We are what we are: Religious Discrimination and Oral Health Care among Muslim People in Montreal.

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DEDICATION

To my parents for their continuous love, support, motivation and blessings

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CONTRIBUTION OF AUTHORS

This study was conceptualized and designed by Dr Christophe Bedos as a principal investigator, who also guided all aspects of this project. My supervisory committee included Dr Belinda Nicolau and Dr Richard Hovey, who helped me through their constructive feedback while discussing my academic progress. I prepared and organized documents for McGill's ethical board review and approval. I visited McGill Muslim students Association and local mosques for participant recruitment. I also conducted interviews of the participants accordingly. Thus, with the gathered data through interviews and with the help of my supervisor, I carried out a systematic analysis of the data. Furthermore, I, structured and wrote the entire thesis under the guidance and assessment of my supervisor.

ABSTRACT

Background: The Muslim people are the second-largest religious group in Canada and represent approximately 3.2 percent of the population. Since the Bouchard-Taylor commission on "reasonable accommodation" of minorities in Quebec, Muslim people have been at the forefront of the debate on religious signs and symbols. They have also faced discrimination and even violence; the Quebec City mosque shooting in 2017 being an example.

While there is a large body of research on the impact of racial and ethnic discrimination on physical and mental health, very little is known about the impact of religious discrimination. In particular, we know very little about how experiencing religious discrimination may affect people's oral health and oral health-related behaviors.

Research Question: How does religious discrimination affect the oral health care of Muslim people?

Methodology: We conducted a qualitative exploratory study within the Muslim people of Montreal, Quebec. We adopted a maximum variation sampling strategy regarding age, sex, education level, marital status, and employment status. We collected our data through face-to-face, in-depth, semi-structured interviews of 11 participants practicing Islam. The interviews were audio- recorded and transcribed verbatim to be analyzed. Data analysis was carried out by using a thematic analysis approach, which allowed us to provide a detailed description of the phenomenon.

Results: The participants experienced religious discrimination in three different settings, most commonly in daily life but also in the healthcare and the dental healthcare systems. The participants experienced discrimination in the form of verbal, non-verbal, physical aggression related to Islamic clothing and prayer rituals in public places (metro station, streets, bus, etc.). These experiences had a major impact on their life, including stress and anxiety, feelings of insecurity, and, in some cases, emigration to escape discrimination. Some participants experienced negative behaviors and disinterest from healthcare and non-healthcare professionals (receptionists), which generated a lack of trust in healthcare professionals in general. Three participants had similar experiences during their dental visits that led them to lose trust in dentists and, ultimately, avoid dental visits.

Conclusion: In sum, our findings showed that religious discrimination had an impact on the mental health of the Muslim people through stress and anxiety. It may have an impact on the use of dental care services and access to care. And this, in turn, may negatively impact oral health. We were

unable to determine the impact of psychological stress and anxiety on oral health-related behaviors such as diet and oral hygiene.

RÉSUMÉ

Contexte: Les musulmans constituent le deuxième groupe religieux en importance au Canada et représentent environ 3,2% de la population. Depuis la commission Bouchard-Taylor sur les accommodements raisonnables des minorités au Québec, les musulmans sont au premier plan du débat sur les signes et symboles religieux. Ils ont également été victimes de discrimination et même de violence, comme ce fut le cas lors d'une fusillade dans une mosquée de la ville de Québec en 2017.

Il existe de nombreuses recherches sur l'impact de la discrimination raciale et ethnique sur la santé physique et mentale, mais l'impact de la discrimination religieuse est très mal connu. En particulier, nous savons très peu comment la discrimination religieuse pourrait affecter la santé bucco-dentaire et les comportements liés à celle-ci.

Question de recherche: Comment la discrimination religieuse affecte-t-elle les soins de santé bucco-dentaire des musulmans?

Méthodologie: Nous avons mené une recherche exploratoire qualitative au sein de la communauté musulmane de Montréal, au Québec. Nous avons adopté une stratégie d'échantillonnage à variation maximale en ce qui concerne l'âge, le genre, le niveau de scolarité, l'état matrimonial et le statut professionnel. Notre méthode de collecte de données était basée sur des entretiens semi-structurés et approfondis avec 11 participants pratiquant l'islam. Les entretiens ont été enregistrés et transcrits pour être analysés. L'analyse des données a été réalisée en utilisant une approche d'analyse thématique, ce qui nous a permis de fournir une description détaillée du phénomène.

Résultats: Les participants ont rapporté être victimes de discrimination religieuse dans trois contextes différents, le plus souvent dans la vie quotidienne, mais également dans le système de soins et le système de soins dentaires. Cette discrimination prenait la forme d'agressions verbales, non verbales, et même physiques, et était liée aux vêtements et signes religieux dans les lieux publics (station de métro, rues, bus, etc.). Ces expériences avaient un impact significatif sur la vie des participants, causant notamment du stress et de l'anxiété, un sentiment d'insécurité et, dans certains cas, une émigration pour échapper à la discrimination. Certains participants ont également rapporté des comportements négatifs et un désintérêt de la part des professionnels de la santé et de leur staff (notamment les réceptionnistes), ce qui engendrait un manque de confiance envers les

professionnels de la santé en général. Trois participants ont vécu des expériences similaires lors de visites chez le dentiste, ce qui les avait amenés à perdre confiance en leur dentiste et, finalement, à éviter de consulter.

Conclusion: Nos résultats ont montré que la discrimination religieuse avait un impact sur la santé mentale de la population musulmane, causant du stress et de l'anxiété. Cela pourrait avoir un impact sur l'utilisation des services de soins dentaires et l'accès aux soins et, ultimement, affecter négativement la santé buccodentaire. Nous n'avons toutefois pas observé d'impact de ce stress et de cette anxiété sur les comportements liés à la santé buccodentaire tels que le régime alimentaire et l'hygiène buccale.

1. INTRODUCTION

Canada is a diverse country in terms of culture, ethnicity, and religion, and includes numerous visible minorities (Tran, Kaddatz, & Allard, 2005). In 2011, approximately 19% of Canada's total population identified themselves as members of visible minorities compared to 11% within the Quebec province (Beattie, Boudreau, & Raguparan, 2013). In the Canadian province of Quebec, the issue of accommodating religious minorities has been boiling over for more than ten years. In 2007, the Bouchard-Taylor commission investigated the 'reasonable accommodation' of minorities within Quebec society, exploring opinions from people of different ethnocultural organizations, individuals, experts on identity, religion, and integration. Since this investigation, Muslim people have been at the forefront of the debate on religious signs and symbols (Bouchard & Taylor, 2008; Hamilton, 2017; Selby, Barras, & Beaman, 2018). The Quebec Muslim people has also been confronted with discrimination and even violence. Examples are the recent terrorist attack in a Quebec City mosque, resulting in the death of six people (McKirdy, Newton, & Merieme, 2017) and heated political debates on Muslim women's right to wear the niqab (a religious face cover) in public places (Wilkins-Laflamme, 2018). These events, coupled with other similar situations in the world (e.g., banning individuals from six Muslim countries from entering the USA, Christchurch mosque shooting in New Zealand), may have motivated discrimination against Muslim people (Thurish, 2017; Wilson & Thomson, 2019).

