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# What Informs Muslim Women's Antenatal Screening Decision Making? A Scoping Review

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## Abstract

**Objective:** This review aimed to synthesize studies exploring how religion informs pregnant Muslim women's attitudes and decisions regarding antenatal screening tests for foetal abnormalities.

**Methods:** Between October 2023 and January 2024, three databases were searched: PubMed, Embase and Google Scholar. Search terms included: (Islam OR Muslim OR Moslem) AND (pregnancy OR pregnan*) AND (Prenatal OR antenatal) AND ("prenatal care" OR screening OR scan). Two hundred and eight studies were identified, 32 of which went to full-text screening.

**Results:** Eight studies were included for review, reflecting the experiences and views of 6244 Muslim women. Religion significantly influences the delivery of culturally safe healthcare to pregnant Muslim women, particularly in the context of prenatal genetic testing and pregnancy termination. Religious Muslim women were less likely to undergo invasive prenatal tests, such as amniocentesis, compared to their secular counterparts. This reluctance was primarily due to religious opposition to pregnancy termination following abnormal test results. Secular Muslim women who underwent In-Vitro-Fertilization were more likely to perform invasive tests and terminate pregnancies with abnormal findings than religious Muslim women.

**Conclusions:** It is recommended to provide cultural safety training for healthcare providers, to support collaboration with religious authorities and to tailor counselling approaches for patients.

## I INTRODUCTION

Islam, a monotheistic Abrahamic faith, is one of the largest and fastest growing religions worldwide, followed by more than 1.9 billion people across diverse cultural, social and geographical contexts (Hackett et al., 2025; Gibb, 2022). The religion is over 1400 years old and is rooted in the teachings of the Qur'an and Prophet Muhammad, for following the will of Allah (God) (Britannica Editors, 2025). The Islamic faith encompasses various rituals and beliefs that require thoughtful consideration by those who practice the religion (Britannica Editors, 2025). For followers of Islam, religion provides a comprehensive framework that governs not only spirituality, but also social practices, day-to-day decision making and ethical conduct (Sulaiman et al., 2021). Rituals, taboos and beliefs also frame how Muslim people view health and provide context when navigating through healthcare systems (Attum et al., 2018). The healthcare decisions made by Muslim people as well as their experience of cultural safety within healthcare settings is framed by their religion (Attum et al., 2018; Firdous et al., 2020; Larson, 2007).

In the context of women's health, religious considerations become especially significant. Muslim women may face complex decisions that require balancing faith, cultural values and medical advice (Boerleider et al., 2013; Gaydos et al., 2010; Hassan et al., 2019). This review focuses on the interplay between faith and healthcare by focusing on the area of antenatal screening tests through the lens of pregnant Muslim women.

Antenatal screening tests can identify foetal abnormalities such as aneuploidy, trisomy 18, Down syndrome, Edwards syndrome, Patau's syndrome and spina bifida (Livera et al., 1989; Grant & Mohide., 1982). The tests are widely available and recommended in Western Countries, to enable pregnant women to make informed decisions concerning their pregnancy such as whether to carry a pregnancy to completion and to undergo further testing or treatments (Nagle et al., 2008). Women who are deemed to be at high risk are offered an invasive diagnostic test (such as amniocentesis or chorionic villus sampling) which raises their "risk of miscarriage but provides a conclusive result" about their pregnancy (Vass et al., 2019; Tabor & Alfirevic., 2010; Akolekar et al., 2015).

This review aims to build on the works of Bridges (2011), who demonstrates that pregnancy is experienced differently by women according to their culture and its interface with healthcare. Healthcare providers have an obligation to provide culturally safe care for all patients (Curtis et al., 2019). As such, this study aims to identify literature that could shed light on how pregnant Muslim women tasked with choosing an antenatal screening test navigate healthcare services in the context of their Islamic religion, and what culturally safe care might look like for them. Several studies have explored such issues. We sought to synthesize these with the aim of extracting information that could improve the cultural safety of antenatal care delivered to Muslim women.

A preliminary search was conducted including the databases of MEDLINE, the Cochrane Database of Systematic Reviews and JBI Evidence Synthesis in May 2023 and no current or underway systematic reviews or scoping reviews on the termination of pregnancy were identified. The objective was to synthesize studies exploring how religion informs pregnant Muslim women's attitudes and decisions regarding antenatal screening tests for foetal abnormalities. The primary research question was: how do religious Muslim women decide which antenatal screening tests for foetal abnormalities to take? Within this topic context, we also asked what cultural considerations should healthcare providers have in mind when providing care for religious Muslim women?

