductive Life Planning to Reduce Unintended Pregnancy (0029-7844). (*Obstetrics and gynecology*, Issue 2).
<https://search.ebscohost.com/login.aspx?direct=true&db=cin20&AN=113505901&site=ehost-live>
- American Public Health Association. (2015). Universal Access to Contraception: Policy Number 20153. Retrieved 16 February, 2020 from <https://apha.org/policies-and-advocacy/public-health-policy-statements/policy-database/2015/12/17/09/14/universal-access-to-contraception>
- Atlas.ti. In.
- Bland, J. M., Butland, B. K., Peacock, J. L., Poloniecki, J., Reid, F., & Sedgwick, P. (2012). *Statistics guide for research grant applicants [Handbook]*. St. George's University of London. <https://www-users.york.ac.uk/~mb55/guide/guide14.pdf>
- Chiappero-Martinetti, E., & Venkatapuram, S. (2014). The capability approach: A framework for population studies. *African Population Studies*, 28(2), 708-720.
<https://authenticate.library.duq.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edo&AN=116393599&site=eds-live&scope=site>
- Clalit Health Services. (2016). Questions and answers on birth control.
<https://www.clalit.co.il/he/lifestyle/sex/Pages/forumfaq5.aspx>

- Cohen, S. A., & Richards, C. L. (1994). The Cairo consensus: Population, development and women. *Family Planning Perspectives*, 26(6), 272-277. <https://doi.org/10.2307/2135895>
- Covidence Systematic Review Software. In. (accessed on November 19, 2020).
<http://www.covidence.org>
- Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed ed.). Sage.
- Dreiher, D., Blagorazumnaya, O., Balicer, R., & Dreiher, J. (2020). National initiatives to promote quality of care and patient safety: achievements to date and challenges ahead. *Israel Journal of Health Policy Research*, 9(1), 62. <https://doi.org/10.1186/s13584-020-00417-x>
- Duvendack, M., & Palmer-Jones, R. (2017). Micro-finance, women's empowerment and fertility decline in Bangladesh: How important was women's agency? *Journal of Development Studies*, 53(5), 664-683. <https://doi.org/10.1080/00220388.2016.1205731>
- Ebenstein, A. (2010). The "missing girls" of China and the unintended consequences of the one child policy. *Journal of Human Resources*, 45(1), 87-115.
<https://doi.org/10.3368/jhr.45.1.87>
- Elmusharaf, K., Byrne, E., & O'Donovan, D. (2017). Social and traditional practices and their implications for family planning: a participatory ethnographic study in Renk, South Sudan. *Reprod Health*, 14(1), 10. <https://doi.org/10.1186/s12978-016-0273-2>
- Fahlen, S. (2013). Capabilities and childbearing intentions in Europe: The association between work-family reconciliation policies, economic uncertainties and women's fertility plans. *European Societies*, 15(5), 639-662.
<https://doi.org/http://dx.doi.org/10.1080/14616696.2013.798018>

- Family Planning 2020. (2021). Family Planning and the Sustainable Development Goals. <http://2015-2016progress.familyplanning2020.org/page/pace-of-progress/family-planning-and-the-sustainable-development-goals>
- FP2020. (2021). Family Planning and the Sustainable Development Goals. In. <http://2015-2016progress.familyplanning2020.org/page/pace-of-progress/family-planning-and-the-sustainable-development-goals>
- Gates, M. (2019). The moment of lift: How empowering women changes the world. Flatiron Books.
- Girvan, G., Roy, A. (2021). Israel: #5 in the 2021 World Index of Healthcare Innovation. Foundation for Research on Equal Opportunity: Word Index of Healthcare Innovation. <https://apps.who.int/iris/handle/10665/330248>
- Greco, G., Skordis-Worrall, J., Mkandawire, B., & Mills, A. (2015). What is a good life? Selecting capabilities to assess women's quality of life in rural Malawi. *Social Science & Medicine*, 130, 69-78. <https://doi.org/https://doi.org/10.1016/j.socscimed.2015.01.042>
- Hall, K. S. (2012). The Health Belief Model Can Guide Modern Contraceptive Behavior Research and Practice. *Journal of Midwifery & Women's Health*, 57(1), 74-81. <https://doi.org/10.1111/j.1542-2011.2011.00110.x>
- Holloway, I., & Galvin, K. (2017). *Qualitative research in nursing and healthcare* (4 ed.). Wiley. <https://books.google.co.il/books?id=EKu-DAAAQBAJ>
- Hong, Q. N., Pluye, P., Fàbregues, S., Bartlett, G., Boardman, F., Cargo, M., Dagenais, P., Gagnon, M. P., Griffiths, F., Nicolau, B., O'Cathain, A., Rousseau, M. C., & Vedel, I. (2019). Improving the content validity of the mixed methods appraisal tool: a modified e-

Delphi study. *J Clin Epidemiol*, 111, 49-59.e41.

<https://doi.org/10.1016/j.jclinepi.2019.03.008>

Human Development and Capabilities Association. (2005). Capability and functionings:

Definition and justification. [https://hd-ca.org/wp-](https://hd-ca.org/wp-content/uploads/2013/06/HDCA_Briefing_Concepts.pdf)

[content/uploads/2013/06/HDCA_Briefing_Concepts.pdf](https://hd-ca.org/wp-content/uploads/2013/06/HDCA_Briefing_Concepts.pdf)

International Council of Nurses. (2020). Deliver for Good. [https://www.icn.ch/what-we-](https://www.icn.ch/what-we-do/campaigns/deliver-good)

[do/campaigns/deliver-good](https://www.icn.ch/what-we-do/campaigns/deliver-good)

Israel Ministry of Health. (2020). National health insurance law.

<https://www.health.gov.il/Subjects/UninsuredRights/HealthInsuranceLaw/Pages/default.aspx>

Jayasundara, D. S. (2010). Reproductive health of women in developing countries and human

development: A test of Sen's theory (Publication Number AAI3369980) *Sociological*

Abstracts. <https://search.proquest.com/docview/743059945?accountid=10610>

[http://resolver.ebscohost.com/openurl?ctx_ver=Z39.88-2004&ctx_enc=info:ofi/enc:UTF-](http://resolver.ebscohost.com/openurl?ctx_ver=Z39.88-2004&ctx_enc=info:ofi/enc:UTF-8&rft_id=info:sid/Sociological+Abstracts&rft_val_fmt=info:ofi/fmt:kev:mtx:dissertation&rft.genre=dissertations+%26+theses&rft.jtitle=&rft.atitle=&rft.au=Jayasundara%2C+Dheeshana+Sugandhi&rft.aulast=Jayasundara&rft.aufirst=Dheeshana&rft.date=2010-01-01&rft.volume=&rft.issue=&rft.spage=&rft.isbn=9781109328554&rft.btitle=&rft.title=Reproductive+health+of+women+in+developing+countries+and+human+development%3A+A+test+of+Sen%27s+theory&rft.issn=&rft_id=info:doi/)

[8&rft_id=info:sid/Sociological+Abstracts&rft_val_fmt=info:ofi/fmt:kev:mtx:dissertation](http://resolver.ebscohost.com/openurl?ctx_ver=Z39.88-2004&ctx_enc=info:ofi/enc:UTF-8&rft_id=info:sid/Sociological+Abstracts&rft_val_fmt=info:ofi/fmt:kev:mtx:dissertation&rft.genre=dissertations+%26+theses&rft.jtitle=&rft.atitle=&rft.au=Jayasundara%2C+Dheeshana+Sugandhi&rft.aulast=Jayasundara&rft.aufirst=Dheeshana&rft.date=2010-01-01&rft.volume=&rft.issue=&rft.spage=&rft.isbn=9781109328554&rft.btitle=&rft.title=Reproductive+health+of+women+in+developing+countries+and+human+development%3A+A+test+of+Sen%27s+theory&rft.issn=&rft_id=info:doi/)

[&rft.genre=dissertations+%26+theses&rft.jtitle=&rft.atitle=&rft.au=Jayasundara%2C+D](http://resolver.ebscohost.com/openurl?ctx_ver=Z39.88-2004&ctx_enc=info:ofi/enc:UTF-8&rft_id=info:sid/Sociological+Abstracts&rft_val_fmt=info:ofi/fmt:kev:mtx:dissertation&rft.genre=dissertations+%26+theses&rft.jtitle=&rft.atitle=&rft.au=Jayasundara%2C+Dheeshana+Sugandhi&rft.aulast=Jayasundara&rft.aufirst=Dheeshana&rft.date=2010-01-01&rft.volume=&rft.issue=&rft.spage=&rft.isbn=9781109328554&rft.btitle=&rft.title=Reproductive+health+of+women+in+developing+countries+and+human+development%3A+A+test+of+Sen%27s+theory&rft.issn=&rft_id=info:doi/)

[heeshana+Sugandhi&rft.aulast=Jayasundara&rft.aufirst=Dheeshana&rft.date=2010-01-](http://resolver.ebscohost.com/openurl?ctx_ver=Z39.88-2004&ctx_enc=info:ofi/enc:UTF-8&rft_id=info:sid/Sociological+Abstracts&rft_val_fmt=info:ofi/fmt:kev:mtx:dissertation&rft.genre=dissertations+%26+theses&rft.jtitle=&rft.atitle=&rft.au=Jayasundara%2C+Dheeshana+Sugandhi&rft.aulast=Jayasundara&rft.aufirst=Dheeshana&rft.date=2010-01-01&rft.volume=&rft.issue=&rft.spage=&rft.isbn=9781109328554&rft.btitle=&rft.title=Reproductive+health+of+women+in+developing+countries+and+human+development%3A+A+test+of+Sen%27s+theory&rft.issn=&rft_id=info:doi/)

[01&rft.volume=&rft.issue=&rft.spage=&rft.isbn=9781109328554&rft.btitle=&rft.title=R](http://resolver.ebscohost.com/openurl?ctx_ver=Z39.88-2004&ctx_enc=info:ofi/enc:UTF-8&rft_id=info:sid/Sociological+Abstracts&rft_val_fmt=info:ofi/fmt:kev:mtx:dissertation&rft.genre=dissertations+%26+theses&rft.jtitle=&rft.atitle=&rft.au=Jayasundara%2C+Dheeshana+Sugandhi&rft.aulast=Jayasundara&rft.aufirst=Dheeshana&rft.date=2010-01-01&rft.volume=&rft.issue=&rft.spage=&rft.isbn=9781109328554&rft.btitle=&rft.title=Reproductive+health+of+women+in+developing+countries+and+human+development%3A+A+test+of+Sen%27s+theory&rft.issn=&rft_id=info:doi/)

[eproductive+health+of+women+in+developing+countries+and+human+development%3](http://resolver.ebscohost.com/openurl?ctx_ver=Z39.88-2004&ctx_enc=info:ofi/enc:UTF-8&rft_id=info:sid/Sociological+Abstracts&rft_val_fmt=info:ofi/fmt:kev:mtx:dissertation&rft.genre=dissertations+%26+theses&rft.jtitle=&rft.atitle=&rft.au=Jayasundara%2C+Dheeshana+Sugandhi&rft.aulast=Jayasundara&rft.aufirst=Dheeshana&rft.date=2010-01-01&rft.volume=&rft.issue=&rft.spage=&rft.isbn=9781109328554&rft.btitle=&rft.title=Reproductive+health+of+women+in+developing+countries+and+human+development%3A+A+test+of+Sen%27s+theory&rft.issn=&rft_id=info:doi/)

[A+A+test+of+Sen%27s+theory&rft.issn=&rft_id=info:doi/](http://resolver.ebscohost.com/openurl?ctx_ver=Z39.88-2004&ctx_enc=info:ofi/enc:UTF-8&rft_id=info:sid/Sociological+Abstracts&rft_val_fmt=info:ofi/fmt:kev:mtx:dissertation&rft.genre=dissertations+%26+theses&rft.jtitle=&rft.atitle=&rft.au=Jayasundara%2C+Dheeshana+Sugandhi&rft.aulast=Jayasundara&rft.aufirst=Dheeshana&rft.date=2010-01-01&rft.volume=&rft.issue=&rft.spage=&rft.isbn=9781109328554&rft.btitle=&rft.title=Reproductive+health+of+women+in+developing+countries+and+human+development%3A+A+test+of+Sen%27s+theory&rft.issn=&rft_id=info:doi/)

Juraqulova, Z. H., & Henry, E. B. (2020). Women's bargaining power and contraception use in

post-Soviet Tajikistan. *Central Asian Survey*, 39(4), 520-539.

<https://doi.org/10.1080/02634937.2020.1806202>

Knoema. (2021). Israel - Total fertility rate. <https://knoema.com/atlas/Israel/Fertility-rate>

LaDaat Delet Petucha. (2020). [Making contraceptive decisions].

<https://ladaat.org.il/%D7%A9%D7%99%D7%A7%D7%95%D7%9C%D7%99%D7%9D-%D7%91%D7%91%D7%97%D7%99%D7%A8%D7%AA-%D7%90%D7%9E%D7%A6%D7%A2%D7%99-%D7%9E%D7%A0%D7%99%D7%A2%D7%94/>

Leininger, M., & (1985). Qualitative research methods in nursing. In M. M. Leininger (Ed.), *Ethnography and ethnonursing: Models and modes of qualitative data analysis.* (pp. pp. 33-72). Grune& Stratton.

Lindberg, L. D., VandeVusse, A., Mueller, J., Kirstein, M. (2020). Early Impacts of the COVID-19 Pandemic: Findings from the 2020 Guttmacher Survey of Reproductive Health Experiences. G. Institute. <https://www.guttmacher.org/report/early-impacts-covid-19-pandemic-findings-2020-guttmacher-survey-reproductive-health>

Lopez, L. M., Grey, T. W., Chen, M., Tolley, E. E., & Stockton, L. L. (2016). Theory-based interventions for contraception. *Cochrane Database of Systematic Reviews*(11). <https://doi.org/10.1002/14651858.CD007249.pub5>

Meleis, A. (2018). *Theoretical Nursing Development and Process* (6th ed.). Wolters Kluwer.

Miller, L. J., & Lu, W. (2020). Asia Ttounces U.S. in health-efficiency index amid pandemic. <https://www.bloomberg.com/news/articles/2020-12-18/asia-trounces-u-s-in-health-efficiency-index-amid-pandemic>

Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *PLoS Med*, 6(7), e1000097. <https://doi.org/10.1371/journal.pmed.1000097>

Morse, J. M., & Richards, L. (2017). *Readme first for a user's guide to qualitative methods* (3 ed.). Sage.

Moyle, W., Rickard, C. M., Chambers, S. K., & Chaboyer, W. (2015). The partnering with patients model of nursing interventions: A first step to a practice theory. *Healthcare (Basel)*, 3(2), 252-262. <https://doi.org/10.3390/healthcare3020252>

Nussbaum, M. C. (2000). *Women and human development: The capabilities approach*. Cambridge University Press.

Online Doc Translator. (2020). <https://www.onlinedoctranslator.com/>

Organization for Economic Co-operation and Development. (2020). Israel. <http://www.oecd.org/israel/>

Pluye, P., Gagnon, M. P., Griffiths, F., & Johnson-Lafleur, J. (2009). A scoring system for appraising mixed methods research, and concomitantly appraising qualitative, quantitative and mixed methods primary studies in Mixed Studies Reviews. *Int J Nurs Stud*, 46(4), 529-546. <https://doi.org/10.1016/j.ijnurstu.2009.01.009>

Polit, D. F., & Beck, C. T. (2014). *Essentials of nursing research: Appraising evidence for nursing practice*. (8th ed. ed.). Wolters Kluwer Health /Lippincott Williams & Wilkins.

Raucher, M. S. (2020). *Conceiving agency: Reproductive authority among Haredi Women*. Indiana University Press. <https://doi.org/10.2307/j.ctv15kxgmp>

Robeyns, I. (2005). The Capability Approach: A theoretical survey. *Journal of Human Development*, 6(1), 93-114. <https://doi.org/10.1080/146498805200034266>

Robeyns, I. (2017a). *Wellbeing, freedom and social justice : The capability approach re-examined* [eBook]. Open Textbook Library

Open Book Publishers.

<https://authenticate.library.duq.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edsotl&AN=edsotl.OTLid0000553&site=eds-live&scope=site>

Robeyns, I. (2017b). Wellbeing, Freedom and Social Justice: The Capability Approach Re-Examined. Open Book Publishers. <https://www.openbookpublishers.com/product/682>

Roseman, M. J., & Reichenbach, L. (2011). Global reproductive health and rights: Reflecting on ICPD. In L. Reichenbach & M. J. Roseman (Eds.), *Reproductive Health and Human Rights: The Way Forward* (pp. 3-20). <https://www.scopus.com/inward/record.uri?eid=2-s2.0-84904142312&partnerID=40&md5=eba02a9424634b4ac919b89787225a74>

Sahoo, M., & Pradhan, J. (2020). Reproductive health care status of the displaced tribal women in India: An analysis using Nussbaum's central human capabilities. *Health Care Women International*, 1-30. <https://doi.org/10.1080/07399332.2020.1743994>

Samb, O. M., & Ridde, V. (2018). The impact of free healthcare on women's capability: A qualitative study in rural Burkina Faso [Article]. *Social Science and Medicine*, 197, 9-16. <https://doi.org/10.1016/j.socscimed.2017.11.045>

Sauvain-Dugerdil, C. (2014). Targeting inequalities: A contribution of the capability approach to population studies [Article]. *Etude de la Population Africaine*, 28(2), 721-731.