Any form of discrimination has both socio-economic and health impacts. Previous studies have shown the impact of religious or racial discriminations on mental and physical health through stress, anxiety, depression (Karlsen & Nazroo, 2002; Whitbeck, Hoyt, McMorris, Chen, & Stubben, 2001; Williams, Neighbors, & Jackson, 2003) and various chronic diseases (Dolezsar, McGrath, Herzig, & Miller, 2014; Taylor et al., 2007). While there is a large body of research on the impact of racial and ethnic discrimination on health, very little is known about the impact of religious discrimination. This lack of knowledge is even more evident when we examine the impact of religious discrimination on oral health and oral health-related behaviors. This is surprising considering that oral health is an important facet of general health and has a significant impact on quality of life. This thesis explores the impact of discriminatory experiences on the oral health care of Muslim people living in Montreal, Quebec.

2. LITERATURE REVIEW

2.1. Key terms and definitions

2.1.1. Stigmatization and discrimination

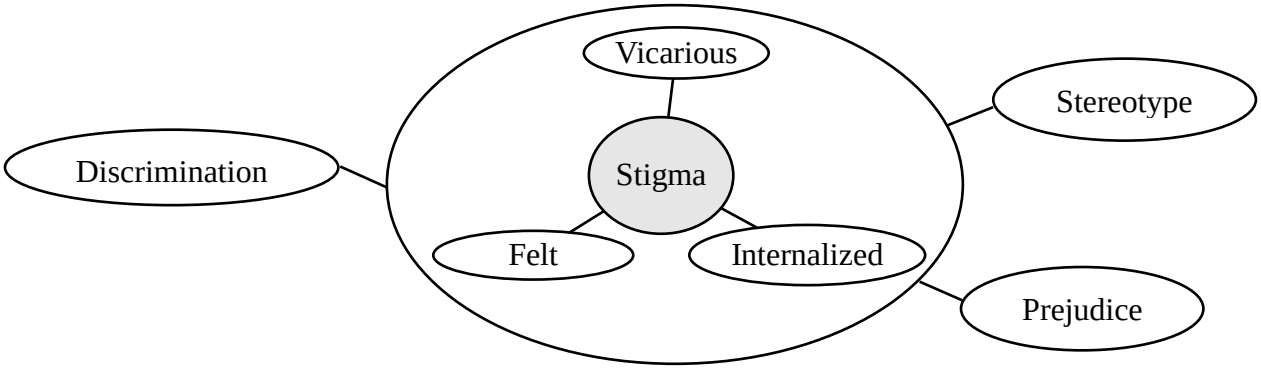
In 1963, Goffman introduced the concept of social stigma, which he defined as a "spoiled social identity." This definition is based on the premise that any deviation from normal and accepted principles of society is a stigma. The social networks and groups that we belong to shape who we are; some people may experience difficulties in reconciling these differences, allowing them to harbor prejudice against individuals or communities that are different/believe in different things (Williams, Gooden, & Davis, 2012). Prejudice, in the context of racial or ethnocultural studies, is an unsubstantiated/preconceived negative attitude toward people who belong to an unfamiliar cultural group or have different religious beliefs and practices. Prejudice often begins in the form of a stereotype, i.e., a negative outlook about someone, regardless of the individual's characteristics, only based on the group/community they belong to (Hughes, Campbell, Hewstone, & Cairns, 2007). For example, a person may hold prejudiced attitudes toward gay people LGBTQ+ by believing that they are sick and abnormal without having met a gay person (Herek, 1990). According to Harding and Colleagues (1954, 1969), "prejudice is an attitude towards members of some outgroup and in which the evaluative tendencies are predominantly negative"; "stereotypes are beliefs or opinions about the attributes of a social group or its members."

Vocalized, behavioral prejudice or violence against a specific population/community based on stereotypes or social stigma can be broadly categorized as discrimination. The legal definition for discrimination, as provided by the Supreme Court of Canada in its 1989 decision in Andrews v. Law Society of British Columbia; is as follows, "Discrimination may be described as a distinction, whether intentional or not but based on grounds relating to personal characteristics of the individual or group, which has the effect of imposing burdens, obligations, or disadvantages on such individual or group not imposed upon others, or which withholds or limits access to opportunities, benefits, and advantages available to other members of society. Distinctions based on personal characteristics attributed to an individual solely based on association with a group will rarely escape the charge of discrimination, while those based on an individual's merits and capacities will rarely be so classed." Similarly, Quebec's human rights commission described discrimination as treating a particular set of people or individual differently due to their personal

identity. The scientific definition of discrimination given by this commission is as follows: “There is discrimination when an individual or a group of individuals are treated differently due to their personal characteristics. Discrimination may take on the form of a distinction, an exclusion, or a preference. It may be displayed or practiced by an individual or an organization. Discrimination creates inequalities amongst individuals and prevents the individual or group of individuals that are victims of discrimination from fully exercising their rights” (Charter of Human Rights and Freedoms, 2014). The Quebec Charter of Rights and Freedoms prohibit discrimination in areas like employment, housing, public services, public transport, public places, and juridical acts; however, it does not mention discrimination in the healthcare system.

Apart from the legal definitions of discrimination, people experience certain behaviors that are a product of social stigma on a daily basis; these behaviors are also considered as discrimination — for example, charging extra money to a gay couple for renting an apartment. Studies have described various kinds of stigma based on differences that individuals experience, such as enacted stigma (acts of discrimination felt by people), which can take an overt or a subtle form (Herek 2007; National Research Council, 2004). “Discrimination in which differential and unfair treatment is clearly exercised, with visible structural outcomes is termed as an overt form of discrimination” (Van Laer & Janssens, 2011)- for example, physical or verbal abuse - while subtle discrimination “refers to forms of discrimination that pervade society, are less visible, often very ambiguous for those experiencing it, not easily recognized as discrimination and often not punishable under anti-discrimination legislation” (Van Laer & Janssens, 2011). There are also other forms of stigma such as vicarious stigma (stories of discrimination passed by word of mouth), felt normative stigma (individuals accepting his/her stigma as legitimate), and internalized stigma (stigma against self) (Gray, 2002; Stewart, Schiavo, Herzog, & Franko, 2008).