## II METHODS

A scoping review is an effective means of determining the breadth of literature about a particular topic, identifying gaps in the literature and summarizing and synthesizing findings from the literature (Peters et al., 2020). Arksey and O'Malley's five steps for scoping reviews were followed (Arksey & O'Malley, 2005). The steps are: 1) Specifying the research question; 2) Identifying relevant literature; 3) Selecting studies; 4) Extracting, mapping, and charting the data;

and 5) Summarizing, synthesizing and reporting results. Following the procedure described by Arksey and O'Malley, the team comprised two experienced researchers with expertise in the fields of ethics, cultural safety, medical education and public health and two postgraduate medicine students with specialised knowledge of Islamic religion. The PRISMA extension for scoping reviews (PRISMA-ScR) was used and is seen in Figure 1 (Tricco et al., 2018).

### A *Specifying the research question*

The review question was developed using the SPIDER framework where the sample (S) was pregnant Muslim women, the phenomenon of interest (PI) was religious factors, the design (D) was a scoping review, the evaluation (E) was decision making regarding antenatal anomaly screening and the research type (R) was qualitative (Cooke et al., 2012).

In answering the research questions, we followed the cultural safety definition outlined by Curtis and colleagues;

> "Cultural safety requires healthcare professionals and their associated healthcare organisations to examine themselves and the potential impact of their own culture on clinical interactions and healthcare service delivery. This requires individual healthcare professionals and healthcare organisations to acknowledge and address their own biases, attitudes, assumptions, stereotypes, prejudices, structures and characteristics that may affect the quality of care provided. In doing so, cultural safety encompasses a critical consciousness where healthcare professionals and healthcare organisations engage in ongoing self-reflection and self-awareness and hold themselves accountable for providing culturally safe care, as defined by the patient and their communities, and as measured through progress towards achieving health equity. Cultural safety requires healthcare professionals and their associated healthcare organisations to influence healthcare to reduce bias and achieve equity within the workforce and working environment" (Curtis et al., 2019).

This definition will be returned to in the results and discussion that follow.

### B *Identifying relevant literature*

Three electronic databases were searched: PubMed, Embase and Google (Google Scholar). A broad search strategy was used and it generated an excessively large number of results whereas a more specific search strategy did not generate enough results. Ultimately, the search terms used included: (Islam OR muslim OR moslem) AND (pregnancy OR pregnan*) AND (Prenatal OR antenatal) AND ("prenatal care" OR screening OR scan). Additionally, the reference lists of included studies were hand-searched. This same search strategy was used again in May 2026 to search the same three databases and no further literature which satisfied the inclusion criteria was identified.

### C *Selecting studies*

We screened studies according to the inclusion criteria, outlined in Table 1. Studies were included if they were published in English, reported primary studies, and were published between 2000 and 2023. Studies published before 2000 were excluded, to ensure that the findings reflect the current generation of women who may be or become pregnant. Studies were included if they reported Muslim women's views directly (and not through staff opinion, or observational data). Studies were included if they reported qualitative data including, but not limited to, designs such as phenomenology, grounded theory, ethnography, qualitative description, action research and feminist research. Surveys were included if they included open-ended (qualitative) questions and analysis of that data. Likewise, mixed method studies were also included. Studies were excluded if they only reported quantitative results. Studies were excluded if they did not concern Muslim women and antenatal screening. Literature review studies were excluded.

All references were imported to Covidence for further screening. Screening was undertaken by two independent reviewers at each stage of the process, including the title and abstract screen,

full text review and data extraction process. Discrepancies were resolved by negotiation between the two reviewers and in consultation with an author.

**Table 1.**

**Inclusion and exclusion criteria**

This table summarises the inclusion and exclusion criteria.

| Inclusion | Exclusion |
|---|---|
| Published between 2000 and 2023<br>Qualitative research<br>Mixed methods research<br>Survey with qualitative component/s<br>Must be available in English<br>Primary study | Published before 2000<br>Quantitative only<br>Not available in English<br>Secondary study |

A total of 208 studies were identified. Twelve duplicates were removed, leaving 196. A total of 164 articles were excluded through title and abstract screening, leaving 32 studies for full text screening. Two studies could not be retrieved for full text screening. Of the remaining 30 studies, 22 were excluded through full text screening (most often because they did not include anomaly screening). Eight studies remained that satisfied the inclusion criteria and were included for review. The PRISMA flow diagram was used to report the four phases of the scoping review process (Page et al., 2021). Figure 1 shows the flow diagram of the screening process (see also Figure 1. PRISMA flow diagram).

## D *Summarising, synthesising and reporting results*

Data were extracted from papers included in the scoping review by two independent reviewers (the PRISMA-ScR checklist refers to this as data charting; Appendix Figure 1). This was checked by a third reviewer. The following data points were extracted and synthesised from each article: author(s), year of publication, study setting, study aim and design, and summary of findings that were relevant to the review questions.

