

Discussion section help

Chapter 5: Discussion of the Results

This research has provided an in-depth patient perspective about the facilitators and barriers to accessing retinal screening among London's Muslim population. From the onset, it is critical to underscore screening as a vital tool in the prevention health strategy and influencing in-time implementation of interventions to improve the health of the public members (Tan et al., 2021). As the rates of diabetes increase in society, the associated eye comorbidities are projected to increase in the long term (Vujosevic et al., 2021). Thus, it is critical to study and understand the factors and barriers that can contribute to the willingness of the public to avail themselves of retinal screening. Using the mixed-methods approach allowed the research to present depth and substantive information about the factors that have contributed to low retinal screening uptake among the London Muslim population. Notably, the conceptual framework underpinning the study incorporated the concepts of the help belief model, social cognitive theory, and religious schemas.

Significantly, the discussion of these findings follows the research questions underpinning the study. Also, the quantitative and qualitative results are discussed concurrently and linked to literature and the conceptual framework developed for this study. The approach provides the basis for creating an integrated and conclusive framework for understanding the challenges the Muslim population face regarding DR screening and the interventions critical to help mitigate these problems.

Level of Knowledge and Understanding of Muslim Population about DR in London

In the first research question, the study targeted to document findings regarding the level of knowledge and understanding the Muslim population has on DR. Various scholars, including Senore et al. (2018) and Stanley et al. (2021), have documented findings showing that the knowledge and understanding about the significance of screening is a critical enabler towards screening uptake. Stanley et al. (2021) affirmed that when the population members understand the importance of screening, the possibility of availing themselves of screening increases significantly. Thus, the first research question was meant to know if the low uptake of DR screening among the Muslim population resulted from an inadequate understanding of the significance of this screening requirement.

The factors considered in the study regarding the knowledge of DR screening included the failure of the healthcare providers to recommend the screening to the patients, lack of recommendation from the family members, and a lack of understanding about the effect of diabetes on the eyes. Considering these factors showed a significant correlation between a lack of knowledge about the impact of diabetes on the eyes and low uptake of DR screening among the Muslim population in London. However, the results on the link between recommendations from healthcare providers and family members were insignificant. The same finding was consistent in the qualitative part of the research, where the participants confessed to not knowing the purpose of DR screening and why it was necessary. Most of the respondents gave it a casual consideration as something that was not necessary. Thus, these findings are consistent with the current

literature that a lack of understanding about the purpose of screening for a particular health issue leads to low uptake of that type of screening (Senore et al., 2018; Stanley et al., 2021).

Dervan et al. (2008) upheld the same findings showing that a lack of knowledge about the need for the annual DR was a barrier to the uptake of screening among patients. Hipwell (2014) documented similar outcomes showing that if patients did not understand the differences between regular eye tests and DR, they were not likely to avail themselves of the latter. Notably, while in this study, the recommendation from a healthcare provider was not a significant factor regarding the knowledge of DR uptake, other studies have recorded significant findings showing that guidance from healthcare providers contributed to a high rate of DR uptake. For instance, Millet and Dhodia (2006) determined that of 46 percent of the patients with diabetes who were invited to take DR screening, 88.9 percent availed themselves of screening. This finding is consistent with other studies, including Dervan et al. (2008), Gulliford et al. (2010), and Van Eijik et al. (2012) who have shown that a recommendation of DR screening for diabetic patients enhanced their knowledge about the need of the screening leading to high rates of compliance.

Notably, the lack of knowledge about DR screening is a component of the lack of adequate guidance from healthcare providers, the belief system of the patients, and ineffective referral networks, which correlate with the health belief model aspect of this research's conceptual model. Some respondents indicated they were not encouraged to go for DR screening as their family members had diabetes but did not go blind. The health belief model shows that people are likely to seek medical services when they understand the severity of the condition that is likely to affect them (Lau et al., 2020). In this case, the respondents did not understand the seriousness of diabetes on the eyes' health and the significance of DR screening for relevant interventions to be employed in time. Therefore, this finding is consistent with the health belief model that the severity of a health condition contributes to health-seeking behaviour among public members (Mercadante and Law, 2021; Lau et al., 2020). The outcome of the first research question shows that the Muslim population in London lacked knowledge about the impact of diabetes on their retinal health, and this reduced their likelihood of DR screening uptake.

Barriers to Accessing DR Screening among Muslim Population in London

The other research question in this study was the perceived barriers among the Muslim population regarding their non-uptake of the DR screening. Through the qualitative and quantitative data gathered in this case, the research documented multiple factors highlighted in the subsequent sections.

Household Income

The research determined a significant correlation between household income and uptake of DR screening among the respondents. It shows that respondents with an annual household income of more than 40,000 pounds were likely to go for DR screening compared to those with a yearly household income of less than 20 000 pounds. The literature has shown the impact of social determinants of health and health outcomes in the community (Hill-Briggs et al., 2020). Income is a critical social determinant of health

that contributes to the capacity of individuals to embrace health-seeking behaviours. A higher household income means that the family can afford medical bills, transportation expenses, and out-of-pocket payments and meet the financial implications of the rising prescription drugs (Piyasena et al., 2019). Also, the income component incorporates other elements, including travel costs, medication costs, and wages lost as the patient commits time to seek DR screening services (Sokol et al., 2019).