Figure 1. Visual representation of the types of stigma



2.1.2. Religious and racial discrimination

Racial discrimination is defined by social science as "differential treatment based on race that disadvantages a racial group, and treatment based on inadequately justified factors other than race that disadvantages a racial group (differential effect)" (National Research Council, 2004). To discriminate individuals based on their physical characteristics (skin color, facial features, etc.) is racial discrimination, whereas discrimination based on religious beliefs or practices is religious discrimination. According to Quebec's human rights commission, "religious discrimination means that you cannot be treated differently because of your religion or beliefs, or because you have no religion" (Charter of Human Rights and Freedoms, 2014).

2.1.3. Islamophobia

The University of California at Berkeley's Islamophobia Research & Documentation Project provides a thorough definition of islamophobia that encompasses its causes and effects, as follows: "Islamophobia is a contrived fear or prejudice fomented by the existing Eurocentric and Orientalist global power structure. It is directed at a perceived or real Muslim threat through the maintenance and extension of existing disparities in economic, political, social and cultural relations, while rationalizing the necessity to deploy violence as a tool to achieve "civilizational rehab" of the target communities (Muslim or otherwise). Islamophobia reintroduces and reaffirms a global racial structure through which resource distribution disparities are maintained and extended".

The Ontario Human Rights Commission gives a more simple and generic definition of islamophobia: "stereotypes, bias or acts of hostility towards individual Muslims or followers of Islam in general" (Ontario Human Rights Commission, 2013).

2.2. Muslim population and diversity in Canada

According to the 2011 National Household Survey, there were 1,053,950 Muslims (men: 540,555 and women: 513,395) living in Canada; they represented 3.2% of the population, and this proportion is supposed to increase in the coming years. Among the total 3.2%, it was also reported that 62% of Canada's Muslim population were living in metropolitan cities like Toronto and Montreal. The province of Ontario has the highest Muslim population (4.6%), followed by Quebec (3.2%), as shown in Table 1. The Muslim population living in Greater Montreal, Quebec, is highly diverse, with people from Western/Southern Europe, the Caribbean, North Africa, the Middle East,

and the Indian subcontinent (Statistics Canada, 2011). These differences in their country of birth means a diverse population with various spoken languages such as Arabic, English, French, Farsi, Urdu, Bangla, and African languages (Statistics Canada, 2011).

Table 1. Rate of individuals identifying Islam as their religion, by Canadian region, 2011

Provinces of Canada	% of Muslims
Atlantic Canada	0.6%
Quebec	3.2%
Ontario	4.6%
Prairies	2.4%
British Columbia	1.8%
Northern Territories	0.4%

[Source: Canada's 2011 National Household Survey]

2.3. Discrimination towards visible minorities

The Muslim, Buddhist, Hindu, and Sikh populations comprise a majority of Canada's visible minorities, amongst which Muslims make up the highest population (Reitz, Banerjee, Phan, & Thompson, 2009). The Canadian Employment Equity Act defines visible minorities as "persons, other than Aboriginal peoples, who are non-Caucasian in race or non-white in color." Categories in the visible minority variable include "South Asian, Chinese, Black, Filipino, Latin American, Arab, Southeast Asian, West Asian, Korean, Japanese, Visible minority n.i.e. ('n.i.e.' means 'not included elsewhere'), Multiple visible minorities and Not a visible minority" (Statistics Canada, 2011).

Minority groups often face difficulties in access to material and social resources, including resettlement issues due to various forms of racism and discrimination (Reitmanova & Gustafson, 2008). According to the 2014 General Social Survey (GSS) of Canada on Victimization, some visible minorities [Arabs (29%), Blacks (27%), and Latin Americans (26%)] were more likely to have experienced discrimination than others. Discrimination on the grounds of race and ethnicity are more evident amongst visible minorities (Nangia, 2013). Furthermore, according to the Canadian Human Rights Commission (CHRC), 43% of hate crimes were motivated based on race

or ethnicity, out of which 17% were targeted against Muslims in 2017 (Armstrong, 2019). From 2016 to 2017, there has been approximately a 200% increase in religion-based hate crimes in Montreal and Quebec City (Armstrong, 2019). The data of the CHRC shows that the number of hate crimes against Muslim also tripled from 2016 to 2017 (Armstrong, 2019).

2.4. Religious Discrimination and Islamophobia in Quebec

Research has found a spike in discrimination against the Muslim population in Canada after the 9/11 attack in the USA(Allen & Nielsen, 2002; Hanniman, 2008; Helly, 2004). It has manifested in the form of physical assaults and verbal abuse against Muslim women, who face issues in socially integrating into western societies. These issues mainly arise from their religious rather than racial character (Reitz et al., 2009). A large body of research indicates that discriminatory attitudes towards Muslim women are related to their distinctive clothing (hijab, niqab, chador, long cloths), which is part of their religious practice (Cameron, 2004; Jasperse, Ward, & Jose, 2012). An incident to mention here would be: Two men in Montreal attacked a Muslim woman wearing hijab. One man spat on her face, and another completely removed her hijab by saying "*dirty immigrant*" and told, "*you with the hood, go back to your country*". Another incident where a group of Muslims were targeted is a Quebec City shooting on the evening of January 29, 2017, at the Islamic Cultural Centre of Quebec City. In this attack, six people were killed, and several were injured (McKirdy et al., 2017). The media reported that this attack initiated religious tensions in Quebec society (Mahrouse, 2018; Page, 2018). Representatives of CBC news spoke to members of the Muslim people in Quebec City after one year of mass shooting attack. The latter described experiences of discrimination and fear of their safety in Quebec society (Page, 2018).

Additionally, debates and controversies on accommodation of Muslim people within Quebec society is prominent (Wilkins-Laflamme, 2018). Some of the political events and bills that highlight this issue in Quebec are:

1) Government servants or employees were banned from wearing conspicuous religious symbols under the Quebec Charter of Values in 2013 (Québec National Assembly, 2013). According to the bill, "members of public bodies must not wear objects such as headgear, clothing, jewelry or other adornments which, by their conspicuous nature, overtly indicate a religious affiliation." The ban would have an impact on Muslim women employees wearing hijab or

niqab. The purpose of the ban was to achieve neutrality, but instead, it could have differentiated people based on their religious beliefs. Hence, the majority of the people of various faiths took part in the protest against the proposed charter.