We followed a reflexive approach to thematically analyse the results of included studies (Braun & Clarke, 2019). We read through all of the qualitative results from included studies and grouped them according to themes identified there from. We considered how our positionalities informed our reading and grouping of results. We centred participants' experiences as meaningful and consequential. We discussed and agreed upon identified themes.

**Figure 1**

**PRISMA flow diagram**

This figure summarises the search process.

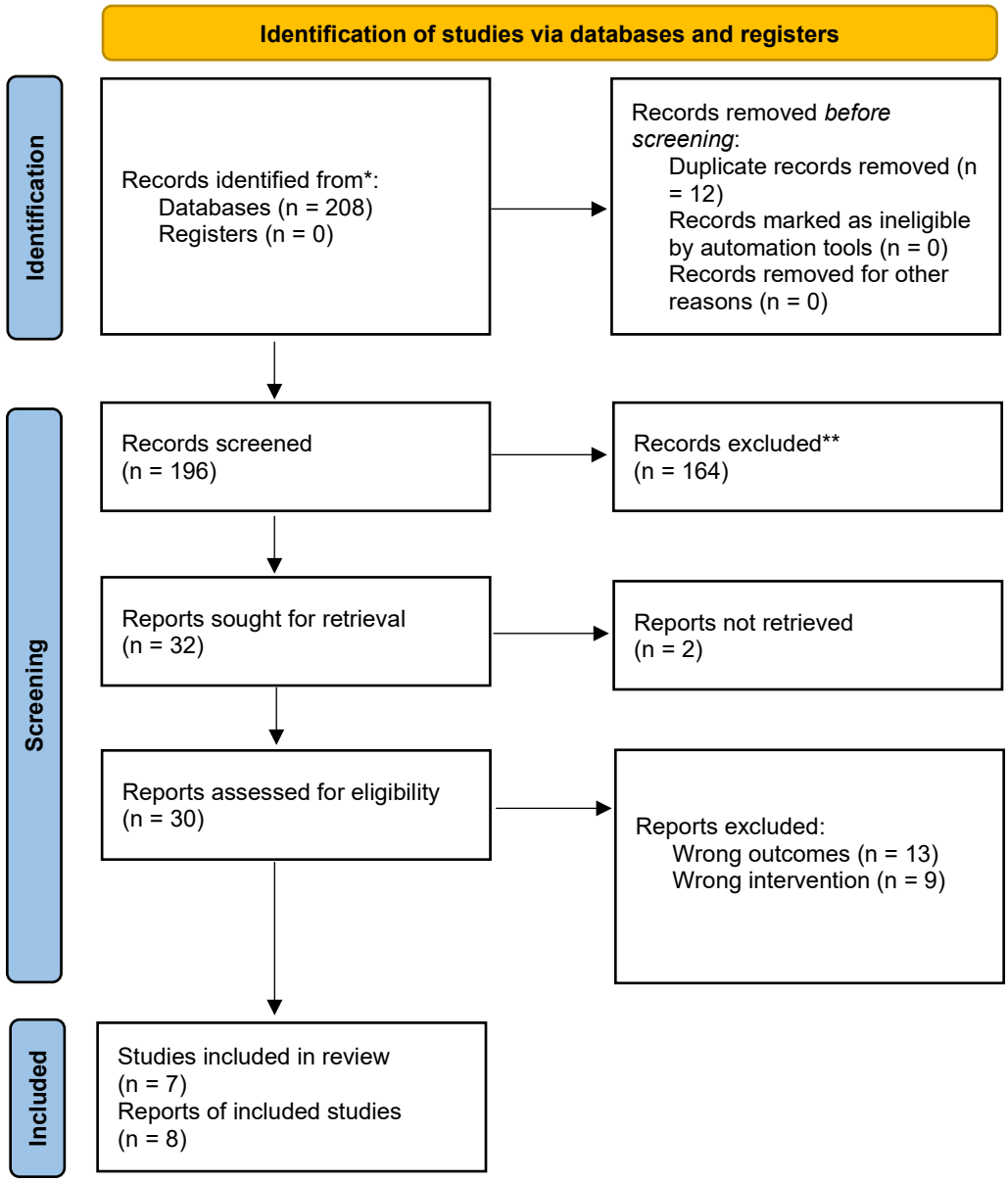

**Table 2**

**Summary of included studies**

Table summarises key features of the studies reviewed.