Through a randomised control trial, Lian et al. (2021) replicated these findings showing that DR screening was associated with the household income of the respondents in their study. The same was reported in Piyasena et al. (2019) and Youn et al. (2020) studies where household income significantly determined whether the family members could seek DR screening services. The concept of income aligns with the personal factors and the structural impediments of the change sought in the conceptual framework (LaMorte, 2016). Personal factors like income or unemployment status affect an individual's capacity to raise the funds needed for medical services. The SCT component of the conceptual framework shows that household income can be classified as a structural impediment to the changes a patient intends to make to embrace health-seeking behaviours (Shamiazadeh et al., 2019). The inadequate finances and the issue of competing priorities make DR screening not a priority to the affected individual.

Age of the Patient

Age was another component of the conceptual framework of this study and made part of the study's findings. The results showed younger persons were less likely to seek DR screening than older patients. However, age was not a significant factor in predicting that the Muslim population in London would seek DR screening services. Other researchers, like Virk et al. (2020), showed that younger people were less likely to present themselves to healthcare facilities for DR screening. Prothero et al. (2021) interviewed young adults to understand the factors contributing to the low uptake of DR screening among them. The results showed that most of the young people lacked the knowledge of why it was necessary to participate in this screening exercise. Thus, there is a consistency between this study, the conceptual framework, and the literature that younger persons, compared to older adults, have not embraced DR screening.

Personal Considerations

Besides household income, other personal considerations acting as barriers to DR screening include a lack of trust in the healthcare providers, a perception that screening is not helpful, and the position that screening is not beneficial are other impediments to DR screening among Muslims in London. In addition, it is essential to note that personal considerations are non-exhaustive as each patient or respondent has preferences and values that can hinder or facilitate the possibility of attending DR screening programmes. Thus, the non-exhaustive list of these factors include difficulty accessing the screening sites, the impact of diabetes on mental health, and the position that embracing dietary changes, weight management, medication adherence, exercise, and prayers would help prevent retinopathy.

Notably, while discussing the issue of personal factors, looking at them from the concept

of perceived barriers in the HBM presents them with the opportunity to look at them holistically. Saghafi-Asl et al. (2020) said perceived barriers limited public members' ability, commitment, and determination to embrace health-seeking behaviours. Thus, it can be presented that the lack of trust in healthcare providers, challenges to accessing screening sites due to mobility issues, especially for older adults, and the impact of mental health are perceived barriers that limit the willingness of the affected persons to seek DR screening services (Sasongko et al., 2021). Amini-Rarani et al. (2022), Egunsola et al. (2021), and Kumar et al. (2020) have all documented findings showing that a lack of trust among healthcare providers limited the readiness of patients to seek DR screening. Kumar et al. (2021) indicated that the rate of DR screening is high among patients who have enjoyed a long-term relationship with their healthcare providers, contributing to creating trusting and positive relationships with them. The trusting relationships inspire them to comply with directives their medical providers give them, including DR screening.

Regarding the issue of accessing DR screening services, Egunsola et al. (2021) indicated that distance and the problem of mobility among older adults reduced their capacity to participate in DR screening programmes. Through a concept paper, Wong and Sabanayagam (2019) agreed that the challenges of accessing the DR screening programmes and a lack of awareness among individuals diagnosed with diabetes reduced the possibility of people seeking DR screening. However, these researchers noted the significance of technological developments, including remote DR screening capabilities, as factors that can contribute to increasing DR screening uptake among the targeted populations.

Also, the perception that DR screening is not helpful and that DR screening information is not useful resonates with the lack of awareness, knowledge, and understanding of the significance of DR screening among diabetic patients (Yin et al., 2020). Thus, multiple personal factors affect DR screening among the Muslim population in London. However, they can be classified under the perceived barriers in the HBM model of the conceptual framework developed in this study.

Fear

Fear is another factor identified as a barrier to the likelihood of the Muslim population in London participating in DR screening programmes. The component of fear identified and contributing to unresponsiveness towards DR screening uptake is fear that the patient will be told that something is wrong with their eyes. Other forms of fear included fearing the screening would worsen the eyes and worrying about blindness. Notably, the results were consistent in the quantitative and qualitative data collected in the study. The components of fear align with the SCT of the research's conceptual framework. SCT considers the factors like expectancies consisting of the value the patient assigns to the outcome of behavioural change. In this regard, the desired behavioural change is availing themselves of DR screening. However, the value assigned to the result is the fear of the possibility of being told there is a problem with their eyesight. Thus, this fear reduces the likelihood of the individuals participating in the DR screening

activities.

Fear is a cognitive attribute that influences the behaviour of an individual. The concept of fear raises anxieties and uncertainties about the outcome of the screening exercise. Individuals want to live with the uncertainty of the condition instead of confronting the fears and embracing DR screening. The same has been reported in various studies which have investigated this concept. Al Taisan et al. (2022) conducted a cross-sectional study to determine the barriers to DR screening. The results showed that 39.8 percent of the respondents feared the resulting outcome as a barrier to DR screening. Other factors reported in the study and discussed elsewhere include lack of eye problems at 50.9 percent and lack of awareness about DR screening at 42.1 percent. Riordan et al. (2020) interviewed 47 patients who affirmed that fear of a negative result persuaded them not to participate in DR screening. While Al Taissan et al. (2022) looked at fear as a cognitive hindrance, Riordan et al. (2020) classified fear as an emotional barrier to the uptake of DR screening.