2) In October 2017, a religious face-covering ban in Quebec was included under the Bill 62, "An act to foster adherence to State religious neutrality and, in particular, to provide a framework for requests for accommodations on religious grounds in certain bodies" (Peritz, 2017). The purpose of this bill was to ban Muslim women from wearing niqab or face veil in public places. Many scholars, politicians, and Islam worshipers criticized the ban because they found the bill was discriminating against Islamic beliefs and human rights (The Economist, 2017).
3) Bill 21, "An Act respecting the laicity of the State," was tabled by the ruling Coalition Avenir Québec (CAQ) on March 29, 2019 (Québec National Assembly, 2019). The bill was passed on June 16, 2019. Under this law, government employees and public workers are banned from wearing religious symbols and covered faces while providing public services. Teachers, police officers, and judges are prohibited from wearing hijab, kippahs, turbans, crucifixes, and other religious symbols during their duties (Québec National Assembly, 2019). This law is affecting sentiments and rights of many religious minority people, including Muslim women (The Economist, 2019). In my view, wearing a turban, hijab, or any other religious symbol is a part of personal identity, but this new ban has questioned secularism.

2.5. Discrimination and health-related quality of life

Discrimination is a strong determinant of poor health and health-related quality of life (HRQOL). HRQOL is a multifaceted phenomenon that includes psychological health, physical health, and overall well-being (Fallowfield, 1990; Ferrans, 2005; Hofmann, Wu, & Boettcher, 2014)

2.5.1. Impact of discrimination on mental health

Extensive research has been conducted to show an association between various forms of discrimination and mental health status rather than physical health status (Paradies, 2006; Williams et al., 2003). These studies demonstrate that racial discrimination was associated with victims presenting with a generalized anxiety disorder (Karlsen & Nazroo, 2002), depression (Williams et al., 2003), psychosis (Karlsen & Nazroo, 2002), and anger (Whitbeck et al., 2001). Besides, visually-impaired individuals who experienced harassment, discourteous behavior, and poorer

healthcare services reported poor social well-being and lower levels of life satisfaction (Jackson, Hackett, Pardhan, Smith, & Steptoe, 2019). There is also evidence that individuals who experienced a severe form of perceived discrimination reported poor self-rated mental health (Paradies, 2006). A post 9/11 study on Muslim American immigrants shows a rise in perceived discrimination and its association with psychological distress (Moradi & Hasan, 2004). This indicates that perceived discrimination can result in a negative impact on mental health.

2.5.2. Impact of discrimination on physical health and health behaviors

A meta-analysis study has shown the association between racial discrimination and physical health (Pascoe & Smart Richman, 2009). Various forms of discrimination have been linked to chronic diseases such as hypertension (Roberts, Vines, Kaufman, & James, 2007), breast cancer (Taylor et al., 2007), coronary artery calcification (Lewis et al., 2006), as well as potential risk factors for obesity (Puhl & Brownell, 2001) and substance use (Gibbons, Gerrard, Cleveland, Wills, & Brody, 2004).

When discussing the link between discrimination and health, it is essential to study factors that are associated with poor health status. This includes risky or unhealthy behaviors such as cigarette smoking (Landrine & Klonoff, 1996, 2000), alcohol use (Yen, Ragland, Greiner, & Fisher, 1999), drug consumption, and substance use (Williams et al., 2003). Furthermore, it has been shown that the effect of some of these behaviors is exaggerated in the presence of racial discrimination or disparities (Williams 2012). For example, despite the comparable level of consumption of alcohol and smoking cigarette among the white and black populations, black people are shown to have higher incidences of lung cancer and alcohol-related mortality (Berger, Lund, & Brawley, 2007; Perez-Stable, Herrera, Jacob III, & Benowitz, 1998; Stinson, Nephew, Dufour, & Grant, 1996; Stranges et al., 2004)

The studies mentioned above show an association between various forms of discrimination (racial, acute, chronic, etc.) and physical health. A longitudinal study on racial disparities showed the adverse impact of acute and chronic discrimination on self-reported health among African American and Hispanic populations compared to non-Hispanic whites (Colen, Ramey, Cooksey, & Williams, 2018). However, the impact generated from any form of discrimination on health is

the same as long as the reason behind the cause is unfair treatment (Colen et al., 2018; Williams & Mohammed, 2009).

2.5.3. Impact of discrimination on oral health care

While numerous studies demonstrate an association between discrimination and physical/ mental health, little research has been conducted on whether an association exists between various forms of discrimination and oral health. According to Bastos and colleagues, "further development of research and policy on racial inequalities in oral health is dependent on the incorporation of racism, racial discrimination, and related sociological concepts in the theoretical frameworks of ongoing and future studies on the topic" (Bastos, Celeste, & Paradies, 2018). Few studies demonstrate the impact of racism or self-reported discrimination on oral health outcomes, with debatable evidence. While high levels of self-reported racial discrimination has been associated with toothache (Ben et al., 2014) or tooth loss (Lawrence et al., 2016), there has been no reported association with periodontitis (Finlayson et al., 2018) or oral- health-related quality of life (Lawrence et al., 2016).

Studies have shown a correlation between racial discrimination and poor oral health. For instance, experiences of racial discrimination were associated with toothache amongst pregnant Aboriginal Australian women (Ben et al., 2014). The findings of this study were consistent with the results of another study done with pregnant Canadian Aboriginal population, where women experienced self-reported racial discrimination (unfair treatment in different settings such as employment, healthcare, etc.) affected their oral health in terms of tooth loss (Lawrence et al., 2016). Besides, Canadian immigrants reported a higher number of self-reported dental problems due to the experience of perceived discrimination (Calvasina, Muntaner, & Quiñonez, 2015).

Evidence on the association between racial discrimination and the number of dental visits is limited. An interesting quantitative study reported that those who have experienced discrimination while seeking healthcare services and emotional trauma from racial discrimination are less likely to visit dentists (Sabbah, Gireesh, Chari, Delgado-Angulo, & Bernabé, 2019). Racial discrimination was also associated with several dental visits among Australian aboriginal women. However, the study did not take into consideration the socioeconomic status of the participants (Jamieson, Steffens, & Paradies, 2013).