| Author, Year, Country | Title | Study aim | Design & Sample | Summary of key findings |
|---|---|---|---|---|
| Amiel & Tarabeih, 2023 | Prenatal Tests Undertaken by Muslim Women Who Underwent In Vitro Fertilization Treatment, Secular Versus Religious: An Israeli Study | The aim of this article was to determine if differences exist in the attitudes of religious Muslim women living in Israel toward prenatal testing and pregnancy termination after undergoing in vitro fertilization compared to secular Muslim women who had undergone in vitro fertilization. | Survey N=699 | Secular women who had undergone in vitro fertilization procedures performed more invasive tests and terminated more pregnancies due to an abnormal foetus than religious women.<br>Muslim women who had undergone an in vitro fertilization procedure were more open-minded, lived mostly in cities, received more support from their husbands and family and received more professional genetic information regarding the different prenatal tests and pregnancy termination.<br>More women living in villages consulted a religious authority before undergoing any invasive procedure. In the villages, the religious influence is a more potent influence than the level of academic education when deciding to undergo an in vitro fertilization procedure, prenatal tests, and pregnancy termination. |
| Belachen et al., 2014 | Mother's awareness and attitudes towards prenatal screening for Down syndrome in Muslim Moroccans | This study aims to explore the awareness and attitudes of women who have a child with Down syndrome (DS) regarding prenatal screening for Down syndrome. | Observational and Survey N=50 | Although most women from this survey had not heard of Down syndrome prior to the birth of their affected child, the majority felt that screening for Down syndrome would be useful.<br>Most women from this survey would agree to undergo Down syndrome screening in potential future pregnancies.<br>Most women from this survey believed that information on Down syndrome screening should be provided to all Moroccan women in early pregnancy and that a public health program for prenatal screening should be established. |
| Gitsels-van der Wal et al., 2014a | Factors affecting the uptake of prenatal screening tests for congenital anomalies; a multicentre prospective cohort study | The aim of the study was to investigate the factors associated with using prenatal screening for congenital anomalies. | Survey N=5216 | The uptake of the Combined Test and Foetal Anomaly Scan varied widely between practices.<br>Income, parity and being Protestant were associated with uptake of both tests<br>Ethnicity, age and living in the east were associated with Combined Test uptake<br>Education and being Muslim were associated with Foetal Anomaly Scan uptake |
| Gitsels-van der Wal et al., 2015a | A qualitative study on how Muslim women of | The aim of the study is to expand knowledge on | Interview N=12 ^ | Religious beliefs influenced pregnancy termination.<br>Women had extensive deliberations and hesitation about the Combined Test. |

| | | | | |
|---|---|---|---|---|
| | Moroccan descent approach antenatal anomaly screening | Muslim women's approach to antenatal anomaly screening. | | Conversely, women generally opted for the Foetal Anomaly Scan without hesitation.<br>Women emphasised that their participation in antenatal anomaly tests were individual decisions and accepted accountability for those decisions. |
| Gitsels-van der Wal et al., 2015b | Antenatal counselling for congenital anomaly tests: Pregnant Muslim Moroccan women's preferences | The aim of the study is to gain insight into pregnant Muslim Moroccan women's preferences regarding the content of and approach to antenatal counselling for anomaly screening. | Interview N=12 ^ | Pregnant Muslim Moroccan women underlined the importance of accurate and detailed information about the tests procedures and the anomalies that could be detected.<br>Pregnant Muslim Moroccan women preferred healthcare providers to initiate discussions about moral termination of pregnancy and their relationship with the women's religious beliefs and values to facilitate an informed choice about participation in the screening tests.<br>Pregnant Muslim Moroccan women preferred a healthcare provider who respects and treats them as an individual with an Islamic background and should have practical knowledge of Islamic rulings that are relevant to the anomaly tests. |
| Gitsels-van der Wal et al., 2014b | The role of religion in decision-making on antenatal screening of congenital anomalies: A qualitative study amongst Muslim Turkish origin immigrants | The aim of this study is to explore the role religious beliefs of pregnant Muslim women play in their decision-making on antenatal screening, particularly regarding congenital abnormalities and termination, and whether their interpretations of the religious doctrines correspond to the main sources of Islam. | Interview N=10 | All ten participants stated that their faith played a role in their decision-making on antenatal screening, specific to the Combined Test.<br>They did not consider congenital anomalies as a problem and did not consider termination to be an option in case of a disabled foetus.<br>The women were unaware that within Islamic tradition there is the possibility of termination if a foetus has serious anomalies.<br>Incomplete knowledge of religious doctrines may be influencing both decisions of antenatal screening and diagnostic tests uptake and of terminating a pregnancy for foetuses with serious anomalies. |
| Sher et al., 2004 | Utilization of prenatal genetic testing by Israeli Muslim women: a national survey | The aim of the study was to evaluate the proportion of Israeli Muslim women who perform various prenatal genetic tests and the | Survey N=242 | The study has identified that there is an extremely high acceptance of the Triple Test, but amniocentesis is generally considered unacceptable.<br>First-trimester biochemical screening, nuchal translucency measurement and Chorion Villus Sampling Test may be considered as more acceptable, and |