Yahya et al. (2020) recruited three focus groups to discuss the factors contributing to low DR screening uptake among diabetic patients. The researchers classified fear as a personal and, in other instances, a cultural aspect that limited the readiness of patients to take DR screening to help implement mitigation interventions in case a health issue is identified. Also, Yahya et al. (2020) indicated that fear emanated from the poor experience of family members who had undertaken the DR screening and shared their encounters. Umaefulam and Premkumar et al. (2022) leveraged a descriptive qualitative study to determine the enablers of DR screening among diabetic patients. The consistent finding in this study is that poor experiences from the family members raised fear among other diabetic patients, who, in turn, remained unresponsive to the need for DR screening.

Poor patient experience associated with DR screening reported in this study includes blur vision after the screening process. The eye drops dilating the eye before screening made vision blurred, affecting the ability to read or drive for up to six hours after the screening event. Most respondents considered this a negative experience and wanted to avoid it by foregoing the DR screening procedure. Beede et al. (2020) investigated this aspect of DR screening by evaluating patients' experience across 11 healthcare facilities. The results showed that DR screening had unpleasant patient experiences, contributing to patients' failure to avail of screening in the coming years. Saranya et al. (2023) affirmed that DR screening could lead to hazy vision creating a negative experience for the patient. In contrast, Queiroz et al. (2020) healthcare providers need to prepare the patients about the possible side effects of DR screening to help them anticipate things like blurry vision. Preparing the patient reduced the risks of the patient classifying the side effect as a negative experience.

Thus, fear as a barrier to DR screening can result from risks of a negative result and the patients' unpleasant experience of the screening procedure. While these factors have been discussed under the SCT of the conceptual framework, it is critical to look at the components of the HMB that can help complement

the understanding of these factors and how they fit into the conceptual framework. In particular, besides SCT, fear can fit into the HMB model on the concept of perceived threat and cues to action (Green et al., 2020). The perceived threat can be looked at in terms of the risks retinopathy can have on diabetic patients, but in this case, the perceived threat is looked at in terms of the impact of the DR screening procedure on the eyes of the patient (Kashim et al., 2020). The negative experience of the family members induces a perceived threat that the patients will have a negative experience during the procedure, making them reluctant to take the DR screening (Abraham and Sheeran, 2015).

Also, the HBM model looks at the cues that can prompt a diabetic patient to seek DR screening services (Sulat et al., 2018). While the cues to action can be positive, it is vital to consider the cues that can limit the commitment to embracing health-seeking behaviours. In this case, the negative experience shared by family members creates a negative cue to action that, instead of encouraging the diabetic patient to seek DR screening, instils fear among them about a negative experience and fosters inaction (Piyasena et al., 2019). Thus, the components of the SCT and HBM model of the conceptual framework underpinning the study emphasises factors such as fear of negative results and experience as factors that reduce the rate of DR screening uptake among the Muslim population in London.

Physical Limitations

Multiple physical limitations have been identified in the current study, including the need to be accompanied to the screening centre, distance to the screening site, difficulty rescheduling an appointment, and long waiting time at the screening centre (Rajesh et al., 2016). The physical factors align with the HBM model based on the environmental factors and environmental cues that can limit the possibility of seeking DR screening (Sulat et al., 2018). Environmental factors like the geographical separation between the patient and the healthcare facility introduce long distances to the screening sites that can discourage diabetic patients from seeking DR screening services (Prothero et al., 2021). Through a survey of the screening providers in the UK, Prothero et al. (2021) determined that perceived barriers to accessing DR screening included the distance to the nearest screening provider.

Cavan et al. (2017) used a mixed methods study of 4340 adults and 2329 healthcare providers to understand the factors contributing to low DR screening uptake among diabetic patients. The study's findings showed that most of the patients with diabetes had not sought DR screening, and most of them were affected by the condition. Part of the barriers identified included inadequate screening centres making the affected individuals travel long distances to seek these services. Graham-Rowe et al. (2018) conducted a systematic review of 69 primary studies, and part of the findings of the study is that the distance between the patient's home and the screening centre influenced the possibility of using the DR screening services. On the contrary, Leese et al. (2008) population-based retinal screening programme data showed no implications of distance on the non-attenders and attenders of DR screening services. Notably, this study had conflicting results on distance as a barrier to DR screening services.

Another physical barrier to DR screening that was mentioned consistently is the issue of difficulties in scheduling appointments. The same has been reported in the literature by various scholars. Smith-Morris et al. (2018) affirmed that scheduling the DR screening is cumbersome for most diabetic patients. The researchers noted that the process of scheduling and follow-up was complex for both the patients and healthcare providers, and the communication with providers was rushed or, in other cases, incomplete. Cavan et al. (2017) affirmed these findings showing that 38 percent of the respondents in their study stated the scheduling challenges for the appointment, including the long wait time for feedback from the screening centres discouraged them from seeking these medical services.