2.6. Discrimination within the health care system

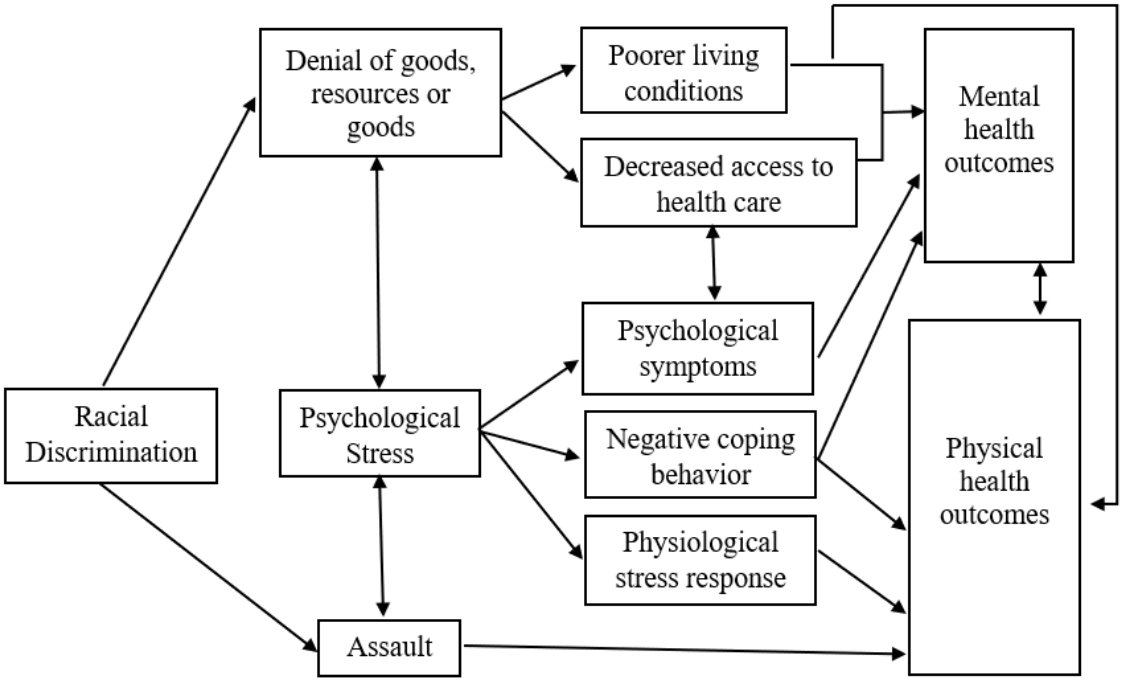
Research shows that experience of perceived discrimination within the healthcare system can limit access to health care services and quality of care (Hyman & Wray, 2014; Sorkin, Ngo-Metzger, & De Alba, 2010). Examples of such discriminatory experiences are longer waiting times to receive urgent care and prescriptions, negative behavior, and attitudes of healthcare professionals. The consequences of such experiences are ineffective patient and healthcare provider relationship, 'early termination of the treatment' (Perez, Sribney, & Rodríguez, 2009), and less satisfying experience of care or the treatment (Hausmann et al., 2011; Hyman & Wray, 2014; Watkinson & Sunderland, 2017)

2.7. Potential pathways between discrimination and health

Various conceptual models are proposed in the scientific literature to explain potential pathways between discrimination and health. There is no specific framework available in the literature that shows an association between discrimination and oral health care. But there are two interesting models that show multiple pathways through which discrimination can affect overall health (physical, mental and oral): Yin Paradies and colleagues' (2013) conceptual model on pathways between racism and health, and the Dynamic conceptual model of social-biological interactions coined by Gomaa et al. (2016). These models provide overall mechanisms and complex causal relationships between various social, economic, emotional, and behavioral factors.

The conceptual model developed by Yin Paradies and colleagues' (2013) describes the effect of racial discrimination on physical and mental health through multiple pathways. As shown in Figure 2, racial discrimination limits people's resources (goods, healthcare services) and creates poorer living conditions that may affect their physical health. It also affects their mental health through several psychological symptoms (stress, depression, anxiety and substance use/ misuse). To cope with psychological stress and poor living conditions, people may engage in unhealthy behaviors, consequently leading to negative physical and mental health outcomes (blood pressure, cardiovascular disease, decreased birth weights, increased blood pressure, Physical injury) (Paradies et al., 2013). One of the limitations of this model is the absence of biomedical pathways related to stress, such as cortisol mechanisms and inflammatory markers.

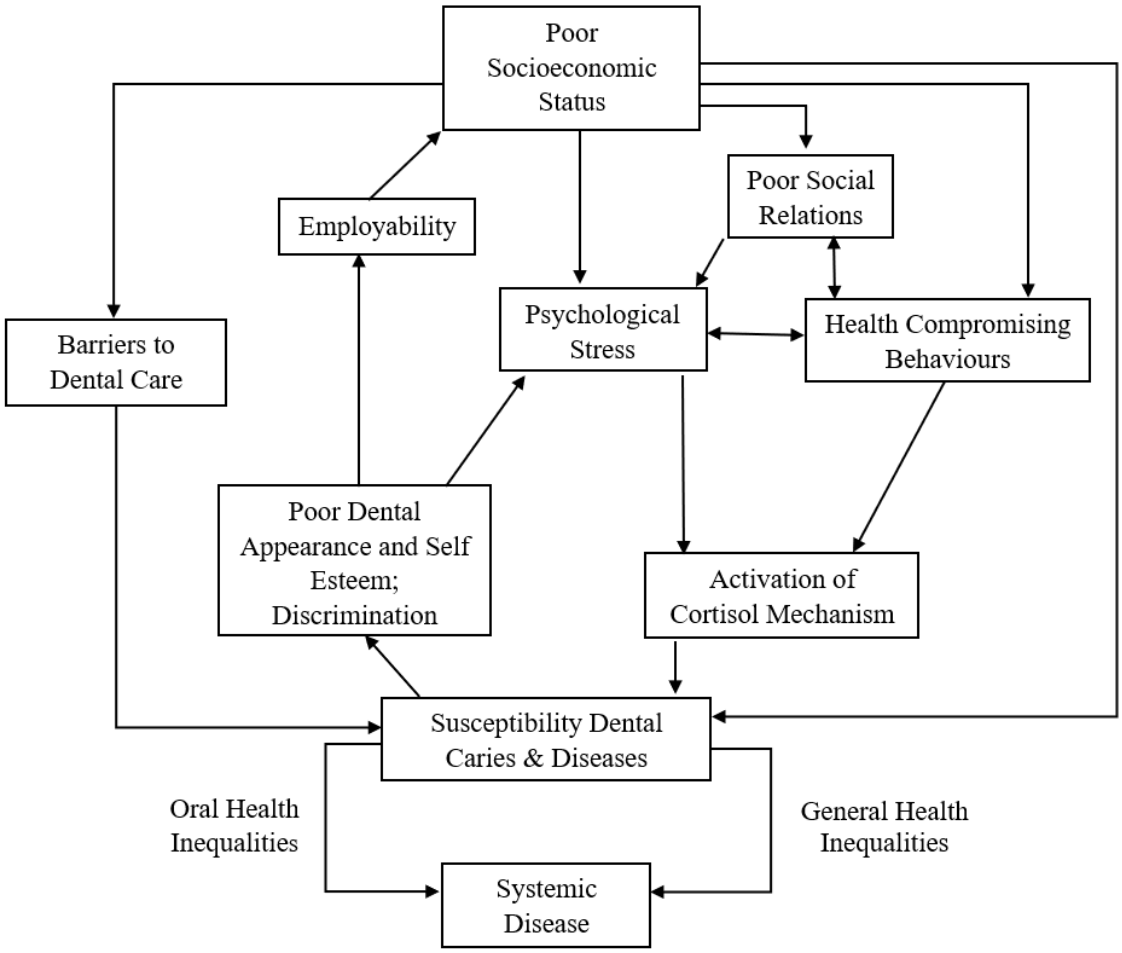
Figure 2. "Pathways between racism and health" (Adapted from Paradies et al., 2013)