| | | | | |
|---|---|---|---|---|
| | | factors affecting the performance of these tests. | | consideration should be given to offering these tests routinely.<br>More education needs to be aimed at primary caregivers to emphasize the importance and availability of prenatal testing. |
| Tsianakas & Liamputtong, 2002 | Prenatal testing: The perceptions and experiences of Muslim women in Australia | To examine how Muslim women perceive and experience prenatal testing and to ascertain partners' opinions relating to prenatal testing. | Interview N=15 | In general, the women had positive attitudes toward prenatal testing, particularly ultrasound.<br>Ambivalence toward amniocentesis was identified.<br>The women generally accepted prenatal testing as they believed they should accept advice from their doctors.<br>Muslim women need to be given a choice rather than being made to conform to the routinization of prenatal testing. |

^ These studies are based on the same dataset.

## III RESULTS

Eight studies satisfied the inclusion criteria and these were included in the review (Table 2) (Amiel & Tarabeih, 2023; Belahcen et al., 2014; Gitsels-van der Wal et al., 2014a; Gitsels-van der Wal et al., 2014b; Gitsels-van der Wal et al., 2015a; Gitsels-van der Wal et al., 2015b; Sher et al., 2004; Tsianakas & Liamputtong, 2002). The experiences and views of 6244 Muslim women are reflected in the included studies. Of the included studies, four were conducted in the Netherlands, two in Israel, one in Australia, one in Morocco. Fifty percent (n=4) of included studies undertook interviews. Whereas 37.5% (n=3) were surveys and the remainder 12.5% (n=1) was an observational and survey design. The overall age range of women in the included studies was 18 to 53.7 years old. Five themes were identified from synthesis of included studies; foetal abnormality, avoiding harm, decision making, circumstances in which termination of pregnancy is acceptable and cultural safety in the healthcare workforce. Each theme was present in at least four of the included studies.

### A *Theme 1. Foetal abnormality*

Muslim women showed relatively consistent views towards foetal abnormalities across the literature. Many Muslim women see having a child with an abnormality as a not entirely bad thing, instead viewing it as a "test" from "Allah" (God) to see how they would deal with it (Gitsels-van der Wal et al., 2014b; Gitsels-van der Wal et al., 2015a; Tsianakas & Liamputtong, 2002). Women also believed that the fate of their child being "disabled" or not was purely in the hands of Allah (Gitsels-van der Wal et al., 2015a). Another similar idea was that Allah's will is predetermined, and that a pregnant woman must accept whatever comes her way (Tsianakas & Liamputtong, 2002). Some women believed that people with disabilities were viewed the same as "healthy" people in the "eyes of God" and that overall, motherhood was a divine blessing regardless of whether or not a woman delivered a "disabled child" (Gitsels-van der Wal et al., 2014a). Many women also felt positive towards the idea of non-invasive screening tests for Down syndrome to help be better prepared early if the test was positive (Belahcen et al., 2014; Gitsels-van der Wal et al., 2014a, 2014b; Tsianakas & Liamputtong, 2002). This links to Muslim women's views on termination of pregnancy, as a number of Muslim women did not believe that an antenatal diagnosis of Down syndrome would warrant a termination of pregnancy (Gitsels-van der Wal et al., 2014a; Gitsels-van der Wal et al., 2015a). There were however some women who suggested that detecting a diagnosis of Down syndrome early would be beneficial in giving them "a right to choice" (Belahcen et al., 2014). Women also expressed a desire for antenatal counsellors who were familiar with Islamic religion and medicine and could discuss identified abnormalities in terms

of their religiously acceptable options; i.e. under which circumstances should they keep their pregnancy (Gitsels-van der Wal et al., 2014a).

### B *Theme 2. Avoiding harm*

Women in the included studies voiced their desires to avoid harm (Gitsels-van der Wal et al., 2014b; Sher et al., 2004). This idea is most evident in studies that compared non-invasive tests (such as combined or triple testing and ultrasound scans) with more invasive tests (such as amniocentesis). One driving factor behind some Muslim women declining certain antenatal tests was the belief that if a procedure may cause damage to their foetus then it should be avoided (Tsianakas & Liamputtong, 2002). This may be linked to the "lens of motherhood" through which pregnant Muslim women approach antenatal screening, whereby they become mothers at the point of beginning pregnancy, as opposed to giving birth (Gitsels-van der Wal et al., 2015a). With external ultrasound scans, although a small minority of women expressed concern with even a single scan, the majority felt that the risk of potential harm was low and viewed the scan through the positive lens of a means to visualize their baby (Tsianakas & Liamputtong, 2002). Most women viewed amniocentesis as potentially harmful to their foetus, and hence the response to amniocentesis was more negative (Tsianakas & Liamputtong, 2002).

