The Development and Initial Pilot Test of a Novel Mental Health Literacy Program for Muslims Living in Western Countries

by

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In the name of God, the Beneficent, the Most Merciful.

Abstract

Muslims living in Western countries experience high psychological distress yet underutilize professional mental health services. Unfortunately, research aimed at exploring strategies to improve treatment seeking in this population is limited. In this dissertation, through two studies, I developed, and pilot tested, a mental health literacy (MHL) intervention to improve treatment seeking among Western Muslims. In Study 1, I interview 10 Canadian Muslims about their beliefs about mental health and treatment seeking, employing a validated theoretical model to guide interviews and analyses. I analyse transcripts of these interview using the Framework method, generating both *a priori* and inductive themes. Participants recognized their susceptibility to mental health issues, believed only severe mental health problems warrant treatment, highlighted barriers to treatment (e.g., stigma, low MHL, lack of treatment access), and held generally positive beliefs about the benefits of professional treatment. My findings highlight gaps in knowledge about mental health and its treatment which could be addressed through a tailored MHL intervention. In Study 2, I outline the development of *Mental Health 101: For Muslims*, an intervention designed to improve MHL among Muslims living in Western countries by addressing gaps in knowledge. I pilot tested the intervention in a sample of 26 Canadian Muslims. Participants completed pre- and post-intervention questionnaires assessing MHL, public and self-stigma, attitudes toward treatment seeking, and intentions to utilize and recommend various sources of support. Participants also completed a program satisfaction questionnaire post-intervention. Participants reported high satisfaction with the intervention, improvements in MHL, intentions to recommend treatment from family physicians, mental health professionals and imams. Intentions to seek various sources of support oneself, attitudes toward treatment seeking, and self-stigma also improved. Findings highlight the potential for *MH101:M*, and similar interventions, to improve help-seeking among Western Muslims.

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I must also extend gratitude to Dr. Rania Awaad and all the members of the Stanford Muslim Mental Health and Islamic Psychology Lab. Muslims are few and far between in mental health research in the West. Finding a community with the common goal of supporting Muslim mental health was like striking gold. In that same vein, I am specifically grateful for Sheikh Hosam Helal for co-facilitating my program and for sharing illuminating conversations about faith, science and community that contributed to growth in my character on this journey.

My thanks also to the Canada Vanier Graduate Scholarship and the University of Manitoba's JG Fletcher Award and Bernice D. Lough Psychology Graduate Bursary, which funded my dissertation research and helped support my extracurricular research. Similarly, my warmest thanks to DawaNet Canada and their volunteers who made this research possible. Additionally, I have immense gratitude for all the participants in this research who had the courage to share insightful thoughts and personal experiences on a topic that is often highly stigmatized.

Most of all, my deepest gratitude belongs to my beloved family. Ammi and Baba, thank you for encouraging my pursuit of lifelong studies and for celebrating my every milestone. To my siblings, Aqib, Yamna, Ammar, Sophia, Zahra and Zuhair thank you for keeping me grounded and laughing, especially in times of stress. And to my amazing wife, Marlee, words do not do justice to my gratitude for your presence and connection in every step of this journey and beyond. From the countless applications for awards, programs, and internships to the acceptances and rejections; from traveling for conferences and trainings to cross-country moves; from plant parenting to raising our baby boy; and to all the other highs and lows in our beautiful life, you have been my constant.

Dedication

I dedicate this dissertation to my parents, Rabia Asif and Asif Zia, and to my nani-amma, Maimoona Wasi, and dadi-amma, Mahbooba Khatoon. From a young age, I was encouraged by those who loved education and by those who modelled community service. Their influence permeates every word in this work.

I also dedicate this dissertation to my son, Zayd Asla Zia: my greatest joy and the fuel that keeps me motivated.

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Chapter 1: General Introduction

Preface

Islam is the world's fastest growing religion. Estimates project that the worldwide population of Muslims (i.e., followers of Islam) will grow to 2.2 billion by 2030, equating to more than a quarter of the global population (Pew Research Center, 2011). While most Muslims live in Asia, Africa, and the Middle East, sizable and growing minority populations live in the global West, including both Western European (e.g., UK, France) and North American (e.g., Canada, the US) countries. In many countries, such as Canada, Muslims are already the most populous religious minority group (Statistics Canada, 2021) and are projected to continue to rapidly grow. For instance, in 2010 Canadian Muslims numbered fewer than 1 million, accounting for less than 3 percent of the national population. Projections for 2030 speculate that Muslims will number 2.7 million, accounting for approximately 6.6 percent of the national population (Pew, 2011). Similar, or quicker, population growth trajectories are expected across the US and in many Western European countries (Lipka, 2017; Masci, 2015; Pew, 2011).

Muslims living in Western countries appear to have unmet mental health needs. Research from both the US and Canada suggests that Muslims may be exposed to contextual stressors that predict the development of mental health concerns (Awaad et al., 2021; Zia et al., 2022). Particularly startling are findings that Muslims living in the US were approximately twice as likely to endorse a lifetime suicide attempt compared to all other religious and non-religious groups (Awaad et al., 2021). These results break from previous findings demonstrating that Muslims have lower suicide attempts and deaths compared to non-Muslims in both Muslim-majority countries and in non-Western countries where they are a minority groups (Gearing and Alonzo, 2018; Kohler & Preston, 2011; Lawrence et al., 2016). These findings, which are among the first from Western countries, allude to the likelihood that Muslims living in Western countries

face unique stressors compared to Muslims living in non-Western countries, potentially including migration-related challenges, difficulties with acculturation, and discrimination and Islamophobia, culminating in clinically significant distress warranting professional treatment.

Despite the purported need for mental health services, very little is known about actual service use among Western Muslims. Some scholars posit that Muslims may be hesitant to engage with professional mental health services (Amri & Bemak, 2012). What limited empirical data there are on Western Muslims' mental health service utilization supports this claim. For instance, findings from a Canadian Muslim sample suggests a discrepancy between the need for treatment and self-reported service use (Zia et al., 2022). Similar findings are reported with US Muslims, suggesting that they may be less likely than the general population to seek services (Ahmad et al., 2023). Together, these preliminary findings suggest that Muslims may not be receiving adequate treatment for their mental health challenges. Research is therefore warranted to understand factors impeding Muslims' help-seeking and to develop intervention strategies to improve service utilization in this population.

In the last several years, there has been an increase in research investigating barriers to Muslims' mental health service use, including limited knowledge about treatment, and negative attitudes and incorrect beliefs toward treatment seeking. Specific findings have highlighted the role of internalized and public stigmas toward seeking help, Islamophobia, low mental health literacy, and lack of culturally competent care providers (Bagasra, 2023; Mclaughlin et al., 2022; Zia & Mackenzie, 2021). Despite the proliferation of this research, there remains a gap in the research such that a theory-driven, interview-based qualitative method has not been used to comprehensively explore the several facets of beliefs relating to mental health and its treatment in members of this population. To improve treatment seeking among Muslims, it is necessary to

develop a comprehensive understanding of their beliefs and attitudes toward treatment seeking, and to then develop culturally sensitive strategies to address knowledge and attitudinal barriers.

My goal with this dissertation is to develop an evidence-based, culturally sensitive intervention for Muslims living in Western countries that will promote mental health service use by addressing barriers in knowledge and attitudes. I met this goal using two studies. In the first study (Chapter 3), I use a pre-exiting and well-validated theory of healthcare utilization to inform my interviews with Canadian Muslims about their beliefs regarding mental health treatment seeking. I use qualitative analyses to thematically organize these findings. In the second study (Chapter 4), I describe the development of a novel evidence-based program built on findings from study one. I then present pilot data as an initial demonstration of program acceptability and effectiveness in a small sample of Canadian Muslims. I present these studies in a "sandwich dissertation" where the two manuscripts are presented together, preceded by a general introduction, and concluded with a general discussion.

Contribution of Authors

I, Mr. Belal Zia, M.A., am responsible for the primary contributions to both study one and two. In study one, I was responsible for study design, reviewing literature, recruiting participants, interviewing participants, transcribing, analysing, and interpreting data, and writing and editing the manuscript. Study one was supported by the contributions of Dr. Corey Mackenzie, who assisted in the conceptualization of the study design, data analysis and interpretation, and revising drafts of the manuscript.

Study two describes the development of my intervention, *Mental Health 101: For Muslims*. I was responsible for the development of program content, literature review, study design, participant recruitment, program co-facilitation, data analyses and interpretation, writing and reviewing the manuscript. This study was supported by contributions from my co-authors:

Dr. Corey Mackenzie, Dr. Kristin Reynolds, Sh. Hosam Helal, Dr. Dan Bailis and Dr. Lori Wilkinson, and by logistical support from DawaNet Canada. Dr. Mackenzie was responsible for assisting with study design, development of program content, data analyses and interpretation, and revising the manuscript. Dr. Reynolds assisted with conceptualization of study design, program content, data interpretation, manuscript preparation and revising the manuscript. Sh. Helal assisted in co-facilitating the program and development of program content. Drs. Bailis and Wilkinson also facilitated study design, data interpretation, and manuscript revision.

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Chapter 2: Literature Review

An Introduction to Islam and Muslims

In Western discourse, Muslims, among other minority populations, are often viewed through the lens of Orientalism, a typically derogatory otherization of non-Western cultures which is implicitly used as a tool for political and cultural hegemony (Said, 1979). Muslims are often negatively caricaturized in mainstream media representations (Mondon & Winter, 2017; Bleich et al., 2019; Zheng & de Almeida, 2021). The otherization of Muslim also extends to academia, where emerging reports highlight lived experiences with Islamophobia by Muslim staff, scholars, and students in academic institutions (Mahmud & Islam, 2022; Chaudry, 2022; Baksh, 2024), yet where the very existence of a concept of Islamophobia is often scrutinized (Hajjat, 2020; Bazian, 2018). In the context of mental health, some scholars have begun integrating knowledge about Islam in academic discourse to improve cultural competence with Muslims and to dispel Orientalist misconceptions (see, for example, Haque et al., 2016). In this spirit, I begin this review with an introduction of the Islamic faith and of its adherents, Muslims.

Islam is a monotheistic religion which is premised on the belief in a single God (i.e., *Allah* in Arabic) and the belief in the prophethood of Muhammad ﷺ[1]. Muslims, like other Abrahamic faiths (i.e., Christianity and Judaism) believe in a line of prophets (e.g., Adam, Noah, Abraham, Jacob, Josef, Moses, Aaron, etc.) who were sent by God to guide their peoples. Most prophets mentioned in the Qur'an correspond to Biblical figures, apart from "Arab prophets" not mentioned previously (see Tottoli, 2001). Muslims also believe in the prophethood of Jesus, though deny any attributions of divinity to him. According to Islam, the lineage of prophets culminates in Muhammad ﷺ, the final messenger of God, sent with a holy scripture (i.e., the

[1] This Arabic phrase, *sallallahu alayhi wa salam*, typically translated as, *peace be upon him* is a prayer, term of endearment and sign of respect used by Muslims following the mention of the Prophet's name.

Qur'an) which contains guidelines for ethical living that apply to all people, and which correct any modifications/corruptions made, over time, to the messages delivered by the prophets before him. Consequently, most Muslims contend that Islam contains a comprehensive framework of objective morality, which is translated into a robust legal system (i.e., shari'ah; see for an overview, Salaymeh, 2015).

Islam, like all other religious and political ideologies, encompasses several groups. Typically, these groups are categorized into two larger subgroups: Sunni and Shi'ite. Sunni Islam accounts for most Muslims, corresponding to roughly 80 percent of the global Muslim population. Shi'ite Islam account for approximately 18 percent of the population. Smaller sects comprise the remaining two percent (Brown, 2017).

Muslim sects have both essential differences and universal beliefs. Regarding differences in the two largest sects of Islam, Sunni and Shi'ite Muslim groups differ in beliefs regarding legitimate succession of political and religious authority following the death of the Prophet Muhammad ﷺ. These beliefs result in some marked differences in theological, political, and pragmatic issues in the faith which are beyond the scope of this work. However, despite cultural, theological, and political differences, Islam contains several universal beliefs and practices. First, all Muslims observe the testimony of faith (i.e., *shahada*), wherein Muslims testify belief in the existence of one God and belief that the Prophet Muhammad ﷺ is the messenger of God. Second, Muslims offer five daily prayers (i.e., *salah*) at prescribed times throughout the day. Third, Muslims have a daily fast from sunrise to sunset during the Islamic month of Ramadan, which includes abstaining from food, water, sexual intimacy with their spouse, and acts leading to spiritual pollution (e.g., gossiping). Fourth, all Muslims who have the financial capability are obligated to give a portion of their annual savings in charity to spiritually purify their wealth.

Finally, all Muslims are required to make a pilgrimage (i.e., *Hajj*) to the city of Mecca at least once in their lives, if they can afford it.

Understanding Psychological Distress among Muslims

Mental health concerns are likely prevalent among Muslims living in Western countries. Unfortunately, there only a few studies which highlight the prevalence rates of psychological problems for Muslims' living in these countries. Among these studies are findings published from the National Epidemiological Survey on Alcohol and Related Conditions (NESARC-III) data (Ahmad et al., 2023), which suggest that prevalence rates of common mental health concerns, including mood disorders, most anxiety disorders and PTSD, are similar in US Muslims compared to a US non-Muslim control group. However, Muslims who met criteria for mood disorders reported significantly lower scores on indices of mental health compared to the non-Muslim control group. These findings suggest that American Muslims who have mental health concerns perceive them to be more limiting to their social and emotional functioning than other Americans. Moreover, among American Muslims, those who were younger and unmarried appeared to be at greater risk of having a psychiatric diagnosis.

While findings from the NESARC data offer important insights to US Muslims' experiences with mental health concerns, they may not reflect current trends in mental health rates among Muslims and may not be generalizable to other Muslim populations. The third, and most recent, wave of NESARC data were collected in 2012 – 2013. Since then, significant global and national challenges have emerged which have likely resulted in increased psychological challenges for Muslims in the US, Canada and elsewhere in the global West. For example, in some Western countries (e.g., Canada), a large percentage of annual migrants are Muslim (Statistics Canada, 2023). Migrants, including both immigrants and refugees, from countries with significant turmoil are at risk for stress-based psychological challenges related to the

accumulation of traumatic experiences (Amiri, 2022; Rousseau & Frounfelker, 2019). As a result, the influx of Muslim migrants to some Western countries is likely to result in a disproportionate rate of stress-based psychological disorders, including posttraumatic stress disorder, in this population compared to the general population.

In addition to trends in migration, there have been significant socio-political tension for Muslims living in various Western countries. For instance, Islamophobic rhetoric was commonplace in the 2016 US presidential election campaign, resulting in significant stress for Muslims living in the US (Abu-Ras, Suárez & Abu-Bader, 2018). Similarly, an Executive Order by then-president of the United States, colloquially referred to as the "Muslim Ban," was introduced in 2017 to restrict travel from many Muslim majority countries. Research has found that this Executive Order had downstream impacts on Muslims living in the US, including worsening mental and physical health (Albahsahli et al., 2023), and changes in healthcare utilization (i.e., more missed primary care appointments and visits to emergency departments; Samuels et al., 2021) for some Muslims. Other discriminatory policies include bans of Islamic clothing (e.g., hijab, abaya, burka) in France (Hamdan, 2007), the Netherlands (Hass, 2020), and Quebec, Canada (Syed, 2021), which some have argued undermine rights to religious freedom and overall well-being, particularly among Muslim women.

In addition to institutional factors and systemic Islamophobia, rising rates of Islamophobia experienced by Muslims living in Western countries likely contributes to psychological distress. In the US, the number of annual anti-Muslim assaults reported to the FBI in 2016 peaked higher than levels immediately after 9-11 (Kishi, 2017). Moreover, approximately 50 % of US Muslims, and up to 70 % who are identifiably Muslim (i.e., women wearing hijab), report personal experiences with discrimination (Pew Research Center, 2017;

Mogahed & Mahmood, 2019; Hodge, Zidan & Husain, 2023). In Canada, the Environics Institute for Survey Research (EISR, 2016) reported that approximately one-third of Muslims experienced racial or religious discrimination in the five years prior to the reporting period. Similar experiences have been reported across several countries across Europe as well (Abdelkader, 2017). Some researchers suggest that the stress of perceived religious discrimination, a consequence of pervasive anti-Islam rhetoric in both media and from political leaders, may result in Muslims choosing to isolate themselves, consequently leading to lower perceived wellbeing (Abu-Ras, Suárez & Abu-Bader, 2018).

Beyond Islamophobic discrimination, Muslims in Western countries are likely affected by the numerous highly publicized Islamophobic violent attacks and killings in the last decade. These killings include the Quebec Mosque shooting (6 deaths, 5 critical injuries), the Christchurch Mosque shootings (51 deaths, 40 injuries), the London, Canada vehicular attack (4 deaths, 1 critical injury, all from one family), the Plainfield, Illinois stabbing of a 6-year old Palestinian-American boy and his mother (1 death, 1 injury), the Burlington, Vermont shooting of three Arab-American students (3 critically injured) and a string of other attacks on Muslims in both mosques and in public settings. Rates of Islamophobia have come into sharp focus following recent escalations of violence in occupied Palestine and Israel. The National Council of Canadian Muslims (NCCM), an agency which advocates for Canadian Muslims' civil liberties, reported an over 1000% increase in Islamophobia-related complaints reported in a single week following October 7th, 2023 (NCCM, 2023).

While research on the psychological impacts of mass-killings and terror-related incidents against Western Muslims is non-existent, it is likely that these events have a lasting impact on victims, their families, and the overall Muslim population. Findings from a systematic review

demonstrate that Islamophobia, broadly, is associated with negative mental health consequences for Muslims and with avoidance of healthcare, in general (Samari et al., 2016). Additionally, research in non-Muslim samples suggests that populations affected by mass-killing events (e.g., school shootings, terror attacks, etc.) face dramatically increased risk for post-traumatic stress disorder, major depression, and other psychological difficulties (Lowe & Galea, 2017). Similarly, in the aftermath of attacks, individuals from the affected groups overestimate the risk of being a victim of similar attacks in the immediate future (Lerner et al., 2003). It follows, then, that Islamophobia-inspired acts of violence, and particularly mass-killings, will have psychological consequences for the communities where these acts of violence occurred, and in the larger population of Muslims in that country. Longitudinal research with aims of understanding and supporting the psychosocial needs of the Christchurch Muslim community is currently registered and will demonstrate the impact of these attacks on Muslim communities in New Zealand (Sulaiman-Hill et al., 2021).

Synthesizing the various stressors faced by Muslims living in Western countries, it appears likely that they experience disproportionate rates of psychological distress. Some findings corroborate this speculation. For instance, in a sample of 238 Canadian Muslims, I found that approximately two-thirds of participants met the cut-off for clinically significant psychological distress. These findings suggest a rate of psychological distress which may be as much as double that of the general Canadian population (Zia et al., 2022). Similarly, as mentioned above, in a large-sample (n = 2376) study comparing suicide risk among different religious groups in the US, my co-authors and I found that Muslims (n = 809) were approximately two times more likely to report a lifetime history of suicide attempt compared to all other religious groups (Awaad et al., 2021). NESARC-III data suggest that US Muslims (n =

372) have equivalent rates of psychological distress to the general American population (Ahmad et al., 2023). However, NESARC-III data predate the many Islamophobic socio-political changes and violent incidents of the last decade and may consequently underestimate psychological difficulties among Muslims.