Gomaa and colleagues (2016) proposed a dynamic model illustrating the interrelationship between social and psychological factors on the pathophysiology of oral diseases (Gomaa, Glogauer, Tenenbaum, Siddiqi, & Quiñonez, 2016). This model depicts the interdependencies of several factors such as psychological stress developing from poor socio-economic positions (e.g., low income) and social relations, which can lead to health-compromising behaviors, eventually leading to oral diseases (dental caries, periodontal disease). This dynamic loop also demonstrates cellular and molecular interactions between bacteria, cortisol, and immunity factors.

The dynamic conceptual model of social-biological interactions shows the impact of discrimination on physical and psychological well-being through limited access to resources and negative coping behaviors. Although the model does not mention anything about discrimination, it conceptualizes the understanding of potential causal pathways between psychological stress and oral health outcome. And as I explained earlier, discrimination has shown to have an impact on psychological and overall well-being.

Figure 3. "Dynamic conceptual model of social-biological interactions" (adapted from Gomaa et al.,2016)



These two models show interdependencies between discrimination and limited access to healthcare services, physical injuries, mental stress, and risky health behaviors through different potential pathways.

2.8. Summary of the literature review

The Muslim community is a growing religious minority in Canada that often faces discrimination based on religious beliefs and practices. Discrimination can affect physical and mental health through various psychological and chronic diseases. However, knowledge about the impact of religious discrimination on oral health care is still very limited. The current 'climate' of religious tension in the province of Quebec justifies the need to explore this phenomenon.

3. PURPOSE AND RESEARCH QUESTION

3.1. Purpose

Our main purpose is to understand how day-to-day discrimination on the grounds of religion or religious beliefs and practices may affect the oral health and related behavior in Muslim people, a minority population in Quebec, Canada that often experiences discriminatory behaviors. This study will focus on: (a) Impacts of discrimination on their oral health and oral health-related behaviors, (b) Potential links between racial or religious discrimination and oral health.

3.2. Research question

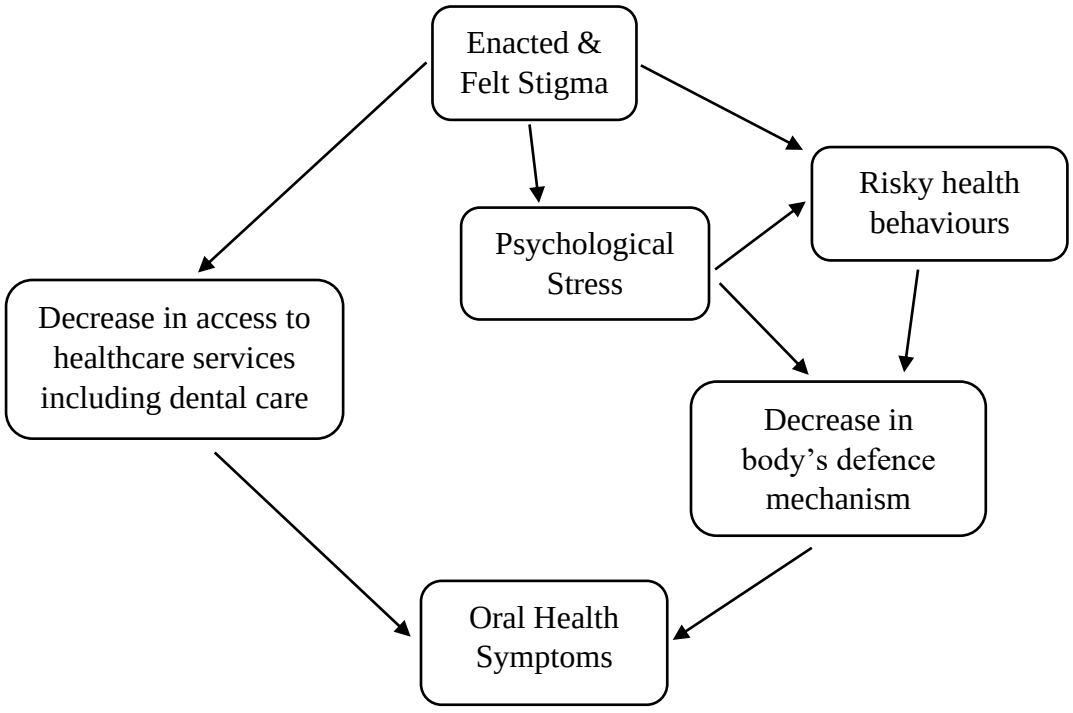
To achieve the purpose, the following research question will guide us throughout our research:
How does religious discrimination affect the oral health care of Muslim people?

4. METHODOLOGY

4.1. Conceptual framework

To the best of our knowledge, there are no previous studies that explore the link between religious discrimination and oral health care. Therefore, this study adopts Scrambler's (1998) concepts of "stigma" and Gomaa's conceptual model (2016) of "social and biological interaction." For this study, "enacted stigma" is an overt form of discrimination felt by people, whereas "felt stigma" is a fear of discrimination (Scambler, 1998). The "social and biological interaction" model further postulates that stigmatization and poor socioeconomic environments can induce psychological stress and lead to individuals participating in behaviors that negatively impact their health, such as poor oral hygiene and smoking (Gomaa et al., 2016). It has been stipulated that psychological stress may increase an individual's susceptibility to disease conditions due to decreased body's defense mechanism. In line with this, we hypothesize that psychological stress as a result of experiencing discriminatory behavior can influence adverse health behaviors and an unwillingness to use healthcare services like dental clinics, eventually leading to adverse oral health outcomes (Figure 4).

Figure 4. Conceptual framework



4.2. Research design

We adopted a qualitative exploratory design to attain our research objective. According to Polit and Beck (2008), "Exploratory research investigates the full nature of the phenomenon, the manner in which it is manifested and the other factors to which it is related." Exploratory research is often used when little is known about a phenomenon of interest. We chose this design because we not only wanted to study the impact on oral health of experiences of religious discrimination, but also explore potential pathways between discrimination and oral health (Polit & Beck, 2008).