Sher and colleagues found that in Israel a disproportionately low acceptance rate for amniocentesis was found when compared to the triple test (Sher et al., 2004). Whereas 74.2% of the Muslim women in their study were happy to undergo the triple test, only 15.7% of eligible women were willing to undertake amniocentesis. This was compared to the rates of the pregnant Jewish women in Israel, wherein only 59.9% of women underwent triple testing and 47.6% of eligible underwent amniocentesis. Sher and colleagues suggest that a possible explanation for this phenomenon is a poor understanding amongst Muslim women of the implications of the triple test for the foetus, but also as it may lead to the need for further invasive testing if positive (Sher et al., 2004).

### C *Theme 3. Decision making*

Research reveals differences between the antenatal screening test choices made by more secular and more traditionally 'religious' Muslim women. One Israeli study found that secular women undergo more invasive testing when compared to more religious women (Belahcen et al., 2014). Another Israeli study found a statistically significant association between Muslim women being more religious and lower utilization of the triple test (a non-invasive form of prenatal testing) (Sher et al., 2004). Sher et al. (2004) also found that there was no significant association between a Muslim woman's self-professed level of religiousness and her willingness to terminate a pregnancy complicated with foetal "mental retardation". On the other hand, Amiel & Tarabeih (2023) found that religious women undergo less termination of pregnancy than secular women. Also, it was found that prior to any antenatal test, more religious women than secular women would consult a religious figure. However, although a woman may seek Islamic guidance, their own opinions also form a significant part of their decisions (Gitsels-van der Wal et al., 2015a). They maintained that they had autonomy and ultimately the decision fell upon them, and they were accountable for their choices, even if they did consult a religious source or authority (Gitsels-van der Wal et al., 2015a).

### D *Theme 4. Circumstances in which termination of pregnancy is acceptable*

A positive screening test implies the need to at least consider termination of pregnancy (Gitsels-van der Wal et al., 2015b). The included studies suggest that a Muslim woman's view towards termination of pregnancy is a key factor that influences her decisions when it comes to antenatal anomaly screening. Overall, there was a spectrum of views on when termination of pregnancy may be Islamically acceptable. The literature also shows that the extent to which these views impact an individual woman's decision can be variable.

Muslim women's perception of when a termination of pregnancy is Islamically 'acceptable' varies widely. Tsianakas & Liamputtong (2002) found that most women interviewed held the belief that abortion was absolutely prohibited in Islam, except for circumstances wherein the life of the mother may be endangered. A minority however believed that it may be acceptable in the case of "severe abnormalities". In another study, interviewing women of Turkish origin in the Netherlands, most women seemed unaware of the Islamic rulings about termination of pregnancy (Gitsels-van der Wal et al., 2014b). When asked when Islam permitted a termination of pregnancy, the following two responses were commonly given: "when pregnancy endangers the mother's health", "when a woman was raped" (Gitsels-van der Wal et al., 2014b). These two situations were also mentioned in a study of Moroccan women in the Netherlands, alongside "when a young woman is unmarried, if there are financial problems, or when the foetus has serious congenital anomalies". Some of the women mentioned specific dates which could be used to mark the point after which termination of pregnancy was no longer Islamically accepted, with some mentioning the 40th and others the 120th day after conception. Gitsels-van der Wal et al., (2014b) found that decisions on antenatal screening and diagnostic tests may be impacted by an "incomplete knowledge" of religious rulings.

Gitsels-van der Wal et al. (2014b) also found that, even if they were aware of the instances wherein termination of pregnancy was permitted, most Moroccan Muslim women would still not consider a termination of pregnancy for themselves. In fact, "not wanting to terminate pregnancy in any case" or "not wanting to think about termination" if a test returned positive were the main reasons provided for not participating in combined testing (CT), which is a non-invasive form of prenatal testing (Gitsels-van der Wal et al., 2015a). Similarly, some Muslim women in other studies felt that undertaking certain antenatal screening tests was futile as even in the case of a positive test, they would refuse a termination of pregnancy and continue the pregnancy (Gitsels-van der Wal et al., 2015b; Tsianakas & Liamputtong, 2002). They did not however consider these ideas when contemplating the foetal anomaly scan, which is an ultrasound scan (Tsianakas & Liamputtong, 2002). This may be explained by the fact that a foetal anomaly scan is performed later in the pregnancy than a CT, roughly in the 20th week of gestation, when termination of pregnancy could no longer be permitted according to Islam (Gitsels-van der Wal et al., 2015a). The idea of a specific point during the pregnancy, before which termination of pregnancy was allowed and after which termination of pregnancy was prohibited continued to resurface in the literature, with discrepancy over when this exact point was. Some reviews found that earlier screening may be preferred for Muslim women, as they may Islamically consider terminating a pregnancy in which the foetus had an abnormality if it was picked up before the 120th day after conception (Gitsels-van der Wal et al., 2014a). This is reflected in Sher et al. (2004), which found that in the hypothetical case that an early foetal abnormality was identified, 5.2% more Israeli Muslim women (from a population of 242) would consider an "early termination" compared to a "termination at any stage" of pregnancy. Importantly however, 53.9% of the women would continue with the pregnancy.