<https://doi.org/10.11564/28-2-592>

Sauvain-Dugerdil, C., Bosiakoh, T. A., Diarra, S., Piraud, A., Diop, S., Anarfí, J., & Agyei-Mensah, S. (2014). "Shaping the family": Individual's capabilities to exercise reproductive rights seen through a qualitative survey. "Dessiner sa famille". *Capabilités individuelles à exercer ses droits reproductifs à la lumière d'une enquête qualitative.*, 28(2), 872-889.

<https://authenticate.library.duq.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edo&AN=116393597&site=eds-live&scope=site>

Sauvain-Dugerdil, C., Douptcheva, N., & Diawara, S. I. (2014). Adoption of a contraceptive culture and control of the family plans. Can contraception be considered as a capability? *Etude de la Population Africaine*, 28(2), 854-871.

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84916212256&partnerID=40&md5=c4b2f13e6bdcc75b8d696a8f29b34458>

Schreiber, J., & Asner-Self, K. (2011). *Educational research : the interrelationship of questions, sampling, design, and analysis*. Wiley.

Schreiber, J. B. (in press). *Analyses in the health sciences*. DESTech.

Sen, A. (1999). *Development as Freedom*. Alfred Knopf.

Sen, G. (2010). Integrating family planning with sexual and reproductive health and rights: The past as prologue. *Studies in Family Planning*, 41(2), 143-146.

<https://doi.org/http://dx.doi.org/10.1111/j.1728-4465.2010.00237.x>

Tabachnick, B. G., & Fidell, L. S. (2001). *Using Multivariate Statistics (4th Edn ed.)*. Allyn and Bacon.

United Nations Department of Economic Affairs. (2019). *Family planning and the 2030 agenda for sustainable development: Data booklet*.

https://www.un.org/en/development/desa/population/publications/pdf/family/familyPlanning_DataBooklet_2019.pdf

United Nations Department of Economics and Social Affairs. (2019). *Contraceptive use by method 2019*. Retrieved from

<https://www.un.org/en/development/desa/population/publications/pdf/family/ContraceptiveUseByMethodDataBooklet2019.pdf>

United Nations Development Programme. (2011). "Statistical annex: technical notes - technical note 2: calculating the inequality-adjusted Human Development Index" Human development report 2011: Sustainability and equity: A better future for all. Basingstoke: United Nations Palgrave Macmillan.

United Nations Development Programme. (2018). What does it mean to leave no one behind? <https://www.undp.org/content/undp/en/home/librarypage/poverty-reduction/what-does-it-mean-to-leave-no-one-behind-.html>

United Nations Population Fund. (2020). Ensure universal access to sexual and reproductive health and reproductive rights measuring SDG target 5.6. Retrieved from <https://www.unfpa.org/sites/default/files/pub-pdf/UNFPA-SDG561562Combined-v4.15.pdf>

Whittemore, R., & Knafl, K. (2005). The integrative review: Updated methodology. *J Adv Nurs*, 52(5), 546-553. <https://doi.org/10.1111/j.1365-2648.2005.03621.x>

Wilder, E. I. (2000). The contraceptive revolution in Israel: changing family planning practices among ethnoimmigrant groups. *Soc Sci Res*, 29(1), 70-91. <https://doi.org/10.1006/ssre.1999.0654>

World Bank. (2021). Israel. <https://data.worldbank.org/country/IL>

World Health Organization. (2010). Social determinants of sexual and reproductive health: Informing future research and programme implementation. Retrieved from https://www.who.int/social_determinants/tools/WHO_SocialDeterminantsSexualHealth_2010.pdf

Table 1

Methodologies and MMAT summary scores of included studies

Article	Methodology	MMAT Score
Chiappero-Martinetti & Venkatapuram (2014)	Critical review of operationalization	N/A
Duvendack & Palmer-Jones (2017)	Secondary data analyses	7
Ebenstein, A. (2010).	Secondary data analyses	7
Fahlen, S. (2013).	Secondary data analyses	7
Greco, G., et al. (2015).	Participatory action	7
Jayasundara, D. S. (2010).	Secondary data analyses	7
Juraqulova, Z. H. and E. B. Henry (2020).	Secondary data analyses	7
Roseman & Reichenbach (2011)	Book chapter on history of reproductive health rights	N/A
Sahoo & Pradhan (2020)	Mixed methods	7
Samb & Ridde (2018)	Qualitative	7
Sauvain-Dugerdil (2014)	Critical review of operationalization	7
Sauvain-Dugerdil, Bosiakoh, et al. (2014)	Qualitative	7
Sauvain-Dugerdil, Douptcheva, et al. (2014)	Secondary data analyses	7
Sen (2010)	Critical reflection	N/A

Figure 1

Robeyns (2017): A stylized visualization of the core concepts of capability theories

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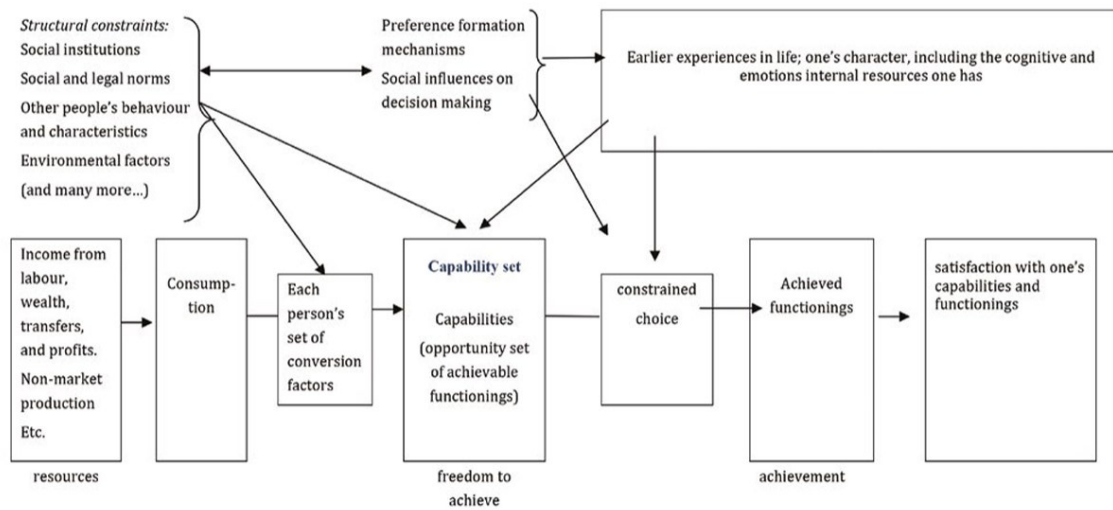
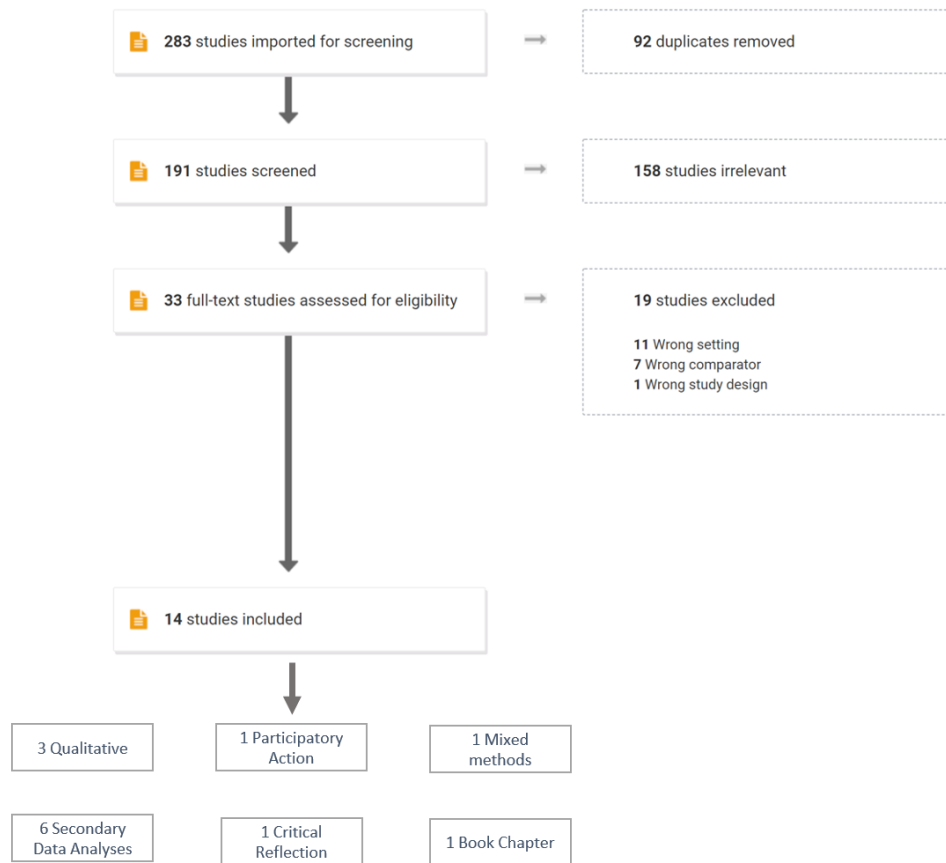


Figure 2

PRISMA diagram (Covidence Systematic Review Software, accessed on November 19, 2020)



Appendix A - Search strategy

PubMed	<p>(“Birth control” [tiab] OR “birth spacing” [tiab] OR “Contracept*”[tiab] OR “family planning” [tiab] OR “fertility control” [tiab] OR “Population Control” [tiab] OR “population development” [tiab] OR “pregnancy prevention” [tiab] OR “Reproductive freedom” [tiab] OR “Birth control”[Mesh] OR "Birth Intervals"[Mesh] OR "Contraception"[Mesh] OR "Contraception Behavior"[Mesh] OR "Family Planning Services"[Mesh] OR "Family Planning Policy"[Mesh] OR “Population Control”[Mesh]) AND ("capability"[tiab] OR “capability approach” [tiab] OR "capabilities” [tiab] OR “Conversion factors” OR “Nussbaum”[au] OR “Nussbaum”[tiab] OR “sen”[au] OR “sen”[tiab]) NOT ("animals"[MeSH Terms] NOT "humans"[MeSH Terms])</p>
CINAHL	<p>("Birth control" OR "birth spacing" OR "Contracept*" OR "family planning" OR "fertility control" OR "Population Control" OR "population development" OR "pregnancy prevention" OR "Reproductive freedom" OR MH "Birth</p>

	<p>Intervals" OR MH "Contraception+" OR MH "Fertility Agents" OR MH "National Association of Nurse Practitioners in Reproductive Health" OR MH "Reproductive Care Saba CCC" OR MH "Reproductive Control Agents" OR MH "Reproductive Health" OR MH "Reproductive Function Omaha" OR MH "Reproductive Rights" OR MH "Reproduction Techniques")</p> <p>AND</p> <p>("conversion factors" OR "sen" OR "Nussbaum" OR "capability" OR "capability approach" OR "capabilities")</p>
<p>Sociological Abstracts</p>	<p>(NOFT("Birth control") OR NOFT("birth spacing") OR NOFT("Contracept*") OR NOFT("family planning") OR NOFT("fertility control") OR NOFT("Population Control") OR NOFT("population development") OR NOFT("pregnancy prevention") OR NOFT("Reproductive freedom") OR MAINSUBJECT.EXACT.EXPLODE("Birth Control") OR MAINSUBJECT.EXACT.EXPLODE("Birth Spacing") OR MAINSUBJECT.EXACT.EXPLODE("Family Planning") OR MAINSUBJECT.EXACT("Population Policy") OR MAINSUBJECT.EXACT("Abortion"))</p> <p>AND (NOFT("capability") OR NOFT("capability approach") OR NOFT("capabilities") OR NOFT("Conversion factors"))</p>

	<p>OR AU("Nussbaum") OR NOFT("Nussbaum") OR AU("sen") OR NOFT("sen"))</p>
<p>Scopus</p>	<p>((TITLE-ABS-KEY("Birth control") OR TITLE-ABS- KEY("birth spacing") OR TITLE-ABS- KEY("Contracept*") OR TITLE-ABS-KEY("family planning") OR TITLE-ABS-KEY("fertility control") OR TITLE-ABS-KEY("Population Control") OR TITLE- ABS-KEY("population development") OR TITLE-ABS- KEY("pregnancy prevention") OR TITLE-ABS- KEY("Reproductive freedom") OR INDEXTERMS("Contraception") OR INDEXTERMS("Coitus Interruptus") OR INDEXTERMS("Contraception, Barrier") OR INDEXTERMS("Contraception, Immunologic") OR INDEXTERMS("Contraception, Postcoital") OR INDEXTERMS("Contraceptive Effectiveness") OR INDEXTERMS("Hormonal Contraception") OR INDEXTERMS("Long-Acting Reversible Contraception") OR INDEXTERMS("Natural Family Planning Methods") OR INDEXTERMS("Ovulation Inhibition") OR INDEXTERMS("Sterilization, Reproductive") OR INDEXTERMS("Birth Intervals") OR</p>

	<p>INDEXTERMS("Contraception Behavior") OR INDEXTERMS("Family Planning Services") OR INDEXTERMS("Family Planning Policy")) AND (TITLE-ABS-KEY("conversion factors") OR TITLE- ABS-KEY("Sen") OR AUTHOR-NAME(Sen, A) OR TITLE-ABS-KEY("Nussbaum") OR AUTHOR- NAME(Nussbaum, M) OR TITLE-ABS- KEY("capability") OR TITLE-ABS-KEY("capability approach") OR TITLE-ABS-KEY("capabilities"))) AND NOT (INDEXTERMS("animals") AND NOT INDEXTERMS("humans"))</p>
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Determinants of Reproductive Freedom Among Israeli Women Ages 18-50: A Research Proposal

Specific Aims

Reproductive freedom has long been recognized as a social determinant of health that reduces health disparities and increases health equity worldwide. Women should have the freedom to choose when to have children, how many children to have, which contraceptive method to use, and access to reliable methods (Cohen & Richards, 1994). The United Nations' (UN) (2019) Sustainable Development Goals numbers three, Good Health and Well-being, and five, Gender Equality, jointly address increasing access to universal health coverage, including SRH care, as well as the number of women who have the freedom to make their own health decisions.

Although many agree that access to contraception is a key component of health equity in societies, lack of data remains a major barrier to knowing if international benchmarks have been met. In 2019, The UN published data on contraceptive use by method and by country (United Nations Department of Economics and Social Affairs, 2019). It was by no means comprehensive. Several countries' statistics were missing or based on either old or very limited data.

In Israel, women have access to a wide range of contraceptive methods at a wide range of prices through the National Health Insurance Plan (Israel Ministry of Health, 2020). Yet the UN's data booklet showed Israel's contraceptive use prevalence rate at 38% and reported no data on specific methods. Moreover, this rate is largely based on data from 1988 which is now outdated (Wilder, 2000). Since then, no quantitative data has been published on Israeli women's contraceptive choices. The lack of current Israeli data presents a major barrier to understanding the social, cultural, political, and economic conditions surrounding access to family planning

services and developing targeted interventions to enhance reproductive freedom. With its focus on capability, agency, and freedom of the individual, Nussbaum's (2000) capability approach may offer a comprehensive way to analyse, evaluate, and address contraceptive choices from the perspective of reproductive freedom. Social justice and non-governmental organizations (NGO) have successfully used this approach as a theoretical and practical model for both national policy and community level family planning interventions (United Nations Development Programme, 2011). However, Nussbaum's capability approach does not seem to have been utilized by nurse researchers to examine capability at the level of individual contraceptive choices.

This study will employ a convergent social justice mixed-methods design. This will include a qualitative focused ethnographic strand that explores practices, beliefs, and values among a purposive snowball sample of 20-30 Israeli women ages 18-50 who have used some form of contraception (including abstinence) in their reproductive years. The second strand, a quantitative survey will examine the relationships between Nussbaum's ten central capabilities and reproductive health and look for other determinants for reproductive freedom that have previously gone undocumented. The specific aims of this study include:

- 1) Explore self-reported reproductive health capabilities through individual interviews
- 2) Explore self-reported reproductive health capabilities through an adapted quantitative survey by Sahoo and Pradhan (2020)
- 3) Reach a better understanding of the determinants of reproductive freedom in Israel and confirm findings through various forms of inquiry
- 4) Conceptualize the relationship between determinants of reproductive freedom in Israel and Nussbaum's (2000) central capabilities

Healthcare in Israel is universal and participation in a medical insurance plan is compulsory (Dreier et al., 2020). Women receive reproductive health services in the community through one of four major health funds. Community nurses in Israel often discuss contraception with women and their partners (Clalit Health Services, 2016). Data from this study on reproductive freedom will support culturally appropriate, evidence-based contraceptive discussions with women and inform clinical practice. Results from this study may help nurses understand the importance of discussing capabilities with women so they may exercise their own agency, make their own contraceptive choices, and reverse health disparities.