In addition, Chedid et al. (2013) reported increased cases of DR screening when scheduling of appointments was done while the patient visited healthcare facilities for routine checkups and referrals were made. The referrals and subsequent scheduling of the services removed the complexities of scheduling the DR screening, encouraging the patients to seek this medical service. Indifferently, Skaggs et al. (2017) said scheduling appointments for diabetic patients to get DR screening encouraged them to honour these appointments. Also, Lu et al. (2019) interviewed diabetic patients to determine the factors that limited their uptake of DR screening, and part of the response received was that there were complexities in scheduling or rescheduling DR screening.

Significantly, the issue of long wait times in healthcare facilities or screening centres appeared in the responses frequently in the current study. The respondents noted that due to their busy schedule, having them wait for long or perceiving that they will wait for DR screening for a long time based on past experiences discouraged them from seeking this screening service. Incidentally, the same has been reported by other researchers who have investigated this concept. For instance, 46.4 percent of the Lu et al. (2019) study respondents indicated that long wait times discouraged them from seeking DR screening services. Piyasena et al. (2019) documented similar findings noting that long wait times in eye clinics discouraged most of the patients from seeking DR screening services. Other studies that have reported this finding include Beede et al. (2020), Graham-Rowe et al. (2018), John and Edwards (2010), and Wong and Sabanayagam (2018), who affirmed that long wait times in healthcare facilities are a significant barrier to DR screening among patients with diabetes.

However, it is important to remember that while the long waiting periods are a critical barrier to DR screening services, there are variations about its impact in the studies considered. Lu et al. (2019) reported the highest rate at 46.4 percent, while other studies have reported lower rates. Therefore, although the issue of long wait times is consistent in literature, its impact differs from study to study.

Discrimination Due to Visible Muslim Identity

Discrimination of minority groups in medical settings has been reported as a significant predictor for accessing health services (Laitin, 2010). The same was said in the current study, with the respondents indicating that being a Muslim attracted particular discrimination that discouraged them from seeking DR

screening services. The respondents indicated that islamophobia is a common challenge they faced in society, and this was a significant impediment to seeking DR screening services. The discrimination rhetoric and stereotype associated with Muslims include terrorism, while women are perceived as ignorant and oppressed (Ogan et al., 2013). Rivenbark and Ichou (2020) conducted a study to determine the level of discrimination the minority groups experienced in Europe and how this influenced foregone care. The results showed that 26 percent of Muslims experienced discrimination in healthcare facilities, prompting them to forego care, leaving them with unmet health needs.

Samari et al. (2018) reviewed 111 peer-reviewed articles to show the impact of islamophobia and health-seeking behaviours among these individuals. The results showed that Muslims faced discrimination in healthcare facilities in the US and Europe, contributing to poor health-seeking behaviours among them. Notably, the clothing associated with Muslims formed part of the challenges that contributed to discrimination against these individuals contributing to health inequalities inherent among this religious group. Padela and Zaidi (2018) noted in their systematic review that discrimination against Muslims resulted from a lack of accommodation of Islamic religious values and practices in the clinical setting. The Muslim patients felt discriminated against due to a lack of these accommodations, which contributed to poor access to medical services, including DR screening. Samari (2016) confirmed that islamophobia prompted identity concealment and stress among Muslim patients seeking medical assistance.

While islamophobia is evident in clinical settings, efforts must be made to determine whether Muslim discrimination resulted from felt or enacted stigma. Boyle (2018) said while stigma affects individuals with various perceived challenges, it can take the felt and enacted stigma options. Felt stigma describes self-stigmatisation that discourages individuals from discussing their experiences and seeking help (Crabtree and Pillow, 2020). It is a shame built from anticipation that one will be discriminated against or face stigma based on their culture, age, religion, and other factors that they consider unpleasant (van den Brandt, 2019). Felt stigma came out in this study as the respondents indicated that in some instances, they had to abandon their dress code and adopt the Western type of dressing while seeking medical services.

Fletcher (2019) noted felt stigma as negative self-appraisals that crowd an individual's mind and discourage them from coming out to seek help. While the healthcare providers in DR screening centres might not have discriminatory tendencies directed to the Muslim population in London, felt stigma acts as a barrier towards the willingness and readiness of the Muslim population in London to seek DR screening services. Notably, the concept of felt stigma resonates with the HMB model of the conceptual framework. Perceived barriers that a patient holds limit them from seeking medical services (Jones et al., 2014). In this case, the perceived barrier incorporates the felt stigma the Muslim population in London holds, affecting their chances of seeking DR screening (Graham-Rowe et al., 2016). Concealing their identity and avoiding the places like healthcare facilities helps them cope with the felt stigma but leaves them with unmet health

needs (Namoos et al., 2021).

On the other hand, enacted stigma is external discrimination or can be described as unfair treatment by others (Busher et al., 2019). The inherent stigma from the healthcare systems, institutionalised stigma, and other elements of stigma and stereotype like islamophobia discussed elsewhere in this chapter describe enacted stigma (Peucker, 2018). Thus, felt and enacted stigma forms part of the HBM model's perceived barriers that explain the low uptake of DR screening among the Muslim population in London (Dia et al., 2022). Patients embrace health-seeking behaviour after gaining the courage to break the perceived barriers through health promotion and raising the awareness of the affected individuals about the need to confront their fears and come out to seek medical help (Abraham and Sheeran, 2015). However, as determined from the responses and supported in the literature, discrimination takes a centre stage in limiting the capacity of the Muslim population in London to seek DR screening services.