4.3. Methods for collecting data

4.3.1. Sampling

We adopted a purposeful sampling technique, with maximum variation in terms of age, socio-economic status, and ethnicity (Patton, 1990). As Patton (1990) wrote, "when selecting a small sample of great diversity, the data collection and analysis will yield two kinds of findings: (1) high-quality, detailed descriptions of each case, which are useful for documenting uniqueness, and (2) important shared patterns that cut across cases and derive their significance from having emerged out of heterogeneity" (Patton, 1990). Hence, we recruited participants from different socioeconomic backgrounds to increase the variation in the sample (Minelli, Pigini, Chiavarini, & Bartolucci, 2014).

The inclusion criteria for the participants were:

1) Practicing Islam (women wearing hijab or niqab, and men wearing head caps or kurta);
2) Having experienced religious discrimination in daily life;
3) Being aged 18 years or more;
4) Living in Montreal or its vicinity;
5) Speaking English.

We expected to recruit between 10 to 15 participants and finally interviewed 11 people. We obtained data saturation after the 10th interview, and hence considered that the amount of data generated was enough to understand the impact of religious discrimination on the oral health of the Muslim people (Lincoln & Guba, 1985). Data saturation occurs "when no new information is forthcoming, you have reached saturation point" (Glaser & Strauss, 2017).

4.3.2. Recruitment

Recruiting participants was a very challenging and lengthy process. It took me almost one year to recruit 11 people. In this process, I used multiple recruitment strategies. Firstly, I advertised the study by placing flyers (e.g., the purpose of the study, nature of participation [45-60-minute interview]) at various mosques in downtown Montreal like Al-Omah Al-Islamiah Mosquée, AlSalam Masjid, Al-Madinah Center, Mosquée Khadijah and Islamic Center of Quebec - El Markaz Islamic. Furthermore, I requested the sheiks and the staff of the mosques to spread the word amongst their family, friends, and relevant personnel. I was able to recruit only 1 participant from this strategy.

Secondly, I started advertising my research by giving a speech at different mosques and the Muslim Student Association (MSA) at McGill University. In the speech, I mentioned my role as a student investigator, the purpose of the study, the potential outcomes, and invited people to participate. I also personally greeted people coming to the mosques for prayers and provided information related to my research. I also distributed pamphlets summarising our study (e.g., inclusion criteria, objectives, and contact details) at the entrance of the mosque. This strategy allowed me to recruit six participants.

Lastly, my few colleagues from the dentistry department posted an image of the flyer on Facebook in different groups such as McGill sisters in Islam, MSA Concordia, MSA McGill, Muslim Community of Saint-Anne-de-Bellevue and Arabic Muslim women in Montreal. This strategy produced several inquiries on Facebook messages from people who were interested in participating.

If the potential participants met the inclusion criteria, I requested them to suggest a convenient date and time to organize the interview. I also did mouth publicity of my study at McGill University's faculty of dentistry department, where I recruited 3 participants.

4.3.3. Interviews

We preferred to conduct individual semi-structured interviews because it would allow in-depth conversations and a thorough description of personal experiences (Schwandt, 2014). We did not choose to conduct focus groups for feasibility reasons and because their format would not have

allowed an in-depth understanding of people's experiences of discrimination. Eleven interviews were conducted March 2018 to April 2019, with the language of communication being English. The participants chose a convenient time and venue for their interviews; the 11 interviews were conducted at various locations: McGill University (five participants), café (two participants), participant's apartment (two participants), mosque (two participants). Each interview lasted 30 to 60 minutes and was audio-recorded with the consent of the participant, after which the interview was transcribed verbatim. All interviews were conducted in a semi-structured manner, with an open-ended approach (Sandelowski, 2000). The interview guide was designed in conjunction with my supervisor Dr. Christophe Bedos. It was designed to help participants recall past discriminatory experiences and relevant information. The interviews focused on three aspects: (i) discriminatory experiences in daily life, (ii) discriminatory experiences while using the health care system, and (iii) discriminatory experiences while utilizing the dental health care system.

Each interview followed a certain format. I first thanked the participant and then provided some information about my role, the objectives of the study, and the potential outcomes. Finally, I provided them with some time to ask questions related to the study.

I began the interviews by asking socio-demographic questions such as their age, marital status, occupation, and their personal journey to Canada. In the next section, I asked them about their most disturbing and recent experiences of discrimination in their daily life. Then, we discussed how these experiences affected their mental and physical health as well as their health-related behaviors. In the third section, I asked them about potential experiences of discrimination within the healthcare system and how it may have affected their health. In the same way, I asked questions related to discriminatory experiences in the dental healthcare systems and their impact on their oral health and related behaviors. Finally, we discussed suggestions or recommendations on the medical and dental care systems of Canada and the experience of the participants with the interview (what they think about interview, how well the interview went, how they feel after the interview, etc.).

During the interview, I used two main strategies to obtain detailed information about their experiences, as described by Rubin (Rubin & Rubin, 2011). The first was asking follow-up questions. For example, when a participant described the disrespectful behavior of a dentist, I then

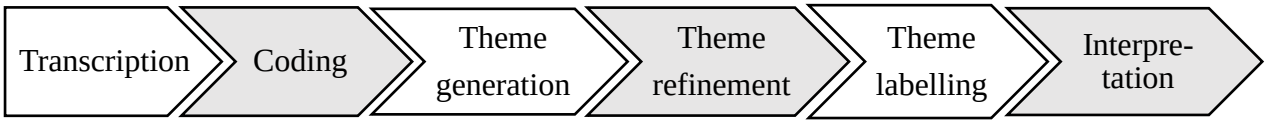
followed up with questions such as: “why did you think that dentist was disrespectful?”; “what did he say to you?”; “how did you feel at that time?” The second strategy was to use verbal (“great,” “oh!” “He said that?”, “really?”, etc.) and non-verbal (surprised expressions or nodding head, etc.) probes during the interviews.

Finally, at the end of the interview, I asked the participants if I could contact them again if I needed any additional information from them. Lastly, I thanked them for their participation in the study.

4.4. Data analysis

We started data collection and analysis concurrently, as suggested by Braun and Clarke (2006). We went through our collected data (codes, themes) many times, and hence, it consumed much time. I tried to transcribe the audio-recorded interviews as soon as possible. Each transcription took two to three days to complete. We used six stages of thematic analysis for the data as described by Braun and Clarke (Braun & Clarke, 2006) (Figure 5);

Figure 5. Steps of thematic analysis based on Braun and Clarke's approach



In the first step, I familiarised myself with the data by summarizing and completing a post-interview report form. I described my own experiences, thoughts, and challenges that emerged during the interview with preliminary interpretation (Maritz & Jooste, 2011). In this process, I read my transcripts and listened to audio-recordings multiple times to understand the meaning and pattern of the data (Bird, 2005).