Significance

Reproductive Goals and Health Disparities

Women should have the freedom to choose when to have children, how many children to have, which contraceptive method to use, and how to access reliable methods (Cohen & Richards, 1994). Since the International Conference on Population and Development in Cairo in 1994 (hereafter referred to as the Cairo Conference), the cultural, political, social, and economic determinants of reproductive health reproductive freedom have been globally acknowledged (World Health Organization, 2010). The conference fuelled a global commitment to increasing health equity and reducing health disparities through universal access to health care that includes SRH services (Roseman & Reichenbach, 2011)

The Cairo Conference's Programme of Action was adopted as the basis for the UN's family planning agenda articulated in the 2015 Millennium Development Goals as well as the subsequent 2030 Sustainable Development Goals (United Nations Department of Economic Affairs, 2019). Each goal is made up of targets and indicators that specify benchmarks for achieving that goal. Sustainable Development Goals Three, Good health and Well-being, and

Five, Gender Equality, address targets and indicators for health services and human rights-based dimensions for reproductive freedom. Target 5.6, entitled Ensure Universal Access to Sexual and Reproductive Health and Reproductive Rights, identifies contraception as a key to attaining all 17 goals by decreasing health disparities including maternal mortality (United Nations Population Fund, 2020). Indicator 5.6.1 aims to increase the proportion of women who "make their own informed decisions regarding sexual relations, contraceptive use, and reproductive health care"(United Nations Population Fund, 2020). The indicator addresses the measurement of the social contexts involved in making autonomous reproductive choices. It asks who makes decisions about health care and contraception, if someone else influences a woman's decisions, and whether a woman can refuse sexual intercourse should she not have access to reliable contraceptive methods. Having access to contraception is crucial, but a woman's capability to make her own decisions about her reproductive freedom is the foundation for achieving all of the Sustainable Development Goals.

Impact on Women ages 18-50

The targets and indicators aim to address the serious unmet need for contraception in the adolescent population (United Nations Department of Economic Affairs, 2019). However, the UN's 2030 family planning agenda categorizes all women ages 14-50 together without recognizing the distinct needs of younger, middle age, and older populations of reproductive age (United Nations Population Fund, 2020). Social determinants of health, life goals, and reasons for using contraception may differ for women at various stages of life. For example, a younger population may be at an age where they may not be ready to have children or may want to pursue a degree or vocational training. They may want to work to support themselves and their family, safeguard their health by preventing pregnancies, or space their children. Older women who have

finished having children may want to continue their education, develop their careers, and start a new stage of life. Thus, it is important to study women across the lifespan to identify the individual needs and behaviors. Age-specific data may also inform researchers regarding variables impacting reproductive freedom across the different age groups.

Lack of Quantitative Data for Israeli Women

According to the definition of reproductive freedom set forth at the Cairo Conference, women must have the capability to make autonomous decisions about which contraceptive to use and have access to reliable methods. Although contraception is noted to be a factor in achieving the Sustainable Development Goals (Family Planning 2020, 2021), lack of data remains a major barrier to showing progress in meeting international benchmarks. In 2019, The UN published data on contraceptive use by method and country. It was by no means comprehensive; data on several countries were missing. Some were based on old or very limited data. It showed Israel's contraceptive use prevalence rate at 38% with no specific methods measured. This is unlikely to be a current estimate. Firstly, it was based on a dated study from 1988 on Israeli fertility and family planning practices (Wilder, 2000). Indeed, since 1994, Israeli women have had access to a wide range of contraceptive methods at a wide range of prices through the National Health Insurance Plan (Israel Ministry of Health, 2020). Although coverage is not universal, contraception in Israel is currently considered to be quite accessible for citizens through the socialized medical system (LaDaat Delet Petucha, 2020).

Secondly, Israel is one of only two countries in the Middle East recognized as a high income country by the World Bank and the Organization for Economic Co-operation and Development (OECD) (2020; World Bank, 2021). The UN data booklet (2019) indicates a contraceptive prevalence of 56.6% in high income countries and 38% in other middle eastern

low-middle income countries. Since the Cairo Conference, no current data has been published regarding the contraceptive methods Israeli women choose or their capability to choose them. In order to help Israeli women achieve reproductive freedom, health workers must be able to identify the most commonly used methods and identify any gaps and barriers in contraceptive access.

Theoretical Approaches to Understanding Reproductive Choices

Many theoretical models or frameworks that guide research regarding reproductive freedom, which is partly expressed through contraceptive choice, have fallen short. For example, Fahlen (2013) points out that the theory of planned behavior (Ajzen, 1991) could guide reproductive choices since intentions motivate us to act. However, this theory does not incorporate the broader social contexts that may influence childbearing intentions such as age, culture, religion, familial relations, social relations, and national policies. Social cognitive theory and motivational interviewing are the only theoretical guides found to be just minimally useful for contraceptive choice which impacts reproductive freedom (Lopez et al., 2016). All other behavioral theories were not found to be useful; therefore, researchers continue to search for a guiding theory that provides the right fit. Nussbaum's (2000) capability approach may offer a guide to studying reproductive freedom.

Nussbaum's (2000) Capability Approach and Reproductive Freedom

Even with evidence-based interventions and access to reliable contraceptive methods and counseling, there still may be a discrepancy between women's individual reproductive goals and their capability for reproductive freedom (Gates, 2019). For example, measuring access to services, commodities, and resources does not equal capability. Reproductive freedom is multidimensional and cannot simply be measured by contraceptive prevalence rates. Outcomes

like prevalence can hide whether women had the choice to use contraception freely. Nussbaum's (2000) version of the capability approach offers a productive framework to evaluate women's freedom for reproductive health because it may shed light on other determinants previously undocumented (Sauvain-Dugerdil, Douptcheva, et al., 2014). Based on Amartya Sen's (1999) work, the philosophical approach was expanded by Nussbaum (2000), who specified a list of ten central human capabilities. The capabilities are defined as "the various combinations of beings and doings that a person can achieve...they reflect a person's freedom to live one type of life or another, and to choose from possible ways of living" (Human Development and Capabilities Association, 2005, p. 2). Nussbaum's (2000) list of ten central capabilities include life; bodily health; bodily integrity; senses, imagination, and thought; emotions; practical reason; affiliation; other species; play; and control over one's environment. It is important to note that these ten capabilities are interdependent and by no means exhaustive; they represent the minimal core of a good life that people can and should have. Many capabilities exist which bring value to human life, but these central capabilities reflect the dignity of the human being as a needy, sociable human animal with the capacity to reason (Nussbaum, 2000).

Robeyns (2005) illustrates the capability approach and indicates some of the factors that influence freedom (Figure 1). The five building blocks of the capabilities approach include: goods and services, conversion factors, capabilities, choice, and freedoms. Contraceptive methods are goods that, given certain conversion factors, may create capabilities for women to grow and develop according to their values. Individual conversion factors for reproductive freedom may include social structures such as access to reliable methods, religious traditions, or cultural factors. These social structures and conditions either allow or restrict goods and services to be turned into capabilities. If a person has a capability and freely chooses to realize it, they are

actualizing their own value system for what they want to do and how they live their life. This is in line with the definition of reproductive rights to health and freedom as outlined by the Cairo conference (Cohen & Richards, 1994).

The goal of the Cairo Conference was to create capabilities for women to grow and develop according to their values and desires (Cohen & Richards, 1994). It highlighted that access to contraception leads to choices for women to be who they want to be and do what they want to do given their unique capacity for reproduction (Roseman & Reichenbach, 2011). Although some question whether contraception would be considered goods or services, or a capability (Sauvain-Dugerdil, Douptcheva, et al., 2014), it is widely accepted that contraceptive access provides a choice for reproductive freedom (Roseman & Reichenbach, 2011). This aligns with Robeyns' (2005) illustration of the capability approach.

Methodological Approaches to Capability Research

Researchers have used different approaches to studying capability. Choosing a methodology requires careful consideration of the research problem and question (Polit & Beck, 2014). Many economics, sociology, and policy studies on reproductive freedom use secondary data analyses from national-level DHS. These types of studies are appealing because big data sets do not require extensive data collection. However, they can not necessarily identify individual capability (Duvendack & Palmer-Jones, 2017). Qualitative research aims to give richer insight into individual freedoms. Individual interviews and focus groups may highlight determinants, or what Robeyns (2005) identifies as conversion factors: social, cultural, familial, relational, and political contexts (Sauvain-Dugerdil, Bosiakoh, et al., 2014).

Both qualitative and big data analyses are rarely enough on their own to demonstrate capability (Sahoo & Pradhan, 2020). The capability approach lends itself to mixed-methods

studies because of the attention placed on the intersection between individual, societal, and cultural values. By exploring the relationships between Nussbaum's (2000) ten central capabilities, reproductive health, and the determinants of reproductive freedom, researchers may begin to move forward to further understand how to create situations where women making reproductive health choices have many capabilities.

Exploring Capability in Low/Middle Income vs. Wealthy Countries

Capability scholars call for more research in wealthy countries as well as low/middle income countries (Chiappero-Martinetti & Venkatapuram, 2014). Freedoms are not only for the poor and vulnerable. People in rich countries also deserve the dignity to achieve functions and freedoms, and governments must provide these in a different way for different regions and populations. In addition, the Sustainable Development Goals' leave no one behind policy addresses the fact that poor and vulnerable populations exist in wealthy countries as well (United Nations Development Programme, 2018). Capability scholars also suggest collecting more data on countries with visible and high levels of reproductive health capabilities and use them as models for increasing freedoms and functioning in more vulnerable areas. Thus, more capability research must be undertaken in high-income countries, like Israel, where women have access to a range of contraceptive methods and may provide models for other countries aiming to reach the Sustainable Development Goal's benchmarks for reproductive freedom.

Gaps in Capability Literature

To date, there are no studies using a nursing or biomedical perspective that explore capability and reproductive freedom in the available published literature. Only one mixed method study examining this topic has been reported (Sahoo & Pradhan, 2020). No published studies have examined capability and reproductive freedom in Israel, and no quantitative data on

Israeli contraceptive use by method have been published since 1988. Without data on this population, it is impossible to know whether Israel has met the internationally accepted benchmarks for universal access to contraception. The lack of data is a barrier to achieving reproductive freedom in Israel for women of all ages. Because of the potential differences between older and younger women as noted above, this study will look at differences across the lifespan.

Proposed Mixed Methods Study

This study will employ a convergent social justice mixed-methods design (Creswell & Plano Clark, 2018). Collecting both qualitative and quantitative data enhances the analysis of both study strands. The specific research question for this study is: Using the capabilities approach, what are the determinants of and barriers to reproductive freedom among Israeli women across the lifespan?

A qualitative focused ethnographic strand will explore self-reported reproductive health capabilities among a purposive sample of 20-30 Israeli women ages 18-50. Data collection will end when thematic saturation has been reached. The quantitative strand will examine relationships between capabilities, various contraceptive methods, and demographic data .

Relevance to Nursing Practice

Nurses in the socialized medical system in Israel are often consulted by women making contraceptive choices (Clalit Health Services, 2016). We have the potential to impact the Sustainable Development Goals on a national and global level as well as reproductive freedom on an individual level. With no studies on capabilities in this area, creative use of theoretical models may help guide nursing theory and practice. Finding factors such as government health system policies, religion, and contraceptive access may explain how and where Israeli women

search for, obtain, choose, and use contraceptive information and guidance. Results may show capability to choose one method over another. Analyzing relationships between capabilities, determinants, and constraints may show whether women are capable of choosing or refusing contraception. The short-term clinical significance lies in exploring Israeli factors that could guide nurse-led culturally appropriate, theoretically based contraceptive discussions. Nurses can have open discussions with women about capability and values and how both are expressed through use of a particular method of contraception - if they choose to use it at all. Open discussions about reproductive freedom may lead to women having the power to make their own choices and lead a valuable and productive life. The long-term significance may lie in the development of a model using Nussbaum's capability approach for reproductive freedom.

Innovation

In pre-pandemic 2020, Israel ranked number three on Bloomberg's list of the most efficient health care systems in the world (Miller & Lu, 2020). It has been globally recognized for the advanced socialized medical system and increased accessibility to health service, and has the potential to set a very high international standard for contraceptive access (Israel Ministry of Health, 2020).

There are no studies exploring the topic of capability and reproductive freedom (in Israel or abroad) from a holistic nursing perspective. This study would be the first nursing-centered mixed-methods study in Israel to explore reproductive freedom through a capability framework. The data collected may potentially contribute to meeting the international benchmarks set by Sustainable Development Goals Three and Five to decrease the unmet need for contraception and increasing reproductive freedom (United Nations Population Fund, 2020). In addition, while

Israel has a high fertility rate (Knoema, 2021), there is no unmet need for contraception. Thus, unmet need is not a relevant measure for this country, and new benchmarks must be set.

Approach

Research Design

A convergent social justice mixed-methods design will be used. According to Creswell and Plano Clark (2018), researchers use a convergent design to merge results of quantitative and qualitative data analysis to compare and combine them. There is an inherent goal for social change in this type of study. By exploring individual and societal challenges, researchers may become advocates for change towards a just society and the common good.

A qualitative focused ethnographic strand will explore cultural practices, beliefs, and values among Israeli women ages 18-50 about reproductive freedom. Focused ethnography aims to produce a description or representation of patterns of behavior of a subculture or activities within small social settings (Holloway & Galvin, 2017). Data collected will elicit participants' self-reported capabilities and conversion factors. The sample for the qualitative strand will include 20-30 Israeli women ages 18-50 who practice some form of contraception (including abstinence). Data collection will end when thematic saturation has been reached.

The quantitative strand will consist of a cross-sectional cohort study of at least 92 women (as determined by a power analysis described below) using a survey to explore the relationships between demographic data, determinants and constraints of reproductive freedom, and capability items.

Recruitment

Participants for both strands will be recruited from Israeli women's social media groups such as those for students, young professionals, young mothers, perimenopausal women,

professional women, and women's health informational groups. The groups chosen will include those that cater to women from the Jewish, Muslim, and Christian sectors. The survey will also be distributed to Ultra-Orthodox and Arabic-speaking women's WhatsApp groups to capture the women who do not use social media for cultural or religious reasons. Researchers will also recruit from Ultra-Orthodox areas where women do not use the internet, smart phones, or social media. A tablet will be used for these women to confidentially provide their data without compromising their values.

Qualitative Strand. For the initial qualitative strand, a purposive snowball sampling technique will aim to select 20-30 participants who will later receive the quantitative survey to maintain methodological congruence. Sampling procedures will be designed to include women using various contraceptive methods who are Jewish, Muslim, and Christian. Women who can read and speak English, Hebrew, or Arabic will be recruited from social media groups that include women from all sectors. Researchers will aim to maintain a homogenous purposive sample from each sector. Data collection will end when thematic saturation has been reached.

Administrators of Israeli women's social media and WhatsApp groups will be contacted by the PI and asked to act as gatekeepers who will aid in recruitment of participants. Those who agree to be gatekeepers will be requested to circulate a social media post that will include introductory information about the study and contact information for the PI. Recruitment posts will be available for the qualitative strand in all three languages (the English version can be found in Appendix A) Women interested in participating will contact the PI via email, phone, or WhatsApp. The PI will offer potential participants a time and date for a virtual interview. There will be an opportunity to ask the PI any questions they have at this time. The PI is fluent in English and Hebrew. If a woman does not speak or read English or Hebrew, an Arabic translator

will be available to communicate and conduct the interviews. If funding allows, participants may be compensated with a gift certificate for a free coffee and pastry.

The inclusion criteria to participate in the qualitative strand are: Israeli citizens ages 18-50, biologically female, who have practiced some form of contraception at some point in their lives. The following methods will be included: abstinence, barrier methods (condom, diaphragm, cervical cap, sponge and spermicide), oral hormonal contraceptive pills (combined and progesterone only), other forms of hormonal contraception (injections, vaginal ring, transdermal patch), intrauterine devices, implants, sterilization, natural family planning methods, withdrawal method, and emergency contraception. Participants will be included even if they are practicing a form of contraception during cancer treatments, during a divorce, in therapy for sexual issues, or for medical condition like endometriosis, polycystic ovarian syndrome, and various skin conditions since these circumstances may demonstrate the capability (or lack thereof) for reproductive freedom. Women will be excluded if they are under 18 or over 50.

Quantitative Strand. Recruitment procedures for the quantitative survey will mirror those of the qualitative strand; a Qualtrics survey will be distributed via the same gatekeepers to the same social media and WhatsApp groups. An introductory post in all three languages will detail the purpose of the study (the English version can be found in Appendix B). It will include the PI's contact information (email and phone number) and the link to the survey. Participants will have the opportunity to stop filling out the survey at any time without repercussions. For the quantitative strand, a prediction made by the G*power software requires a minimum sample of 92 participants to detect an minimum f^2 effect size of 0.15 ($\alpha=0.05$, power = 0.95, 53 predictors, for an a-priori two-tailed linear multiple regression with a fixed model and single regression coefficient) (Bland et al., 2012).

Measurement

The primary variables in this study are capability and reproductive freedom . Capabilities are defined as “the various combinations of beings and doings that a person can achieve...they reflect a person’s freedom to live one type of life or another, and to choose from possible ways of living” (Human Development and Capabilities Association, 2005, p. 2). Reproductive freedom reflects women’s ability to “make their own informed decisions regarding sexual relations, contraceptive use, and reproductive health care”(United Nations Population Fund, 2020). Measurement strategies for each strand will be described below.

Qualitative Strand. In ethnographic research, the researcher is the primary reflexive tool in data collection and analysis (Morse & Richards, 2017). In the first strand, after obtaining informed consent, demographic data such as age, identified gender, sexual orientation, marital status, religion, level of religiosity, partner status, educational level, area of study, and other relevant information will be gathered using Qualtrics (the English version can be found in Appendix C). An open-ended, semi-structured interview will be used to collect data in one or two virtual interviews. The interview guide can be found in Appendix D. The interview will be a safe space to explore the participants' cultural values, practices, and beliefs about reproductive freedom. Follow-up questions will develop through reflexive analysis throughout the data collection process.