While enacted and felt stigma components of discrimination align with the HBM model, also, they reflect the concept of religious schemas. The religious schemas look at the cultural and spiritual aspects that can encourage or impede the willingness of patients to seek retinal screening services (Van Tongeren et al., 2021). Rastovic (2013) determined that religious schema influences behaviour and is built due to an individual's interaction with their environment. McIntosh (1995) said that religious beliefs influence people's perceptions and decision-making processes. The felt stigma among the Muslim population in London relates to a view founded on the interaction of Muslims with their environment (Taves and Asprem, 2016). Also, it results from the experiences of their forefathers who passed down their discrimination and segregation experiences to the current generations (Fleischmann and Phalet, 2017). Schema research has shown that people use prior knowledge, which dictates how they perceive and understand the current situation (Mohiuddin, 2017). Therefore, felt stigma engulfs the current generation of Muslims in London. It affects their willingness to seek DR screening, a consistent argument is that enacted stigma contributed to their perception of how they are likely to be treated in the healthcare centres, which deters them from seeking DR screening services (Rivenbark and Ichou, 2020).

Metta (2016) argued that religious schemas perform evocative functions where they raise particular feelings and directive functions that influence behaviour through social pressure and external sanctions, prompting intrinsic motivations which individuals tend to follow. Thus, in the context of the Muslim population in London, the evocative function of the religious schema has contributed to the felt stigma founded on the possible treatment they would get if they visited screening centres for DR screening (Durerija and Rane, 2019). The foundation for this is the social pressure and external sanctions like stereotyping Muslim women as being naïve and oppressed (van Es, 2016). Also, stereotypes perpetuated in the media have contributed to framing Muslims as individuals associated with crime and terrorism (Pickel and Ozturk, 2018). Thus, through the lenses of the religious schema research, collecting these factors explains the grounds for the felt stigma that has dissuaded them from exploring concealing identity to

navigate the discrimination they are likely to experience in medical facilities.

Additionally, the directive function of the religious schemas influences actions (Metta, 2016). The feelings and intrinsic motivations created are evident through the Muslim population's efforts regarding DR screening (Graham-Rowe et al., 2016). Based on the findings and subsequent corroboration with information in the literature, the actions include non-attendance to DR screening, explaining the low uptake of DR screening among the Muslim population in London. This understanding supports and conforms to the conceptual framework as it shows how the interplay between the components of the HBM model (perceived barriers) and religious schemas (evocative and directive functions) is a critical barrier to the Muslim population seeking DR screening services.

No same Sex Providers

Muslims in London form part of the minority groups in the UK. Muslims tend to open up to healthcare providers of the same sex. The findings showed that Muslims in London could avoid seeking DR screening services if they understand that a same-sex healthcare provider will not work with them. In particular, this issue tends to affect women more than men. Thus, a lack of same-sex providers contributes to these individuals' low uptake of DR screening. Vu et al. (2016) surveyed Muslim women to determine the factors that could predict their delayed choice to seek medical services. The research showed that 53 percent of Muslim women delayed seeking medical assistance due to the lack of same-sex clinicians. The decision to wait on same-sex medical providers results from conserving modesty and complying with fatalistic religious beliefs (Vu et al., 2016). Shahawy et al. (2015) replicated these findings, indicating that it was challenging to have Muslim patients interact with providers of the opposite gender effectively.

Attum et al. (2018) raised the need to implement culturally competent care to meet the health needs of Muslim patients. For instance, the author raised concerns about the issue of same-sex healthcare providers, touch issues, and other types of medication that Muslims do not welcome. However, evidence shows that Muslim men are more receptive to engaging with healthcare providers of the opposite gender (Zainuddin and Mahdy, 2016). The number is limited to the younger generation, with older Muslim men preferring to deal with same-sex medical providers. This observation contradicts Amir (2016), who determined that 42.2% of male Muslim patients preferred same-sex healthcare providers. In addition, the research showed that Muslims preferred same-sex providers when the health issue was more intimate, but in cases of consultations, 24.4% said it was okay to use either gender in the care process. Therefore, the lack of same-sex healthcare providers can discourage Muslim patients from seeking DR screening services.

The lack of same-sex medical providers as a barrier to seeking DR screening fits into personal factors and perceived barriers and cues to action components of the HBM model in the conceptual framework. In this case, the personal factors reflect individual choices, beliefs, and preferences, which

raise the need to make the DR screening services culturally competent (Rassool, 2015). Notably, the issue of same-sex providers is a personal preference that, if not met, will dissuade Muslim diabetic patients from seeking DR screening services or participating in DR screening programmes (Amir, 2016). Also, the lack of same-sex providers is a perceived barrier when considering the HBM model (Vu et al., 2016). The thought of not meeting a same-sex practitioner in the screening centres deters Muslim patients from seeking this medical service.