Despite the evidence suggesting high rates of psychological distress, Muslims living in Western countries appear to utilize mental health services with less frequency than the general population (Aloud & Rathur, 2009; Khan 2006; Zia et al., 2022). Instead, many Muslims may rely on religious leaders with no formal psychotherapy training to provide mental health support (Abu-Ras, Gheith & Cournos, 2008). Interestingly, several studies suggest that Muslims living in Western countries have generally positive attitudes toward seeking treatment (Zia & Mackenzie, 2021; Ali et al., 2022). However, those who identify most strongly with traditional cultural beliefs appear to have the least positive attitudes toward treatment seeking (Khan et al., 2019; Ali et al., 2022). Researchers have cited numerous factors that may impede treatment seeking among Muslims, including both public and self-stigmas (Çiftçi et al., 2013; Zia & Mackenzie, 2021), Islamophobia and therapeutic preferences (McLaughlin et al., 2022), and lack of knowledge or mental health literacy (Khan et al., 2019). A more detailed exploration of how Islamic religious beliefs interact with help-seeking for mental health problems is presented in chapter 3, study 1.

Unfortunately, the literature on Muslim mental health is still in its infancy. As a result, much of the research has been completed in isolated samples of Western Muslims, typically in the US. Moreover, investigations have typically lacked rich textual data collected through immersive qualitative methods. As a result, few formal attempts have been made to improve Western Muslims' treatment seeking by developing interventions that seek to address obstacles that have been identified as barriers to treatment.

Overview of Study Design: Exploratory Sequential and Concurrent Mixed Methods

The objective of this dissertation is to develop an evidence-based intervention aimed at improving mental health treatment-seeking in Muslims living in Western countries. More specifically, given the lack of representation of Canadian Muslims in the academic literature, this dissertation aims to begin addressing the challenge of treatment underutilization with Canadian Muslims, with aims to expand the intervention to other Muslim populations in the future. To develop an intervention that would fulfill the needs of Muslims living in Canada, and to do so with cultural respect and humility, it was imperative to understand the beliefs and attitudes regarding mental healthcare in this population. Unfortunately, to my knowledge there are no investigations about mental health treatment beliefs specific to this population.

To address my goals in this dissertation, I employed an exploratory sequential mixed methods design (see Creswell & Creswell, 2018). This research design pairs qualitative and quantitative methodologies to achieve research aims. An initial qualitative phase is utilized to explore perspectives that will be used to build a later, primarily quantitative stage. In the context of this dissertation, I utilized an initial qualitative phase to explore health beliefs related to mental health and mental health treatment among Canadian Muslims. These beliefs were used to identify gaps in knowledge, problematic beliefs, and negative attitudes to address during the program development. Consequently, in the next stage, a psychoeducational intervention was developed to specifically meet the needs determined in the initial qualitative stage.

The second phase of an exploratory sequential mixed methods design employs quantitative methods. The aim of this phase in this dissertation was to empirically test the effectiveness of the intervention that was developed based on phase one. In the context of this dissertation, I used a concurrent “nested” mixed method design during this second phase (Kroll & Neri, 2009), wherein the primary methodology was quantitative, but qualitative methods were

"nested" in the design to facilitate a comprehensive understanding of the topic. Specifically, in phase two, I collected and empirically tested changes in pre- and post-program scores on variables of interest (quantitative methods) while simultaneously thematically organizing and presenting textual data representing participant feedback on the program (qualitative methods).

Positionality Statement

Acknowledging the role of reflexivity, the practice in which a researcher's subjective experiences and context influences their research, is crucial in qualitative and mixed methods research (see, for example, Olmos-Vega et al., 2023). In the spirit of reflexivity, I acknowledge the context of my subjective experiences, which shape the questions that underlie this dissertation, my interaction with participants, qualitative analyses, and language use when writing this research. I am a Muslim man, born and raised in Canada, with a Pakistani heritage. My experiences have included immersion in both Canadian culture (e.g., friendships, attendance in Canadian educational institutions, etc.), and immersion in Pakistani and Islamic cultures (e.g., family and friends, volunteerism, religious service attendance). I have also experienced, both personally and vicariously through friends and family members, racial discrimination and Islamophobia, which has ranged from bullying in the schoolyard, numerous derogatory statements, and loss of employment. I hold roles as a clinician and researcher, which has included individual mental health treatment for those affected by discrimination, lectures to improve mental health awareness (among Muslims and non-Muslim audiences), public advocacy to challenge Islamophobia, and hosting or facilitating numerous healing-centred discussions on Islamophobia for Muslims in Canada and the US. My various experiences are likely to result in incidental biases in my research and are also purposefully leveraged in this research as a tool to improve nuance in research design, implementation, and analyses.

A Note on Ontology, Epistemology and Axiology

Every research paradigm, and the methods it employs, carries assumptions related to ontology, epistemology, and axiology. Ontology, the philosophy of existence, refers to one's understanding of reality, including what can be known about reality. Epistemology refers to theories of knowledge acquisition, and the relationship between the person seeking knowledge and reality. Finally, axiology is the study of value, including what we hold valuable and the extent to which a researcher's values should be involved in the process of research (see Ponterotto, 2005; Hughes, 2018 for more nuanced summaries). Notably, quantitative and qualitative methodologies are predicated on different philosophical positions on ontology, epistemology and axiology. Consequently, each position must be considered in the selection of research methods and in the language used in the presentation of findings.

The Islamic position on ontology and epistemology are often considered to fall somewhere between the perspectives of objectivism and subjectivism (i.e., the broad schools of thought underlying quantitative and qualitative methods, respectively; Kamil, 2011). Some scholars suggest that Islamic ontology and epistemology established the foundations for contemporary Western sciences, and that Islamic axiology positions Islamic societies to have less religion-science conflict compared to Western societies (Ahmad, 2000). As a Muslim researcher utilizing research to respond to the needs of Muslim communities, Islamic positions on ontology, epistemology and axiology must be carefully considered out of cultural respect and to avoid pitfalls of Orientalism.

Unfortunately, to my knowledge, there are no formalized methods of research which are developed to represent Islamic ontology, epistemology, and axiology. My colleagues and I are currently involved in deliberation regarding the development of a scientific methodology that can be utilized by Muslim scholars which honours Islamic philosophical and theological perspectives

in answering scientific questions. Consequently, considering the lack of a culturally congruent methodology, I currently rely on a pragmatist approach (see Ponterotto, 2005) in this dissertation. The pragmatist approach utilizes quantitative and qualitative methods as tools to address the needs of my research question, while maintaining a position of ambivalence regarding their underlying philosophical positions.

Chapter 3, Study 1: Understanding Western Muslims' Mental Health Treatment Seeking Attitudes and Beliefs: A Theory-Driven Qualitative Study[2]

Abstract

Muslims living in Western countries have significant unmet mental health needs. Health beliefs about mental healthcare may be a contributing factor for their hesitance toward treatment seeking. The Health Belief Model (HBM) offers a parsimonious and empirically validated theoretical framework to help initially explore beliefs related to mental health among Western Muslims. Ten community-residing Muslims living in Canada completed online interviews about mental health beliefs. Interviews were analyzed using the Framework analytic method. The four core components of the HBM (i.e., perceptions of susceptibility, severity, barriers, and benefits of treatment seeking) were used as *a priori* themes and inductive coding was used to generate subthemes. All participants indicated beliefs that Muslims are susceptible to mental health problems. Participants also shared beliefs about when symptom severity warrants treatment, and they highlighted significant barriers and facilitators to treatment. Finally, participants described their perceptions of the benefits of seeking mental healthcare. Findings suggest that the HBM is a valuable tool to understand the mental health beliefs of Muslims living in Western countries. Moreover, findings suggest the necessity of mental health literacy interventions to help improve knowledge about mental health and for downstream improvements in attitudes and intentions to seek treatment.

[2] This manuscript, co-authored by myself and Dr. Corey Mackenzie, is currently under review in *Transcultural Psychiatry*.

Introduction

Muslims living in Western countries make up proliferating minority populations (Pew Research Center, 2011). Many Muslims face difficulties adjusting to Western norms (Goforth et al., 2014) and financial, emotional, and social hardships following immigration (Kirmayer et al., 2011; Ding & Hargraves, 2009; Robert & Gilkinson, 2012). Muslims living in these countries report substantial discrimination and subsequent distress (EISR, 2016; Pew Research Center, 2017; Samari et al., 2018). Consequently, rates of mental health problems in some Western Muslim samples exceed that of the general population (Awaad et al., 2021; Zia et al., 2022).

Despite the purported need for treatment, research exploring mental health service use among Western Muslims is sparse. The limited data suggests that they do not receive services commensurate to their needs (Phillips & Lauterbach, 2017; Zia et al., 2022). Globally, Muslims face barriers to treatment, including problematic beliefs and negative treatment-seeking attitudes (Basit & Hamid, 2010; Ciftci et al., 2013; Mianji & Kirmayer, 2023). While treatment underutilization is not unique to Muslims (Wang et al., 2007a), lack of culturally relevant research is a barrier to addressing service use needs (Altalib et al., 2019). Of the limited research, most employ quantitative methodology. We are aware of only a handful of qualitative studies investigating Western Muslims' mental health treatment beliefs. Additional theory-driven qualitative research, with perspectives from underrepresented Muslim groups, is necessary to facilitate understanding of Western Muslims' purported hesitance to use mental health services and to affect improvements in help-seeking.

Health Belief Model

The health belief model (HBM) is a theoretical model developed to explore and improve healthcare utilization (Rosenstock, 1966; 1974; Skinner, 2015). The HBM proposes that the likelihood of utilizing health services is informed by beliefs about 1) susceptibility to an illness,

2) the severity of the illness, 3) barriers to service use, and 4) benefits of treatment. The purpose of the present paper is to investigate Canadian Muslims' beliefs about mental health using the HBM to contextualize and organize findings.

Perceived Susceptibility

According to the HBM, only those who view themselves as susceptible to an illness will utilize illness management services (Skinner et al., 2015). Consequently, if Muslims' conceptualizations of psychopathology do not align with Western clinical perspectives, they may view themselves as unlikely to develop mental health concerns. For instance, in a qualitative study of UK Muslims, mental illness was commonly believed to be a punishment from God (Weatherhead & Daiches, 2010). These Muslims may believe that adherence to religious practice nullifies the likelihood of developing mental health concerns, or that increasing the frequency of practices will alleviate symptoms. Both these beliefs may reduce the likelihood of treatment seeking.

Perceived Severity

Perceived severity refers to emotional and cognitive experiences of illness, including the degree of emotional arousal a person feels toward a specific illness, and/or one's beliefs about how difficult the symptoms of an illness would be to manage (Rosenstock, 1974; Skinner et al., 2015). Those who view an illness as severe will be more likely to seek treatment (Skinner et al., 2015). However, Amri and Bemak (2012) theorize that some Muslims tolerate mental health symptoms out of acceptance of God's will. Qualitative findings from interviews exploring the mental health beliefs of Muslims living in the UK corroborate this perspective. Participants reported hesitance to seek treatment unless problems are "severe" (e.g., schizophrenia; Weatherhead & Daiches, 2010). Moreover, qualitative findings among Muslim women in the UK

suggest that some Muslims utilize ineffective coping strategies (e.g., self-harm) partially due to beliefs that common mental health symptoms do not warrant service use (Chew-Graham et al., 2002).

Some Muslims may also view mental health problems as consequences of weak faith (Amri & Bemak, 2012). They may perceive these problems as indicators of spiritual illness (Sabry & Vohra, 2013), and may seek spiritual services from imams or traditional healers rather than mental health services. Alternatively, they may avoid treatment altogether (Rassool, 2015; Sabry & Vohra, 2013).

Perceived Barriers to Treatment

In the HBM, perceptions of barriers to treatment are the strongest predictors of treatment seeking (Carpenter, 2010). Barriers can be structural (e.g., cost of treatment) or attitudinal (e.g., stigma; Andrade et al., 2015). While structural barriers typically comprise a small proportion of total reported barriers to treatment (Andrade et al., 2015), they may be salient for Muslim populations. Some Muslims seek comparatively inexpensive traditional healers as an alternative to expensive professional services (Mohammed-Kaloo & Laher, 2014). Alternatively, Muslims who have faced discriminatory experiences in healthcare settings may be hesitant to seek mental health services from non-Muslim providers (Martin, 2015; Samari et al 2018). Moreover, the dearth of culturally competent professional treatment providers may also prevent Western Muslims from utilizing services (Rassool, 2015).

A lack of knowledge about mental health symptoms, treatment, and management (i.e., mental health literacy) is also a barrier to treatment (Andrade et al., 2015; Jorm, 2012; Wang et al., 2007b). Some Muslims are more likely to endorse somatic symptoms of mental disorders (e.g., headaches) than cognitive or psychological symptoms (El-Rufaie et al, 1999a; El-Rufaie et

al., 1999b; Mianji & Kirmayer, 2023). These Muslims may attribute symptoms to biomedical rather than psychological causes, reducing intentions to seek mental health treatment (Pilkington et al., 2012). Moreover, in some Muslim populations, supernatural (e.g., jinn possession) and spiritual (e.g., moral deficit) attributions for mental illness are common (Lim et al., 2015; Bagasra & Mackinem, 2014). These attributions may impede some Muslims' understanding of mental health and its treatment. Younger age (Mianji & Kirmayer, 2023) and education (Mullick et al., 2012) appear to attenuate supernatural attributions in some Muslim samples, suggesting that these beliefs are amenable to psychoeducation.

Other barriers to help-seeking include problematic negative health beliefs (Prins et al., 2008), cultural beliefs (Aloud & Rathur, 2009) and prior negative interactions with health care providers (Amri & Bemak, 2012). Previous research suggests that Muslims living in Canada (Zia & Mackenzie, 2021) and the US (Khan, 2006) have favourable attitudes toward treatment. However, a recent study of 1,222 US Muslim women found that treatment-seeking attitudes were favourable, except among the most religious. Moreover, stigma, cultural and religious beliefs, and lack of familiarity with services were the strongest predictors of negative attitudes toward treatment seeking (Ali et al., 2021). Consequently, religious Muslims in Western countries may hold negative attitudes toward seeking help, possibly due to knowledge barriers.

Stigma is a specific type of negative attitude in which people are devalued for a particular characteristic (Hinshaw, 2006). According to the internalized stigma model, public stigma (i.e., perceptions that the public views treatment seeking negatively) is internalized as self-stigma (i.e., negative self-perceptions for seeking treatment), leading to downstream negative attitudes and intentions to seek professional help (Vogel et al., 2017). Several researchers have theorized that help-seeking stigma prevents Muslims from using services (Ali et al., 2021; Phillips &

Lauterbach, 2017; Ciftci et al., 2013). Findings from Canadian-Muslim (Zia & Mackenzie, 2021) and Arab-American Muslim (Alhomaizi et al., 2018) samples support this assumption.

Perceived Benefits to Treatment

Perceived benefits to help-seeking refers to beliefs that a health behaviour will be effective (Skinner et al., 2015). Western psychotherapy perspectives are rooted in cultural philosophies that differ from those of religious Muslims (Rassool, 2015; Basit & Hamid, 2010; Jafari, 1993). For example, Jafari (1993) contends that individual success in Western counselling is conceptualized by material goals including physical health, wealth, and social status. In contrast, Islamic conceptualizations of success centrally emphasize spirituality through worship, including the intentional pursuit of material goals to improve one's relationship with God. Consequently, some Muslims may consider Western treatment ineffective because it is lacking in an instrumental domain that facilitates growth (i.e., spirituality).

Muslims may also avoid mental health services due to beliefs that treatment will contradict core components of their identity. Some Muslims report concerns that their identity will be dismissed, pathologized (e.g., social frustrations equated to radicalization), or ridiculed in treatment (Alhomaizi et al., 2018; Byrne et al., 2017). Others avoid treatment due to concerns that clinicians will impose acceptance of Islamically impermissible behaviour (e.g., alcohol consumption), contributing to weakened personal faith in favour of reduced negative emotions, such as guilt (Alhomaizi et al., 2018). These Muslims may be unwilling to seek services from non-Muslim counselors, especially if the provider is unaware of Islamic norms (Kelly et al., 1996). Unfortunately, findings reflecting Western Muslims' beliefs about the benefits of psychotherapy are sparse in the literature and warrant further exploration.

Effectiveness of the Health Belief Model

Meta-analytic findings suggest that the four components of the HBM model predict future health behaviours (Carpenter et al., 2010; Zimmerman & Vernberg, 1994) and educational interventions developed using the HBM as a theoretical guide are more effective in improving healthcare utilization than atheoretical interventions (Sohl & Moyer, 2007). Henshaw and Freedman-Doan (2009) theorize that this parsimonious model that identifies targets for interventions may be useful in research with understudied populations, where data on health beliefs are sparse.

To our knowledge, the HBM has not been used to investigate mental healthcare utilization among Western Muslims. In general, research investigating the mental health needs of this population is limited (Altalib et al., 2019). Existing findings among Muslims, which we categorized above in the components of the HBM, are often speculative, atheoretical, conducted among non-Western Muslims, or in limited Western Muslim samples (i.e., US or UK). To address these gaps, the current study utilizes the HBM as an *a priori* theoretical framework to qualitatively explore beliefs related to professional help-seeking among Canadian Muslims, a population whose treatment beliefs are not qualitatively represented in the literature.

Methods

Procedure

Participants were community-residing Canadian Muslims. Recruitment involved a multipronged approach which included contacting participants from an existing list of Canadian Muslims who had participated in a previous study. We also disseminated study advertisements through listservs and social media accounts of 1) Muslim non-profit organizations (e.g., DawaNet Canada), 2) masjids in major Canadian metropolitan centres, and 3) Canadian Muslim leaders (e.g., imams). Potential participants completed a pre-screening survey to determine age,

gender, and responses to two self-reported religiosity items (i.e., *I consider myself to be a religious Muslim* and *I try hard to practice Islam in my daily life; 1 = strongly disagree, 5 = strongly agree*). Participants who scored ≥ 4 on both measures were considered to participate in the full study, to prioritize responses from self-reported religious Muslims. From this sample, 58 participants were randomly selected to participate in the study. While 14 of the 58 participants consented to participate in the study, 10 completed interviews.

The first author, BZ, conducted 35- to 60-minute interviews online with each participant. Each interview began with a case vignette describing an individual who was experiencing symptoms of common mental health problems. Vignettes were tailored to reflect similar gender and age to each participant and utilized as an ice-breaker activity and to gauge symptom recognition. Each interview was recorded, transcribed verbatim using an online service, and analyzed in NVIVO. All protocols were approved by the University of Manitoba Research Ethics Board.

Participants

Participants were five male and five female Canadian Muslims between the ages of 19 and 55. Participant demographic information is presented in Table 1. To ensure anonymity, information is presented as a group rather than individually.

Reflexivity Statement

The first author, BZ, is a Muslim, Pakistani-Canadian, male graduate student in clinical psychology who researches Muslim mental health. The second author, CM, is a White, Canadian, male clinical psychologist and professor of psychology. Both authors offer mental health treatment to adults and conduct clinical research to understand barriers to treatment and improve access to treatment for underserved populations.