Quantitative Strand. The key concepts of the capability approach are difficult to measure (Chiappero-Martinetti & Venkatapuram, 2014). Thus far in the literature, no clear-cut, reliable and valid tool has been developed to measure capabilities in this area. However, Greco et al. (2015) identified a more general women’s capabilities framework through qualitative research.

Sahoo and Pradhan (2020) developed a quantitative survey to reflect the dimensions that Greco et al. (2015) identified.

The quantitative survey will include the same 25-item demographic questionnaire as used in the qualitative strand as described above to explore the subjects' background. These will later be used to explore capabilities among different demographic groups. The second set of 25 questions will explore determinants and constraints of reproductive freedom among Israeli women. The last 25 items will mirror the tool used by Sahoo and Pradhan (2020) that reflect the measurement of the minimally decent or flourishing life. They will reflect Greco et al.'s (2015) women's capabilities framework by assessing variables that pertain to Nussbaum's (2000) ten capabilities (bodily health; bodily integrity; life; senses, imagination and thought; emotion; practical reasoning; affiliation; other species; play; and control over one's environment). The survey will be available in English, Hebrew, and Arabic (the English version can be found in Appendix E). It is important to note that Sahoo and Pradhan (2020) looked at displaced tribal women in India living in rehabilitation colonies. As such, some survey items are not applicable to Israeli women and have been adjusted to reflect local societal and cultural norms, with the authors' permission. Some original items will be used as well that reflect the Israeli context.

Sahoo and Pradhan (2020) asked participants to rate each item using a three-point Likert scale: capable, less capable, and not capable. Out of 25 items on capability, about half had zero respondents say they were not capable (results can be seen in Table 1) indicating that most items could be rated using a dichotomous variable (capable/not capable). The survey for the proposed study for Israeli women will have 25 items measured by a four-point Likert scale response. The choices will represent fully capable, mostly capable, less capable, and not capable. These choices will offer more space for women to accurately express their level of perceived capability. After

each item, the women will also have space to include optional free text to describe why they answered the way they did. This will allow women to freely express their feelings about capability for reproductive freedom (Schreiber & Asner-Self, 2011).

Sahoo and Pradhan (2020) reported percentages of survey respondents for each item and merged the results with findings from the focus groups. They did not test the tool for validity or reliability, aggregate sub-scores or total scores, or perform a factor analysis on survey items. With permission of the authors, this study will aim to test sub-scores and total scores for predictive value and/or association with self-reported reproductive freedom. Each of the tool's 25 items will have a score up to four points with a total possible score of 100.

Procedures

Qualitative Strand. All interviews will take place over Zoom video conferencing software. Interviews will be recorded with participant consent and saved in a password protected file. Detailed field notes will capture observations of the participant's mode of dress, environment, use of cultural lingo, actions, gestures, mannerisms, as well as their descriptions of practices, values, and beliefs about reproductive freedom. The PI will aim to draw out tacit knowledge on concepts, rules, laws, and assumptions within the culture. Field notes will be kept in a locked cabinet in the PI's office and will be destroyed three years after the completion of the study. Data collection will end when thematic saturation has occurred.

Quantitative Strand. The quantitative survey was adapted with permission from the authors (Sahoo and Pradhan (2020) and will be distributed using Qualtrics software. After backwards-and-forwards translation for each language, it will be available in English, Hebrew, and Arabic (the English version can be found in Appendix E). The survey will be sent to participants from the qualitative strand and distributed (via the same gatekeepers) to the same

social media and WhatsApp groups. After consenting to the study, participants will fill out the same demographic survey as used in the qualitative strand. Then, a 25-item survey will ask questions about contraceptive use and choices. The last 25 items will measure capability for reproductive freedom. The survey will take approximately 15-20 minutes to complete. Data will be stored in a password protected database through Qualtrics and saved for up to three years after completion of the study.

Data Analysis

Qualitative Strand. Ethnographic analysis entails working with the data from the beginning of the study; the focus gets clearer as the study progresses (Holloway & Galvin, 2017). The researcher must be reflexive and continue to rethink the research question throughout data analysis. Concurrent data collection and analysis will address specific aim number one (Explore self-reported reproductive health capabilities through individual interviews).

Leininger's (1985) four phases of data analysis will be used: 1. Collecting, describing, and documenting raw data, 2. Identifying and categorizing descriptors and components of data according to the domains of inquiry, 3. identifying patterns of values, beliefs, and practices through contextual analysis and discovering saturation, and 4. identifying major themes and dominant patterns and making theoretical formulations and recommendations for future research. Data collection will end when thematic saturation has been reached. Qualitative data analysis will be completed via Atlas.ti (Atlas.ti) software. Analyzing the qualitative data before analyzing the quantitative data will decrease the chance of researcher bias during qualitative data analysis (Creswell & Plano Clark, 2018).

Quantitative Strand. The quantitative survey will be analyzed using SPSS or Jamovi statistical software. Analysis will follow Schreiber's (in press) check list for a traditional

multiple regression testing. Relationships between variables, sub-scores, and total scores will be explored to shed light on Nussbaum's (2000) ten central capabilities, possible new determinants, and self-reported reproductive freedom. Results of the quantitative analysis will be analyzed through the lens of Nussbaum's (2000) capability approach. The predictor variables are Nussbaum's ten central capabilities, and self-reported reproductive freedom. The outcome variable is test score. Covariates will include all the demographic variables and contraceptive use.

Traditional multiple regression testing will address specific aim number two (Explore self-reported reproductive health capabilities through an adapted quantitative survey by Sahoo and Pradhan (2020)). All variables will be input simultaneously because the estimated coefficients are the unique relationship between each individual independent variable (various capabilities plus self-reported reproductive freedom) and the continuous outcome variable (test scores). Secondly, stepwise or block type of entering of variables can capitalize on chance and overfit data (Schreiber, in press; Tabachnick & Fidell, 2001). Alpha will be set at 0.05. The specific model to be tested is:

$y = b_1X_1 + b_2X_2 + \dots + b_{25}X_{25} + c$, where X1-X10 (four-point Likert scales for Nussbaum's ten central capabilities) will be considered continuous variables, X11-X18 (sub-scores) will be continuous variables, and X19-X25 (for example, self-reported reproductive freedom and the various types of birth control) will be considered dichotomous variables (coded zero for no and one for yes). Although it is difficult to identify all confounding variables at this point in the study, it may be proposed that a woman's relationship with her spiritual leader or sexual partner may be confounding factors.

After the analysis is run, multicollinearity will be checked through the VIF, autocorrelation will be checked by Durbin-Watson, and residuals will be examined with Mahalanobis distance and Center Leverage values, along with standardized residual plots, e.g., heteroscedasticity (Schreiber, in press; Tabachnick & Fidell, 2001). Any problematic variables or residuals will be examined individually and decision to remove will be based on whether the results are being affected.

Independent variable(s) where the p-value does not pass the alpha value threshold of 0.05 will still be retained in the model unless the variable(s) are affecting the results, such as the standardized coefficients are larger than the raw correlations. Additionally, those variables will be retained because the assumption that they are not important cannot be ascertained with a one sample one time point data set. Only replications can provide evidence that an independent variable is not associated with a dependent variable across multiple data sets (Schreiber, in press).

Mixed Methods Approach. According to Creswell and Plano Clark (2018), using a convergent mixed-methods approach, the PI collects the data in each strand, analyzes them separately and then merges the results to compare and ultimately confirm or disconfirm one another. In this study, after quantitative data analysis, results of both strands will be merged. They will then be interpreted together and compared to each other. This will address specific aim number three (Reach a better understanding of the determinants of reproductive freedom in Israel and confirm findings through various forms of inquiry). Once the data is analyzed, the research team can attempt to create a model for reproductive freedom in Israel. While Robeyns (2005) (Figure 1) is very linear, this study may find a model that is dynamic and fluid since internal and external factors may be intricately intertwined. Building a model will address specific aim

number four: Conceptualize the relationship between determinants and constraints for reproductive freedom and Nussbaum's (2000) central capabilities for Israeli women .

Study Limitations

Recruitment for this study may prove to be difficult because of the sensitive topic. Cultural factors may prevent women from answering the recruitment post. Although the post, interview, and survey will be available in Hebrew, Arabic, and English, there are many immigrants in Israel who may encounter a language barrier. This may be true for women whose primary language is not available for translation (for example, Russian, Amharic, Tigrinya, French, or Spanish). Without equal representation of immigrant women, the sample may not resemble the general Israeli population. This will be addressed in a future study to compare capabilities of citizens to capabilities of non-citizens.

Operationalization of the capability approach in all disciplines is extremely difficult (Chiappero-Martinetti & Venkatapuram, 2014). The key concepts of the approach are difficult to measure. Only one study (Sahoo & Pradhan, 2020) has thus far developed an individual-level measure for reproductive freedom but it has not been previously tested for validity or reliability. Researchers did not explore relationships between variables through multiple regression analysis. Currently, there is no other tool available that measures capabilities in this area using Nussbaum's (2000) capability approach.

In this study there will be many translated components including recruitment posts for each strand, the qualitative semi-structured interview guide, demographic survey, and quantitative survey. Backwards and forwards translation may decrease the sensitivity of the survey. According to Polit and Beck (2014), semantic equivalence is "the extent to which each item's meaning is the same as the target culture after translation as it was in the original...the

translation needs to preserve the underlying meaning of the original wording rather than the exact meaning” (p. 371). For example, the academic and lay words for capability in Hebrew (yecholet) and Arabic (al'iimkania) do not have the exact connotations as the accepted definition in the human development literature. Each step of translation increases the likelihood of semantic inequivalence.

Potential Problems with Proposed Procedures & Potential Strategies to Address Them

To create semantic equivalence, the PI will be conducting an initial translation for all documents into Hebrew. Colloquialisms will be eliminated so the survey is culturally appropriate for the target population. All Hebrew documents will be passed on for backward translation by experienced bi-lingual nurse researchers.

Translation from English to Arabic will be done by an Arabic speaking research assistant who is familiar with the constructs, the capability approach, and reproductive counseling. A backward translation by an Arabic-speaking nurse researcher will then occur. Through an iterative process, all members of the translation teams will come to consensus on the wording of the documents in both Hebrew and English as recommended by Polit and Beck (2014).

Cultural and social norms surrounding talking about contraception and sex may prevent women in certain sectors from participating. To counteract this phenomenon, the social media post and the gatekeepers can help reflect the importance of the study; it may inspire culturally competent discussions about reproductive freedom and improve health care delivery.

It is possible that the sample of women who respond to the recruitment post for the qualitative strand will be homogeneous in religious and cultural backgrounds or that many of them use the same type of contraception. To maintain heterogeneity, the PI will aim to find a purposive sample for the qualitative strand which will include a balanced number of Jewish,

Muslim, and Christian women, and a balanced number of women using each contraceptive method.

It is possible that the use of the social justice mixed methods approach in this type of research design may bias the researcher's analyses of the qualitative and quantitative data. Having researched the capability approach for a previous integrative review, it may be difficult for the PI to detach herself from the approach's key concepts. Patterns and themes related to the approach may appear before a deeper analysis is achieved. Because the PI is aware of Sahoo and Pradhan's (2020) study and Greco et al.'s (2015) women's capability framework, she may be biased by their dimensions and survey items.


To counteract possible researcher bias, the PI will try to be reflexive, to examine her biases at every step, and bracket them as much as possible. She will also request that the co-PIs participate in the qualitative data analysis and review any coding she has done. She will also try to verify findings with other data sources and look for alternative explanations for findings.

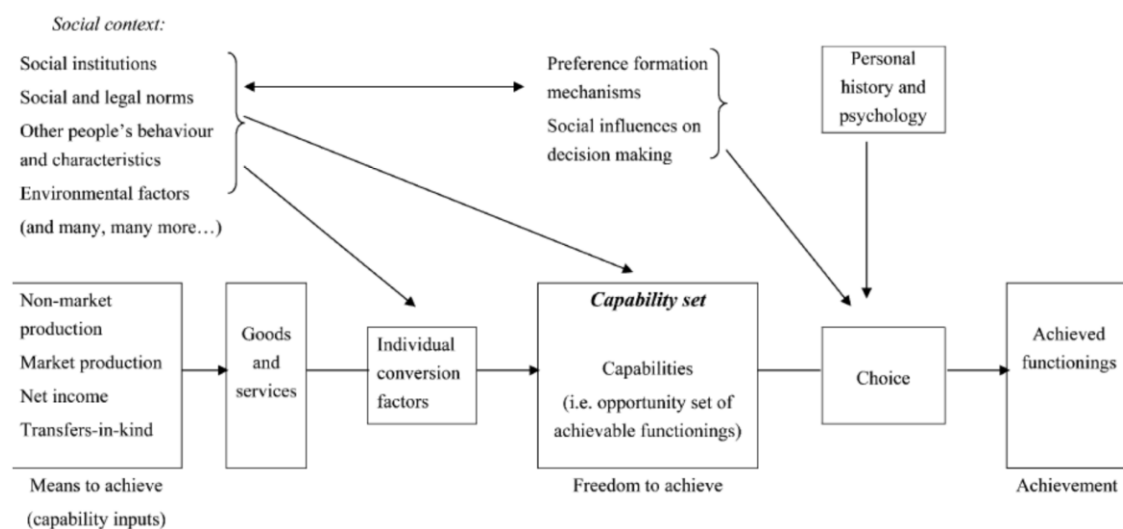
Summary

This study will explore factors that could guide nurse-led, culturally appropriate, and theoretically based contraceptive discussions that will expand reproductive freedoms in Israel. It may help identify social determinants of reproductive freedom and help nurses work with women to identify their capabilities and values. The long-term significance may lie in the development of a tool or model for capability for reproductive freedom.

Figure 1

Robeyns (2017): A stylised visualisation of the core concepts of capability theories

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Appendix A

English Recruitment Post for qualitative strand

Shalom,

My name is Abby Kra Friedman and I am conducting a research study on the beliefs, values and practices about contraceptive choice among Israeli women ages 18-50.

There are many types of birth control to choose from in Israel such as abstinence, barrier methods (condom, diaphragm, cervical cap, sponge and spermicide), hormonal contraceptive pills (combined and progesterone only), injections, vaginal ring, transdermal patch, intrauterine devices, sterilization, natural family planning methods, withdrawal method, and emergency contraception.

If you are an Israeli woman, aged 18-50, are practicing some form of birth control, including abstinence, and are interested in being interviewed about your beliefs, values and practices about contraception, please email israelcontraceptionstudy@gmail.com to leave your contact information and contact the researcher.

If you have any questions about the study, please feel free to contact me at israelcontraceptionstudy@gmail.com.

Thank you,

Abby Kra Friedman MSN, CNM, WHNP, RN
052-6986118

Appendix B

English recruitment post for quantitative strand

Shalom,

My name is Abby Kra Friedman. I am a nurse midwife and nursing PhD student, and I am conducting a research study on reproductive freedom among Israeli women ages 18-50.

Reproductive freedom has long been recognized as a social determinant of health that reduces health disparities and increases health equity worldwide. Women deserve the freedom to choose when to have children, how many children to have, which contraceptive method to use, and access to reliable methods.

If you are an Israeli woman aged 18-50 (regardless of marital status, number of children, or contraceptive use) and are interested in participating in this study about reproductive freedom please click on the link below to complete the survey.

If you have any questions about the study, please feel free to contact me at israelreproductivehealthstudy@gmail.com .

Thank you,

Abby Kra Friedman MSN, CNM, WHNP, RN

052-6986118

Appendix C

English Demographic Questionnaire

1. Age: _____
2. Country of birth: _____ Year of Immigration if applicable: _____
3. Area of origin in Israel:
 - a. North
 - b. Middle region
 - c. Jerusaem area
 - d. South
4. Marital status:
 - a. Single
 - b. Married
 - c. Divorced
 - d. Widowed
 - e. Other
5. Do you identify with a particular religion?
 - a. Jewish
 - b. Muslim
 - c. Christian
 - d. Druze
 - e. No religion
 - f. Not applicable

6. Identified level of religiosity:
 - a. Secular/Not religious
 - b. Traditional/Not religious
 - c. Traditional/Religious
 - d. Religious
 - e. Hareidi/Very religious

7. Main language spoken at home:
 - a. Hebrew
 - b. Arabic
 - c. Russian
 - d. English
 - e. French
 - f. Spanish
 - g. Amharit
 - h. Other

8. Did you serve in the Israeli military or do national service?
 - a. Yes
 - b. No

9. Where do you live?
 - a. In my family's home
 - b. In an off campus apartment
 - c. In a dorm on campus

10. How many people do you live with?

- a. 0
- b. 1
- c. 2
- d. 3
- e. 4
- f. 5
- g. More than 5

11. Years of education: _____

12. Monthly income:

- a. 0
- b. 2000-5000 shekel/month
- c. 5000-10000 shekel/month
- d. More than 10000 shekel per month

13. Age at first sexual encounter: _____

14. Current sexual partner: y/n

15. Number of sexual partners in the past: _____

16. Number of previous pregnancies: _____

17. Number of untended pregnancies in the past: _____

18. Number of previous live births: _____

19. Number of previous abortions: _____

Appendix D

Interview Guide

Can you tell me a little bit about your family and how you grew up?

Who do you consider family?

Does your family practice a certain religion?

Can you describe the level of religiosity in your family?

Would you describe yourself as someone who has faith? Can you tell me about that?

Do you and your family/friends use the internet and social media?