From the point of the SCT, engaging with a healthcare provider from the opposite gender brings emotional discomfort that discourages the patient from seeking medical support, prompting them to forego medical care (Alqufly et al., 2019). The cues of action in the HBM model look at the factors that can encourage an individual to seek medical help or embrace health-seeking behaviours (Green et al., 2020). Thus, providing same-sex providers is a cue to action, and a lack of it discourages the targeted population from embracing health-seeking behaviours (Amir, 2016). It follows that the issue of same-sex providers falls into the categories of personal factors, the HBM model (perceived barriers and cues to action), and the SCT (affective) components of the conceptual model (Green et al., 2020). While this issue can be explained from the religious schema perspective, a detailed explanation is given in the following subsection, which looks at religious factors as a barrier to DR screening among the Muslim population in London.

Religious Considerations

Religious consideration is another barrier that impedes seeking DR screening among the Muslim population in London. The concepts of predestination and fatalism beliefs contribute to this population's choices regarding DR screening services. Predestination prompts Muslim patients to perceive health issues like DR Allah's plan and thus do not see the meaning of exploring health interventions (Menin, 2020). Also, fatalistic beliefs influence their actions, where they view health as a predetermined issue, and man cannot change this situation (Nageeb et al., 2018). Religious beliefs influence their actions as they leave their health to fate and look upon Allah to help them recover from a particular disease or wait for their end (Menin, 2020). Therefore, the current findings showed that religious factors acted as a barrier to seeking DR screening services among the Muslim population in London.

Padela et al. (2016) wanted to understand the factors that contributed to the intention of Muslim persons to participate in various screening practices for health prevention strategies. The researchers documented varied findings about this concept through focus groups and interviews. Some respondents indicated that it was their duty to care for their health, and others noted the significance of religious practices as methods of disease prevention. Padela et al. (2016) showed that these factors contributed to the intention of Muslims to participate in screening services. However, contradictory findings showed that others conformed to fatalistic beliefs that reduced the intention to seek medical assistance and other services like screening.

In addition, Dayapoglu et al. (2021) investigated fatalism beliefs and how they influenced health choices among individuals of the Islamic religion. The findings showed a changing pattern, with the more educated Muslims holding less fatalistic beliefs than those who are illiterate. The researchers argued that high education attainment changed Muslims' perspective regarding fatalistic beliefs and contributed to their likelihood to embrace health-seeking behaviours. On the contrary, Khokhar et al. (2022) affirmed that the fatalistic beliefs in the Muslim culture would not fade soon as they looked at diseases as a punishment from God. Thus, the concept of fatalism in the Muslim culture is critical to these individuals' readiness to take DR screening or other health interventions.

Putting the religious considerations into the context of the study's conceptual framework, religious schemas take centre stage. Religious schemas influence innate motivation, perception, belief, attitudes, and actions (Adam and Ward, 2016). The concepts of predestination and fatalism show religious schema's impact on health-seeking behaviours. As Muslims leave everything to fate, they do not get the motivation and encouragement to seek DR screening services (Abu Raiya et al., 2015). They leave everything to the creator and reduce the rates of those coming out to get screening services. However, it is essential to note that there is evidence of changing perceptions with those with high education attainment not allowing fatalistic beliefs to influence their health decisions (Dayapoglu et al., 2021). Therefore, the issue of religious considerations corroborates the religious schemas, another component of the conceptual framework.

Social Factors

Social factors are the last barrier contributing to low uptake of DR screening among the Muslim population in London. The social factors that emerged from the study include cultural and language barriers and the impact of Covid-19, especially on older adults. Most Muslims in London have a history with immigrants showing that English is not their first language (Fitzgerald et al., 2017). They get discouraged when they avail themselves to healthcare providers and fail to communicate effectively due to language barriers (Salad et al., 2019). Also, the challenges of making the medical services culturally competent affect their capacity to seek DR screening services (Attum et al., 2018). Therefore, the issues of language barriers and culturally incompetent DR screening services reduce the possibility of these individuals seeking medical care.

Regarding Covid-19, the most significant factor is the vulnerability of older adults to contracting the virus. The findings determined that even with vaccination, older adults feared that they could contract Covid-19 in areas with many people, like DR screening centres (Arthur-Holes et al., 2020). In turn, these individuals tend to avoid these areas, leaving thousands of older adults of Muslim origin with unmet health needs (services (Abu Raiya et al., 2015). While Covid-19 is a relative health threat in society, people witnessed its devastating effects, contributing to barriers to seeking DR screening among older adults.

The social factors can be linked to the conceptual framework based on the SCT on the issue of affective factors that can affect the possibility of the patients embracing health-seeking behaviours. The affective part of the SCT looks at the interest, attitudes, and values related to learning the information (Van Cappellen et al., 2017). Notably, the language barrier issue falls under the category of values on learning the information as language and cultural barriers affected the respondents' capacity to understand better diabetes and retinopathy (Memon et al., 2016). Also, these issues can be classified under personal factors where the characteristics of individual limits their capacity to access medical services. Therefore, social factors align with the conceptual model, creating the grounds for better understanding the barriers to DR screening among the Muslim population in London.