Table 1. ***Participant demographic information***		
Demographics	Grouping	*N*
Gender	Male	*5*
	Female	*5*
Age Range	18-29	*4*
	30-39	*3*
	40-49	*2*
	50-55	*1*
Household Income	<$50,000	*1*
	50,000 – 99,999	*4*
	100,000 – 149,999	*2*
	150,000 – 199,999	*2*
	200,000+	*1*
Nationality	White (convert)	*2*
	South Asian	*5*
	Middle Eastern	*3*
Highest Education	Highschool diploma	*1*
	Undergraduate degree	*7*
	Graduate degree	*2*
Lifetime Mental Health Service Use	Yes	5
	No	4
	Don't know	1

Analytic Strategy

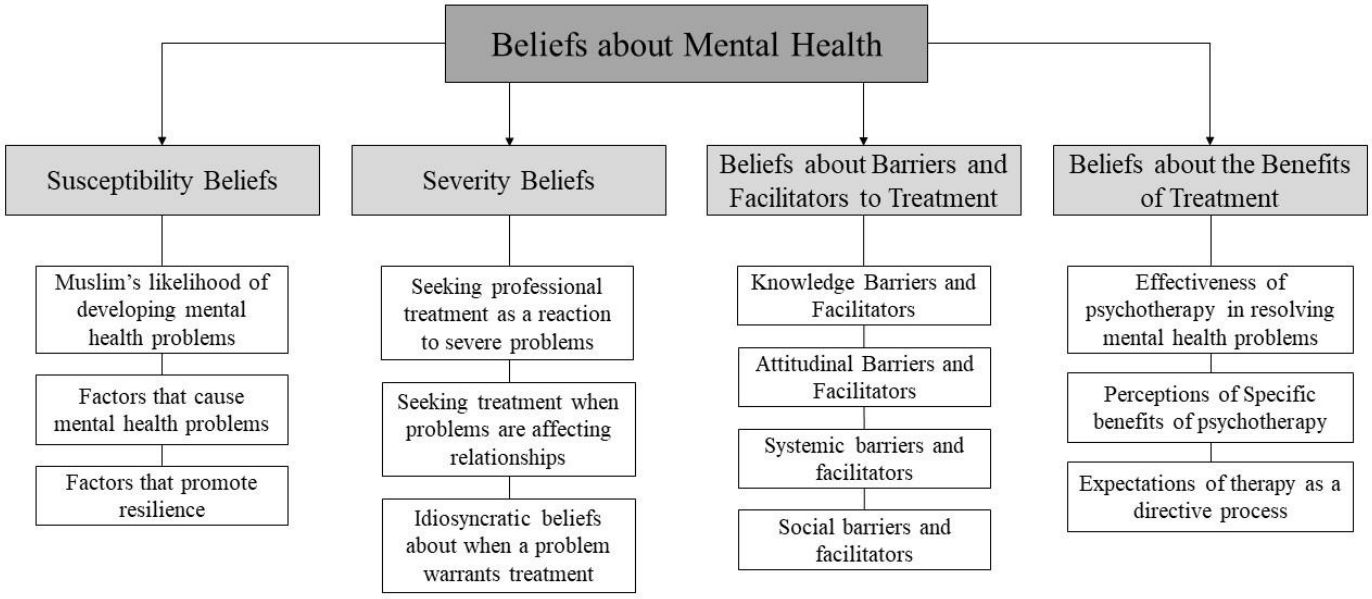
We utilized the Framework analytic approach (Ritchie & Spencer, 1994) to generate themes from interview transcripts. Analyses included a five-step, recursive process to ensure rigour (see Gale et al., 2013; Ritchie et al., 2003). During familiarization, the first author watched recordings, verified transcriptions, and took notes on recurring themes; the second author read select transcripts to familiarize himself with themes. The first author used both deductive (i.e., theory-guided) and inductive (i.e., data-driven) coding during the construction of the thematic framework; the four main constructs of the HBM were used as *a priori* themes. Each theme was divided into subthemes derived from the data. Interviews were read line-by-line and sorted into themes and subthemes by the first author, using an "open coding" strategy, as appropriate, to create relevant codes not included in the initial framework. Codes were refined through discussion between the authors to reduce redundancies and ensure rigour and clarity of analyses. Data were summarized into charts by the first author and reviewed by the second

author. The thematic framework was mapped onto the aims of this study and participants' beliefs about mental health treatment are presented below.

Results

Data were organized into four main themes corresponding to constructs of the HBM. Figure 1 visually represents these themes and associated subthemes. In each theme, we first report findings that are common to non-Muslim samples, where applicable, and then report findings unique to our participants.

Figure 1
Overview of themes and subthemes generated from participant interviews



Susceptibility Beliefs

This theme reflects participants' beliefs about Muslims' susceptibility to mental health issues and is divided into three subthemes: 1) *Muslims' likelihood of developing mental health problems*, 2) *Factors that cause mental health problems*, and *3) Factors that promote resilience*.

Muslims' Likelihood of Developing Mental Health Problems

All participants believed that rates of mental health problems among Muslims and non-Muslims, "*...might be more or less the same*" (male, late-teens). One participant captured this belief, stating, "*Life can become overwhelming, at any given time for, anybody. And things can happen. Everyone gets hit by grief and loss in different parts of their lives*" (female, early forties). Most participants shared experiences, current difficulties, or beliefs about future challenges to acknowledge personal susceptibility to mental health concerns. One participant shared, "*...I've been down that road so I can definitely see myself going down the road again… I think I am, just like any other person is, susceptible*" (female, early-forties).

Some participants believed that Muslims are more likely to face mental health problems than non-Muslims. Several participants reported that mental health problems are visibly prevalent in their communities. One participant said, "*You're speaking to me, but I'm telling you, I can refer—if they're willing to speak up—...at least 20, 30 people just off the top of my head"* (male, mid-thirties). Some participants endorsed stress related to maintaining religious practices such as daily prayers. Others shared that religious prohibitions limit them from using coping strategies employed by non-Muslims:

> *"...as a practicing Muslim, I feel the burden is overwhelming sometimes… I don't swear. I don't let things out… I have seen that they could—non-Muslim people—they can totally do it. They can have some alcohol, go outside, party, and do all of those things. I don't approve of those activities to let your stress out."* (female, late-forties).

Beliefs about Factors that Cause Mental Health Problems

Most participants believed that mental health problems emerge in "*a lot of different ways,*" (male, mid-thirties). Many viewed mental health holistically, suggesting, "*the physical, mental and spiritual, the psychological... the different components…*" (male, mid-thirties) all

relate to one's mental health. Participants also shared beliefs about common attributions of mental health and beliefs about attributions unique to Muslims.

Biological factors and accumulated stress were common attributions reported by many participants. In the context of case vignettes, participants reported that disturbances in brain chemistry, hormonal imbalances, brain injury and genetic predisposition underly symptoms. One participant stated: "*...she could have...an imbalance in brain chemicals, and that could be causing it, or it could be a triggering event in her life. Again, back to the postpartum. We know that certain things [can make] hormones go off...*" (female, mid-thirties). Participants also reported that symptoms could result from "*some kind of stress… that is consuming her…*" (female, mid-forties). Participants indicated several possible stressors, including traumatic events, loss, or sudden changes in life; concerns stemming from the pandemic; immigration-related cultural challenges; difficulties with parenting; historical or current relationship difficulties; and disappointments with oneself.

Two additional subthemes reflect susceptibility beliefs unique to Muslims. First, all participants either believed that mental health symptoms can emerge from poor adherence to Islamic practice or reported the prevalence of this belief in their community. One participant reported, "*…if you don't have that strong spiritual connection and religious connection, then everything in your life will get very affected by it*" (female, early-twenties). Others shared similar sentiments, albeit with a positive connotation. Recounting previous symptoms, a participant stated, *"…my view at that time was 'Allah*[3] *is testing me. This is a very low time of my life and I just, I need to figure it out.'... I was more driven to figure out what was going on for me..."* (female, early-forties). Second,

[3] Allah (i.e. the Arabic word for God).

participants acknowledged supernatural attributions (e.g., jinn[4] possession, black magic, evil eye) for mental health problems, but only on rare occasions. One participant stated, "*…because I'm of faith…I do believe, that there are the jinns and… and that there are people that physically wish evil on other people, or the 'envy' thing*" (female, mid-fifties). She added that supernatural attributions of mental health often stem from cultural superstition and, "*it's a lot of misinformation."*

Factors that Promote Resilience to Mental Health Problems

Participants reported beliefs relating to common resiliency factors. Several participants endorsed daily routines that incorporate exercise, sleep, and healthy eating to improve resilience. For instance, when discussing her resilience despite several stressors, a participant shared, "*Exercise was a big thing for me*" (female, mid-fifties).

Most participants shared that practicing Islam helps Muslims overcome mental health problems more easily than non-Muslims:

> "*…both people deal with [mental health problems] short term… non-Muslims and Muslims. But a Muslim, who deals with it based on the Qur'an[5] and Sunnah[6], I believe, will be able to bounce back from that rut in their life and handle it better long term.*" (Male, early-thirties).

Participants shared different practices and beliefs that inspire resilience, including ritual ablution (i.e., *wudu*), practicing five daily prayers (i.e., *salah*), fasting, Islamic morality, divine decree, and meaning in one's life. Several participants also shared that their social networks, often in the context of a mosque congregation, buffered against the development of mental health problems. Many, relied on networks of family, friends, professionals, healthcare providers, and religious

[4] Jinn refers to a class of supernatural spirits/beings which, according to Islamic theology, are made of a smokeless fire and have free will.
[5] i.e., The Islamic book which Muslims believe to be the word of God revealed to the Prophet Muhammad ﷺ
[6] i.e., The traditions and sayings of the Prophet Muhammad ﷺ

teachers when facing difficulties: *"…could I fall…into that scenario, in that circumstance? Could my, you know, frame of mind be… um… changed in that way? Of course. But do I feel like people in my circumstance and my situation, with my network, with my resources, have more resiliency? Yes, I do"* (male, mid-thirties).

Severity Beliefs

Most severity beliefs endorsed by participants were consistent with research from non-Muslim samples. Generally, participants believed that treatment seeking was a last resort, only for severe mental health problems. One participant said, "*...I might [talk to a] parent or like a close friend or someone, but I don't think I would necessarily seek…professional help. Unless it was like to the point where I would like self-harm basically"* (male, late-teens). Other participants, including this female participant in her mid-thirties, reported relationship tension as an indicator that treatment is warranted: "*So, I think…negatively affecting my marriage…was a pretty big red flag for me. It's like, okay, I should do something about this*." Others indicated that out-of-character social behaviour like wanting to *"hide from everybody" (*male, mid-thirties) signaled the need for treatment. Some participants reported that unique life circumstances may inspire treatment seeking. For instance, a participant on maternity leave shared that she was currently seeking services because, "*I'll be thinking about returning to work at some point, and in the current stage that I'm in, there's no way… I can manage to return to work…*" (female, mid-thirties).

Interestingly, only one participant shared a severity belief specific to Islam. He specified that difficulties practicing Islamic obligations was an indicator of mental health severity for him: "*You know, the fact of the matter is, like even praying became such a heavy task. Yeah. Opening the Qur'an was like something that I wouldn't even think about…"* (male, mid-thirties)

Beliefs about Barriers and Facilitators to Mental Health Treatment

This theme reflects the perceived barriers construct of the HBM. Participants often discussed facilitating factors with barriers to help-seeking. Consequently, the *a priori* theme was modified to include treatment facilitators. Four subthemes were generated, including 1) *attitudinal barriers and facilitators*, 2) *knowledge barriers and facilitators*, 3) *social barriers and facilitators* and 4) *systemic barriers and facilitators.*

Attitudinal Barriers and Facilitators

Attitudinal Barriers. Participants shared common negative attitudes that are also prevalent among non-Muslims. Several participants were hesitant about using medications, citing worries about side-effects or a desire to "*naturally*" or "*holistically*" address their problems. Many reported that mental health treatment was low priority amidst competing demands. For example, a participant in her early thirties stated, *"...what was causing me to wait? I don't know... being too preoccupied with other things. Not prioritising myself that way."* Finally, all participants viewed stigma, both toward having a mental health problem and treatment seeking, as a prevalent barrier to treatment.

Most participants shared perspectives that stigma is potent in their communities. Participants often discussed stronger stigmatizing attitudes in their Muslim communities compared to non-Muslims. For example, one participant stated: "*[Mental health is] definitely a lot more open in the non-Muslim community…my colleagues, friends that are not Muslim, like we talk about everything, and there's not as much stigma attached to it. But where I think the Muslims are, it's not as easy as a subject to talk about*" (female, mid-fifties). Several participants discussed this stigma in the context of friends, family, elders, and particularly their in-laws: "*…the in-laws, they create a fuss or the [elders]…they deny it for the longest time. They don't*

allow, sometimes, you to seek [treatment] because they feel 'Oh what the society is going to talk about? Their son or their daughter went to this…psychiatrist…?"" (female, late-forties). Finally, several participants reported self-stigma, including disappointment if they sought treatment, and beliefs that personal treatment seeking should be hidden. For example, "*While I would congratulate others for [seeking treatment], I would be concerned that…I resorted to that*" (male, mid-twenties).

Some participants shared that the pressure to conform to religious beliefs prevented help-seeking. A few participants described that the social pressure to rely on God alone, when faced with difficulties, was a barrier to treatment. One participant stated, "*so sometimes there is this stigma that like, oh, like, 'why do I need a professional? I have my Qur'an, I can always just refer back to Allah's words"*" (male, early-thirties).

Many participants noted their preferences for treatment provider as an obstacle. Some participants preferred demographically matched therapists for a sense of shared identity. One participant explained, "*I just assumed that a woman would understand motherhood better*" (female, early-thirties). Other participants reported religious modesty prevented treatment seeking from providers of the opposite gender. A participant, stated, "*No, it's taboo to talk to males and I need to talk to a female therapist, and I need to talk about things that are very private that males can't hear me talk about, or I can't even be alone with a male in the room*" (female, early-twenties). However, some participants reported preferences for providers who were not demographically matched. One participant described her choice to seek a male therapist, stating "*I wanted somebody to give me a different perspective than what I was seeing*" (female, mid-forties).

Most participants preferred seeking treatment from a Muslim provider, but reported difficulties finding one:

> *"…I guess what stopped me was one, I wanted to find a Muslim psychologist because I felt that they would be more relatable... And I couldn't find one and in my area. And then so I'm like, okay, I won't deal with it. I'll just keep it to myself… I just kept saying, like. Like Insha'Allah[7], it'll get better"* (male, early-thirties).

Several participants were mistrustful of non-Muslim providers and worried about being misunderstood or judged for cultural and religious values. One participant, describing concerns about pursuing treatment for her daughter, said, "*…if I take her to… a mental health professional, they probably would do…something to cope [with mental health] easily. But at the same time, they're not going to be very respectful towards our religious values, you know?*" (female, late-forties). Other participants described negative experiences with non-Muslim mental health professionals. One participant, who sought treatment after converting to Islam, shared that therapy was a bad experience:

> "*…I didn't go after the first session, mainly because I felt like he was trying to, like, reason why I made that change instead of like helping me through it. And I guess I felt a little bit judged.*" (female, early-thirties).

Interestingly, some participants believed that attitudes in their communities vary across generations. A participant in her early thirties said, "*I think maybe there's two different views based off of, like, generations. So, I think the older generation, they don't acknowledge really, mental health…is a true health issue.*" Many believed younger generations are adept at communicating mental health needs. For example, a participant said, "*I think like my children are very, very good in articulating their mental health needs. Yeah, maybe a little too good because they're like, 'I really need to focus on self-care today'…*" (female, mid-forties)

[7] i.e., If God wills

Attitudinal Facilitators included positive evaluations of seeking treatment. Most participants had favourable attitudes toward recommending treatment or seeking treatment themselves. One participant in her early forties stated, "*... I believe that… whatever you need to do to feel better and to help process your thoughts, that you're taking care of you, and Islam says to take care of you.*" Some participants had positive treatment experiences that informed favourable attitudes. A male participant in his mid-thirties was eager to return to therapy, stating, "*It was great…You know, I started sharing. You know, I don't talk much. I don't express my feelings much*." A few participants indicated a willingness to try a course of medications to address psychological concerns, *"The first thing… would be to take perhaps a medication, but like for a trial period…and see if that has any benefit. And then, if that doesn't have any benefit… I would seek, like, talk therapy…"* (male, late-teens).

Knowledge Barriers and Facilitators

Knowledge Barriers. Common to non-Muslim populations, participants believed that limitations in knowledge about mental health and treatment seeking were barriers to service use. Most participants were unsure about treatment options and complained that treatment services should be more visible. One participant stated, "*…a lot of people who need therapy don't know exactly how it's available for them and how to, like… literally the logistics of seeking therapy*" (female, early-twenties). Most participants also did not "…*know the difference between a psychologist and a psychiatrist*" (male, early-thirties). Others were uncertain about what to expect in session, including how professionals "*allow you to open up*" (female, mid-forties).

Many participants had difficulty recognizing common symptoms of mental illness presented in the case vignette. Some were uncertain about whether symptoms warranted treatment. For example, one participant stated, "*I mean, do these necessarily require professional*

help, or can this be turned around by just a couple of quick discussions with your teacher or a scholar?" (male, mid-twenties). Others were adamant that these symptoms did not warrant professional treatment. For instance, one participant stated "*…these issues don't necessitate…professional help. I feel like these issues can be dealt with in… a different way. And I feel like therapy is more for, like I said, if you have a life changing incident or if you're like suicidal…*" (male, late-teens).

Several participants worried about treatment confidentiality. One participant in his late-teens shared concerns that, "*…some information might be getting leaked…*" to members of his community. Another participant stated that, treatment, "*…has to be super private with like, no notes, no records, no ability to track back to me and no breadcrumbs around either.*" These statements suggest a lack of knowledge about, or mistrust of, treatment confidentiality laws. Alternatively, these beliefs may reflect prevalent community-wide anxiety about surveillance post-9/11 (O'Connor & Jahan, 2014).

Knowledge facilitators. Participants shared several Muslim-specific knowledge facilitators. A few participants reported beliefs that mental health literacy is improving in their communities, leading to ease in seeking treatment. A participant in her mid-forties shared, "*…even, my own dad, who many times, a long time ago, would not recognize mental health, now says to me, 'I think my mental health is affected.' I'm like, you know, he's finally come around…*" Moreover, several participants believed that being Muslim and seeking therapy are compatible. Numerous participants had previously sought treatment, or reported interest in seeking treatment, because they believed mental health was important in improving their practice of their faith. A participant in his late-thirties said, *"…when it comes to mental health—I think we need it to*

become better believers, even though there isn't a… direct ayah[8] or hadith[9] saying that mental health is something that we all struggle with."