Can you tell me about where you went to school? What type of school? Local? Boarding?

What type of school you are in?

Do you believe that politics affects your life? Can you tell me how so?

Did you serve in the army after high school?

Did you use contraception while serving in the military or doing national service?

If yes, Can you tell me about your experience seeking/obtaining contraception during your service?

Can you tell me about your lifestyle? Do you feel you can afford everything you need to live your best life?

How do you view contraception?

Did you talk about contraception with your family growing up?

How did you first learn about contraception and the different methods available?

Do you believe about how your upbringing and current lifestyle impact your contraceptive choices?

What are the different methods that you know about?

Please describe how you chose your contraceptive method.

Do you and your peers/partner/cultural group have any nicknames or code words for contraception in general or specific contraceptive methods? If yes, can you describe them?

Were there other forms of contraception you considered before you chose? If so, which ones interested you? What made you choose one over the other?

Did you talk about choosing contraception with anyone before you picked a method? If yes, can you describe who and why you chose to consult with them? What did you gain from these interactions?

Other than you, was there a person/group/website/thing that was more influential than others in making this decision?

What were the benefits and/or disadvantages of the different types of contraception you considered before choosing?

What was the most challenging aspect of choosing a contraceptive method?

What was the easiest part of choosing a contraceptive method?

Can you tell me a little bit about the method you chose in the end?

What is your favorite thing about your method?

Can you describe the impact your method has on your sexual practices?

Can you please describe any impact your method has on your level of stress or mental health?

Does contraception allow you the opportunity to do or achieve things that you may not have been able to do if you got pregnant? If yes, please describe how so.

How do you imagine your life may have been different if you were not using contraception?

How do you imagine your life can be with contraception?

How do you imagine your life may have been different had you chosen a different method?

Can you tell me about how corona has affected your contraceptive choices/practices? Has corona affected your menstrual cycle at all? Have you been vaccinated for corona?

Based on everything we talked about, do you believe you personally have contraceptive choices?

How would you define reproductive freedom?

Is there anything else you want to talk about?

Can you reflect on this interview? Have you gained anything from our discussion?

any questions for me?

Appendix E

English quantitative survey

Demographic survey

1. Age: _____
2. Country of birth: _____
Year of Immigration if applicable: _____
3. Area of origin in Israel
 - a. North
 - b. Middle region
 - c. Jerusalem area
 - d. South
4. Postal code _____
5. Marital status:
 - a. Single
 - b. Married
 - c. Divorced
 - d. Widowed
 - e. Other: _____
6. How do you identify your sexual orientation?
 - a. Heterosexual
 - b. Homosexual
 - c. Bisexual
 - d. Transgender
 - e. Other: _____

7. Do you identify with a particular religion?
- a. Jewish
 - b. Muslim
 - c. Christian
 - d. Druze
 - e. No religion
 - f. Not applicable
 - g. Other _____
8. Identified level of religiosity:
- a. Secular/Not religious
 - b. Traditional/Not religious
 - c. Traditional/Religious
 - d. Religious
 - e. Hareidi/Very religious
9. Main language spoken at home:
- a. Hebrew
 - b. Arabic
 - c. Russian
 - d. English
 - e. French
 - f. Spanish
 - g. Amharit
 - h. Other: _____
10. Did you serve in the Israeli military or do national
- a. Yes
 - b. No

service?

11. If you served in the Israeli army or did National Service, did you seek contraceptive counseling while serving?
- a. Yes
 - b. No
 - c. Not applicable
 - d. Other: _____
12. If you sought contraceptive counseling while serving in the Israeli army or doing National Service, did you have access to the type of contraception you wanted to use?
- a. Yes
 - b. No
 - c. Other: _____
13. Please describe your experience seeking contraception in the army _____
14. Where do you live?
- a. With my partner
 - b. In my family's home
 - c. In an off campus apartment
 - d. In a dorm on campus
 - e. Other:

15. How many people do you live with?
- a. 0
 - b. 1
 - c. 2
 - d. 3
 - e. 4
 - f. 5
 - g. Other:
16. Years of education: _____
17. Highest degree:
- a. Less than high school diploma
 - b. High school diploma
 - c. Certificate
 - d. BA
 - e. MA
 - f. PhD
 - g. Post doctorate
 - h. Other:
18. Monthly income:
- a. 0
 - b. 2000-5000 shekel/month
 - c. 5000-10000 shekel/month
 - d. More than 10000 shekel per month
19. I am a member of _____ health fund:
- a. Maccabi
 - b. Meuhedet
 - c. Clallit

- d. Leumit
- e. I do not have kupa holim
- f. I rely on private insurance for my sexual and reproductive health needs

20. Age at first sexual encounter: _____

21. Current sexual partner:
- a. Yes
 - b. No
 - c. Other: _____

22. Number of sexual partners in the past (this includes any sexual activity not only sex): _____

23. Number of previous pregnancies: _____

24. Number of unintended pregnancies in the past: _____

25. Number of previous live births: _____

26. Number of previous elective abortions: _____

Contraception questions

27. I am currently using _____
(check all that apply) to
prevent pregnancy:
- a. None
 - b. Abstinence
 - c. Condom
 - d. Diaphragm
 - e. Cervical cap
 - f. Sponge and spermicide
 - g. Combined estrogen and progesterone pills
 - h. Progesterone only pills
 - i. Injections
 - j. Vaginal ring
 - k. Transdermal patch
 - l. Intrauterine devices
 - m. Implants
 - n. Male sterilization (for example: vasectomy)
 - o. Female sterilization (for example: tubal ligation, Essure, removal of fallopian tubes)
 - p. Lactation amenorrhea method

-
- q. Natural family planning methods
 - r. Withdrawal method
 - s. Emergency contraception
 - t. Abortion
 - u. Other: _____

28. In the past I have used _____ (check all that apply) to prevent pregnancy:

- a. None
- b. Abstinence
- c. Condom
- d. Diaphragm
- e. Cervical cap
- f. Sponge and spermicide
- g. Combined estrogen and progesterone pills
- h. Progesterone only pills
- i. Injections
- j. Vaginal ring
- k. Transdermal patch
- l. Intrauterine devices
- m. Implants
- n. Male sterilization (for example: vasectomy)
- o. Female sterilization (for example: tubal

ligation, Essure, removal of fallopian tubes)

- p. Lactation amenorrhea method
- q. Natural family planning methods
- r. Withdrawal method
- s. Emergency contraception
- t. Abortion
- u. Other: _____

29. I have wanted to but could not use _____ (check all that apply) in the past:

- a. None
- b. Abstinence
- c. Condom
- d. Diaphragm
- e. Cervical cap
- f. Sponge and spermicide
- g. Combined estrogen and progesterone pills
- h. Progesterone only pills
- i. Injections
- j. Vaginal ring
- k. Transdermal patch
- l. Intrauterine devices
- m. Implants

- n. Male sterilization (for example: vasectomy)
- o. Female sterilization (for example: tubal ligation, Essure, removal of fallopian tubes)
- p. Lactation amenorrhea method
- q. Natural family planning methods
- r. Withdrawal method
- s. Emergency contraception
- t. Abortion
- u. Other: _____

30. What are some of the things/people/services that determined whether you could/would use the contraception you want?
Check all that apply:

- a. Myself
- b. Friends
- c. Neighbors
- d. Family members
- e. Religious/spiritual guidance
- f. Education
- g. Books
- h. Internet
- i. Social media
- j. Doctors
- k. Nurses

- l. Midwives
- m. Therapist
- n. Contraceptive counselor
- o. Organization
- p. Other: _____

31. My partner (past or present)

wanted to use _____

(check all that apply) to

prevent pregnancy:

- a. None
- b. Abstinence
- c. Condom
- d. Diaphragm
- e. Cervical cap
- f. Sponge and spermicide
- g. Combined estrogen and progesterone pills
- h. Progesterone only pills
- i. Injections
- j. Vaginal ring
- k. Transdermal patch
- l. Intrauterine devices
- m. Implants
- n. Male sterilization (for example: vasectomy)
- o. Female sterilization (for example: tubal

ligation, Essure, removal of fallopian tubes)

- p. Lactation amenorrhea method
- q. Natural family planning methods
- r. Withdrawal method
- s. Emergency contraception
- t. Abortion
- u. Other: _____

32. Please describe any advantages to the contraceptive methods you are currently using

33. Please describe any disadvantages to the contraceptive methods you are currently using

34. Please describe any barriers to using the method you want to use

		Strongly disagree	disagree	Neutral	Agree	Strongly agree	Free text
35.	My partner and I agree on the contraceptive method I use	1	2	3	4	5	
36.	When I was growing up my family discussed contraception	1	2	3	4	5	
37.	I discussed contraception when I was in school	1	2	3	4	5	
38.	I talk about contraception with my family	1	2	3	4	5	
39.	I talk about contraception with my friends	1	2	3	4	5	
40.	The contraceptive method I use positively impacts my sex life	1	2	3	4	5	
41.	The contraceptive method I use negatively impacts my sex life	1	2	3	4	5	

42.	The contraceptive method I use positively impacts my mental health	1	2	3	4	5
43.	The contraceptive method I use negatively impacts my mental health	1	2	3	4	5
44.	I am knowledgeable about the different methods of contraception	1	2	3	4	5
45.	My life would be better with a different form of contraception	1	2	3	4	5
46.	Corona has affected my contraceptive choices for the better	1	2	3	4	5
47.	Corona has made it harder to use my contraceptive method	1	2	3	4	5
48.	I have choices when it comes to contraceptive methods	1	2	3	4	5
49.	There are barriers to using the contraceptive method	1	2	3	4	5

	I want					
50.	I am happy with the contraceptive method I am using	1	2	3	4	5
51.	The contraceptive method I am using helps me live the life I want to live	1	2	3	4	5

Capability for women's health questions

		I am not capable	I am minimally capable	I am mostly capable	I am fully Capable	Free text
52.	I can do physical work or physical activity in my day-to- day life	1	2	3	4	
53.	My lifestyle allow me to work and earn a living	1	2	3	4	
54.	I can regularly get enough sleep	1	2	3	4	
55.	I can regularly meet my nutritional needs	1	2	3	4	
56.	My lifestyle allows me to avoid illness and live a healthy life	1	2	3	4	
57.	I can delay my first birth or space	1	2	3	4	

	my children				
58.	I can choose the contraceptive method I want to use (including abstinence)	1	2	3	4
59.	I can live free from domestic violence	1	2	3	4
60.	I can live with peace of mind in my community	1	2	3	4
61.	I can live a life free of oppression	1	2	3	4
62.	I can live a life without shame	1	2	3	4
63.	I can have good relationships with those around me	1	2	3	4
64.	I can control my own money or savings?	1	2	3	4
65.	I can take care of my family (parents, children, partner)	1	2	3	4
66.	I can provide education for myself and my children	1	2	3	4
67.	I can live in a safe environment	1	2	3	4
68.	I can avoid social exclusion and discrimination	1	2	3	4
69.	I can interact with animals and nature in my environment	1	2	3	4

70.	I can do things that make me happy	1	2	3	4
71.	I can live a happy life	1	2	3	4
72.	I can access healthcare services	1	2	3	4
73.	I can use the contraceptive method I want (including abstinence)	1	2	3	4
74.	I can support myself financially if needed	1	2	3	4
75.	I can save money and buy property	1	2	3	4
76.	I can pay my bills or pay back debts	1	2	3	4

Determinants of Reproductive Freedom Among Israeli Women ages 18-50: A mixed methods
study

Abstract

Introduction: The purpose of this study was to explore determinants of reproductive freedom among Israeli women ages 18-50 using Nussbaum's capability approach.

Methodology: A convergent social justice mixed-methods design was used. 24 women participated in individual interviews. 773 women answered an online survey on sexual and reproductive health history, contraceptive use, access to health services, and capabilities for women's health.

Results: Quantitative analysis confirmed the qualitative results. 94% of participants reported having reproductive freedom. Significant determinants included geographical location, language, educational level, and religion.

Discussion: Until now, lack of data presented a major barrier to understanding social, cultural, political, and economic determinants of reproductive freedom. The results of this study suggest that more research is needed in rural areas of Israel and among vulnerable populations. Identifying gaps and barriers to accessing services may help create policies that increase women's freedom to make sexual and reproductive health choices.

Introduction

Reproductive freedom is recognized as a social determinant of health. Ensuring and expanding freedoms can reduce health disparities and increase health equity (World Health Organization, 2010). Women should have the freedom to choose if and when to have children, how many children to have, which contraceptive method to use, and access to reliable methods (Cohen & Richards, 1994). The right to health is often described in terms of healthcare that is available, accessible, acceptable, and of good quality. The United Nations' (UN) (2019) Sustainable Development Goals numbers three and five (Good Health and Well-being and Gender Equality) jointly address increasing access to universal health coverage, including sexual and reproductive health services, as well as increasing the number of women who have the freedom to make their own health decisions.

Background and Significance

In Israel, women have access to a wide range of contraceptive methods at a wide range of prices through the National Health Insurance Plan (Israel Ministry of Health, 2020) regardless of religion, cultural background, and marital status. Although insurance coverage is not universal, contraception in Israel is currently considered to be accessible for citizens through the socialized medical system (LaDaat Delet Petucha, 2020).

In 2019, The UN published data on contraceptive use by method and by country (United Nations Department of Economics and Social Affairs, 2019) indicating a contraceptive prevalence rate of 56.6% in high income countries and 38% in low-middle income countries. Israel is one of only two countries in the Middle East recognized as a high-income country by the World Bank and the Organization for Economic Co-operation and Development (OECD) (2020; World Bank, 2021). Nevertheless, Israel's contraceptive use prevalence rate was recorded as

38% with no data on specific methods and did not meet the UN's expected average for other high-income countries. This rate was largely based on significantly outdated data from 1988 (Wilder, 2000). Since then, no quantitative studies have been published on Israeli women's contraceptive use and choices. Lack of data presents a major barrier to understanding the social, cultural, political, and economic conditions surrounding access to sexual and reproductive health services and developing targeted interventions to enhance reproductive freedom. Without this data, identifying gaps and barriers to accessing services is extremely difficult.

Reproductive Health Goals and Disparities

Since the International Conference on Population and Development in Cairo in 1994 (hereafter referred to as the Cairo Conference), the cultural, political, social, and economic determinants of reproductive health have been widely acknowledged (World Health Organization, 2010). The conference and its Programme of Action fueled a global commitment to increasing health equity and reducing health disparities through universal access to health care including sexual and reproductive health services (Roseman & Reichenbach, 2011). The Programme of Action was then adopted as the basis for the UN's family planning agenda, and was reflected in the 2015 Millennium Development Goals as well as in the subsequent 2030 Sustainable Development Goals (SDG) (United Nations Department of Economic Affairs, 2019).

Cultural implications

Societal and cultural norms and religious customs and rituals shape opportunities and choices related to premarital sex, marriage, childbearing preferences, pregnancy, birth, postpartum, and contraceptive use (Elmusharaf et al., 2017). Religious laws and sometimes counsel of religious authoritative leaders determine the use of certain contraceptive methods or any contraceptive use at all. Furthermore, group and social trauma can create deep cultural

values that affect fertility rates. For example, increasing the nation's population may be seen by some as a way to make up for those who perished in wars and genocides (Raucher, 2020). Large family size may offer social standing and be a cultural norm. Therefore, understanding the religious, social and cultural context can offer key insight that may be useful to increase reproductive capabilities and help achieve international benchmarks of reproductive freedom.

Nussbaum's (2000) Capability Approach and Reproductive Freedom

Nussbaum's (2000) version of the capability approach posits that a minimally decent flourishing life has at least 10 central human capabilities. It offers a productive framework to evaluate women's freedom for reproductive health because it may shed light on other determinants previously not well documented or researched (Sauvain-Dugerdil, Douptcheva, et al., 2014). Based on Amartya Sen's (1999) philosophical work that argued that capabilities are a natural focus of justice and social equity, Nussbaum specified a list of ten central human capabilities defined as "various combinations of beings and doings that a person can achieve...they reflect a person's freedom to live one type of life or another, and choose from possible ways of living" (Human Development and Capabilities Association, 2005, p. 2). Nussbaum's capabilities include life; bodily health; bodily integrity; senses, imagination, and thought; emotions; practical reason; affiliation; other species; play; and control over one's environment. The capabilities are interdependent and by no means an exhaustive list; they represent the minimal core of a good life that people can and should have. Many capabilities exist which are seen as being valuable to a human life, but Nussbaum's ten capabilities reflect the dignity of the human being as a needy, sociable human animal with the capacity to reason.

Robeyns (2017) (Figure 1) visually illustrates the capability approach and indicates core concepts of capability theories: resources, conversion factors, capabilities, choice, and freedoms.

For example, contraceptive methods are resources that, given certain conversion factors, may create capabilities for women to have reproductive freedom. Individual conversion factors for reproductive freedom may include social structures such as physical access to reliable methods, religious traditions, or cultural factors. While the contraceptive resource may be found in a clinic or pharmacy, social structures and conditions either allow or restrict goods and services to be turned into individual capabilities. If a person has a capability and freely chooses to realize it, they are actualizing their own value system and pursuing what they want to do and how they want to live their life. This approach is in line with the Cairo conference's Programme of Action (Cohen & Richards, 1994); reproductive rights to health and freedom provide real opportunities or choices for women to be who they want to be and do what they want to do given their unique capacity for reproduction (Roseman & Reichenbach, 2011). This alignment is not coincidental as the Programme of Action was influenced by Sen's capabilities approach and his work on population development.