Enablers to DR Screening among Muslim Population in London

The information presented in the previous sections elucidated the barriers to DR screening among Muslims in London. Also, these sections have shown that retinal screening is not a priority among diabetic patients of Muslim origin in London. Having understood these factors and aligned them with the conceptual framework, the other research questions were centred on the factors that could help address the gap of a few diabetic Muslim patients who come out to seek retinal screening. The objective provided the most suitable and appropriate platform to propose the low uptake of the DR screening. Therefore, through the lenses of the respondents, this section looks at the factors that can be explored to enhance DR screening to influence in-time practical and evidence-based interventions to mitigate the problem. The benefit of answering this research question has a far-reaching consequence, including addressing the inequalities affecting the minority groups like Muslims and eliminating the risks of foregoing medical services, a phenomenon explored in detail elsewhere in the discussion (Chongthawonstadi et al., 2017). The following subsections provide depth and substantive discussions on the avenues that can be explored to reduce the risks of DR among Muslims in London.

Systemic/Structural Factors

Recall the respondents indicated challenges with scheduling and rescheduling the screening appointments, long wait times, and other structural factors as the issues that make attendance to DR screening more complex. Thus, one of the approaches to making the DR screening attractive to the population is making it more flexible in scheduling and the time it can be conducted. Moreton et al. (2017) affirmed these findings in their study that incorporated 21797 respondents showing that offering flexible appointments for screening encouraged more people to participate. The programmes that offered screening services past shop hours accommodated patients with busy schedules who could get time in the oddest hours of the day, including evenings and weekends. Lu et al. (2016) supported this position, indicating that offering flexibility after working hours and multiple places made the DR screening more convenient and eliminated the fears of lost wages during working hours for the patient.

As technology offers solutions to various health challenges, Liu et al. (2019) recommended using teleophthalmology which supports remote delivery of DR screening as an opportunity to accommodate the different schedules of different patients to encourage uptake of the screening programmes. Graham-Rowe et al. (2018) supported this approach. They showed that making the screening programmes more accessible, convenient through flexible scheduling and integrating with other diabetic interventions would encourage more diabetic patients to take DR screening. Nguyen et al. (2016) made numerous recommendations to improve DR screening, including telemedicine options, flexible appointment hours, and integrating DR screening with other diabetic interventions. They reported these measures to be practical and cost-effective. For instance, incorporating diabetic interventions with DR screening eliminated the need for the patients to make additional appointments besides routine checkups and refills. Therefore, multiple strategies can be adopted to make screening services more accessible, convenient, cost-effective, and cognisant of the busy schedule of the targeted patients to increase attendance to screening programmes.

However, the respondents with strong fatalistic religious beliefs and cultural factors said the flexibility of accessing the DR screening services was not an automatic incentive to attendance. Vu et al. (2016) said fatalistic beliefs were a barrier that needed to be broken if more Muslim patients sought medical services. Padela et al. (2018) agreed with this perspective, holding that mitigating the impacts of fatalistic beliefs would make patients from Muslim backgrounds more receptive to health-seeking behaviours.

Knowledge and Understanding

The statements like "I do not know why it is necessary to take DR screening" characterised the lack of knowledge and understanding about the need for DR screening among the Muslim population in London. Significantly, patient education to increase their awareness about the need for this screening was identified as a necessary intervention to improve receptivity to screening services. The respondents said patient education would make them understand the impact of not participating in creating knowledge of the severity of not attending, like blindness and gradual loss of eyesight as factors that can encourage attendance. Patient education is critical to helping break fatalistic behaviours, perceived barriers, and perceived threats and create cues to action to encourage more patients to seek DR screening services (Moreton et al., 2017). Piyasenna et al. (2016) affirmed the significance of patient education as a critical factor in improving the uptake of DR screening services among targeted populations.

Chua et al. (2018) said patient education provided the necessary information to help patients make relevant decisions about their health, including embracing health-seeking behaviours like screening. Notably, the patient education must be tailored to Muslim religious beliefs, and culture and take note of things like prayer times and other significant events like Ramadhan (Abolaban and Moujahed, 2017). Also, patient education should collaborate with the Muslims, Imams, and other relevant authorities to create

culturally sensitive educational materials like posters and pamphlets and social media campaigns that resonate with the religious and cultural factors of the Muslims (Boucher et al., 2017). Gestures like creating posters and social media campaigns with pictures of Muslims in their religious clothing can help mitigate the issues of felt and enacted stigma to encourage them to take the DR screening services.

In addition, complementary approaches that will help enhance the awareness of the need for DR screening include using automated reminders and establishing an effective referral system in the community for diabetic patients. Mansberger et al. (2015) and Scanlon (2017) said an effective referral system increased patient awareness about the need for DR screening and why it was necessary. These studies showed that a primary healthcare provider referring the patient to DR screening committed to educating them and using reminders as a follow-up strategy contributed to enhancing their awareness about the need for DR screening, increasing the uptake rates.

Social and Cultural

Religion, as supported by the conceptual framework's religious schemas, shows its impact and significance in influencing health-seeking behaviours among the Muslim community (Tomkins et al., 2017). It encapsulates the values and beliefs that conform to Islam and have to be provided to encourage screening. For instance, giving same-sex practitioners in screening programmes is critical to encouraging more Muslims to participate in DR screening (Amir et al., 2016). In addition, the healthcare providers must prepare the patient psychologically, including the possible discomfort but remain supportive of enhancing the experience of these patients (Shahawy et al., 2016). Improving their experience by making the equipment more comfortable and culturally competent by observing cultural and religious values associated with Islam will encourage these communities to attend more DR screening services (Attum et al., 2017). Therefore, cultural sensitivity and competence in the screening process will go a long way in encouraging more Muslims to feel comfortable, accommodated, and appreciate the lack of discrimination tendencies to increase the uptake of DR screening.