Social Barriers and Facilitators

All participants discussed social support as a barrier to help-seeking when it is absent and its presence as a facilitator. For example, a participant in her mid-fifties said, *"... It all goes back to support in your community.*" Most participants indicated that referrals from individuals they trusted are powerful motivators to seek treatment. Moreover, receiving a referral from someone who had used services was lauded as a strong facilitator to treatment seeking, including for participants who were adamantly against service use:

> "*I guess if someone recommends it—more like if someone who knows me very well and they recommend it, I might be more inclined to try it. Or if somebody else has been through these similar issues and the therapy helped them, then that would be like a good case for it. I guess that would make me more inclined to seek help.*" (male, late-teens).

Many participants highlighted their own encouragement for friends and family members to seek treatment, or to continue their treatment: "… *I would tell them straight up, the fact that you've… you've crossed this line and said that you need help and you're actually seeking it. You know, good for you… I would be fully supportive*" (male, mid-thirties).

Some participants indicated that endorsements to seek professional services from individuals occupying trusted roles are valuable treatment facilitators. Several participants discussed that a religious leaders' positive endorsements of mental health services would incline them toward treatment seeking. A participant in her late-forties said, "*…when you hear that from a religious scholar that sometimes… you can't handle all of it; You need to seek help. When you*

[8] *Ayah*, in this context, is the Arabic word referring to one verse, or unit, of the Qur'an.
[9] *Hadith,* in this context is synonymous with *sunnah,* referring to the narrations of traditions and sayings of the Prophet Muhammad ﷺ

hear that from a religious scholar, it gives a credit." Others, such as this participant in her mid-fifties, shared their reliance on family physicians as first points of contact for mental health concerns: "[I went] *through my family doctor. And they were attached to a mental health team, and I saw a psychiatrist.*"

Systemic Barriers and Facilitators

Systemic Barriers. All participants identified systemic concerns, common to non-Muslims, that hinder treatment seeking. Even in Canada, where mental healthcare is a mixture of publicly-funded and privatized services, many participants shared that costs of treatment are prohibitively high. While most participants reported the ability to afford treatments, they acknowledged that others are unable to do so. One participant stated, "…*I'm fortunate I have a great job and I have great benefits, so I'm sure there's many that don't. So how do we get that kind of help…health care to those people that don't have the money?*" (female, mid-fifties). Others shared that private health insurance does not adequately cover costs for a full course of treatment, "*So psychologists cost a lot of money, and your insurance is quite limited, depending on who you're with. I think it's a huge barrier*" (female, mid-forties).

Participants also shared systemic barriers unique to Muslims. Many believed that mental health resources are inaccessible for Muslims. A male in his late-thirties shared, "*I don't even think there was enough services available with a growing Muslim population in Canada. We need more services."* Another participant shared frustrations with seeking services, "*…finding a Muslim psychotherapist—that would be awesome. There aren't very many. I've already looked….*" (female, mid-forties). Similarly, some participants shared that a lack of treatment options in one's native language is a barrier, "*…finding a counselor that they can speak their language—and I think that's a huge barrier for many people who can't explain their feelings and*

may not have that much English in their vocabulary… You need to be able to say, 'F off!' in your language if you're mad, right?" (female, mid-forties).

Systemic Facilitators. Participants also identified systemic factors that facilitate treatment seeking, such as factors that reduced the financial strain of seeking treatment, access to insurance or employee assistance programs. Other factors also included initiatives by local Muslim non-profit organizations and masjids to offer treatments. For example, a participant in her early-forties stated, "*And I think affordability is huge, which is why the [ORGANIZATION] program, I think, is really good, because it's very, it's very minimal—the fee.*"

Several participants noted that access to virtual therapy was a facilitator that made treatment accessible. For some, virtual treatment helped overcome time restraints, self-prioritization issues and difficulties finding childcare during appointments. For others, virtual treatment ensured the ability to match with a therapist with specific demographic features. For example, one participant stated:

> "*…I don't know if previous to COVID there was an opportunity to, you know, see a therapist in the [CITY] when I'm from [DIFFERENT CITY] virtually like, that's...great. I was able to be very selective with what type of therapist I wanted to see, and that type of therapist wasn't available in my local community, and I probably most definitely would not be driving to the [CITY] to see somebody in person to have therapy.*"

Beliefs about Benefits of Seeking Treatment

Most participants endorsed positive beliefs about treatment effectiveness and held common expectations related to how therapy would benefit them. Many participants viewed treatment as a process of thinking aloud to "*feel lighter*" (female, mid-forties), which was "*therapeutic in itself*" (male, mid-thirties). Other participants viewed psychotherapy as a tool for improving relationships: *"My wife and I have better discussions because she understands me more. Because I'm expressing myself more…And then she understands the space I need at*

moments and the love and care that I need at moments." One participant added that the non-reciprocal therapeutic relationship was a substantial benefit to treatment:

> *"…a friendship is a two-way street. Like I tell my health problems to my friend, and then there's an expectation that my friend can tell their mental health problems to me. Whereas going through professional help we're not... My friends and I are not burdening each other with our... struggles. I'm paying that person to make it a one-way conversation. Now, I don't have to listen to their struggles. It's all focused on the issues I'm dealing with*" (male, mid-thirties).

Many participants' beliefs about treatment effectiveness included expectations that treatment would be directive. Participants reported that a provider's role was to identify causes of symptoms and offer solutions. One participant described the process of therapy as a person sharing their story, and "*then once that's all on the table, and the psychologist can have a full view of what's exactly bothering you and come up with a game plan based on that"* (male, mid-thirties). Similarly, many participants endorsed beliefs that mental health professionals' training was valuable and would help patients understand their own challenges: "*...someone who is trained, who understands that if this person is exhibiting one symptom or two symptoms or three symptoms, then I'm able to guide the conversation and see if there's more symptoms so that I can actually see what he's going through. That was really beneficial for me.*" (male, mid-thirties).

A minority of participants were uncertain about whether treatment would be beneficial. For instance, a participant described that she had not sought treatment, despite considering it because, "… *it's almost like I don't know if it's going to make such a big difference for me. I just cope by, like, just moving through things. I keep myself busy and I just… I don't know*" (female, early-twenties). A few participants reported that treatment would be effective, only if it conformed with Islamic beliefs. For example, a male in his mid-twenties stated, "*...the only way to get rid of problems is to do…take some sort of action. To receive a blueprint, a blueprint that*

is verified and vetted by a professional—which, as we're defining it, conforms to Islamic principles as well…" (male, mid-twenties).

Discussion

The present study explored Canadian Muslims' beliefs about mental health treatment seeking using the four-component HBM as a theoretical guide. The HBM suggests that individuals make healthcare decisions by weighing perceptions of 1) susceptibility to illness, 2) severity of the illness, 3) barriers to treatment, and 4) benefits offered by treatment. Our findings provide evidence that the HBM is a valuable tool in understanding the avoidance of mental heath care among underserved populations (Henshaw & Freedman-Doan, 2009). We discuss findings related to each component below, starting with findings that echo beliefs common to non-Muslim samples. We then highlight mental health treatment seeking beliefs unique to this sample. We end our discussion by suggesting the need to address Muslims' culturally relevant and general health beliefs through tailored interventions.

Most participants held beliefs about perceived susceptibility that were common to non-Muslims. Participants shared beliefs that they are susceptible to mental health problems and that mental illness has many causes. Most participants held biopsychosocial and spiritual attributions. Our findings are consistent with research among non-Muslims, suggesting that people have diverse attributions about mental illness and that spiritual and supernatural attributions are prevalent in ethnic minority groups (Bignall, Jacquez & Vaughn, 2015). These findings suggest that mental health literacy interventions may not need substantial focus on improving susceptibility beliefs, except for addressing supernatural attributions.

Participants severity beliefs were also mostly common to those found among non-Muslims. Most participants reported that treatment is only warranted for severe impairment, typically self-harm or suicide. These findings are consistent with research among non-Muslims

suggesting that mental health services are sought when functional impairments become apparent (Doll et al., 2021). However, the tone of participants' sentiments suggests these beliefs may be amplified in the Muslim community. Some research suggests that a substantial proportion of non-Muslims seek treatment for subclinical mental health problems (Druss et al., 2007). However, findings from our study suggest that Muslims do not seek services for subclinical concerns. Participants also indicated that strains in relationships, including marriage and friendships, are indicators that treatment is warranted. While this finding is novel among Muslims, the association between interpersonal strain and treatment utilization is documented in other groups (for example, Schonbrun & Whisman, 2010; Abe-Kim, Takeuchi & Hwang, 2002).

Participants also held beliefs about barriers to, and benefits of, treatment that were common to non-Muslims. Participants highlighted several well-established barriers to treatment, including negative beliefs about medication (Acosta, Rodríguez & Cabrera, 2013; Malpass et al., 2009), low prioritization of treatment (Czyz, et al., 2013; Zaman et al., 2022), poor mental health literacy (Andrade et al., 2015; Jorm, 2012), lack of social support (Dutta et al., 2019) and financial constraints (Bartram, 2019). Participants' beliefs about treatment benefits were also consistent with previous research such that most participants believed treatment would be effective (Silverman et al., 2021; Eisenberg, Speer & Hunt, 2012). The presence of these beliefs suggests that addressing attitudinal and knowledge barriers about treatment is necessary to improving treatment utilization.

An unexpected finding among many participants was the belief that Muslims may be more susceptible to mental health problems than others. It is possible that these findings reflect the Islamic perspective that hardships in life are inevitable tests of faith (Bulut et al., 2021). Moreover, these findings reflect some participants' views that maintaining religious practice is

stressful. These findings break from previous research, which typically suggests that Muslims' adherence to religious practices buffers negative mental health consequences (Ijaz et al., 2017). Indeed, many participants in the current study viewed religious practices as a source of resilience. Negative religious coping strategies (e.g., spiritual discontent) have been linked to increased distress among other religious groups (Pargament et al., 2013; Gardner et al., 2014). It is possible that some Western Muslims also rely on negative religious coping strategies that induce stress. Further research is necessary to test these findings.

Some participants shared alarming beliefs about susceptibility which warrant further exploration. Namely, many participants reported highly visible and prevalent mental health concerns in their communities. These findings support data from recent research suggesting that psychological distress is disproportionately high among Western Muslims (Awaad et al., 2021; Zia et al., 2022). This distress may stem from Western Muslims' sociopolitical context, which includes difficulties with acculturation (Goforth et al., 2014) and disproportionately high levels of racial and religious discrimination (EISR, 2016; Samari et al., 2018). Further research is warranted to understand and address the needs of Western Muslims.

Most treatment severity beliefs that participants shared, aside from one, were not unique to Muslims. In addition to common beliefs (see above), one participant indicated that mood-related difficulties in adhering to religious practice was an indicator that his mental health warranted treatment. This insight aligns with assertions that practicing Muslims' view mental health holistically and incorporate religiosity and spirituality in their conceptualization of health (Keshavarzi & Haque, 2012). Consequently, incorporating spirituality may be necessary for some Muslims' treatment and in interventions aimed at improving treatment utilization.

Most unique findings from this study related to participants' beliefs about barriers and facilitators to treatment. Whereas attitudinal barriers, including stigma, replicate previous findings in both Muslim (Mianji & Kirmayer, 2023; Zia & Mackenzie, 2021) and non-Muslim samples (for example, Corrigan, Druss & Perlick, 2014), participants' descriptions warrant further exploration. Specifically, many participants compared mental health stigma between Muslim and non-Muslim groups and believed stigma to be more prevalent in their community than in others. These findings suggest that public stigma toward help-seeking may be potent in Muslim communities. According to the internalized stigma model (Vogel et al., 2007), this stigma will be internalized by individuals with downstream consequences on treatment utilization. Participants' reports of generally favourable attitudes toward help-seeking, which are attenuated by internalized stigma, supports this claim and is consistent with previous findings (Alhomaizi et al., 2018; Zia & Mackenzie, 2021). Consequently, interventions which address both community perceptions of help-seeking and address internalization of stigma are warranted.

Participants' interest in seeking treatment and frustration with systemic barriers was salient in the current study. Most participants reported preferences for treatment with Muslim clinicians, citing mistrust of non-Muslim providers, which builds on previous research suggesting that Muslims worry about judgement from non-Muslim providers (Weatherhead & Daiches, 2010). Moreover, several participants disclosed previous negative experiences in therapy where they felt judged by non-Muslim providers, leading to negative help-seeking attitudes. These findings support claims by other researchers suggesting that access to Muslim therapists may facilitate help-seeking (McLaughlin, Ahmad & Weisman de Mamani, 2022). Additionally, findings also suggest that non-Muslim clinicians working with Muslim patients should aim to improve cultural competence to effectively work with Muslim patients. Resources

for clinicians working with Muslim patients are increasingly available (see Keshavarzi et al., 2020; Rassool, 2015).

Limitations of the current study should be considered for future research. We sampled self-reported religious Muslims. However, self-report measures of religiosity are subjective, which may limit the generalizability of findings to the larger population of religious Muslims. Findings of the current study also do not capture perspectives from non-religious Muslims, Muslims who are not fluent English-speakers, youth, and older-adults. Moreover, our findings are limited to Muslims living in the Canadian context, which may significantly differ from Muslims in other social contexts. Finally, given the exploratory nature of this study, findings are not conclusive of Muslims' mental health beliefs.

Our findings advance the understanding of health beliefs about mental health among Muslims living in Western countries. The use of the HBM to organize findings captures several key beliefs that are amenable to future intervention to promote positive attitudes and intentions to seek help. Interventions designed to improve mental health literacy should lead to downstream improvements in treatment utilization because literate individuals know when to seek help, why it is warranted, and how to do it. While mental health literacy interventions are effective (Wei et al., 2015; Taylor-Rodgers & Batterham, 2014) few exist which are tailored to the needs of minority groups (Na et al., 2016; Cheng et al., 2018). Future research is warranted to develop and test interventions to better meet the mental health needs of this growing minority population.

Preface to Chapter 4

The overall aim of this dissertation research is to develop an evidence-based intervention to promote mental health treatment seeking among Western Muslims. To address this aim, my dissertation research employs an exploratory mixed methods design, predicated on an initial qualitative phase followed by a later quantitative phase. Findings from chapter 3 represent the exploratory qualitative phase (i.e., study 1) of this dissertation, and are summarized below. In the forthcoming chapter, I present the development of a novel mental health literacy (MHL) intervention, and the initial test of the effectiveness and acceptability of the developed intervention in a sample Muslim audience.

As noted in Chapter 3 (i.e., study 1), several studies across different sub-samples of Muslims in Western countries have identified barriers to treatment seeking and have highlighted the need to address these barriers (e.g., Zia & Mackenzie, *submitted*; Mclaughlin et al., 2022; Bagasra, 2023). Identified barriers have included low mental health literacy (Zia & Mackenzie, *submitted*; Begum et al., 2019; Alhomaizi et al., 2018; Loo et al., 2012), both public and internalized stigmas (Zia & Mackenzie, *submitted*; Zia & Mackenzie, 2021, Ciftci et al., 2013), negative perceptions of treatment seeking (Ali et al., 2022), and issues related to mistrust of non-Muslim treatment providers and preferences for treatment from a Muslim treatment provider (Zia & Mackenzie, *submitted*; Bagasra, 2023). Far fewer studies have detailed attempts to address these barriers. It is possible that a limitation of previous research has been that barriers are identified and labelled either atheoretically or through quantitative, primarily survey-based, methodology rather than through rich perspectives garnered from in-depth conversations with Muslims. This lack of richness may translate to a lack of specificity, and subsequently a lack of pragmatic direction, regarding which treatment beliefs to target. Study 1 addressed this problematic issue by using a comprehensive, pre-existing theoretical framework (i.e., the HBM)

to explore and organize treatment beliefs in a way that highlights specific beliefs which can be targeted through an intervention (Zia & Mackenzie, *submitted*).

In study 1, I qualitatively analysed interviews with Canadian Muslims through the lens of the HBM to understand prevalent attitudes and beliefs about mental health and treatment seeking. The structure of the HBM facilitated a nuanced exploration of various health beliefs relating to Muslims' hesitance toward seeking treatment and beliefs which likely facilitate treatment seeking. Interestingly, findings from this exploratory study highlighted beliefs that are likely common to both Muslims and non-Muslims, as well as beliefs that are likely Muslim-specific. Moreover, numerous health beliefs, particularly relating to beliefs about symptom severity and benefits/ barriers to treatment, that were identified may be amenable to intervention through the provision of a culturally sensitive MHL intervention. Additionally, the organization of findings using the HBM offers a pragmatic strategy to translate findings into a MHL intervention.

Researchers have suggested the need for interventions aimed at improving MHL among Muslims (McLaughlin et al., 2022; Zia & Mackenzie, *submitted*). In the general public, meta-analytic evidence for MHL interventions suggests that brief interventions are highly effective in improving knowledge and support for mental health services in some populations (Mills et al., 2023). More details about the effectiveness of interventions developed to enhance MHL are presented in chapter 3. Unfortunately, despite findings from several Muslim samples suggesting poor MHL in this population (e.g., Loo et al., 2012; Begum et al., 2019), limited research exists on interventions developed specifically for Muslims. Consequently, efforts to improve MHL through targeted interventions are warranted for Muslims living in Western countries.

In Chapter 4 (study 2), I outline the development of a novel MHL intervention designed for Canadian Muslims. This chapter includes both the development phase and the primarily quantitative phase of the exploratory sequential mixed methods design of this dissertation. I begin by using applicable components of the Template for Intervention Description and Replication (Hoffmann et al., 2014), to describe the process of developing and disseminating the MHL intervention used in this study. Using this template, I highlight the theoretical and logistical planning, program partnerships, program logic model, and additional factors that were considered throughout program development. I then outline a pilot test to initially explore program feasibility, acceptability, and effectiveness. During the pilot test, which represents the final phase of the exploratory sequential mixed methods design, I use a concurrent mixed methods approach, which includes primarily quantitative tests of pre- and post-intervention change on variables of interest, and nested qualitative descriptions of participant feedback, questions, and facilitator field notes. This approach provides a rich set of data to explore the effectiveness of the intervention.

Chapter 4, Study 2: Program Development and Initial Implementation of a Mental Health Literacy Intervention for Western Muslims[10]

Abstract

Western Muslims have unmet mental health needs, but appear hesitant to seek treatment, possibly due to low mental health literacy (MHL). Few MHL interventions exist which are tailored toward Muslim audiences. In this study, we outline the development of a novel evidence-based, culturally sensitive MHL intervention for Muslims. We also present findings from a pilot assessing acceptability and effectiveness of the program in improving MHL, treatment-seeking attitudes, intentions to seek and recommend various sources of treatment, and public and self-stigma. We recruited 26 participants through local mosques and social media advertisements to attend the program and examined its effectiveness using a questionnaire and qualitative methods. Participants were engaged in the program, reported high program satisfaction, and improvements in MHL, intentions to recommend treatment from family physicians, mental health professionals and imams. Improvements were also reported for personal intentions to seek most sources of treatment, attitudes toward treatment seeking and self-stigma. Program implications and future directions are discussed. Our program offers a promising step toward addressing mental health needs for Western Muslims.

Keywords: Muslim mental health; mental health literacy; help-seeking attitudes; program development; program evaluation

[10] This manuscript, co-authored by myself, Dr. Corey Mackenzie, Dr. Kristin Reynolds, Sh. Hosam Helal, Dr. Dan Bailis and Dr. Lori Wilkinson is currently under review in *Evaluation and Program Planning*.