With its focus on capability, agency, and individual freedoms, Nussbaum's capability approach may offer a comprehensive way to analyse, evaluate, and address reproductive freedom of individuals and groups. Social justice and non-governmental organizations have successfully used this approach as a theoretical and practical model for both national policy and community-level family planning interventions (United Nations Development Programme, 2011). By using this approach during contraceptive conversations with women and their partners, nurses and other healthcare professionals may be able to nurture and enhance freedom on an individual and national level.

Design and Methods

The purpose of this study was to explore determinants of reproductive freedom among Israeli women ages 18-50. Researchers employed a convergent social justice mixed-methods design. A qualitative focused ethnographic strand explored cultural practices, beliefs, and values about reproductive choices among a sample of 23 Israeli women ages 18-50. The quantitative strand, a cross-sectional cohort study, examined the relationships between Nussbaum's ten central capabilities and reproductive health and looked for other determinants of reproductive freedom that have previously not been documented. Results of quantitative and qualitative data analysis were merged and compared to enhance findings. Through the exploration of individual, cultural, and societal barriers and facilitators, the researcher initiates the study with an inherent goal for social change in. (Creswell & Plano Clark, 2018).

The specific research questions were: 1) what are the cultural practices, values, and beliefs about reproductive choices among Israeli women ages 18-50?; and 2) using the capabilities approach, what are the determinants of and barriers to reproductive freedom among Israeli women across the lifespan? The aims of this study are to (1) explore self-reported reproductive health capabilities, (2) reach a better understanding of the determinants of reproductive freedom in Israel, and (3) conceptualize the relationship between determinants of reproductive freedom and Nussbaum's central capabilities.

Recruitment

After receiving approval from Duquesne University institutional review board, participants for both strands were recruited via gatekeepers from Israeli women's social media groups in three languages: Hebrew, Arabic, and English from the Jewish, Muslim, and Christian sectors. Groups consisted of students, young professionals, young mothers, perimenopausal

women, professional women, and women's health informational groups. The survey was also distributed to Ultra-Orthodox Jewish and Muslim/Arabic-speaking women's WhatsApp and face-to-face groups to capture the women who do not use social media for cultural or religious reasons.

Data collection

For both strands, a snowball sampling technique was used. Interviewees in the initial qualitative strand were offered to participate in the quantitative strand to maintain methodological congruence. Researchers aimed to maintain a homogenous purposive sample from each sector. After backwards-and-forwards translation for each language, all research materials including recruitment posts and online surveys were available in all three languages.

Due to COVID-19 precautions, qualitative interviews using an open-ended, semi-structured guide (Appendix D) were held virtually via Zoom. Participants were asked to sign on from a safe space to ensure privacy. The interviewer was careful to do the same. Follow-up questions were developed through reflexive analysis throughout the data collection process. The PI is fluent in English and Hebrew. When needed, an Arabic translator was available to communicate and conduct the interviews which were recorded with participant consent and saved in a password protected file. English language recorded interviews were transcribed using Zoom transcription. Hebrew interviews were transcribed by the PI. All transcriptions and recordings were collected in password-protected Atlas.ti software.

Detailed field notes captured observations of the participant's mode of dress, environment, use of cultural lingo, actions, gestures, mannerisms, as well as their descriptions of practices, values, and beliefs about reproductive freedom. The PI aimed to draw out tacit knowledge on concepts, rules, laws, and assumptions within the culture. Field notes were kept in

a locked cabinet in the research team's office and will be destroyed three years after the completion of the study. Data collection ended when thematic saturation was reached.

An online Qualtrics survey was used to collect quantitative data. Outcome variables were capabilities and reproductive freedom. Predictor variables included demographics and current contraceptive method use. The survey consisted of 93 items: 25 demographic items, 44 questions about determinants of reproductive health, and 24 items measuring capability for women's health. With permission from the authors, the last 24 survey items mirrored the tool created by Sahoo and Pradhan (2020) based on Greco et al.'s (2015) women's capabilities framework and assessed variables that pertain to Nussbaum's ten capabilities.

Individual women's health capability items were rated from zero to four: "I am not capable", 1; "I am minimally capable", 2; "I am mostly capable", 3; or "I am fully capable", 4. An aggregated total capability score was created by adding up all scores for each capability item for a total possible score of 96.

Since Israeli women may not understand the term "reproductive freedom", an aggregate score was created for self-reported reproductive freedom. The item was based on an answer to three questions: 1. I can delay my first birth or space my children, 2. I can access healthcare services, and 3. I can choose the contraceptive method I want to use (including abstinence). Answers of "I am not capable" were recoded as "0". Each answer of "I am mostly capable" or "I am fully capable" or "I am minimally capable" was recoded as "1". The total reproductive freedom score assigned was out of a total of three points.

Data Analysis

According to Creswell and Plano Clark (2018), using a convergent mixed-methods approach, the PI collects the data in each strand, analyzes them separately and then merges the

results to compare and ultimately confirm or disconfirm one another. Qualitative data was analyzed first which decreased the chance of researcher being biased by quantitative data analysis (Creswell & Plano Clark, 2018).

Qualitative Analysis

Ethnographic analysis entails working with the data from the beginning of the study; the focus gets clearer as the study progresses (Holloway & Galvin, 2017). The researcher must be reflexive and continue to rethink the research question throughout data analysis. Concurrent qualitative data collection and analysis addressed aim number one. Qualitative data analysis was completed via Atlas.ti software (Accessed December 10, 2020). Leininger's (1985) four phases of data analysis was used to review each transcript using an open coding approach. Codes were further collapsed into categories, then into patterns and then themes. Once the analysis was complete, researchers developed an abstract pictorial model for reproductive freedom based on the results.

Quantitative analysis

Quantitative data was analyzed using SPSS statistical software. Demographic data, prevalence of current contraceptive method, various determinants, and capability items were analyzed descriptively. Independent variables explored were the various demographics, contraceptive methods, social determinants, Covid-19 items, and women's health capability. The dependent variables were self-reported reproductive freedom and total capability scores. Bivariate correlations were explored within the complete sample and subgroups based on religion, geographical location, and language. Results of the quantitative analysis were analyzed using Nussbaum's capability approach.

Results

Qualitative Results

Table 1 includes the demographic data for the qualitative strand. Twenty-three women were interviewed and asked about various determinants of reproductive freedom. Ages ranged from 20 to 39. Fifteen women were interviewed in Hebrew and eight women in English. No participants were interviewed in Arabic. Eighteen women identified as Jewish, three as Muslim/Arab, and two as no religion. The level of religiosity varied among participants as did the number of previous sexual partners (as seen in **Table 1**). Twelve women had never been pregnant and the other 11 had between 1 and 6 children. Six women had previous unintended pregnancies. Two women had previous abortions.

The prevalence of contraceptive methods among participants can be seen in Table 2. The most used methods were combined oral contraceptives, fertility awareness, and condoms. Ten women reported using dual methods (for example combined oral contraceptives and condoms) to protect from sexually transmitted infections and pregnancy.

Categories, patterns, themes, and exemplar quotations can be found in Table 3. Coding of the interview transcripts revealed 27 categories which were further collapsed into nine patterns. Three themes emerged relating to how women made sexual and reproductive health choices: knowing myself so I can make choices, my unimaginable life without choices, and gratitude for an ideal set of freedoms. An abstracted pictorial model for reproductive freedom developed by the research team can be found in Figure 2.

Knowing Myself So I Can Make Choices

This theme alludes to participants' need to define themselves before, during, and after making sexual and reproductive health choices. The highest order categories included:

“religion/culture/politics”, “social support”, “finding my own voice”, “effects on my body and personality”, and “health care provider (HCP) assumptions”.

Women sought support and knowledge from the internet, friends, family, religious leaders and teachers, and HCPs. Religion and level of religiosity defined personal values and beliefs about premarital sex, using contraception at all, contraceptive methods, pregnancy spacing, and abortion. One ultra-orthodox Jewish participant (#4) said:

“In the world where I live, this religious lifestyle I chose, I mean I really love it, but [birth control] is a little tricky and I really care about following the letter of the law and I'm really trying my best to do it the right way.”

And:

“Before I was religious, I used condoms....but after I became religious and had my first baby, we asked our Rabbi if we could use birth control and we knew that if we told him we didn't want to get pregnant right away he would tell us to use hormones....but I didn't want to...they really messed me up. He said I could use a diaphragm but not spermicide and if I kept nursing and used the diaphragm, I wouldn't get pregnant. I probably should have asked a midwife, but I trusted him and G-d, so I didn't. And my second baby came when my first was 15 months old.”

Other ultra-orthodox Jewish women described a cultural taboo in their community about speaking with others about marriage and sex-related issues. Participant #8 said:

"I wanted to know and understand. I read on the internet. I didn't really speak to anyone about it because it isn't acceptable in my community...you know, we don't talk to friends

or anything about these types of things... intimacy and birth control stays between husband and wife.”

Participants described their journey starting from adolescence through present day. As early as age 12, participants were prescribed oral contraceptive pills as treatment for health problems like acne, endometriosis, polycystic ovarian syndrome, or menstrual symptoms like dysmenorrhea. Some had eventually rejected oral contraceptives because of the side effects. They felt it changed who they were, and they wanted to be themselves. Participant #22 noted:

“When I was on pills and hormones, I missed something...I missed myself. When I stopped taking them, I felt less foggy...I could see my world more clearly, I was shocked by what I had missed. I was able to express myself in dance, song, and poetry for more than the one week a month I was hormone free.”

#16 said:

“Who would I be if I wasn't on hormones? I really don't know.”

Most women had tried more than one method and felt that as they changed, so did their contraceptive choice. Participant #3 said:

"I can't tell you which method was better for me. [#3] who used pills is not the same person as [#3] who used an IUD and not the same as [#3] who used condoms. Every time I was a different person in a different place with a different partner and stage of life with different needs and different lifestyle"

After trying other options, some women turned to non-invasive, non-hormonal methods. Five were using the fertility awareness method (FAM) alone or in conjunction with condoms

(N=1) or diaphragms (N=3) on unsafe days. Using FAM empowered them to make life choices not related to contraception. #11 said:

“Using the fertility awareness method gives me the capability to choose. Knowing how my body works...it's so important...to know where I am in my cycle...I can plan my life. I can guide my choices for my life according to my menstrual cycle. If I have something at work where I need to be creative, I plan it for when I am ovulating. If I need to do a physical task, I try to avoid the days before and during my period. I take a lot of strength and also empowerment from knowing my body....there is a logic to what I feel and experience.”

Many women described assumptive and dismissive contraceptive care, closed-mindedness, and HCP bias based on outward appearances. For example, #7, an ultra-orthodox Jewish participant noted:

“I didn't necessarily know all my options that were out there, the doctor didn't put everything on the table. They don't think that people like me would want an IUD...like, they judge me by looking at me saying ‘Oh, you're not someone who would want to wait that long’.”

She continued:

“You know, I want to become a person, you know, I didn't want to just pop out babies, I want to, you know, be my own self so I could be a better mother. I felt like I wanted to have my life more under control.....so with having this [IUD], I feel like once I could

stop I could enjoy my kids and try to do a good job at raising my kids...not just have them.”

One Muslim participant (#13) described her interaction with the physician who first prescribed her oral contraceptive pills:

“I went to an Arab OBGYN when I was 18 because I was having painful periods. He gave me a prescription but didn’t tell me it was birth control. I think because in my culture it is a sin against G-d to have sex before you are married. He told me I didn’t need my period until I got married and wanted to have children. He told me to take the pills for 3 months at a time and then take a break. He didn’t know I was already sexually active. Later I asked my friend from school what it was and she told me how to use it.”

Once women could identify who they were and what they wanted, they were able to find their voice and express their values, beliefs, and choices with confidence. For many women, this took place over time.

My Unimaginable Life Without Choices

This theme alludes to the feeling many women expressed about how their life would be without reproductive choices. The highest order categories included: “no sexual/reproductive freedom”, “no access to abortion”, “many pregnancies”, “no control over my own life”, “unhappy”, “no life”, “no choice”, and “no hope”. The thought of a life without birth control or abortion was shocking to some. In response to the question, the researcher noted that many of the women responded with shocked facial expressions such as wide eyes, open mouths, and raised eyebrows; they found it difficult to respond right away.

Participant #3 said:

"I would have died without birth control. At first because I had such heavy bleeding as a 14-year-old, but later because I just cannot be pregnant...I am holding a remote control over my life - without it I wouldn't be able to control my periods and whether or not I got pregnant. If I'd have a kid I couldn't be independent - I'd have to live closer to my family for support, I wouldn't have finished my degree, I wouldn't have travelled, my partnership with my husband would be different, I wouldn't have been able to continue taking care of my horses or keep riding, my relationship with myself would have been different... "

And:

“Surrounding the American election [in 2020] I thought so much about what would have happened if I wouldn't have been given permission to have an abortion. I would have a child. I can't imagine me having a child now. And I can't imagine someone ever telling me no. I couldn't imagine my partner or the government or the hospital or my doctor ever telling me no. It's my freedom on my own body my choice for my own body my own responsibility for my body”

Participant #22 said:

"I want to not have a kid. But I got pregnant, and I did not want to have the baby. And I am so grateful that I could get an abortion. Even though I had to go through bureaucracy, I could still do it. I can't imagine if I hadn't had that opportunity... women feel pressure from their culture because that's what they are supposed to do... Without

contraception, I wouldn't have sex. I would lose my sexual freedom. I couldn't be myself, I couldn't be creative, couldn't do the things I loved. I wouldn't be me."

Several women said they would suffer a decline in physical and mental health without access to sexual and reproductive health services. Six women simply said, "I can't imagine my life without access to contraception or abortion".

Gratitude for an Ideal Set of Freedoms

This theme alludes to the feeling of gratitude many women expressed for the ability to make SRH choices. The highest order categories included: "supportive contexts", "control over my own life", "health, happiness, and quality of life", "privilege" and a bridge category "acknowledging what my life would be without SRH choices".

Women noted that having a supportive partner, friend, family member or religious mentor empowered them to make decisions about practices that reflected their values and beliefs.

One Muslim participant (#21) said:

"When we talked about contraception, my husband said, 'as you wish'. It was totally my choice."

Another ultra-orthodox Jewish participant (#4) said:

"I chose to use nothing...on purpose... it was my choice...my husband and I were very much ok with getting pregnant right away. And that's what happened. And now we are post our third baby"

Many participants noted that women deserve the right to choose when to have children, how many children to have, and access to reliable contraceptive methods. #21 said:

"Every woman has the right to choose what she wants to do"

#22 said:

"Sexuality is a huge part of who I am, a source for creativity, pleasure and joy. I am so grateful to be able to choose not to be pregnant and have kids."

All women (N=23) recognized the supportive context of the Israeli socialized health care system. All stated that they had access to the contraceptive method they wanted to use. A third of the women used the word "privileged" to describe how they felt about having access to a range of reliable contraceptive methods and having the freedom to choose how and when to use them.

With sweeping hand gestures #3 noted:

"[My doctor] opened all the options in front of me. She was supportive and objective. I could choose one method or decide to add condoms for added protection. She gave me all the options and told me that the right to choose was mine. It was more than I could have wished for"

Their gratitude for the capabilities they had to choose allowed them to practice their individual contraceptive beliefs and values. Within the supportive contexts of their partnerships, the healthcare system, and their cultures they were able to make choices that led to expanded freedoms.

Quantitative Results

Demographic characteristics of the sample

Table 4 presents full descriptive statistics of the cohort's (n=773) demographics. Participants included Israeli women between the ages of 20 and 50. Twenty percent were from

northern Israel, 28.8% were from the central region, 41.2% from the greater Jerusalem area, and 10.4% from the south. The majority were Jewish (85%) and 14.7% adhered to other religions. Two thirds of the cohort served in the Israeli army or did national service, the majority identified as heterosexual, and 80.8% were married.

Descriptive statistics of contraception methods

Table 5 presents descriptive statistics for all contraceptive methods. The three most used contraceptive methods at the time of the survey were “No contraception”, “Intrauterine device” and “Male condom”. The four current methods least used were “Cervical cap” (less available in Israel), “Implants” (unavailable in Israel), “Injections” and “Abortion” (all 0%). The three most common contraceptive methods participants reported to have used in the past were “Combined estrogen and progesterone pills”, “Progesterone pills only” and “Male condom”. The four methods they used least in the past were ‘Female condom’ (not available in Israel) and ‘cervical caps’ (both 0.39%) ‘Implants’ (0.13%) and ‘Male sterilization’ (0.13%). Interestingly, 2.85% reported in the free text space that it was important to their partners to let the woman choose whichever contraception method best suited her without any interference or say on their part.

Descriptive Statistics of Social Determinants of Reproductive Freedom

The most common sources for contraceptive information were myself, doctors, friends, the internet and religious or religious/spiritual leaders (Table 6). On average women reported not discussing contraception growing up with their family or in school. They reported knowledge about contraceptives, discussing contraceptives with their partners, agreement with partners on the contraceptive method used, discussing contraceptives with their friends, and most (72%) agreed they could access fertility treatments if they had trouble getting pregnant (Table 7). On a

Likert scale of 1-5, participants reported they were not nervous about getting pregnant when using their chosen method of contraception.

Impact of Covid-19 on reproductive freedom

Covid-19-related items can be found in Table 7. Respondents reported that COVID-19 had not impacted their childbearing preferences or contraceptive choices for better or for worse. Women reported that they had access to necessary sexual and reproductive health services regardless of COVID-19 restrictions and that they did not use more telehealth services since the pandemic hit.