Strengths and Limitations

This study documented multiple strengths in how it was executed to enhance the findings' validity, reliability, and credibility. From the onset, using mixed methods allowed the researcher to gather numerical and non-numerical data that helped understand the barriers to DR screening uptake among the Muslim population in London (Halcomb and Hickman, 2015). The other strength is gathering data from the relevant respondents who have experienced the challenges of accessing diabetic-related care, including retinal screening (DeSimone and Harms, 2022). Working with diverse respondents with different experiences contributed to an in-depth understanding of the phenomenon under investigation. In addition, conducting the pilot with a few respondents helped show the shortcomings of the research tools and framing of the questions, which helped improve them further (Eldridge et al., 2016). Therefore, these factors were critical in documenting credible and trustworthy results.

While these strengths are inherent in the study, it is vital to note the limitations identified in this research. The respondents had different characteristics, including age, level of education, and annual household income. However, all these respondents come from London, making them homogenous (Eitikan, 2017). Thus, generalisation and transferability of the findings must be made cautiously. Another limitation is the incapacity to incorporate all the personal factors into the results of this study. Understandably, the preferences, values, beliefs, and cultural factors can mutate within a closely-knit community (Graham et al., 2016). It makes each unique with a set of traits that describe them. In this regard, it was cumbersome and practically impossible to consolidate and reflect all the personal factors into the research. However, personal preferences fall under the categories of religious, cultural, and other values associated with Islam, and this helped consolidate the universal traits that characterise the community. Therefore, these limitations do not affect the quality and credibility of these results.

Implications of the Findings to Practice

The findings documented in this study go a long way toward improving the health outcomes of diabetic patients and preventing them from associated comorbidities like retinopathy. Thus, the implications of these findings in practice include creating a conducive environment for diverse groups, including the minorities like Muslims, to encourage them to participate in DR screening programmes. It includes creating a culturally competent and sensitive care environment that reflects their values, beliefs, and culture to make them more receptive to screening (Graham et al., 2016). The other implication for practice is implementing evidence-based practices like integrated diabetes care management, incorporating other interventions like DR screening. Creating an integrated care approach for these patients eliminates unmet health needs risks and breaks the complexities of scheduling and rescheduling DR screening appointments (Scanlon, 2017).

Another implication of the study is raising the consciousness of healthcare providers about the possible barriers to DR screening. These factors include poor understanding and knowledge of the need for DR screening, its implementation, and the possible side effects (Liu et al., 2019). The understanding created raises the need for patient education and establishing an effective referral system to cater to the health needs of diabetic patients. It includes educating them during their routine visits about the significance of DR screening and referring them to the relevant practitioners for screening. This effective approach contributes to high volumes of diabetic patients who show up for DR screening (Boyle, 2018). Notably, the educational interventions to raise awareness must conform to particular cultural, religious, and beliefs to make them more receptive to the intended populations.

Also, these findings remind healthcare providers about the nature of Muslim patients based on their religious beliefs, including fatalistic beliefs and predestined perspectives (Amir et al., 2016). In addition, the research has shown the need for same-sex providers and touch that can cause discomfort. The study provides a platform for healthcare providers to reflect on their cultural competence while working with

Muslim patients (Samari et al., 2016). Thus, they will exercise caution and find practical solutions to working with them. It includes being aware of their non-conscious biases towards them and avoiding profiling and stereotypic perceptions about Muslims to offer them high-quality, safe, and affordable care.

Conclusion

The results of this study have shown that the components of SCT, HBM, and religious schemas play a critical role as an enabler or impediment to accessing DR screening services among the Muslim population in London. The low uptake of these services is a combination of religious factors (fatalism and predestined notions), perceived barriers, threats, and severity of the condition, and cognitive and affective factors of fear and emotional challenges. The issue of enacted and felt stigma plays a critical role in how these individuals can come out to seek medical services, including DR screening. Also, religious considerations like same-sex providers and touching the patients can contribute to the low uptake of DR screening in this community. It has been demonstrated that making the services more convenient, offering patient education, implementing an effective referral system, integrating the DR screening with other diabetic interventions, and making the services culturally sensitive and competent will enhance compliance with DR screening.

Also, it has been demonstrated that multiple personal factors characterised by individuals' values, beliefs, and culture can affect the possibility of a Muslim seeking DR screening services. The interplay between felt and enacted stigma contributes to identity concealment, making access to medical access more appealing. In this regard, it is critical to eliminate stereotypes and other negative perceptions about Muslims to create an effective environment for seeking DR screening services. The level of knowledge, understanding, and religious preferences can be addressed through patient education and raising their awareness about the need for these services. However, it is vital to note that personal differences are broad, and offering an individualised DR screening is effective in this case. Therefore, healthcare providers must consider these factors to enhance DR screening uptake among the Muslim population.