Background

Islam is the fastest growing minority religion in many Western countries, with projections indicating a rise to 3-10% of national populations in Canada, the US, and European countries within 30 years (Cornelissen, 2021, Masci, 2015, Pew Research Center, 2011). Muslims in these countries experience stress due to myriad factors including discrimination (Jisrawi & Arnold, 2018; The Environics Institute for Survey Research [EISR], 2016;), migration and acculturation (Barkdull et al., 2011; Akram-Pall & Moodley, 2016), health concerns (Matin & LeBaron, 2004), and financial burdens (EISR, 2016). These challenges contribute to higher psychological distress compared to the broader public and other religious groups (Zia et al., 2022; Awaad et al., 2021).

Despite facing significant distress, Muslims appear less likely to seek professional mental health services than the general population (Zia et al., 2022; McLaughlin et al., 2022). Problematic health beliefs, including insufficient knowledge about mental health and its treatment, and the perception of incongruence between Islam and treatment-seeking, contribute to low service use (Zia & Mackenzie, *submitted;* Alhomaizi et al., 2018; Weatherhead & Daiches, 2010). Attitudinal barriers, including community-wide and internalized stigma toward treatment-seeking, also impede service use (Mianji & Kirmayer, 2023; Zia & Mackenzie, 2021; Ciftci et al., 2015). Consequently, interventions are needed to promote treatment-seeking in this underserved population (Zia & Mackenzie, *submitted*; McLaughlin et al., 2022; Hassan et al., 2021).

Low mental health literacy (MHL) is a barrier to timely treatment seeking and may underlie disparities for underutilization of services among minority groups (Tambling et al., 2021). Generally, MHL refers to knowledge about mental health symptoms, treatment availability, and self-help and preventative strategies (Jorm, 2012). Other conceptualizations also include stigma reduction and promoting treatment-seeking efficacy (Kutcher et al., 2016).

Deficits in MHL are implicated in low service use in several global Muslim samples (Zia & Mackenzie, *submitted;* Munawar et al., 2020; Alhomaizi et al., 2018; Begum et al., 2019; Loo et al., 2012).

Numerous interventions have been developed to improve MHL (for example, Morgado et al., 2021; Pelham et al., 2017; Mcluckie et al., 2014; Kelly et al., 2007). These interventions promote early symptom recognition, emphasize treatment availability and efficacy, offer tools for self-help, and challenge both mental health and help-seeking stigma, with aims to improve an individual's likelihood to seek help. Many MHL interventions appear to improve treatment utilization (Wei et al., 2015; Mcluckie et al., 2014; Taylor-Rodgers & Batterham, 2014; Kelly et al., 2007). Unfortunately, despite research highlighting the effectiveness of MHL interventions, there are a lack of interventions tailored to minority groups' needs (Na et al., 2016). For Canadian Muslims, specifically, we are aware of only one empirically tested intervention (Hassan et al., 2021). Therefore, targeted MHL interventions are needed to address problematic beliefs and attitudes that hinder many Muslims' help-seeking (McLaughlin et al., 2022; Zia & Mackenzie, *submitted*).

Objectives

Our first objective is to describe the development of *Mental Health 101: For Muslims* (*MH101-M*), a novel program developed to improve Canadian Muslims' mental health literacy. To address this objective, we outline the impetus for *MH101-M*, followed by a program description using relevant components of the Template for Intervention Description and Replication (TIDieR), a checklist developed to standardize reporting on intervention development and delivery, to ensure descriptive accuracy and program transparency (Hoffmann et al., 2014). Our second objective is to provide preliminary evidence of *MH101-M*'s acceptability and effectiveness through a pilot test in a small sample of Canadian Muslims.

Methods

Intervention Development and Design

Program development began when BZ, a Canadian-Muslim doctoral candidate in clinical psychology, delivered four mental health-related lectures over 1.5 years to Muslim undergraduate and lay audiences. During these lectures, audience members expressed misconceptions and negative attitudes toward mental health and treatment-seeking. BZ and CM, a White Canadian professor of clinical psychology, initiated research to investigate these issues among Muslims. Their research, and collaborations with other researchers, found elevated risk for mental health concerns, underutilization of psychological services, and treatment barriers in both US and Canadian Muslim samples (Zia et al., 2022; Zia & Mackenzie, *submitted*; Ali et al., 2021; Awaad et al., 2021). These findings aligned with previous evidence implicating low MHL as a barrier to treatment in Muslim samples (Begum et al., 2019; Alhomaizi et al, 2018; Weatherhead and Daiches, 2010; Loo et al., 2012).

Simultaneously, private non-profit and university student organizations connected with BZ to develop workshops addressing MHL needs for staff, students, and the public. Notably, DawaNet Canada, a non-profit organization focused on meeting community needs for Muslims in the Greater Toronto Area (GTA), requested programming. DawaNet provides knowledge dissemination for health and wellness, Islamic education, charity programs, and annually cohosts the largest North American festival celebrating Islamic arts and culture (i.e., MuslimFest). DawaNet had previously launched a mental health initiative for Muslims and partnered with authors of this paper to expand their initiative by developing and pilot testing a novel MHL program for Muslims. To this end, DawaNet supported two sets of qualitative interviews with community residing Canadian Muslims, exploring participants' mental health needs and program preferences, to inform intervention development.

The first set of interviews, based on a validated theoretical model of healthcare utilization (i.e., the Health Belief Model; see Rosenstock, 1966; 1974), explored participants' beliefs about mental health and its treatment (Zia & Mackenzie, *submitted*). Findings from this set of interviews suggested that participants have a broad landscape of beliefs regarding mental health and its treatment. Our findings captured problematic beliefs, encompassing both common beliefs not specific to Muslims and those that reflect Muslims' unique context. Notably, Muslims had problems with symptom recognition, inaccurate beliefs about symptom severity, knowledge gaps about treatment availability and the logistics of seeking treatment, prevalent community-wide and internalized stigma, and negative beliefs about treatment effectiveness (Zia & Mackenzie, *submitted*).

The second set of qualitative interviews explored preferences for program format and content; the analyses of these interviews are presented in the supplementary section of this paper (see Appendix B). Participants suggested that program content should include symptom checklists, information about the etiology of mental health problems, self-help solutions, and local mental health resources. Moreover, many participants also shared that intervention content should respect cultural values and integrate Islamic beliefs. Regarding program format, most participants suggested that the intervention should be mainly didactic, with the opportunity for questions, include a religious leader as a facilitator, and span approximately one hour long.

Following these interviews, BZ and CM collaborated with a team of interdisciplinary researchers from the University of Manitoba to develop *MH101-M*. Members of the team have expertise in program development and evaluation (KR), immigrant integration and empowerment (LW), and personal health decision making (DB). In response to participant feedback from interviews (see supplementary materials A), the initial team invited the head

imam (HH) of ISNA Canada, one of the Greater Toronto Area's largest mosques, to co-facilitate the program and to help integrate Islamic beliefs and norms into program content.

The resulting program is an evidence based MHL intervention addressing knowledge gaps and negative attitudes toward mental health and treatment-seeking. Program content addressed beliefs derived from participant interviews (Zia & Mackenzie, *submitted*), and incorporated all participant content suggestions. Program format was developed to reflect all feasible participant suggestions (see Appendix B). Consequently, the program was a brief didactic session, separated into four short lectures, with interactive question-and-answer segments, co-facilitated by a religious leader. Some program format suggestions were logistically unfeasible at this time due to study constraints (e.g., program language, pre-recorded programming, virtual delivery).

TIDieR Description of *Mental Health 101: For Muslims*

Brief Name and Description

Our program name, *Mental Health 101: For Muslims*, is derived from BZ's previous community initiatives, aiming to succinctly convey the introductory nature of the program (i.e., *101* alluding to introductory courses in educational settings). The title specifically denotes that the content is tailored for Muslims. This single-session, evidence-based MHL program consists of four 15-minute lectures, each of which concludes with a brief question-and-answer period.

Rationale, Theory and Aim of Key Elements of the Intervention

Rationale. Several Muslim samples, including from both Muslim majority and minority populations, exhibit low MHL (Begum, 2019; Alhomaizi, 2018; Loo et al., 2012). For instance, a review of MHL in Pakistan found a lack of mental health knowledge in both the general population and in non-psychiatric health professionals (Begum et al., 2019). In another study,

researchers compared the ability of British, Hong Kong Chinese, and Malaysian participants to identify mental disorders. The predominantly Muslim Malaysian participants were least likely to correctly identify mental disorders in vignette examples (Loo et al., 2012). Similarly, in qualitative findings of help-seeking, Arab-American Muslims (Alhomaizi et al., 2018) and Canadian Muslims (Zia & Mackenzie, *submitted*) had difficulty recognizing common mental health symptoms, and self-identified low MHL as a barrier to treatment utilization.

Limited research among Muslims suggests that some subsamples may have adequate, or high MHL. In a review of nine studies investigating MHL among majority-Muslim Arab samples, authors found generally moderate to high MHL among respondents. However, they concluded that these findings were not a reliable indicator of MHL among Arabs, as the samples typically comprised individuals with extensive formal education (e.g., medical students, pharmacy students). Moreover, their review concluded that there is a scarcity of investigations of MHL among Arabs (Abo-Rass, Nakash & Abu-Kaf, 2023). Additionally, even among these studies, several problems with MHL were noted among some Arab samples, including difficulties recognizing mood disorders compared to "severe mental disorders" (Khatib & Abo-Rass, 2022), difficulties recognizing PTSD and attributing psycho-spiritual or supernatural causes to mental health problems (Krstonska-Blazeska et al., 2021; May et al., 2014). Taken together, research across Muslim samples suggests the need for interventions that improve MHL.

Whereas effective MHL interventions designed for the general population are abundant (e.g., Morgado et al., 2021; Wei et al., 2015; Taylor-Rodgers & Batterham, 2014), research with minority groups is limited. However, a growing body of research, primarily with Black and Latino populations, demonstrates the effectiveness of tailored MHL interventions, showing promising results for improving knowledge and reducing stigma in marginalized groups (e.g.,

Pérez-Flores, 2022; Schueller et al., 2019; Pelham, 2017). Notably, only a single study among Canadian Muslims has utilized a targeted intervention to improve knowledge and attitudes toward treatment-seeking, with a primary focus on addictions (Hassan et al., 2022). We are also aware of an additional study utilizing a targeted MHL intervention with Arabic-speaking Australians (Slewa-younan et al., 2020). Notably, however, this study focuses on both Muslim and Christian Arabs, rather than Muslims specifically. Consequently, there is a need for broader MHL interventions addressing common mental health concerns among Muslims.

Theoretical Framework. Interventions that use messaging informed by behaviour change theories are more effective than interventions with generic messaging (Noar, Benac & Harris, 2007). To improve the effectiveness of our intervention, we used the health belief model (HBM; Rosenstock, 1966; 1974) as a theoretical foundation for *MH101-M*. According to the HBM, individuals utilize healthcare services after considering perceptions of 1) susceptibility to a health concern, 2) severity of the health concern, 3) barriers to treatment, and 4) benefits of treatment (Rosenstock, 1966; Skinner et al., 2015). Meta-analytic findings and reviews suggest that the HBM is effective in predicting health behaviours and as a framework upon which to build interventions to improve service utilization (Janz & Becker, 1984; Zimmerman & Vernberg, 1994; Harrison et al., 1992; Carpenter et al., 2010; Skinner et al., 2015).

The HBM is a practical theory to facilitate the development of interventions to improve mental health service use (Henshaw & Freedman-Doan, 2009). Preliminary investigations demonstrate the effectiveness of the HBM in organizing problematic mental health beliefs and predicting mental health service use (Langley et al., 2018; Zaidlin et al., 2020). Consequently, a MHL intervention designed using the HBM as a theoretical guide will likely be more efficacious in improving mental health services than an atheoretical intervention. In a recent study, we

established a foundation for an HBM-guided MHL intervention by exploring and organizing Muslims' beliefs about mental health and treatment-seeking using this model (Zia & Mackenzie, submitted; see *Intervention Development and Design*, above, for a summary of findings).

Aims of MH101-M. The aim of *MH101-M* is to offer a theory-driven MHL intervention that reduces knowledge gaps and negative attitudes, promoting help-seeking among Muslims. To guide program development and evaluation, we employed a logic model (see Table 1) that represents program goals, design assumptions, and succinctly communicates program activities and results (Kaplan & Garrett, 2005; Taylor-Powell & Henert, 2008).

Our logic model was developed by defining intended outcomes, which signify changes resulting from the program (Taylor-Powell & Henert, 2008). We based these outcomes on 1) existing research on predictors of treatment-seeking (e.g., Rüsch et al., 2011; Jorm, 2012; Vogel et al., 2017); 2) the organizational mission of our partner, DawaNet Canada; 3) preferences of community-residing Canadian Muslims; and 4) feasibility of measurement for evaluation purposes (i.e., short-term outcomes). At the program outset, our intended outcomes included improvements in attitudes toward seeking treatment, intentions to seek and recommend treatment, mental health literacy, public stigma, and self-stigma. We also hypothesized that participants would be satisfied with the program.

Table 1. ***Logic model for Mental Health 101: For Muslims***

	Short-term Outcomes	Inputs	Activities	Outputs

1	Improved attitudes toward professional help-seeking measured using the Attitudes Toward Seeking Professional Psychological Help-Short Form (ATTSPPH-S; Fischer & Farina, 1995)	**Human resources**
		• Partnership with DawaNet Canada (logistics, advertising, financing)
		• Community centre hall rental (including seating, lighting, stage, bathrooms, etc.)
		• Researchers' time (advertising, program evaluation)
		• Expert facilitators' (religious leader and mental health professional) time
		• Volunteers to collect questions and register participants
		Materials
		• Printed materials (advertisement poster, resource list, program summary)
		• Stationary (clipboards, pens, etc.)
		• Refreshments (Coffee, tea, snacks, plates, cups, napkins, etc.)
		• AV equipment (projector, screen, microphone, speakers, etc.)
		• Funds allocated to (printing, advertising, facilities rental, etc.)
		Logistics
		• Advertisements (posters & social media)
		• Registration and program evaluation webpage
			• Story highlighting the importance of mental health.
			• Psychoeducation about:
			  • mental health using CBT model and biopsychosocial model.
			  • Psychoeducation about mental health severity.
			  • Psychoeducation about availability of treatments.
			  • Psychoeducation about barriers to treatment.
			  • Psychoeducation about benefits to treatment.
			• Question and answer.
			• Dissemination of resource list.
			• Dissemination of program summary sheet.
				• Participant attendance at the program (32 pre-registered attendees. 35 non-registered attendees.)
				• Participant engagement (18 anonymous, written questions & 9 questions asked during program).
				• Participation in research (21 participants completed both pre-and post group surveys)
				• Requests for referrals for service (3 attendees)

2	Improved intentions toward professional help-seeking measured using Intentions Toward Help-Seeking Scale (Mackenzie, Gekoski & Knox, 2006)	• Same as 1	• Same as 1	• Same as 1
3	Reduced Public stigma toward help-seeking measured using the	• Same as 1	• Same as 1	• Same as 1

	Stigma Scale for Receiving Psychological Help (SSRPH; Komiya et al., 2000)			
4	Reduced self-stigma of seeking treatment measured using the Self-Stigma of Seeking Help scale (SSOSH; Vogel et al., 2006)	• Same as 1	• Same as 1	• Same as 1
5	Improved intentions toward recommending help-seeking using a modified version of the Intentions Toward Help-seeking Scale (Mackenzie, Gekoski & Knox, 2006)	• Same as 1	• Same as 1	• Same as 1 • Significantly improved post-program ratings on select intentions toward recommending help-seeking measures
6	Improvements in mental health literacy measured using a four-item scale based on Jorm's (2000) definition of MHL (Mackenzie & Pankratz, 2022)	• Same as 1	• Same as 1	• Same as 1 • Significantly higher post-program rating on mental health literacy scale
7	Program satisfaction measured using a seven-item scale developed for this study.	• Same as 1	• Same as 1 • Culturally adapted program delivery (throughout program) • Discussions of religious content in programming (Slides 7; 9; 12; 15; 21-22; 26; 29-30; 33)	• Same as 1 • Positive ratings for program satisfaction • Participant informal feedback • Requests for additional programming

Intervention Procedures

Programming for *MH101-M* comprised two main activities held across 1.5 hours: didactic sessions and interactive question-and-answer segments. The didactic sessions were divided into four 15-minute lectures, each corresponding to a component of the HBM based on our interviews with community-residing Canadian Muslims (Zia & Mackenzie, *submitted*). The interactive segments were approximately 5-10 minutes between each section and at the program's end, allowing the audience to ask questions to facilitators, either in writing or by raising their hands. The facilitators responded to questions based on expertise (i.e., BZ responded to mental health questions, and HH to religious questions).

The first section of the lecture addressed mental health susceptibility by defining mental health, and common mental health symptoms, using a cognitive behaviour therapy (CBT) conceptualization (see Kennerley et al., 2017). The biopsychosocial model (see Tripathi, 2019) was introduced to discuss determinants of mental health and challenge supernatural attributions which may be prevalent among community members (Lim et al., 2018). We also shared prevalence rates of psychological distress among Muslims living in Canada and the US to normalize how common symptoms of anxiety and depression are among Muslims.

In the second section, we addressed questions of mental health severity by presenting the Mental Health Continuum Model, developed by the Canadian Armed Forces to promote self-screening (Chen et al., 2020; Blackler et al., 2018). This model highlights the progression of common mental health symptoms (e.g., sleep disturbance) on a continuum from healthy (e.g., no sleep disturbance) to severe (e.g., insomnia/ hypersomnia). We adapted the model to include culturally sensitive descriptions of symptom presentation, as appropriate (e.g., hookah pipe use in problematic substance use) to improve relevance of the program. We also used this continuum model to suggest appropriate treatment, including culturally sensitive self-help strategies (e.g.,

Islamic practices) for symptoms that are less severe and treatment-seeking for symptoms that are more severe.

In the third and fourth sections, we aimed to improve MHL about common barriers, and Muslim-specific barriers, to treatment and the potential benefits of treatment. In the third section we focused on knowledge barriers by discussing treatment-seeking logistics, differences in treatment providers, and privacy laws. This section included descriptions of benefits of psychological and psychiatric intervention. The final section addressed attitudinal barriers, including stigma, mental health treatment provider preferences, and social support. We included early Muslim scholars' contributions to psychology (see, for example, Haque, 2004) to improve relevance and to challenge mental illness and help-seeking stigma. Finally, we highlighted benefits of treatment from both Muslim and non-Muslim providers to attenuate provider preference as a barrier to treatment (Zia & Mackenzie, *submitted;* McLaughlin et al., 2022).

Intervention Providers

Our intervention was co-facilitated by two individuals with complimentary training. The first co-facilitator was a senior clinical psychology Ph.D. candidate with expertise in Muslim mental health, psychotherapy, and experience with program development and evaluation. He holds a B.Sc. in psychology and a M.A. in Clinical Psychology (University of Manitoba), and routinely offers public lectures on mental health for Muslims. The second co-facilitator, the head imam and education lead at ISNA Canada, holds degrees in Quranic Exegesis (Al-Azhar University), Health and Disease (B.Sc., University of Toronto) and Religion (B.A. & M.A., University of Toronto). He is currently a Ph.D. candidate in Religion (University of Toronto) and a prominent Muslim speaker in the Greater Toronto Area.