Women's Health Capability Items

Table 8 presents the descriptive statistics for the women's health capability items. Overall, participants reported high capability for women's health (M=85.4, SD=9.26, for all items M= 3.56, Sd= 0.23). The items with the highest scores were "providing education for self and children", "having access to healthcare services", "having a good relationship with those around me" and "living in a safe environment". The items with the lowest scores were "I can regularly get enough sleep", "I can save money and buy property", and "My lifestyle allows me to avoid illness and live a healthy life".

Associations between reproductive freedom score and demographic characteristics

Table 9 presents the associations between scores and demographics. A difference in reproductive freedom score was found based on geographic location (Kruskal-Wallis H (3) = 12.51, p=.006). Pairwise Mann-Whitney comparisons of the groups indicated higher scores among women in the Jerusalem area than in the north and higher scores in the south than in the north. Likewise, both Jerusalem and the South have higher scores than in the central region. No difference in scores was found between Jerusalem and the south nor between the north and the

central region. Jewish women had higher reproductive freedom scores than non-Jewish women. Lastly, a difference in scores was found based on language (Kruskal-Wallis $H(2) = 9.19$, $p=0.010$). Pairwise Mann-Whitney comparisons of the groups indicated that more English speakers had reproductive freedom than Hebrew speakers and Arabic speakers. However, no difference was found between Hebrew and Arabic speakers in reproductive freedom.

Lastly, Table 10 presents correlations of reproductive freedom with the continuous demographic characteristic. Reproductive freedom was positively correlated with years of education indicating that as education years increase so too does reproductive freedom increase. Reproductive freedom was negatively correlated with the number of unintended pregnancies, indicating that a higher score was associated with fewer unintended pregnancies.

Mixed Methods Insights

Merging the quantitative data with the qualitative data using Nussbaum's approach yielded further insights into Israeli women's capabilities for sexual and reproductive health. Analysis of both strands found associations between reproductive freedom and capability and language, religion, religiosity, and geographic location. Our qualitative results suggest that the privileges Israeli women identified were synonymous with Nussbaum's ten central capabilities. The quantitative analysis corroborated this; most women scored high on the aggregated reproductive freedom measure and had high capability scores. Furthermore, the gratitude women showed in the qualitative analysis acknowledged their ideal set of freedoms to live their best life.

Participant #10 said:

“Family planning allows me to live the life I want to live”

And #6 said:

"What would happen if I hadn't had access to family planning? I wouldn't be able to do things that I wanted to do...I wouldn't be able to be who I want to be"

Through qualitative inquiry, we discovered that Israeli women go through a process of developing their identity and finding their own voice to exert agency and make sexual and reproductive health choices. This is in concurrence with what Raucher (2020) calls 'conceiving agency'. It is born through a process of personal development and discovery. Through quantitative inquiry our study looked at measures including prevalence rates and specific questions about capabilities for sexual and reproductive health. We found that Israeli women do have the capability for making choices and reported that they do have reproductive freedoms.

Discussion

The results of our study explored capability for reproductive freedom in Israel in order to discover ways to expand reproductive freedom throughout the world through holistic nursing practice. Women making contraceptive choices are often referred to nurses in the socialized medical system in Israel (Clalit Health Services, 2016), yet in our study, only 5.69% of participants cited nurses or midwives as sources of information. At every preconception, prenatal, postpartum, perimenopausal, and well-woman gynecology visit, nurses have the potential to impact national goals to meet international benchmarks and expand reproductive freedom on an individual level. Our findings indicate that government health system policies, religious observance, partnerships, and contraceptive access all influence women's sexual and reproductive health choices. Creative use of theoretical approaches such as Nussbaum's capability approach may help guide nursing theory and practice. Nurses may utilize these findings to understand the ten central capabilities, women's motivation to use contraception, and

further engage them in respectful and empowering dialogue to encourage healthy and culturally appropriate choices.

Many theoretical models or frameworks that guide research regarding reproductive freedom have fallen short. For example, Fahlen (2013) points out that the theory of planned behavior (Ajzen, 1991) could guide reproductive choices since intentions motivate us to act. However, this theory does not incorporate the broader social contexts that may influence childbearing intentions such as age, culture, religion, familial relations, social relations, and national policies. Social cognitive theory and motivational interviewing are theoretical guides found to be only minimally useful for contraceptive choice which impacts reproductive freedom (Lopez et al., 2016). Researchers continue to search for a guiding theory that provides the right fit.

Applying Nussbaum's capability approach to conversations about sexual and reproductive choices may prove to be useful in nursing practice. Even with evidence-based interventions and access to reliable contraceptive methods and counseling, there still may be a discrepancy between women's individual reproductive goals and their capability for reproductive freedom (Gates, 2019). For example, measuring access to services, supplies, and resources does not equal capability. Reproductive freedom is multidimensional and cannot simply be measured by contraceptive prevalence rates. Outcomes like prevalence can hide whether women had the choice to use contraception freely.

Some of our findings may be indicative of the intersectionality of culture and religion and individual reproductive choices. For example, Orthodox Jewish laws of ritual purity dictate a period of abstinence after uterine bleeding occurs. This may explain the fact that no women reported using injections which have a difficult side effect profile of intra-menstrual bleeding.

Pregnancy spacing is also an issue with injections that may cause up to 18 months of infertility after discontinuation. In addition, Jewish men are forbidden to have a vasectomy and the procedure is not covered by the National Health Insurance Law. This may explain our findings that only three (0.39%) women reported currently using the method but 18 (2.33%) whose partners wanted to use the method, and 10 (1/29%) whose partners wanted to have the procedure.

Our findings could not corroborate the findings of Lindberg et. al's (2020) Guttmacher report on the effects of COVID-19 on reproductive freedom which found shifting childbearing preferences, contraceptive use, and access to contraception and other SRH services, increased use of telemedicine for contraceptive care, and increased exposure to intimate partner violence. This discrepancy may reflect the differences in the health care systems in the United States and Israel. In 2021, Israel was ranked the fifth most efficient healthcare system in the world (Girvan, 2021). It has been recognized for its almost universal access to in-person and digital health services, and has the potential to set a very high international standard SRH care and access to reliable contraceptive methods (Israel Ministry of Health, 2020).

Study Limitations and Recommendations for Future Research

This study faced several limitations and barriers. Operationalization of the key concepts of the capability approach in all disciplines is difficult (Chiappero-Martinetti & Venkatapuram, 2014). Each step of translation increases the likelihood of semantic inequivalence of translated components which may further limit operationalization and decrease sensitivity of the survey (Polit & Beck, 2014). For example, the academic and lay words for capability in Hebrew (yecholet) and Arabic (al'iimkania) do not have the exact connotations as the accepted definition in the human development literature.

Today, women over 50 are exercising their reproductive freedom by getting pregnant through artificial reproductive technologies. Ten women over the age of 50 answered the survey and due to our studies' criteria were excluded from the final sample. In retrospect, data from this population may add to the body of knowledge regarding reproductive freedom. This is a factor that will be carefully considered in future studies.

Cultural and social norms surrounding talking about contraception and sex may have prevented women in certain sectors from participating. For example, although study materials were available in Arabic and posted in multicultural groups, less Muslim/Arab women participated in the study than expected. According to the Israeli Central Bureau of Statistics, the Israeli population is 73.9% Jewish and 21.1% Muslim/Arab. The participants in the qualitative strand of the study consisted of 78.3% Jewish and 13% Muslim/Arab women. In the quantitative strand 83.2% were Jewish and 9.4% were Muslim/Arab. Neither strand had adequate participation from the Muslim/Arab sector to represent the Israeli population. Future research must address freedoms in all Israeli women including vulnerable populations and women in the periphery. Without equal representation of Muslim/Arab and immigrant women, the sample is not representative of the general Israeli population. The authors hope to address this issue in a future study to compare capabilities of women from different cultural backgrounds.

Finally, a bug in the Qualtrics software in the first few days of data collection for the quantitative arm blocked over 300 participants from completing the survey. After consulting with Qualtrics technical support, a solution was found to override the bug and the survey functioned properly through the remainder of data collection. The sheer number of respondents to the online survey shows a deep interest in this topic and the deep dedication of Israeli women to contribute to research and social change in this area.

Conclusion

This study explored determinants to guide nurse-led, culturally appropriate, and theoretically based contraceptive discussions to expand reproductive freedoms in Israel. The data collected may potentially contribute to meeting the international benchmarks set by Sustainable Development Goals Three and Five to decrease the unmet need for contraception and increasing reproductive freedom (United Nations Population Fund, 2020). It may help identify social determinants of reproductive freedom and help nurses work with women to identify their capabilities and values. The long-term significance may lie in the development of a tool or model for capability for reproductive freedom.

References

- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211. [https://doi.org/https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/https://doi.org/10.1016/0749-5978(91)90020-T)
- Chiappero-Martinetti, E., & Venkatapuram, S. (2014). The capability approach: A framework for population studies. *African Population Studies*, 28(2), 708-720.
<https://authenticate.library.duq.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edo&AN=116393599&site=eds-live&scope=site>
- Clalit Health Services. (2016). Questions and answers on birth control.
<https://www.clalit.co.il/he/lifestyle/sex/Pages/forumfaq5.aspx>
- Cohen, S. A., & Richards, C. L. (1994). The Cairo consensus: Population, development and women. *Family Planning Perspectives*, 26(6), 272-277. <https://doi.org/10.2307/2135895>
- Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed ed.). Sage.
- Elmusharaf, K., Byrne, E., & O'Donovan, D. (2017). Social and traditional practices and their implications for family planning: a participatory ethnographic study in Renk, South Sudan. *Reprod Health*, 14(1), 10. <https://doi.org/10.1186/s12978-016-0273-2>
- Fahlen, S. (2013). Capabilities and childbearing intentions in europe: The association between work-family reconciliation policies, economic uncertainties and women's fertility plans. *European Societies*, 15(5), 639-662.
<https://doi.org/http://dx.doi.org/10.1080/14616696.2013.798018>
- Gates, M. (2019). *The moment of lift: How empowering women changes the world*. Flatiron Books.

- Girvan, G., Roy, A. (2021). Israel: #5 in the 2021 World Index of Healthcare Innovation. Foundation for Research on Equal Opportunity: Word Index of Healthcare Innovation. <https://apps.who.int/iris/handle/10665/330248>
- Human Development and Capabilities Association. (2005). Briefing note: Capability and functionings: Definition and justification. https://hd-ca.org/wp-content/uploads/2013/06/HDCA_Briefing_Concepts.pdf
- Israel Ministry of Health. (2020). National health insurance law. <https://www.health.gov.il/Subjects/UninsuredRights/HealthInsuranceLaw/Pages/default.aspx>
- LaDaat Delet Petucha. (2020). [Making contraceptive decisions]. <https://ladaat.org.il/%D7%A9%D7%99%D7%A7%D7%95%D7%9C%D7%99%D7%9D-%D7%91%D7%91%D7%97%D7%99%D7%A8%D7%AA-%D7%90%D7%9E%D7%A6%D7%A2%D7%99-%D7%9E%D7%A0%D7%99%D7%A2%D7%94/>
- Lindberg, L. D., VandeVusse, A., Mueller, J., Kirstein, M. (2020). Early Impacts of the COVID-19 Pandemic: Findings from the 2020 Guttmacher Survey of Reproductive Health Experiences. G. Institute. <https://www.guttmacher.org/report/early-impacts-covid-19-pandemic-findings-2020-guttmacher-survey-reproductive-health>
- Lopez, L. M., Grey, T. W., Chen, M., Tolley, E. E., & Stockton, L. L. (2016). Theory-based interventions for contraception. Cochrane Database of Systematic Reviews(11). <https://doi.org/10.1002/14651858.CD007249.pub5>
- Nussbaum, M. C. (2000). Women and human development: The capabilities approach. Cambridge University Press.

Organization for Economic Co-operation and Development. (2020). Israel.

<http://www.oecd.org/israel/>

Polit, D. F., & Beck, C. T. (2014). Essentials of nursing research: appraising evidence for nursing practice. (8th ed. ed.). Wolters Kluwer Health /Lippincott Williams & Wilkins.

Raucher, M. S. (2020). Conceiving agency: Reproductive authority among Haredi Women. Indiana University Press. <https://doi.org/10.2307/j.ctv15kxgmp>

Robeyns, I. (2017). Wellbeing, Freedom and Social Justice : The Capability Approach Re-Examined [eBook]. Open Textbook Library

Open Book Publishers.

<https://authenticate.library.duq.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edsotl&AN=edsotl.OTLid0000553&site=eds-live&scope=site>

Roseman, M. J., & Reichenbach, L. (2011). Global reproductive health and rights: Reflecting on ICPD. In Reproductive Health and Human Rights: The Way Forward (pp. 3-20).

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84904142312&partnerID=40&md5=eba02a9424634b4ac919b89787225a74>

Sauvain-Dugerdil, C., Douptcheva, N., & Diawara, S. I. (2014). Adoption of a contraceptive culture and control of the family plans. Can contraception be considered as a capability?

[Article]. Etude de la Population Africaine, 28(2), 854-871.

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84916212256&partnerID=40&md5=c4b2f13e6bdcc75b8d696a8f29b34458>

Sen, A. (1999). Development as Freedom. Alfred Knopf.

United Nations Department of Economic Affairs. (2019). Family planning and the 2030 agenda for sustainable development: Data booklet.

https://www.un.org/en/development/desa/population/publications/pdf/family/familyPlanning_DataBooklet_2019.pdf

United Nations Department of Economics and Social Affairs. (2019). Contraceptive use by method 2019. Retrieved from

<https://www.un.org/en/development/desa/population/publications/pdf/family/ContraceptiveUseByMethodDataBooklet2019.pdf>

United Nations Development Programme. (2011). "Statistical annex: technical notes - technical note 2: calculating the inequality-adjusted Human Development Index" Human development report 2011: Sustainability and equity: A better future for all. Basingstoke: United Nations Palgrave Macmillan.

United Nations Population Fund. (2020). Ensure universal access to sexual and reproductive health and reproductive rights MEASURING SDG TARGET 5.6. Retrieved from <https://www.unfpa.org/sites/default/files/pub-pdf/UNFPA-SDG561562Combined-v4.15.pdf>

Wilder, E. I. (2000). The contraceptive revolution in Israel: changing family planning practices among ethnoimmigrant groups. *Soc Sci Res*, 29(1), 70-91.

<https://doi.org/10.1006/ssre.1999.0654>

World Bank. (2021). Israel. <https://data.worldbank.org/country/IL>

World Health Organization. (2010). Social determinants of sexual and reproductive health:

Informing future research and programme implementation. Retrieved from

https://www.who.int/social_determinants/tools/WHO_SocialDeterminantsSexualHealth_2010.pdf

Table 1

Qualitative Participant Demographics (N=23)

		N	Frequency
Age	M=26.3, SD=3.204	23	
Religion	Jewish	18	78.3
	Muslim/Arab	3	13.0
	No religion	2	8.6
Level of religiosity	Secular/Not religious	7	30.4
	Traditional/Not religious	2	8.7
	Traditional/Religious	4	17.4
	Religious	6	26.1
	Ultra-orthodox/		17.4
	Hareidi/Very religious	4	
Survey language	Hebrew	15	65.2
	English	8	34.8
Geographic location	North	2	8.7
	Middle Mercaz region	4	17.4
	Jerusalem area	16	69.6
	Southern region	1	4.3

Marital status	Single	8	34.8
	Married	14	60.9
	Publicly Recognized	1	4.3
Income level	0-2000 NIS/month	4	17.4
	2000-5000 NIS /month	8	34.8
	5000-10000 NIS /month	9	39.1
	more than 10000 NIS/month	2	8.7
Past sexual partners	0	2	8.7
	1-5	5	21.7
	6-10	10	43.5
	>20	6	26.1
Past unintended pregnancies	0	17	73.9
	1	3	13.0
	2	1	4.3
	3	2	8.7
Past pregnancies	0	12	52.2

total	1-2	6	26.1
	3-6	5	21.7
Past elective	0	21	91.3
abortions	1	2	8.7

Table 2

Prevalence of contraceptive methods

Method	N	%	N Dual method use
Abstinence	1	4.3	
Condoms only	4	17.4	
Combined oral contraceptives	9	39.1	6 with condoms
Progesterone only pills	1	4.3	
Diaphragm only	1	4.3	
IUD	1	4.3	
Vasectomy	1	4.3	
Fertility awareness method	5	21.7	3 with diaphragms 1 with condoms

Table 3

Results of Qualitative Analysis

Themes (N=3)	Patterns (N=9)	Categories (N=23)	Exemplar quotations
Defining identity to make SRH choices	Knowing who I am and finding my own voice	Finding my own voice	#22“When I was on pills and hormones, I missed something...I missed myself. When I stopped taking them I felt less foggy, I could see my world more clearly, I was shocked by what I had missed. I was able to express myself in dance, song, and poetry for more than the one week a month I was hormone free.”
		Knowing myself so I can make choices	#4 “I feel like I'm still trying to find that answer.”
			#16 “Who would I be if I wasn’t on hormones? I really don’t know.”
			#3 "I can't tell you which method was better for me. #3 who used condoms is not the same person as #3 who used an IUD is not the same as #3 who used pills. Every time I was a different person in a different place with a different practice

		and stage of life with different needs and different lifestyle"
Social, religious, and cultural context	Religion/ culture/politics	#4 "in the world where I live, this religious lifestyle I chose, I mean I really love it, but this is a little tricky and I really care about following the letter of the law And I'm really trying my best to do it the right way."
	Social support	#8: "I wanted to know and understand. I read on the internet. I didn't really speak to anyone about it because it isn't acceptable in my community...you know, we don't talk to friends or anything about these types of things. Talking about intimacy and birth control stays between husband and wife. I tried to talk to my mother but she didn't have the answers I needed." "Before I was religious, I used condoms....but after I had my first baby we asked our Rabbi if we could use birth control and, like, we knew that if we told him we didn't want to get pregnant right

away, you know, he would say we could use hormones....but i didn't want to use hormones, you know. They really messed me up. He said I could use a diaphragm but not spermicide and if I kept nursing and used the diaphragm I wouldn't get pregnant. I probably should have asked a midwife but I trusted him and G-d, so I didn't. And my second baby came when my first was 15 months old.”