### E *Theme 5. Cultural safety in the healthcare workforce*

Several studies included in this review suggested that healthcare providers need knowledge of Islamic religion rules and taboos to provide culturally competent care (Amiel & Tarabeih, 2023; Belahcen et al., 2014; Gitsels-van der Wal et al., 2014a; Gitsels-van der Wal et al., 2014b; Gitsels-van der Wal et al., 2015b; Sher et al., 2004). Two studies suggested healthcare providers need reasonably sophisticated knowledge of Islamic teachings and cultural sensitivities (Amiel & Tarabeih, 2023; Sher et al., 2004). Included studies demonstrated that when healthcare providers respect and incorporate religious knowledge into their practice, it facilitates better communication, enhances trust, and improves the acceptability of healthcare services among pregnant Muslim women (Amiel & Tarabeih, 2023; Belahcen et al., 2014; Gitsels-van der Wal et al., 2014a; Gitsels-van der Wal et al., 2014b; Gitsels-van der Wal et al., 2015b; Sher et al., 2004). Pregnant Muslim women in the included studies reportedly preferred counsellors who were knowledgeable about Islamic perspectives on prenatal testing, disability, and termination (Amiel & Tarabeih, 2023;

Belahcen et al., 2014; Gitsels-van der Wal et al., 2014a; Gitsels-van der Wal et al., 2014b; Gitsels-van der Wal et al., 2015b; Sher et al., 2004).

## IV DISCUSSION

The aims of this paper were to identify how religious Muslim women decide which antenatal screening tests to undertake and what cultural considerations healthcare providers should consider when providing them care. The reviewed studies strongly demonstrate that Islamic belief is intertwined with the screening-related decision-making processes of pregnant Muslim women (Gitsels-van der Wal et al., 2015a). Their decision-making is nuanced and informed by such factors as religious engagement, ethnicity, where they live, economic, and societal backgrounds (Amiel & Tarabeih, 2023). Five themes were identified from synthesis of included studies; foetal abnormality, avoiding harm, decision making, circumstances in which termination of pregnancy is acceptable and cultural safety in the healthcare workforce. Together, these themes tell a story of pregnant Muslim women weighing up significant risks to their babies as well as to their personal spiritual wellbeing and physical health in the plural contexts of religion and healthcare.

These results are consistent with broader literature concerning healthcare of Muslim women (Attum et al., 2018; Firdous et al., 2020; Hassan et al., 2019; Hasnain et al., 2011; Queensland Health, 2010; Reitmanova & Gustafson, 2008). Combined, the literature suggests that Islam is likely to impact the decisions and practices of pregnant religious Muslim women regarding antenatal anomaly screening (Gitsels-van der Wal et al., 2015b). Muslim women want access to healthcare providers who have awareness of Islam, and particularly those providers who have knowledge of Islamic views on life, disability, termination and ensoulment (Gitsels-van der Wal et al., 2014b). Muslim women appreciate when healthcare providers offer information about which foetal abnormalities would be considered severe enough to warrant a termination of pregnancy according to Islam (Gitsels-van der Wal et al., 2015b). Even when healthcare providers know little- or even nothing- about Islam, women find it beneficial when providers ask what their religion means to them and seek to learn about the considerations that are important to them (Gitsels-van der Wal et al., 2015b). When counsellors have some degree of basic knowledge of Islam, they stress that this knowledge should not be used to tell a woman what she should do or what is allowed Islamically and instead should provide information and options for her to make informed choices (Gitsels-van der Wal et al., 2015b).

Informed and collaborative decision-making that takes account of such considerations has been recommended by other studies and aligns with both Curtis et al.'s recommended definition of cultural safety and cultural competence literature, highlighting that cultural safety should be assessed by Muslim women (Curtis et al., 2019; Queensland Health, 2010; Pennacchini & Pensieri, 2011; Smets et al., 2007; Vanstone et al., 2012; Jowsey, 2019). Curtis et al., (2019)'s definition of cultural safety also includes healthcare providers identifying and taking steps to minimise "the impact of their own culture on clinical interactions and healthcare service delivery. This requires individual healthcare professionals and healthcare organisations to acknowledge and address their own biases, attitudes, assumptions, stereotypes, prejudices, structures and characteristics that may affect the quality of care provided" (Curtis et al., 2019). Muslim women seeking healthcare from providers who are familiar with Islam signals the importance of Islam to their healthcare decisions and practices, as well as their desire for culturally safe care (Gitsels-van der Wal et al., 2015b). Cultural competence literature suggests that when healthcare providers have knowledge of particular cultures, such as Muslim culture, they are better able to identify useful questions to ask their patients (Smets et al., 2007). This notion is supported by Gitsels-van der Wal et al. (2014b) and Gitsels-van der Wal et al. (2015b). Conversely, the implications of poor cultural safety or competence for Muslim women can be far reaching, including their discontinued engagement with healthcare services (Origlia Ikhilor et al., 2019).