Intervention Delivery

MH101-M is designed and presented as an in-person group presentation, although it could easily be provided online. The co-facilitators jointly delivered the presentation, with BZ focusing on MHL and HH addressing content related to Islamic norms, traditional sources and scholarly opinions validating mental health service utilization. During intervention delivery, volunteers distributed stationary to audience members and collected questions. Audience engagement was encouraged through written or direct questions in between each 15-minute lecture. To maintain the flow of delivery, while one co-facilitator responded to a question, the other co-facilitator selected the next question to answer from the submitted written questions.

Intervention location and infrastructure

Logistical planning for the first iteration of *MH101-M* was overseen by DawaNet Canada. They secured a large hall in a community centre located in Mississauga, Canada, a large city in the GTA with a dense (17 %) Muslim population (Statistics Canada, 2023). The community-centre staff arranged the hall in a lecture-style format per program requirements. Program volunteers, recruited by DawaNet Canada, were responsible for the setup of all audiovisual equipment and refreshments. Tables were strategically positioned outside the hall where volunteers managed attendance.

Intervention delivery schedule

The current iteration of *MH101-M* was delivered as a pilot test in February 2023 to a small sample (n = 26) to determine intervention feasibility and to initially test effectiveness. Following this initial implementation, two additional Muslim community organizations requested delivery of the intervention. One request was made from a masjid in the GTA and another from a community organization in a neighbouring city. DawaNet, intervention

facilitators, and additional stakeholders are currently engaged in discussions regarding logistics of future program delivery.

Intervention Tailoring

Numerous interventions have been developed and implemented to improve MHL in the general population (Morgado et al., 2021; Tay, Tay & Klainin-Yobas, 2018; Brijnath et al., 2016; Wei et al., 2015; Taylor-Rodgers & Batterham, 2014). However, results from a systematic review of 144 MHL interventions highlighted that, except for Black and Latino populations, there is a conspicuous lack of research on MHL interventions developed for most ethnic minority groups (Yeo et al., 2024). Interventions promoting health behaviours are more efficacious when messaging is tailored to the target audience (Noar et al., 2007). Whereas promising findings exist for MHL interventions tailored to some minority groups (Pérez-Flores, 2021; Yeo et al., 2024), it remains uncertain whether these findings are generalizable to Muslim samples. Muslims may be hesitant of Western models of psychology, given foundational assumptions of health that differ from Western perspectives (Basit & Hamid, 2010; Jafari, 1993). Therefore, we incorporated classical Islamic psychology (Haque, 2004; Dohls, 1992) and drew on religious scholarship to spiritually adapt materials, ensuring their acceptability to Muslim audiences.

Pilot Program Evaluation

Following the development of *MH101-M*, we pilot tested the intervention in a small sample of Canadian Muslims as an initial test of feasibility, acceptability, and effectiveness. Our initial pilot test resulted in both quantitative and qualitative findings which should be considered for future iterations of this program, and other MHL programs delivered to Muslims living in Western countries.

Methods

Participants and procedures

We recruited participants through advertising flyers distributed at masjids in the GTA and on social media platforms through paid advertising and posts from Muslim influencers. All online posts featured anonymous links (hardcopy advertisements used QR codes) guiding potential participants to an online registration survey hosted on Qualtrics. Upon registration, participants completed informed consent and a pre-program questionnaire online, including demographics information, intentions to seek help, intentions to recommend help-seeking, help-seeking attitudes, mental health literacy, and public and self-stigma. Out of the 93 registered program attendees, 48 also consented to research participation and completed pre-program surveys.

Subsequently, participants attended our *MH101-M* program. Of the registered participants, 32 attended the program, 26 of whom had consented to the research. Immediately after the program, participants used a QR code presented on the slideshow to complete a post-program questionnaire, which included the same items above, excluding demographic information, and including program satisfaction questions. We intentionally refrained from collecting demographics information in the post-program questionnaire to attenuate privacy concerns, as completing personal questions in a group setting may pose a barrier for Muslims' research engagement (Zia & Mackenzie, *submitted*). Nevertheless, some participants declined to complete the questionnaires, reporting discomfort answering the questions in a group setting (see *Behavioural Observations and Fieldnotes* below). Three participants' data were excluded from analyses because they were missing. A total of 23 participants completed all surveys. Unfortunately, the absence of demographic information post-program prevented direct linkage of participant responses.

Measures

Demographic information was collected pre-program using a self-report questionnaire. Items on the questionnaire included name, age, education, occupational status, household income, marital status, and ethnicity.

Public stigma toward help-seeking was measured using the Stigma Scale for Receiving Psychological Help (SSRPH; Komiya et al., 2000). The SSRPH uses five items to assess agreement with statements about stigmatizing beliefs related to professional help-seeking. Items are scored using a five-point scale (1 = *strongly disagree;* 5 = *strongly agree*), where higher scores reflect greater public stigma. The SSRPH has evidence of validity, including among Canadian Muslims, through positive correlations with self-stigma and negative correlations with help-seeking attitudes (Zia & Mackenzie, 2021; Komiya et al., 2000). Internal consistency of the SSRPH in the sample was acceptable (Cronbach's $\alpha = 0.71$)

Self-stigma of seeking help was measured using Self-Stigma of Seeking Help scale (SSOSH; Vogel et al., 2006). The SSOSH uses 10 items to assess participant' anticipated reactions if professional treatment is necessitated. Items are scored on a five-point scale (1 = *strongly disagree*; 5 = *strongly agree*), where higher scores reflect greater self-stigma. The SSOSH has demonstratable validity through accurately predicting future help-seeking (Vogel et al., 2006), positive correlations with public stigma, and negative associations with help-seeking attitudes among Canadian Muslims (Zia & Mackenzie, 2021). Internal consistency in the current sample was good (Cronbach's $\alpha = .88$)

Intentions to seek help were measured at using the Intentions Toward Help-Seeking Scale (Mackenzie, Gekoski & Knox, 2006). This scale uses five items to assess the likelihood that a person would seek help from 1) a family physician, 2) a mental health professional, 3) religious clergy, 4) family or friends, or if they would 5) take care of it themselves, if they were

facing significant mental health problems. Each item is scored on a five-point scale (1 = *very unlikely;* 5 = *very likely*). Higher scores indicate greater help-seeking intentions. The validity of this measure is demonstrated through positive correlations with help-seeking attitudes, including in a sample of Canadian Muslims (Mackenzie et al., 2006, 2004; Zia & Mackenzie, 2021).

Intentions to recommend help-seeking were measured using a modified version of the Intentions Toward Help-Seeking Scale (see above; Mackenzie et al., 2006). We modified this scale to assess the likelihood that a person would recommend treatment-seeking from the same five sources above to a friend or family member facing significant mental health problem. Each item is scored on a 5-point scale (1 = *very unlikely*; 5 = *very likely*). This adapted version of the scale has not been previously utilized in the literature.

Attitudes toward Seeking Professional Help were measured using the Attitudes Toward Seeking Professional Psychological Help-Short Form (ATTSPPH-S; Fischer & Farina, 1995). The ATTSPPH-S is a 10-item scale reflecting the degree to which participants agree with statements about professional help on a five-point scale (1 = *strongly disagree*; 5 = *strongly agree*). The scale has demonstrable validity through correlations with instruments measuring mental health stigma and mental health service use, including in Canadian Muslim samples (Elhai, Schweinle & Anderson, 2008; Zia & Mackenzie, 2021). Internal consistency of the ATTSPPH-S in the current sample was good (Cronbach's $\alpha = 0.84$)

Mental Health Literacy was measured using a four-item scale based on Jorm's (2000) definition of MHL (Mackenzie & Pankratz, 2022). This scale assesses participants' knowledge and beliefs related to recognizing, managing, and preventing mental health problems. Items are scored on a five-point scale (1 = *not at all*; 5 = *extremely*). Previous research using this item demonstrates validity through positive associations with mental health service use, help-seeking

attitudes, and negative associations with both public and self-stigma toward help-seeking (Mackenzie & Pankratz, 2022). Internal consistency of this scale was excellent in the current sample (Cronbach's $\alpha = 0.92$).

Program Satisfaction was measured post-program using a seven-item questionnaire which mapped onto program satisfaction outcomes determined in the logic model. Three items, scored on a five-point scale, assessed the degree to which participants 1) considered the program useful (1 = *not very useful*; 5 = *extremely useful*, 2) would recommend the program to a friend or family member (1 = *very unlikely*; 5 = *very likely*), and 3) felt their religious beliefs were respected during programming (1 = *not at all respected*; 5 = *completely respected*). Two items collected open-ended information about 1) what participants liked about the session and 2) how the session could be improved. One item assessed whether participants would attend another session like this one (*yes/no*).

Audience Questions were collected to improve program content during future iterations, and as a proxy measure for participant engagement in the program. Participants submitted questions in writing, asked questions during the program by raising their hand during breaks or privately after the program concluded. Questions asked during the program were recorded verbatim by a volunteer, and the first author recorded questions asked privately in field notes written immediately following program conclusion. All questions were transcribed verbatim and transferred to a single document by BZ (see Appendix B).

Informal Data Collection. In addition to measures described above, we also captured data recorded in field notes by BZ. Field notes serve numerous important functions in qualitative research, including a prompt to improve researchers' interactions during the research, facilitate preliminary coding, increase the rigour of analyses, supplement data and share valuable context

regarding research analyses (Phillipi & Lauderdale, 2017). In the context of this study, the fieldnotes provide the program facilitator's perceptions of program effectiveness and acceptability and capture the numerous questions that were raised by participants. We took care not to include any identifying information about attendees in these data.

Analytic Strategy

We used a concurrent mixed methods design, using both quantitative and qualitative findings collected at roughly the same time and presented together (Creswell & Creswell, 2018) to pilot test our program. This methodology was used to provide a rich, multifaceted perspective on our program.

We first present quantitative findings. Variable characteristics and participant demographic features are presented in Table 2. Pre- and post-program scores on outcome variables (i.e., MHL, public and self-stigmas of seeking help, help-seeking attitudes, intentions to seek treatment from various sources and intentions to recommend treatment-seeking from various sources) and results of independent samples t-tests measuring pre-post changes on these measures are presented in Table 3. Given that we were unable to pair participant pre- and post-test data, we used independent samples t-tests out of an abundance of caution. Moreover, given the small sample size of our pilot test, we use effect sizes as preferred indicators of change, and interpret these using Cohen's (1988) guidelines for small (d = 0.02), medium (d = 0.5) and large (d = 0.8) effects. Given the higher error-variance in between-subjects designs, our effect sizes will likely be underestimated; consequently, our results likely present a conservative estimate of effect sizes. We also present findings from paired-samples t-tests assessing pre- and post-program comparisons of differences in participants' intentions to seek a particular source of support compared to their intentions to recommend those treatments to others.

We then present qualitative findings. These data are organized in three categories to reflect answers to the two open-ended program satisfaction questions, and to capture questions asked by participants during the program. We analyzed these data using the framework approach (Ritchie & Spencer, 1994), a recursive process involving familiarization with data, ascribing codes to units of meaning in the data, initial development of a thematic framework, honing the framework, and presentation of final themes. We utilized the framework approach given the flexibility in the method's underlying philosophy (Gale et al., 2013), noting that, to our knowledge, no existing qualitative analytic methodology authentically honours indigenous Islamic perspectives on ontology, epistemology, and axiology. The first and second authors read participant feedback and questions together and discussed initial perception of themes. The first author read through answers and questions one line at a time and used an inductive coding strategy to assign codes. The first and second author met to review codes and finalized a thematic framework. The first author also reviewed codes with the fourth author to ensure clarity and rigour of analyses. Analyses were completed in NVivo to facilitate organization of themes.

Results

Quantitative findings

Program Satisfaction Findings

Feedback on program satisfaction questionnaires were completed by 19 participants. Most participants found the program somewhat useful (n = 2) or extremely useful (n = 15); 2 participants were neutral. Most participants reported that they would be likely (n = 4) or very likely (n = 14) to recommend the program to friends or family members; one participant was neutral. Almost all participants (n = 18) reported feeling that their religious beliefs were respected during the program; one participant was neutral. All participants (n = 19) responded *yes* to whether they would attend a similar session in the future.

Table 2. ***Pre-program Sample Sociodemographic Variable Characteristics***	
Mean (*SD*) age, range: years	38.73 (*11.44*), 22 - 61
Gender (%)	
Male	20 (40.8)
Female	29 (59.2)
Education (%)	
Graduate/ Professional Degree	11 (15.4)
Professional Degree (M.D., J.D., etc.)	1 (2.1)
Bachelor's Degree	27 (56.3)
College Diploma	2 (4.2)
Some Post-Secondary (University or College)	3 (6.3)
Education	
High School Diploma or Some High School	4 (8.4)
Ethnic Heritage (%)	
South Asian	23 (65.3)
Arab	9 (18.4)
Black	2 (4.1)
White	2 (4.1)
Central/ West Asian	3 (6.1)
Other	1 (2.0)
Lifetime Service Use from a MH professional (%Yes)	
Mental Health Professional (%Yes)	22 (45.8)
Total Psychological distress (K6)	8.28 (5.60)
Mean (*SD*) Mental Health Literacy	2.85 (1.07)

Outcome Measure Findings

Independent samples t-tests assessed significant changes in group means on outcome variables. Results from the t-tests are listed in Table 3. Significant changes in pre-post program scores on MHL and intentions to recommend help from a mental health professional, family physician and an imam were found, with moderate to large effect sizes on each measure. Pre- to post-program changes in self-stigma, help-seeking attitudes, intentions to seek help from each source of help (except for family/friends), and intentions to recommend help seeing from family/friends were not significantly different. However, small to moderate effect sizes were noted on each of these measures. Change scores on public stigma, intentions to talk to

family/friends and intentions to recommend others take care of problems by themselves were not significant and had very small effect sizes.

Table 3. ***Pre- and Post-program Outcome Variable Characteristics***

Outcome Measure	Pre-Program Mean (*SD*) N = 48	Post-Program Mean (*SD*) N = 21	T-Score	P-value	Effect size (Cohen's d)
Mental Health Literacy	2.85 (*1.07*)	3.52 (*0.73*)	-2.71	0.003	0.73
Public Stigma	2.58 (*0.75*)	2.68 (*0.59*)	-.050	0.61	0.14
Self-Stigma	2.16 (*0.93*)	1.89 (*0.69*)	1.10	0.27	0.32
Help-seeking Attitudes	3.48 (*0.64*)	3.76 (*0.67*)	-1.71	0.09	0.41
Intentions to seek help from:					
MH professional	3.81 (*1.14*)	4.10 (*0.94*)	-0.99	0.32	0.28
Family physician	3.56 (*1.11*)	4.00 (*1.10*)	-1.51	0.14	0.40
Imam	3.08 (*1.24*)	3.62 (*1.07*)	-1.72	0.09	0.47
Family/ friend	4.04 (*1.01*)	4.00 (*1.30*)	0.14	0.89	0.03
Taking care of it yourself	4.25 (*0.79*)	3.90 (*1.00*)	1.55	0.13	0.39
Intentions to recommend help from:					
MH professional	4.23 (*1.26*)	4.71 (*0.46*)	-2.09	0.04	0.51
Family physician	3.69 (*1.17*)	4.33 (*0.97*)	-2.22	0.03	0.59
Imam	3.44 (*1.21*)	4.14 (*0.73*)	-2.46	0.02	0.70
Family/ friend	4.25 (*0.96*)	4.52 (*0.68*)	-1.18	0.24	0.32
Taking care of it yourself	3.31 (*1.39*)	3.38 (*1.63*)	-0.18	0.86	0.05

A series of paired samples t-tests assessed pre- and post-intervention changes on participants' intentions to personally seek four sources of help compared to their intentions to recommend these sources to others. Pre-intervention, participants reported significantly greater intentions to recommend seeking help from a mental health professional (t = -2.87, p <.01, d = 0.42) or an imam (t = -2.84, p < .01, d = 0.41) compared to personal intentions to seek these services. Post-intervention, participants continued to report significantly greater intentions to recommend seeking help from a mental health professional (t = -2.91, p <.01, d = 0.41) or an imam (t = -2.75, p < .01, d = 0.60) compared to personal intentions to seek these services. Pre-intervention, participants also reported significantly greater personal intentions to deal with mental health concerns themselves compared to recommending others do the same (t = 4.23, p < .001, d = 0.61). Post-intervention, the difference in intentions to take care of problems oneself or

to recommend that others do the same was no longer significant (t = 1.92, p = .07), albeit the effect size of the difference remained small to moderate (d = 0.42). Pre-intervention, there were no significant differences in personal intentions to seek, compared to intentions to recommend seeking, support from a family physician (t = -0.76, p = .45, d = 0.11) or from family or friends (t = -1.26, p = .22, d = 0.18). While there continued to be no significant differences in personal intentions to seek, compared to intentions to recommend seeking, support from a family physician (t = -1.92, p = .07) or from family or friends (t = 1.92, p = .06), post-program differences appeared to be approaching significance for both variables with a small to moderate effect size (d = 0.42 and 0.43, respectively).

Examining rank-order lists of participants' ratings on intentions measures also reveals a notable finding. In pre-program data, handling a mental health problem oneself was the highest ranked personal intention, but the lowest ranked intention to recommend for others. In post-test data, participants ranked this option as the lowest both for personal intentions and intentions to recommend for others. Similarly, in pre-test data, personal intentions to seek services from a mental health professional was the lowest ranked option, whereas recommending this treatment to a friend or family member was the second highest ranked option. In post-test data, intentions toward both seeking and recommending mental health professionals was ranked as the highest option. Improving participants' intentions to seek help from mental health professionals was a key aim of this intervention.

Qualitative findings

Qualitative findings reflect participants' 1) responses to the two open-ended items on the program satisfaction survey and 2) questions asked during, or after, the program. The two open-ended items in the survey were, w*hat did you like about the session* and *how could we improve the session*. Ten participants answered the first question, and seven participants answered the

second question. Audience questions provided data about program engagement and content to include in future programming. A total of 19 questions were submitted in writing, nine questions were asked directly during session, and four questions were asked privately after the program. Five questions were excluded from analyses as they pertained to requests made to facilitators (e.g., *Do you see children for therapy?*). All questions were anonymous.

Open-ended Item Responses

Participant responses to the item addressing what they liked about the session affirm the acceptability of the program. General positive feedback was common, with participants expressing satisfaction with, "*the education for the community on the topic as a whole*" and the "*organization for the presentation; space for questions.*" As expected, the integration of Islamic and Western perspectives on mental health was particularly valued. Some participants also reported appreciation for receiving a tangible resource list. One participant commented that they, "*really admire the effort to destigmatize*."

Responses to the question about improving the session highlights potential content and formatting adjustments for future iterations of *MH101-M*. Participants suggested improvements in audience engagement during the program with comments such as, "*Overall, it was amazing, however, it helps to engage the audience with questions at the beginning (e.g., you can test them by asking them to define mental health themselves before telling them directly).*" Three additional improvements were recommended by a single participant each, suggesting 1) the need for further clarity about treatment-seeking by, "*Providing a clear starting point for where to seek affordable help*," 2) including discussions about the role of gender in help-seeking, and 3) enhancing diversity in the program by including, "*other ethnic groups aside from Arab and South Asian*" in

program examples. A final participant indicated that "*nothing*" was needed to improve the session.