#20 “ When I was first married we lived above my in-laws. My mother-in-law was very strict with me and told me we couldn't use birth control because in my culture getting pregnant right after marriage is seen as a blessing from G-d. I believe it was G-d's plan that I get pregnant even if I didn't want to. After my first birth, they treated me much better. I told my husband and my in-laws that I want to use birth control because I could not have babies so close together. I need to space my children and they will

all feel wanted and loved by me and by G-d. Thank G-d, they all agreed.”

Inaccurate assumptions about my values and beliefs Finding my own voice #7“ I didn't necessarily know all my options that were out there, the doctor didn't put everything on the table. They don't think that people like me would want an IUD...like, they judge me by looking at me saying ‘Oh, you're not someone who would want to wait that long’.”

Effects on my body #17“ I don't know who I am without hormones because I have been on them since I was 16...my whole personality as an adult has developed under the influence of hormones...”

I know what I want #7“ You know, I want to become a person, you know, I didn't want to just pop out babies, I want to, you know, be my own self so I could be a better mother. I felt like I wanted to have my life more under control..... So with

having this [IUD], I feel like once I could stop I could enjoy my kids and try to do a good job at raising my kids...not just have them.”

Empowerment 11 “ Using the fertility awareness method

gives me the capability to choose.

Knowing how my body works...it's so important...to know where I am in my cycle...I can plan my life. I can guide my choices for my life according to my menstrual cycle. If I have something at work where I need to be creative, I plan it for when I am ovulating. If I need to do a physical task, I try to avoid the days before and during my period. I take a lot of strength and also empowerment from knowing my body....there is a logic to what I feel and experience.”

HCP #7 “I remember I wanted to get an IUD

Assumptions after my second. And I couldn't get it because I didn't do a pregnancy test - she told me I missed my chance to do it. And it was so hard. And she actually told me

she wouldn't she wouldn't prescribe new birth control without checking my mental health state so because I hadn't taken that form [Edinburgh Depression Scale], she wouldn't prescribe me birth control. I'm like what did that just get me - more problems ... I thought, then, I was going to get it later on, and I just never ended up doing it because it was hard to get an appointment. And then I ended up going on the [spermicide] film and then I ended up getting pregnant."

<p>My unimagined life without SRH choices</p>	<p>Poor quality of life</p>	<p>Loss of freedom, independence, options, and choices</p>	<p>#3 " if I'd have a kid I wouldn't have travelled, I couldn't be independent - I'd have to live closer to my family for support, I wouldn't have finished my degree, my partnership with my husband would be different, I wouldn't have been able to continue taking care of my horses or keep riding, my relationship with myself would have been different"</p>
	<p>No sexual/reproductive</p>	<p>No access to abortion</p>	<p>#22 "I want to not have a kid, I got pregnant and I did not want to have the</p>

freedom

baby. And I am so grateful that I could get an abortion. Even though I had to go through bureaucracy, I could still do it. I can't imagine if I hadn't had that opportunity.

Many pregnancies

#22 "I don't have to have kids. everyone is so obsessed with having babies, someone to take care of me when I'm old. Or they feel pressure from their culture because that's what they are supposed to do."

No control over my own life

#3 "I am holding a remote control over my life - without it [birth control] I wouldn't be able to control my periods whether or not I got pregnant"

Unhappy

#22 Without contraception, I wouldn't be able to have sex. I would lose my sexual freedom. I couldn't be myself, I couldn't be creative, couldn't do the things I loved. I wouldn't be me"

No life/health

#3 "I would have died without birth control. At first because I had such heavy bleeding as a 14 year old, but later because I could just not be pregnant"

#6 "Pregnancy for me means fear...I know that it's part of life but I'm scared of it...I believe in abortions but I still wouldn't want to have an abortion so I was always scared of possibly having to have one. But I definitely would have an abortion if I was pregnant. I see it as an extreme form of family planning I would not I would really not want it to get to that point but I would do it if I did get pregnant right now"

#6: "what would happen if I hadn't had access the family planning? I would have had a few kids or a few abortions by now. i wouldn't have my job. I definitely wouldn't be learning [a degree] for the army I wouldn't be in a high position. I wouldn't be an excellent student. I had a friend who had a baby at 19 from a one night stand. She's now 21 and that's a very hard position to be in I wouldn't

be able to do things that I wanted to do I wouldn't be able to be who I want to be”

No hope

#3: “Surrounding the American election I

No choice

thought so much about what would have happened if I wouldn't have been given permission to have an abortion. I would have a child. I can't imagine me having a child now. And I can't imagine someone ever telling me no. I couldn't imagine my partner or the government or the hospital or my doctor ever telling me no. It's my freedom on my own body my choice for my own body my own responsibility for my body”

Gratitude for an Ideal set of freedoms to make SRH choices

Supportive contexts

Accessible health care system

Many contraceptive choices

#3: “[My doctor] opened all the options in front of me. She was supportive and objective. I could choose one method or decide to add condoms for added protection. She gave me all the options and told me that the right to choose was mine.

Partnership #21 “ when we talked about
contraception, my husband said, ‘as you
wish”. It was totally my choice”

Birth-spacing #4 “I chose to use nothing. It was totally
like on purpose by choice like we were
very much ok with getting pregnant right
away. And that’s what happened. And
now we are post our third baby”

Control over
my own life

Health, Happiness and #10 “family planning allows me to live
happiness, quality of life the life I want to live”
and quality #6"what would happen if I hadn't had
of life access the family planning? I

wouldn't be able to do things that I
wanted to do I wouldn't be able to have
the career that I want”

Privilege Acknowledging
what my life
would be
without SRH
choices

Sexual decisions/sexual freedom #21 "every woman has the right to choose what she wants to do"

"22 "sexuality is a huge part of who I am, a source for creativity, pleasure and joy.

Abortion

Table 4

Demographic characteristics of the quantitative sample

Variable	N	%	M	SD
Age			34.8	8
Geographic location				
North	104	19.6		
Central region	153	28.8		
Jerusalem area	219	41.2		
South	55	10.4		
Religion				

Jewish	451	85.3		
Muslim	51	9.6		
Christian	6	1.1		
Druze	2	0.4		
Atheist	5	0.9		
Irrelevant	10	1.9		
Other	4	0.8		
Religiosity			3.00/5	1.61
Army service	332	62.5		
Sexual orientation				
Heterosexual	476	93.0		
Homosexual	3	0.6		
Bi-sexual	19	3.7		
Other	14	2.7		
Marital status				
Single	65	12.2		

Married	429	80.8		
Divorced	13	2.4		
Widow	0	0		
Other	5	0.9		
In couple hood	19	3.6		
Language				
Hebrew	626	81		
English	91	11.8		
Arabic	56	7.2		
Years of education			16.32	3.94
ART pregnancies			0.24	0.81
Unintended pregnancies			0.36	0.73
Births			2.51	1.87
Abortions			0.18	0.50

Table 5

Descriptive statistics of contraception methods (n=773).

	Current		Past		Desired		Partner preference	
	N	%	N	%	N	%	N	%
No contraception	179	23.16%	68	8.80%	210	27.17%	167	21.60%
Abstinence	24	3.11%	56	7.25%	12	1.55%	9	1.16%
Male condom	70	9.06%	145	18.76%	48	6.21%	87	11.25%
Female condom	1	0.13%	3	0.39%	9	1.16%	2	0.26%
Diaphragm	9	1.16%	27	3.49%	11	1.42%	12	1.55%
Cervical cap	0	0.00%	3	0.39%	4	0.52%	2	0.26%
Sponge and spermicide	8	1.04%	46	5.95%	4	0.52%	6	0.78%
Combined estrogen and progesterone pills	39	5.05%	296	38.29%	19	2.46%	98	12.68%
Progesterone pills only	24	3.10%	157	20.31%	12	1.55%	44	5.69%

Injections	0	0.00%	6	0.78%	3	0.39%	0	0.00%
Vaginal ring	15	1.94%	55	7.12%	6	0.78%	11	1.42%
Transdermal patch	4	0.52%	20	2.59%	8	1.03%	4	0.52%
Intrauterine devices	95	12.29%	87	11.25%	26	3.36%	49	6.34%
Implants	0	0.00%	1	0.13%	5	0.65%	1	0.13%
Fertility awareness method	34	4.40%	47	6.08%	13	1.68%	12	1.55%
Lactation Amenorrhea method (Breastfeeding)	30	3.88%	52	6.73%	5	0.65%	8	1.03%
Male sterilization	3	0.39%	1	0.13%	18	2.33%	10	1.29%
Female sterilization	15	1.94%	5	0.65%	10	1.29%	1	0.13%
Withdrawal method	25	3.23%	65	8.41%	10	1.29%	30	3.88%

Emergency contraception	1	0.13%	39	5.05%	2	0.26%	7	0.91%
Abortion	0	0.00%	11	1.42%	7	0.91%	2	0.26%
Currently Pregnant	18	2.33%	0	0.00%	0	0.00%	0	0.00%
Other Answer	1	0.13%	6	0.78%	2	0.26%	0	0.00%
Woman's choice							22	2.85%

Table 6

Descriptive statistics of sources of knowledge about sexual and reproductive health services and contraceptive methods

Source	N	%
Myself	374	48.38%
Friends	168	21.73%
Neighbours	15	1.94%
Family members	62	8.02%
Religious / spiritual guidance	128	16.56%
Education	69	8.93%
Books	40	5.17%
Internet	137	17.72%
Social media	79	10.22%
Doctors	252	32.60%
Nurses	29	3.75%
Midwives	15	1.94%
Therapist	5	0.65%
Contraceptive counsellor	21	2.72%
Kupat Cholim clinic	18	2.33%
Other	18	2.33%

Table 7

Socio-psychologic determinants

Item	M	SD
	(out of 5)	
If you do not want to get pregnant, how nervous are you about your method failing when you have sex?	1.59	1.66
When I was growing up my family discussed contraception	2.09	1.32
I discussed contraception when I was in school	2.11	1.39
I talk about contraception with my family	2.79	1.47
I talk about contraception with my friends	4.09	1.13
My partner and I discuss contraception	4.30	1.27
My partner and I agree on the contraceptive method I use	4.14	1.39
The contraceptive method I use positively impacts my sex life	3.03	1.59
The contraceptive method I use negatively impacts my sex life	2.18	1.39
The contraceptive method I use positively impacts my mental health	3.21	1.57
The contraceptive method I use negatively impacts my mental health	1.94	1.25
I am knowledgeable about the different methods of contraception	4.35	.95
My life would be better with a different form of contraception	2.26	1.39
I could access fertility treatments if I would have trouble getting pregnant	3.64	1.69
My childbearing preferences have changed since the COVID-19	1.81	1.29

pandemic hit		
COVID-19 has affected my contraceptive choices for the better	1.51	1.16
COVID-19 has made it harder to use my contraceptive method	1.37	1.04
I am able to access the sexual and reproductive health services I need regardless of COVID-19 restrictions	3.61	1.53
I use more telemedicine services to access sexual and reproductive healthcare services since the COVID-19 pandemic started	2.32	1.57
I have experienced interpersonal and/or sexual violence since the beginning COVID-19 pandemic	1.24	.75
I have choices when it comes to contraceptive methods	3.77	1.40
There are barriers to using the contraceptive method I want	2.28	1.43
I am happy with the contraceptive method I am using	3.30	1.59
The contraceptive method I am using helps me live the life I want to live	3.47	1.60

Table 8

Descriptive statistics of women's health capability items

Item	M	SD
I can do physical work or physical activity in my day-to-day life	3.76	.51
My lifestyle allows me to work and earn a living	3.67	.66
I can regularly get enough sleep	2.89	.88
I can regularly meet my nutritional needs	3.46	.71
My lifestyle allows me to avoid illness and live a healthy life	3.32	.76
I can delay my first birth or space my children	3.37	.91
I can choose the contraceptive method I want to use (including abstinence)	3.47	.84
I can live free from domestic violence	3.76	.59
I can live with peace of mind in my community	3.63	.63
I can live a life free of oppression	3.60	.70
I can live a life without shame	3.60	.64
I can have good relationships with those around me	3.77	.48
I can control my own money or savings	3.67	.57
I can take care of my family (parents, children, partner)	3.76	.50
I can provide education for myself and my children	3.81	.43
I can live in a safe environment	3.77	.49
I can avoid social exclusion and discrimination	3.48	.72
I can interact with animals and nature in my environment	3.55	.68

I can do things that make me happy	3.64	.57
I can live a happy life	3.65	.60
I can access healthcare services	3.79	.45
I can support myself financially if needed	3.52	.73
I can save money and buy property	3.01	.99
I can pay my bills or pay back debts	3.52	.73
Mean of all items*	3.56	.23
Total capability score**	85.4	9.26

*Possible individual items scored between 1-4

**Total possible capability score between 0-96

Table 9

Differences in reproductive freedom score by demographic characteristics

Variable	M	SD	Md	p-value
Age				.081
18-20	2.25	.96	2.50	
21-25	2.48	.85	3.00	
26-30	2.62	.62	3.00	
31-35	2.70	.54	3.00	
36-40	2.72	.54	3.00	
41-45	2.67	.47	3.00	
46-50	2.56	.70	3.00	
51 or higher	3.00	.00	3.00	
Geographic location				.006
North	2.55	.67	3.00	
Center	2.54	.66	3.00	
Jerusalem	2.74	.51	3.00	
South	2.76	.60	3.00	
Religion				.028
Jewish	2.67	.59	3.00	
Other	2.48	.69	3.00	

Army service				.987
Yes	2.65	.61	3.00	
No	2.65	.60	3.00	
Sexual orientation				.779
Heterosexual	2.64	.60	3.00	
Other	2.69	.54	3.00	
Marital status				.237
Married	2.66	.60	3.00	
Other	2.58	.63	3.00	
Language				.010
Hebrew	2.63	.62	3.00	
English	2.82	.42	3.00	
Arabic	2.41	.73	3.00	

Table 10

Spearman correlations of reproductive freedom score with continuous demographic characteristics.


Variable	M	S	1. Reproductive freedom	2. Religiosity	3. Years of education	4.Pregnancies from ART	5. Unintended pregnancies	6. Births	7. Abortions
1. Reproductive freedom	2.65	.60							
2. Religiosity	3.00	1.61	-.06						
3. Years of education	16.32	3.94	.23***	-.13**					
4. Unintended pregnancies	.36	.73	-.14**	-.08	-.06	.10*			

5.	Births	2.5	1.8	-.001	.24***	.20***	.07	.20***
		1	7					
6.	Aborti	.18	.50	-.07	-.19***	.03	.01	.46*** .04

ons

Figure 1

Robeyns (2017): A stylized visualization of the core concepts of capability theories

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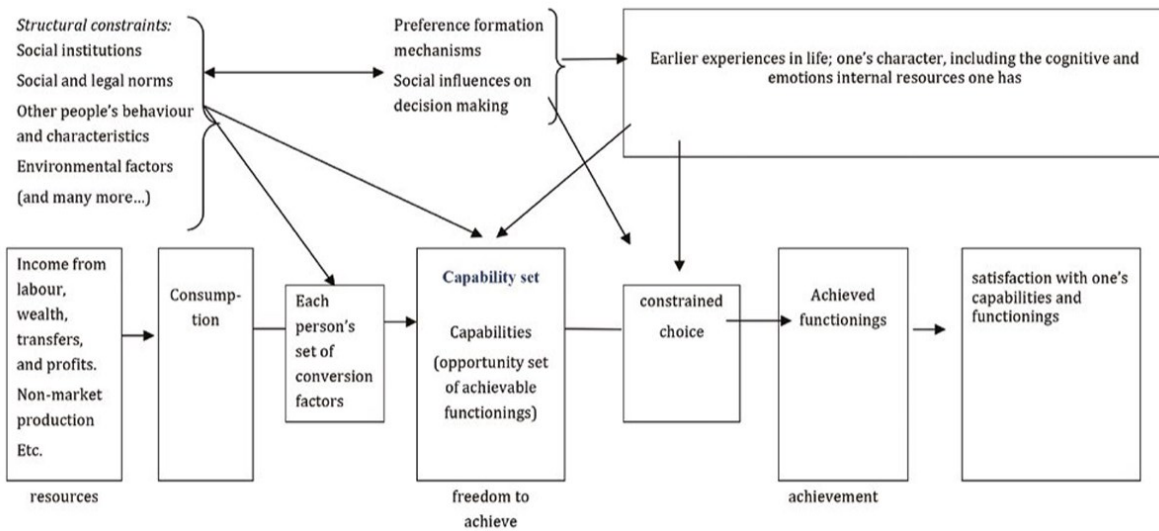


Figure 2

Abstracted pictorial model of qualitative results