## V LIMITATIONS

Several studies had relatively small sample sizes, particularly for sub-groups such as older women undergoing amniocentesis, limiting the generalizability of the findings. The studies focused primarily on Muslim women in specific regions (e.g., Israel, Morocco), and their findings may not be generalisable to Muslim women globally. The included studies used self-reported questionnaires and interviews, which may be subject to recall bias or social desirability bias, potentially affecting the accuracy of the reported information. The classification of religious observance was often self-defined and may not accurately reflect the complexity and variability of individual religious beliefs and practices, leading to potential misclassification. The studies generally did not include longitudinal data, which limits the understanding of how religious influences on healthcare decisions may change over time or with subsequent pregnancies. While some studies considered socioeconomic status, the influence of other intersecting factors such as education level, access to healthcare, and social support systems was not comprehensively analysed, which may confound the results. The scope of the studies was often limited to prenatal genetic testing and did not encompass other aspects of culturally safe healthcare delivery, such as postnatal care or broader healthcare experiences, which could provide a more holistic understanding of the influence of religion. These limitations suggest the need for further research with larger, more diverse samples, longitudinal designs, and comprehensive consideration of intersecting factors to better understand the extent of religious influence on culturally safe healthcare delivery for pregnant Muslim women.

It should also be noted that half (n=4) of the included studies were from the same author. Two of these studies reported findings from the same dataset. Finally, the varying schools in Islamic thought were not accounted for at any point in the review process. Although many beliefs are shared across the various schools of belief, there may have been differences which could have impacted the data.

## VI CONCLUSION

This review indicates that religion significantly influences the decisions and behaviours of pregnant Muslim women regarding antenatal screening. The nature and degree of this influence vary and are intricately nuanced for each individual woman. This underscores the complexity of cultural and religious contexts, challenging healthcare providers and organizations to move beyond mere cultural competence towards achieving cultural safety. Cultural safety necessitates an ongoing process of self-assessment, examination of stereotypes and biases, and reflective practices among healthcare professionals and institutions. Such efforts are essential for advancing culturally sensitive maternal care that addresses the diverse needs of all women.


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### Conflicts of interest

There is no conflict of interest in this project.

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# Appendix

## Appendix 1

### PRISMA-ScR checklist

| SECTION | ITEM | PRISMA-ScR CHECKLIST ITEM | REPORTED ON PAGE # |
|---|---|---|---|
| TITLE | | | |
| Title | 1 | Identify the report as a scoping review. | Title page |
| ABSTRACT | | | |
| Structured summary | 2 | Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives. | 1 |
| INTRODUCTION | | | |
| Rationale | 3 | Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach. | 2 |
| Objectives | 4 | Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives. | 3 |
| METHODS | | | |
| Protocol and registration | 5 | Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number. | 3-4 |
| Eligibility criteria | 6 | Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale. | 6 |
| Information sources | 7 | Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed. | 5 |
| Search | 8 | Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated. | 5 |
| Selection of sources of evidence | 9 | State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review. | 6 |
| Data charting process | 10 | Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators. | 6-7 |
| Data items | 11 | List and define all variables for which data were sought and any assumptions and simplifications made. | - |
| Critical appraisal of individual sources of evidence | 12 | If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate). | - |
| Synthesis of results | 13 | Describe the methods of handling and summarizing the data that were charted. | 6-7 |
| RESULTS | | | |

| | | | |
|---|---|---|---|
| Selection of sources of evidence | 14 | Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram. | 8 |
| Characteristics of sources of evidence | 15 | For each source of evidence, present characteristics for which data were charted and provide the citations. | 11-12 |
| Critical appraisal within sources of evidence | 16 | If done, present data on critical appraisal of included sources of evidence (see item 12). | - |
| Results of individual sources of evidence | 17 | For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives. | 11-12 |
| Synthesis of results | 18 | Summarize and/or present the charting results as they relate to the review questions and objectives. | 13-17 |
| DISCUSSION | | | |
| Summary of evidence | 19 | Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups. | 18-19 |
| Limitations | 20 | Discuss the limitations of the scoping review process. | 19-20 |
| Conclusions | 21 | Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps. | 20 |
| FUNDING | | | |
| Funding | 22 | Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review. | Title page |