Participant questions

Participant questions during and after the program underscore audience engagement with *MH101-M*, reflecting both unmet mental health needs and potential content improvements for future iterations. A total of 27 questions were analysed, reflecting interest in mental health knowledge among Canadian Muslims. Themes of these questions included 1) self-help and treatment advice, 2) advice for challenging mental health and treatment-seeking stigma, 3) clarification about symptoms and causes of mental health problems, and 4) logistical questions regarding treatment-seeking. Where appropriate, themes were further divided into subthemes.

Most participant questions focused on self-help and treatment advice, with two subthemes reflecting non-Muslim-specific self-help questions and Islam-integrated mental health questions. Non-Muslim-specific questions queries advice for common symptoms of stress, anxiety, and depression. For example, one participant asked, "*Something that gives me a lot of stress and anxiety is being unable to stick to a regular routine. How can I address that?*" Questions that integrated Islam and mental health included requests for Islamic advice for addressing psychological challenges. For example, a participant asked, *"What are some strategies to manage/process strong emotions? E.g., the Prophet (pbuh) would be very sad, but was known to be smiling all the time."* These questions appear to reflect participants' desires to navigate psychological problems on their own.

Questions related to challenging stigma toward treatment-seeking were prevalent during the intervention. These questions were categorized into subthemes relating to 1) self-stigma toward mental health problems, 2) public stigma about seeking help, and 3) stigma toward

treatment-seeking from loved ones in need. Regarding self-stigma, participants asked questions about managing self-esteem when navigating mental health problems. For example, "*How does one with a mental disability console themselves knowing they have a psychological disadvantage in life?*" Pertaining to public stigma, participants asked questions about challenging others' negative beliefs about treatment. For example, one participant asked "*How do you convince someone that the answer to improving your mental health is not just "make [supplications], pray more, etc."* Finally, many participants had similar questions about specifically challenging stigma from loved ones who were facing the need for treatment. For instance, "*How does one help their spouse/family/friend if we see that they need help, but won't want treatment or even help?*" These questions reflect prominent treatment-seeking stigma that many Muslims perceive in their communities, and the internalization of that stigma.

The final two themes included clarification questions about symptoms and causes of mental health problems, and questions about the logistics related to treatment-seeking. Regarding symptoms and causes, questions related to discerning whether a problem warranted treatment. For example, a participant asked *"How do we know if a symptom of a mental health problem is directly correlated with mental health issues rather [than it] just being something habitual or personality based (i.e., avoiding social gatherings when you're an introvert*). These questions reflect participants' desire to deepen their understanding of symptoms that were presented in the program, potentially to discern whether personal challenges warrant treatment. Logistical questions related to treatment-seeking included requests for understanding how to access low-cost, or free, treatment, and how to navigate being in treatment. For example, a participant asked, "*How do you know when to stop seeking treatment with a therapist or switch therapists*?"

Behavioural observations and fieldnotes

Post-program feedback and interactions with participants offered valuable insights into the program's impact. Several attendees commented on their appreciation of the program, describing it as thought-provoking. One participant, who attended with her teenage children, stated that she and her children learned a lot and would be discussing mental health at dinner that evening, and routinely in the future. However, some participants shared concerns about the timing of the post-program survey, highlighting discomfort in responding to questions, in the presence of friends and family, that they felt were sensitive.

In addition to comments about the program, several participants made requests for services. Immediately after the program, one individual requested a referral for services, while two others reached out to the facilitator on social media for treatment referrals. One of these attendees later confirmed initiating treatment. Additionally, two youth leaders from a non-profit organization engaged BZ following the program in an interview to enhance their internal strategy for improving youth therapy engagement. Finally, two requests were made from staff of two different masjids to deliver *MH101-M* to their congregants.

Discussion

This study presents the development and pilot testing of *MH101-M*, a MHL intervention tailored for Muslims living in Western countries. In response to the scarcity of such strategies (Mclaughlin et al., 2022; Zia & Mackenzie, 2021; Zia & Mackenzie, *submitted*), our intervention aims to improve MHL, attitudes toward treatment-seeking, and intentions to both seek and recommend treatment, while reducing both public and self-stigma toward help-seeking.

Findings from our study suggest that our MHL intervention was acceptable and well-received. These findings lend confidence to previous postulations that the HBM is an effective theoretical model for designing interventions aimed at improving knowledge about mental health

(Henshaw & Freedman-Doan, 2009). Moreover, our results mirror Hassan and colleagues' (2021) findings, the only other study of a MHL intervention for Muslims, to our knowledge. Attendees of *MH101-M* were highly engaged, as demonstrated through the substantial number of questions asked throughout the program, positive ratings on program satisfaction scales, qualitative feedback about elements of the program they enjoyed, and informal feedback regarding appreciation of the program. Our results provide both evidence for the acceptability of *MH101-M* and participants' satisfaction with the program materials.

Our preliminary findings provide evidence for the effectiveness of *MH101-M*. On most outcome variables, pre- to post-program changes in participants' scores suggest small to large effect sizes in the intended direction. Most notably, participants' scores on MHL were significantly improved at post-program. Improving MHL by addressing knowledge gaps and challenging negative treatment-seeking attitudes such as stigma can lead to downstream improvements in treatment utilization (Jorm, 2012; Kelly et al., 2007). Our findings are especially promising given assertions that MHL is among the most prominent barriers to treatment-seeking for Muslims (Ali et al., 2021; Alhomaizi et al., 2018; Begum et al., 2019; Loo et al., 2012). Consequently, these preliminary findings suggest that *MH101-M* may be effective in improving treatment utilization among Western Muslims. Future longitudinal research is needed to verify this claim.

Additional findings regarding effectiveness are also promising and support larger-scale research to test program effectiveness. Participants endorsed significantly greater intentions to recommend treatment-seeking from general practitioners, mental health professionals and imams following attendance at our program. These findings are important given the body of research noting that social support facilitates treatment-seeking (Green Jr. & Pescosolido 2023; Beatie et

al., 2020; Maulik et al., 2009), including among Canadian Muslims (Zia & Mackenzie, *submitted*). Our intervention may result in indirect improvements in service use among Muslims, mediated by referrals from friends and family members.

Changes in participants' scores on most personal treatment-seeking intentions, help-seeking attitudes, and self-stigma were modest, but bolster preliminary evidence for program effectiveness. Effect sizes for post-intervention attitude change are generally relatively small compared to effect sizes for knowledge change (see, for example Hadlaczky et al., 2014). Findings based on descriptive evidence and fieldnotes from this study additionally support the effectiveness of this intervention. Specifically, prior to the intervention, help-seeking from a mental health professional was the least endorsed personal intention item, whereas it was the highest endorsed personal intention item following the intervention. Similarly, some participants requested referrals for treatment, and reported subsequent treatment seeking following the intervention. Future research, at a larger scale, is necessary to further comment on the effectiveness of the intervention.

Participants' improvements on most outcome measures may reflect a process of correcting, or disambiguating, misperceived social norms. Misperceptions about group norms regarding a particular behaviour may guide problematic health behaviours (see for example, Klein & Rice, 2019; Blanton et al., 2008). Correcting these misperceptions can lead to robust and rapid changes to health behaviours (Klein & Rice, 2019). Moreover, individuals may choose not to engage in healthy behaviours if they believe that those behaviours do not align with their identity (e.g., "Muslims do not seek mental health treatment") (Oyserman et al., 2014). Through *MH101-M*, we quantified the prevalence of mental health needs and treatment seeking among Muslims and provided culturally sensitive feedback related to Islamic norms regarding treatment

seeking. It is possible that our intervention effectively challenged misperceived norms in an identity-protective manner, facilitating immediate improvements in help-seeking intentions. Further research is required to investigate these claims.

In addition, findings regarding participants' treatment-seeking intentions also warrant further investigation. In both pre- and post-program data, participants were more likely to intend to recommend various sources of help seeking for family and friends than to intend treatment seeking themselves. This finding suggests the possibility of a "double standard" among Muslims, such that treatment seeking may be viewed as more acceptable for others than oneself. These findings make sense in the context of the internalized stigma model (Vogel et al., 2006; Zia & Mackenzie, 2021), wherein a person's perceptions that help-seeking is stigmatized by others is internalized, and results in negative intentions toward treatment seeking. However, a notable finding in our study is that the double standard related to intentions to deal with a problem oneself was no longer present after the intervention. These findings suggest that the intervention was successful in helping participants recognize the need for support rather than self-reliance on managing psychological difficulties. Interestingly, double standards in other domains persisted, even after the intervention, warranting further investigation.

Our initial implementation of *MH101-M* was a pilot test of effectiveness and acceptability and not without its limitations. Participants generally had favourable attitudes toward help-seeking pre-intervention, a prevalent rate of contact with mental health services, and self-selected to participate in the study. Consequently, participants in this study may be individuals who are more receptive to the intervention than the general population of Muslims. Moreover, we had significant attrition from pre- to post-intervention. It is unclear whether registrants who did not attend the program, or complete post-program measures, were

significantly different from attendees. It is possible that those who stayed to complete program surveys had the highest pre-intervention MHL. Alternatively, it is possible that registrants with the highest pre-intervention MHL were more likely to drop out of the study because they did not feel the need to attend the intervention. Future research should aim to address this issue by improving attrition rates. Finally, our study excluded potential participants who do not speak English, or who were younger than 18 years of age. As a result, we may inadvertently exclude Muslim subpopulations, including immigrants, refugees, and youth, who may have benefited from the program materials. Future research should consider expanding inclusion criteria, offering the program in multiple languages, and oversampling to include populations with more negative help-seeking attitudes.

Lessons Learned

a) Cultural factors likely influenced participant engagement, as evidenced by participants who reported disinterest in study participation due to privacy concerns. Future program development and evaluation with this population may benefit from more rigorous recruitment and retention strategies such as those recommended by Cook et al. (2015). Specifically, our study would have benefited from deliberate overestimation of recruitment and retention challenges, and subsequently incorporated methodology including incentivizing research participation, offering private spaces to complete surveys, or making announcements regarding the value of the research, and explicit statements of confidentiality, during program presentation.

b) Future research should continue to involve community stakeholders in program implementation and evaluation. Incorporating additional stakeholders, beyond researchers and non-profit organizers, would likely provide valuable insight into program implementation to dramatically increase participation. For instance, the location for *MH101-M* (i.e., a lecture hall

at a community centre) was chosen based on availability and to encourage participant attendance regardless of religiosity. However, Islamic community centers and masjids have asked us to consider their institutions as future venues to leverage existing community infrastructure. This strategy may improve the program's legitimacy among religious Muslims, who may benefit the most from MHL interventions (Ali et al., 2021). Additionally, the familiar venue, and collaboration of community leaders may improve research buy-in and survey response.

c) Finally, data from supplemental analyses, requests from community groups, and emails from potential program attendees highlighted interest in online offerings of MHL interventions. Digitally delivered MHL interventions pose a pragmatic remedy for mental health disparities in underserved populations (Schueller et al., 2019). Online deliveries of MHL programs may prove to be a practical solution to reduce the impact of treatment seeking stigmas among Muslims, ultimately extending reach to a wider audience. Moreover, creating a platform for online program delivery and program evaluation would enhance standardization of the program for evaluation purposes. Once multiple iterations of the program have been tested in-person, it will be beneficial to translate the program to an online platform.

Chapter 5: General Discussion and Conclusion

The objectives of my dissertation research were to investigate mental health and treatment seeking beliefs among Muslims in Canada (study one) and to use this information to subsequently develop a MHL intervention aimed at improving knowledge and attitudes (study two). The results of these two studies significantly contribute to the literature on Muslim mental health in several ways, including corroborating previous research and demonstrating novel findings. In this general discussion, I begin by summarizing the overall dissertation and contextualizing the main findings of each study in the broader literature. I then discuss potential future directions for research on *MH101-M* and other interventions aiming to address the mental health needs of Muslims living in Western countries.

This dissertation used an exploratory sequential mixed method design to investigate Muslims' mental health beliefs and to develop, and initially pilot test, a novel MHL intervention for Western Muslims. In the initial qualitative phase, I used semi-structured interviews with community-residing Canadian Muslims to explore 1) health beliefs related to mental health and mental healthcare, and 2) preferences for content and format of a mental health intervention. In the second phase, I used findings from phase one, which included participants' lived experiences with mental health problems, to develop a MHL intervention to specifically address problematic health beliefs, misconceptions, and gaps in knowledge. I utilized participant feedback, my personal clinical expertise and cultural understanding, and input from a religious leader to ensure that this intervention was culturally sensitive and specifically tailored to the needs of Muslims. I then pilot tested this intervention in a small sample of Canadian Muslims.

Integrating Research Findings within the Muslim Mental Health Literature

Study One

Muslims are generally underrepresented in the psychological literature, which creates challenges in producing evidence-based interventions to improve access to treatment (Altalib et al., 2019). Research among Muslims is sparse and often atheoretical or speculative. Consequently, among the most notable contributions of study one is that it collects a nuanced landscape of beliefs about mental health and treatment seeking from participants in a parsimonious and pragmatic theoretical model (i.e., the HBM; Rosenstock, 1966). The findings of this study lend credibility to previous suggestions that the HBM is a pragmatic and effective tool to identify targets for interventions related to poor treatment seeking attitudes and intentions among understudied populations (Henshaw & Freedman-Doan, 2009).

Participants' beliefs were categorized along four domains which correspond to beliefs about susceptibility, severity, barriers, and benefits to treatment seeking. Within each domain, participants held beliefs that are both well-established in the literature (i.e., not specific to Muslims) and beliefs that are likely unique to Muslims. Overall, findings had less emphasis on participants' beliefs regarding 1) susceptibility to mental illness and 2) the effectiveness of mental health treatment; rather, findings emphasized problematic beliefs related to 3) symptom severity and 4) perceptions of barriers to treatment. As a result, findings from this study established the foundation for an intervention with a greater emphasis on providing information, and correcting misperceptions, related to barriers to treatment and symptom severity than on susceptibility to mental illness and benefits of treatment.

Many of the findings of study one suggested that Western Muslims share common beliefs about mental health with non-Muslims. For example, participants' beliefs that mental health treatment is only warranted when symptoms become severe is a commonly held belief reported

among both Muslims (Weatherhead & Daiches, 2010) and non-Muslims (Doll et al., 2021). The recognition of these common beliefs is a valuable finding in this research. Often, research with Muslims highlights challenges with treatment that are unique to this population (see, for example Bagasra, 2023; Mclaughlin et al., 2022; Zia & Mackenzie, 2021). As a result, interventions designed to improve attitudes and intentions toward treatment seeking among Muslims may inadvertently overlook these more universal concerns in favour of emphasizing Muslim-specific issues. Importantly, tools to improve knowledge that rectify commonly held problematic beliefs (e.g., the Mental Health Continuum Model, which addresses symptoms severity beliefs) are widely available and efficacious (Chen et al., 2020; Blackler et al., 2018). Consequently, highlighting commonly held beliefs among both Muslims and non-Muslims will likely facilitate future adaptations of pre-existing tools for Muslim audiences, which may be an effective and pragmatic strategy to improve MHL.

Novel findings from study one also included several beliefs that were unique to Muslims, and either not previously reported in the literature or not reported among Canadian Muslims. Regarding susceptibility, a novel finding was some participants' belief that Western Muslims may be more susceptible to mental health problems than non-Muslims, and the belief that mental health problems are highly prevalent in Western Muslim communities. These reports add to quantitative findings from recent research suggesting high rates of mental health problems in Western Muslim samples (Zia et al., 2022; Awaad et al., 2021). Taken together, the data suggest an alarming likelihood that Muslims living in Western Countries have significant, unmet mental health needs. Moreover, findings from study one offer a rich description of this problem from participants' perspectives. Consequently, these findings provide further justification, and a sense

of urgency, for developing interventions aimed at promoting treatment seeking in Western Muslim communities.

Most findings from study one related to beliefs about barriers to treatment. Many of these barriers have been reported in previous studies, including pervasive stigma (Zia & Mackenzie, 2021; Ciftci et al., 2013), mistrust of non-Muslim providers (Bagasra, 2023), and the lack of availability of Muslim treatment providers (Mclaughlin et al., 2022). However, the current study is the first, to my knowledge, which examines these beliefs using rich qualitative data from interviews with participants, which capture their lived experiences in relation to these barriers. A strength of analysing interview-based data that deals with participants' lived experiences is that these data facilitate both a thorough conceptualization of issues faced by participants, and the subsequent generation of hypotheses for addressing these issues, which may not be possible through quantitative analyses alone (Agius, 2013). In the context of this study, a notable finding from participants' rich descriptions of their perceived barriers to treatment was the recognition of how knowledge barriers, including lack of knowledge (e.g., uncertainty about the logistics of seeking treatment) and erroneous beliefs (e.g., inaccurate aetiological attributions of mental health problems, which symptoms warrant treatment, etc.) about mental health and treatment seeking, impede accessing treatment for many participants. Consequently, analysing data from study one facilitated identification of topics where brief, targeting messaging during a MHL intervention would likely result in beneficial change.

Study Two

Study two encapsulated both the intervention development and its initial evaluation of a novel MHL intervention designed specifically for Muslims living in Western countries. The necessity of developing a MHL intervention, as opposed to alternative interventions (e.g., anti-

stigma) was gleaned from research demonstrating low MHL among Muslims compared to other populations (Begum, 2019; Alhomaizi, 2018; Loo et al., 2012; Zia & Mackenzie, *submitted*). Moreover, participants who were interviewed in study one also completed a second set of interviews, where they identified the need for culturally sensitive MHL content (e.g., self-help strategies, symptom checklists, etc.) to be included in *MH101-M*. Consequently, the intervention's materials were developed through findings from study one, identifying gaps in knowledge, problematic beliefs, and negative attitudes about mental health and treatment seeking. Aims of the intervention included pre–post-intervention improvements in MHL, attitudes toward treatment-seeking, intentions to both seek and recommend treatment, and public and self-stigmas related to help-seeking.

I described the program development of *MH101-M*, the novel MHL intervention, to ensure a comprehensive and transparent description of the intervention's development and dissemination. To facilitate this description, I used applicable portions of the TiDieR checklist (Hoffman et al., 2014), which allows for a clear outline of theoretical underpinnings of the intervention, logistical planning, partnerships, and the intervention's logic model. This description ensured the rigour of the intervention development, while also ensuring that all essential components of the intervention were adequately described and could be replicated and evaluated in future research.

The findings from study two suggested that *MH101-M* was acceptable and offered preliminary support for its effectiveness. Attendees of the intervention were highly engaged, as evidenced by their active participation, positive program satisfaction ratings, and qualitative feedback highlighting appreciation for the intervention. There were also significant improvements in MHL among attendees, suggesting the intervention was effective in addressing

knowledge gaps about mental health and its treatment which may lead to downstream improvement in treatment utilization. There were also significant improvements in intentions to recommend treatment by mental health professionals, family physicians and imams. Despite the small sample size that limited statistical power and the ability to find significant differences, small to moderate effect sizes were noted for increased help-seeking attitudes, intentions to seek help from a mental health professional and imam, and intentions to recommend seeking help from family or friends. Similarly, small to moderate effect sizes were noted for decreased self-stigma and intentions to take care of problems oneself.

Further, interesting novel findings from this study included a potential "double standard" in pre-intervention intentions to recommend some sources of treatment, but lack of intentions to use them oneself, which were no longer evident post-intervention. This change in intentions may suggest the possible effectiveness in addressing internalized stigma among Muslims. However, future research on MH101-M is warranted to demonstrate generalizability, effectiveness, and improvements in intervention impact.

A final interesting finding from study two was the difficulties with participant recruitment and retention. A significant proportion of registrants and attendees to the intervention did not consent to the research. This finding aligns with previous reports suggesting that Muslims are hesitant to engage in research. This hesitance may be explained by privacy norms in many Muslim cultures (e.g., Arab, South Asian), such that sharing information about health concerns may be considered socially taboo (Hassouneh & Kulwicki, 2009; Afnan et al., 2022). Indeed, some attendees were explicit about their disinterest in completing the research due to privacy concerns related to completing questionnaires in a public setting. Alternatively, some researchers have suggested that prominent post-9/11 surveillance of Muslims has resulted in hesitance

among Muslims to engage in psychological research due to fears about how data will be used (for example, Ali, Milstein & Marzuk, 2005; Tanhan & Francisco, 2019). Future research should explore strategies to better assuage potential participants' privacy concerns during recruitment to improve retention. Research should also aim to improve this community's education about the value of psychological research and confidentiality in research studies.

Future Directions for MH101-M

Findings across several international and Western samples suggest that Muslims often have low MHL (Zia & Mackenzie, *submitted*; Begum, 2019; Alhomaizi, 2018; Loo et al., 2012). In findings from study 1, many participants reported beliefs that MHL in their families and communities is improving over time. However, many also reported continued deficits in MHL. Additionally, in Western countries, Muslim populations continue to grow through a large influx of immigrants. For instance, in Canada approximately 19 % of immigrants admitted from 2011 – 2021 were Muslim (Statistics Canada, 2022). Immigrants to Canada, and other Western Countries, often have low health literacy, which affects ability to access treatment (Ng & Omariba, 2013). Consequently, repeated dissemination of interventions that promote MHL among Muslims in Western countries, including *MH101-M*, will continue to be necessary to address barriers to treatment seeking in this growing population.

Findings from this dissertation offer initial evidence for the effectiveness of this intervention. Future research on this project will iteratively implement *MH101-M* in multiple community samples of Muslims across Canada and the US, aiming to test the intervention with stronger methodological designs. Initial implementations of the program will continue to collect data for program evaluation purposes and use participant feedback to bolster both program content and format. Subsequently, data across multiple iterations of the program will be collectively analysed to ensure effectiveness and generalizability of findings. Finally, an RCT

will be necessary to compare the effectiveness of *MH101-M* to other MHL programs that were not developed for Muslim audiences. An RCT of this nature would help determine the extent to which message tailoring improves outcomes for Muslim audiences and may have broader public health implications for marketing service use to this population.

In addition to further tests of effectiveness, a potential future direction for *MH101-M* includes participants' suggestion for alternative modes of delivering the intervention. Throughout interviews, many participants suggested that an online delivery of *MH101-M* would promote accessibility. At the time, due to feasibility constraints related to program evaluation, online implementation was not possible. Notably, however, findings from a systemic review suggest that internet-based interventions can be effective at improving MHL, reducing stigma and improving health outcomes (e.g., treatment seeking). Moreover, this review suggests that the use of "active ingredients", including structured programming, messaging designed for specific populations, evidence-based content, and experiential learning (Brijnath et al., 2016) enhance the likelihood that a program will be effective. Given that *MH101-M* was designed will these active ingredients in mind, an adaptation of this program for both live, and pre-recorded, online delivery may improve intervention impact. Research is necessary to further investigate this method of implementation, including participants' preferences and which modality of delivery is most effective.

An additional direction for *MH101-M*, which may enhance program impact, is to deliver short-form messaging (e.g., one-minute videos, social media slides, etc.) derived from the program in a social media MHL campaign. Traditional mass media-based mental health literacy campaigns (e.g., England's *Time to Change* campaign) are effective at improving knowledge about mental health and reducing stigma toward those with mental health problems (Evans-

Lacko et al., 2013). Moreover, digital MHL strategies that leverage social media platforms through the use of storied animations, and other creative design elements are demonstrably effective at improving MHL and willingness to seek treatment (Hassen et al., 2022; Curran et al., 2023). However, it remains to be seen whether digital MHL strategies are equally effective for all age groups. Further research is needed to investigate the effectiveness, acceptability and reach of this implementation strategy among Muslim populations, and to investigate moderators (e.g., age) of the impact of different methods of delivering *MH101-M*.

Finally, a future direction for *MH101-M* is to translate it into different languages. Most Muslims living in Western countries are migrants (Lipka et al., 2017; EISR, 2016). Health literacy interventions, when adapted to be linguistically and culturally appropriate for migrants, have been reported to improve self-efficacy, health behaviours, and knowledge (Baumeister et al., 2023). Moreover, given evidence that language barriers, health beliefs about illness, concerns about confidentiality, and stigma are prominent barriers to mental health treatment among migrants (Giacco, Matanov & Priebe, 2014), linguistically adapting *MH101-M*, a program which addresses these barriers, may prove highly effective at improving treatment seeking among a broader range of Muslims living in Western countries, including new migrants who are not yet comfortable, or fluent, speaking English.

Concluding Remarks

The findings from this dissertation are timely, given the current geopolitical context (Motamedi & Chughtai, 2024). Galvanisation in decades-long conflicts in the Middle East has evidently spurred the need for additional supports for Muslims living in Western countries. Exposure to traumatic images across social media, a sense of powerlessness regarding political decision-making (e.g., foreign policy decisions), and fear of violent attacks on student-protestors may be a prominent theme among Muslims living in Western countries in future years.

Moreover, significant increases in Islamophobic incidents have been reported at the time of writing this dissertation. For example, the Council on American-Islamic Relations (CAIR) reported over 2100 incidents reported in the 8-week period after the latest aggression in Gaza began in late 2023, including violations of free speech, employment related discrimination, hate crimes and hate speech, and educational/bullying concerns (Allison, 2023). Consequently, it is likely that the high prevalence of psychological distress among Western Muslims will be further exacerbated in the foreseeable future.

The rapid increase in Islamophobia faced by Western Muslims, specifically, is likely to have consequences on both mental health and treatment seeking. Islamophobia has been linked with negative mental health consequences (Samari et al., 2018). Moreover, emerging research suggests that experiences with Islamophobia create a "double stigma" (i.e., marginalization because of one's identity as a Muslim and marginalization due to mental health struggles) resulting in worse psychological outcomes and lower treatment utilization (McLaughlin et al., 2022). Moreover, Muslims frequently report mistrust of non-Muslim clinicians; a finding evident from both study one and from previous literature (Bagasra, 2023). Consequently, increasing Islamophobia may result in more Western Muslims who experience "double stigma", resulting in worsening mental health prevalence rates and lower utilization of treatments (McLaughlin et al., 2022). Further research is urgently needed to track this progression and to interrupt the cycle of worsening mental health and reluctance to seek effective treatments.

Ultimately, this dissertation represents a critical step towards a more inclusive approach to mental health care for Muslims. However, MHL literacy interventions for Muslims in Western countries are only one piece of larger strategy to meet the needs of this rapidly growing population. Efforts are necessary to help Muslims access culturally competent care. In part, a

burden falls on clinical training programs to create programs welcoming cultural difference that appeal to potential Muslim trainees. Additionally, it is imperative that non-Muslim treatment providers in major metropolitan centres with large Muslim populations seek out training for the provision of culturally sensitive care to Muslims. By advancing culturally sensitive care, we move closer to a future where Western Muslims can thrive in a society that upholds mental wellness as a universal right.

والله أعلمُ

And God knows best.

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Appendix A: Summary Handout for attendees of MH101-M

SUMMARY

Mental Health 101:
For Muslims

WHAT IS MENTAL HEALTH?

Mental health encompasses our emotions, patterns of thinking and behaving.

WHAT CAUSES MENTAL HEALTH PROBLEMS?

Mental health can be affected by *biological factors* (physical health, diet, exercise, genetics, etc.), *psychological factors* (coping skills, patterns of thinking, personality, etc.) and *social factors* (family system, friendships, culture and social support).

DO MUSLIMS FACE MENTAL HEALTH PROBLEMS?

Muslims living in Western countries face unique challenges such as Islamophobia which may make them more likely than others to face mental health problems.

WHAT MENTAL HEALTH PROBLEMS WARRANT PROFESSIONAL TREATMENT

- Rapidly changing mood or mood that is persistently more negative than positive
- Patterns of conflict with friends, family and others
- Problems sleeping and eating (increase/decrease) Substance
- use
- Persistent negative thinking
- Decline in functioning

MENTAL HEALTH PROBLEMS ARE TREATABLE!

Effective treatments are provided by a range of different Mental Health Providers. Licensed treatment is ***always confidential***. Providers legally cannot share anything you share in session with anyone else.

COUNSELLING RESOURCES

Belal Zia, Ph.D. Candidate
https://newleafpsychology.ca/associates/
Adolescents, Adults, Couples

Dr. Juwairia Sohail, Ph.D., C.Psych.
(https://bnchealth.ca/JUWAIRIA-SOHAIL/)
Children, Adolescents, Family, Parents

Dr. Saunia Ahmad, Ph.D., C.Psych.
(https://torontopsychology.com/team/dr-saunia-ahmad-phd-cpsych/) Individuals, Couples

Cedarway Therapy
https://cedarwaytherapy.com/our-team/)
Over 20 therapists who offer treatment in a range of languages.

ISNA Counselling Services
Dually trained psychotherapist and Imam
Adults, Youth, Couples

HELPLINES

NASEEHA Youth Helpline
(https://naseeha.org) Call:
1-866-627-3342

CONNEXONTARIO Helpline
Call: 1-866-531-2600

If you or someone you know is in an emergency mental health situation, call 911 or visit the emergency room of your local hospital

SOCIAL SUPPORT IS AN ANTIDOTE TO STIGMA

Many people avoid treatment out of fear of judgement. Encouraging others to seek treatment can ensure they get the help they need.

Appendix B: Supplemental Materials

Supplemental Materials (A): Qualitative Interviews with Canadian Muslims

Methods

Participants and Procedures

We recruited community-residing Canadian Muslims to participate in the study using a multi-method recruitment strategy. This strategy included contacting participants who had completed a previous study on mental health treatment seeking and sending email and social media advertisements through Muslim non-profit organizations, masjids, and Canadian Muslim leaders. Potential participants completed a brief pre-screening survey of demographic information and self-reported religiosity (i.e., *I consider myself to be a religious Muslim* and *I try hard to practice Islam in my daily life; 1 = strongly disagree, 5 = strongly agree*). Participants who scored ≥ 4 on both measures of religiosity were selected to participate in the study.

Of participants who completed the pre-screening survey, we randomly selected 58 participants for the study, 10 of whom completed the interviews. Each participant completed a 35 – 60-minute online interview with the first author. Interviews focused on two topics (i.e., mental health and treatment seeking beliefs, and suggestions about program development). We recorded each interview, transcribed them using an online service, and analyzed transcripts in NVIVO. Analyses for the first topic (i.e., mental health and treatment seeking beliefs) are presented elsewhere (Zia & Mackenzie, *submitted*). Analyses of participants' suggestions for program development are presented below. All protocols were approved by the University of Manitoba's Research Ethics Board.

Reflexivity Statement

The qualitative data analyses presented in this section were completed by the first and second author. The first author, BZ is a Pakistani-Canadian, male graduate student in clinical

psychology. He is also a Canadian Muslim with research interests in Muslim mental health and Islamic psychology. The second author, CM, is a White, Canadian, male clinical psychologist and professor of psychology. Both authors are adult mental health treatment providers and have programs of clinical research investigating barriers to mental health services and strategies to improve treatment utilization for underserved populations.

Analytic Strategy

We employed the Framework analytic approach to analyze the interview transcripts. The Framework approach consists of a non-linear five-step process to generate meaningful themes from written text (Ritchie & Spencer, 1994; Gale et al., 2013; Ritchie et al., 2003). To familiarize themselves with the data, the first author reviewed recordings, verified transcriptions, and noted recurring themes, while the second author read selected transcripts. The first author constructed the initial thematic framework using an inductive (data-driven) "open coding" strategy, by reading each transcript one line at a time and adding codes, as appropriate, to capture units of meaning in the transcript. Through discussions with the second author, the codes were refined and organized into themes. The thematic framework, which reflects participants' perspectives on program development, is presented below.

Results

Two themes were generated from the data to reflect participants' *suggestions for program content* and *suggestions for program format*.

Suggestions for Program Content

Most participants shared non-Islam-specific information that they would find useful in an intervention aimed to improve mental health literacy. Several participants indicated a belief that interventions should aim to *improve knowledge, or dispel misconceptions, about various mental*

health symptoms and their causes. For instance, a female participant in her mid-forties shared the need for a "*myth-busters section*" in the program because, "*I think most people have… preconceived thoughts about what mental health looks like…and [those thoughts are] not true."* A few participants also discussed the importance of *providing a tangible list of resources following program delivery* to "*…give them a direction, if they need services, where to go*" (male, mid-thirties). Another participant also reflected that *self-help strategies for dealing with mental health concerns* would be a valuable addition for attendees like himself, who would only seek treatment as a last resort.

Several participants also suggested culturally relevant and/or Islam-specific content that they would like to see in a mental health literacy intervention. A few participants expressed a desire for programming that focused on *integrating mental health topics while respecting Islamic worldviews.* A participant in her mid-fifties stated, "*I wish that the two would merge, from an Islamic perspective… and the mental health…*" Many participants also discussed the need for information aimed at *reducing cultural stigma and increasing knowledge to ensure family support* for treatment. A male participant in his mid-thirties stated the need for "*discussing… how [treatment seeking is] not shameful. And the importance of family support*." Another participant shared beliefs that one's family plays a "*part in improving [their]life,*" stressing the need to educate family members so they, "*realize there is an issue*" and recognize the necessity of "*[letting] them resolve it through professional help*" (female, early-fifties).

Suggestions for Program Format*.*

All participants shared their preferences for intervention format. Interestingly, there was very little variability in participants' preferences. Most participants suggested that the intervention should *use a directive session like a lecture or workshop.* Participants also shared a

general sense of *flexibility for program delivery preferences*. For instance, participants shared both benefits and detriments of holding programs in-person, online, and in a pre-recorded format, but most did not strongly endorse any one modality over others. For instance, a female participant in her early-thirties stated, "*I mean, lectures are nice. I see the benefit for sure of doing it live… if you're trying to reach a wider audience by doing pre-recorded online… you can reach people all over Canada.*" Most participants also endorsed that *a program approximately one-hour long is most tolerable.* Participants also suggested that interactive portions in an hour-long program would improve engagement. A female participant in her mid-forties stated "*I would attend something which is even an hour long with some sort of interaction. Twenty minutes with a lecture, then a few minutes for interaction, then twenty minutes again.*" Regarding interactive programming, several participants highlighted the *necessity of including a question-and-answer portion* in the program.

A final subtheme captured *additional thoughts on program format* shared by multiple participants. Multiple participants shared the opportunity to *utilize the Friday sermon to deliver the program* to a larger audience of practicing Muslims. The remaining points in this subtheme were perspectives unique to single participants, but valuable considerations for program development. One participant indicated the benefits of *incorporating a social media influencer in program delivery* to ensure participant buy-in and engagement with the program. Another participant suggested that *presenting program materials in an article* would be beneficial. Finally, one participant identified the need for *presenting the program in different languages* to ensure more equitable access to information and to address needs of underserved populations.

Supplemental Materials (B): Questions that were asked during MH101-M*

1. If I have some psychological distress, can I have any methods/exercises/routines to improve my health on my own?
2. What the Islam opinion on the midlife crises?
3. What the best way to deal with ADHD. Thank you so much
4. Can you provide the Islamic advice and mental health professional advice. I am in therapy and healing from childhood trauma. I am living at home with my family. My family environment is very toxic and re-traumatizing, would it be best to move out and live in a healthy environment?
5. How does one with a mental disability console themselves knowing they have a psychological disadvantage in life? How can we support them without being judgemental?
6. How did the great Imams of the past such as Imam Hanbaal, Imam Shafi, Imam Malik, Imam Hanifa, Ibn Taymiyyah get through their struggles, physical and mental?
7. Do secular/ western countries have more Muslim with mental health problems than countries with mainly Muslims, ex. Saudi, Qatar…
8. What are some ways you can convince your loved ones (parents, spouse, siblings) to seek therapy
9. How to prioritize Islam (specifically namaz times) with young ones, and feeling guilty for missing prayers
10. How does one help their spouse/family/friend if we see that they need help but won't want treatment or even help?
11. Salaam. When having mental stress, sometimes we know what can help, but how do you get yourself motivated to apply solutions to get out of mental stress. For example, if it is related to job, can't leave job which provides a stable earning.
12. Is it possible to pinpoint the root cause of a mental health issue on our own?
13. What are some strategies to manage/ process strong emotions? E.g., prophet pbuh would be very sad but was known to be smiling all the time
14. How do you convince someone that the answer to improving your mental health is not just "make dua, pray more, etc."
15. How do we know if a symptom of a mental health problem is directly correlated with mental health issues rather it just being something habitual or personality based (i.e. avoiding social gatherings when you're an introvert)?
16. Something that gives me a lot of stress and anxiety is being unable to stick to a regular routine. How can I address that?
17. Why Muslim counsellors are so expensive? Even after covid related issues, not easily available?
18. What does Islam say about use of prescription medication to treat anxiety/depression?
19. Role of social media & excessive use (addiction) of video gaming in future psychological & behavioural changes.
20. How do I navigate cultural challenges regarding friends' social drinking? I'm excluded or doing something haram.

21. Can you describe how a mental health problem shows up day to day?
22. How do you convince a loved one to seek therapy?
23. How do you beat the stigma to get someone into therapy.
24. How do you know when to stop seeking treatment with a therapist or switch therapists?
25. Can you elaborate on the different styles of therapy?
26. How do you get mental health solutions when therapy is too expensive? Would you recommend community counsellors or life coaches [i.e., instead of licensed mental health professionals].
27. How do I get access to treatment?

Questions that reflected to specific requests (excluded from analyses).

28. Is there a way to access the slides?
29. Can you direct me to academic resources about the Islamic influence historically in psychology?
30. Will you do more of these programs?
31. Are there going to be programs facing the youth?
32. Do you see children for therapy?

Requests made following attendance at MH101-M

+ 1 individual requesting referrals to service immediately after program attendance

+2 individual reaching out via social media following program attendance to request referrals to services, including one participant noting passive suicide risk.

+2 requests to do additional talks at masjids and on social media platforms.

+1 interview by a non-profit group aimed at improving youth therapy engagement.

*These questions were submitted either in person, by a participant raising their hand in session and asking the question or submitted anonymously in writing to the facilitators. All questions were transcribed verbatim as they were asked or submitted.