In the second step, I generated initial codes by using MAXQDA Standard 12 (12.2.1; VERBI GmbH 2017) software. I repeatedly added, removed, and revised codes as I progressed through more transcripts. I finally regrouped the codes into three main categories: discrimination in daily life, discrimination in the healthcare system, and discrimination in the dental care system.
In step three, I grouped different codes together and started searching for themes. I consolidated a group of codes under one theme and sub-themes.

In step four, I used a matrix system to display and summarise my data in a simple manner. According to Miles and Huberman's recommendation, matrices help to facilitate the description of the findings by "condensing and distilling it to be able to see the data as a whole. The chance of drawing and verifying valid conclusions are much greater than for extended text, because the display is arranged coherently to permit careful comparisons, detection of differences, noting of patterns and themes, seeing trends, and so on," (Miles & Huberman, 1994). I formed three separate matrix systems for discrimination in daily life, discrimination in the healthcare system, and discrimination in the dental care system. As shown in Table 2, the first column represents general information about the participants, which includes gender, age, occupation, and country of origin, whereas I wrote different types of codes in the following columns. At this point, I started looking for themes and subthemes with the help of my supervisor.

Table 2. Sample of analytic matrices

	HEALTHCARE SYSTEM						
	Experiences		**Consequences**				
Codes ➡	Disrespectfulness	Less appointment time with the doctor/ specialist	Switching/ changing doctors	Lack of trust on healthcare professionals	Stress and anxiety	Isolation	Preference to Muslim Doctors
Interview 1 Female 34 years Student Libya		She thinks healthcare professionals did not give enough time [1][2][3]	She changes her doctor if she did not receive good treatment [4][5]	Lack of trust on doctor can create misunderstanding[6][7]	She feels stressed, angry and less energetic[8]	She feels isolated from healthcare system because she covers herself (hijab, long cloths)[9]	She feels comfortable and less scared when she visits Muslim healthcare professionals [10]
Interview 2 Female 23 years Student Pakistan		Ophthalmologist was not showing interest and spend less time[11]					

In the 4th and 5th stages, I developed some diagrams (cycles, charts) to connect themes and subthemes logically. We named three main categories according to the places where the participant had experienced discrimination; discrimination in daily life, in the healthcare system, and the dental care system.

The final phase consisted of writing a narration of the complex data. I used figures to describe the interpretation of my data. The final report of the result will try to show the reader the complexity of our data.

4.5. Ethical considerations

We obtained ethical approval from the Institutional Review Board (IRB) of McGill University's Faculty of Medicine before data collection on 9th of March 2018. The IRB study number is A03-B59-17B. Moreover, I received an approval letter from the Mosque Al-Omah Al-Islamiah Mosque, where I recruited most of the participants.

At the beginning of each interview, I informed the participants about my role in the research and briefly described the project. I requested the person to read the consent form carefully and then sign it. The participation of the people in the study was voluntary, and I reminded them that they could withdraw at any point before, during, or after the interview. All the interviews were audio-recorded with the permission of the participants. I took several measures to maintain the confidentiality of the participant like;

1) All the audio recordings were accessible to my supervisor and me only.
2) I transcribed all the interviews and assigned a numerical code to each interview (e.g., participant 1, participant 2, etc.)
3) We stored audio-recordings, transcriptions, and post-interview report forms without exposing the participant names.
4) The sociodemographic table does not contain any identifiable information.

It frequently happened that some participants became emotionally upset when certain questions reminded them about negative and sometimes painful discriminatory experiences. Whenever I encountered such a situation, I paused the interview and gave participants some time to calm down. Furthermore, I provided them with support and an empathetic attitude.

4.6. Trustworthiness

Trustworthiness is a "characteristics of the research and its results that make it notable to readers" (Schwandt, 2014). We used different evaluative criteria to illustrate the trustworthiness of the research, such as Reflexivity, credibility, and Transferability.

4.6.1. Reflexivity: My role as a researcher

Pillow (2003) stated that "reflexivity is situating the researcher as non-exploitative and compassionate toward the research subjects" (Pillow, 2003). Reflexivity has been an ongoing

process in my research. It helped me to explore my role as a qualitative researcher and dentist. As a qualitative researcher, I need to mention my position in the research study. I position myself as an "outsider" in the study due to unfamiliarity about the Islamic religion, culture, beliefs, and practices. It almost took me one year to develop a partnership with the Muslim community. In the process, I connected to several mosques and Islamic communities to get a better understanding of Islamic religious practices or beliefs. It allowed me to analyze the participant's discriminatory experiences from a different point of view with no conflict of interest. My role as a dentist helped me to show empathy towards participants and strengthening trust. During my dental study, I treated patients from different communities with underserved backgrounds, medical conditions, etc. I realized that it was my responsibility to provide equal care to all patients and develop a good relationship with them.

4.6.2. Credibility

Credibility is defined as "the confidence that can be placed in the truth of the research findings" (Anney, 2014). To test the credibility of the research, we used the concept of "peer debriefing" (Maritz & Jooste, 2011). I produced a post-interview report form after each interview to reflect on my thoughts and preliminary findings with my supervisor. The continuous feedback from my supervisor on findings helped me to improve quality. As suggested by Lincoln and Guba (1985), prolonged engagement of the researcher to fieldwork is essential for the credibility of the research. Initially, I visited mosque two to three times per week to generate rapport with the people and volunteers. It helped me to understand the Islamic culture of the participants and gain their trust

4.6.3. Transferability

Transferability is another criterion that reinforces the trustworthiness of the research. We have tried to provide detailed context of the study and fieldwork to increase the transferability of the study (Miles & Huberman, 1994; Shenton, 2004). Hence, "by describing a phenomenon in sufficient detail, one can begin to evaluate the extent to which the conclusions drawn are transferable to other times, settings, situations, and people" (Lincoln & Guba, 1985).

5. RESULTS

5.1. Description of the participants

As shown in Table 3, we interviewed 11 people, ten women, and one man. The age of the participants ranged from 18 to 69 years. We conducted all the interviews in English, even though participants' primary language (mother tongue) was Arabic for 7 of them, Urdu for 3, Bangla for 1. Except for 3 participants who were born and brought up in Canada, most were immigrants and originated from various countries, including Pakistan, Libya, Lebanon, Egypt, and the UAE.

Table 3. Sociodemographic data of the participants

Characteristics	Categories	Number of Participants
Gender	Woman	10
	Man	1
Age	18 – 29	8
	30 – 49	2
	50 – 69	1
Marital status	Married	2
	Divorced/ Widowed	1
	Single	8
Educational level	Highschool	3
	Undergraduate	5
	Masters	2
	PhD	1

Language of origin	Urdu	3
	Arabic	7
	Bangla	1
Country of origin	Pakistan	2
	Libya	2
	Lebanon	1
	UAE	1
	Canada	3
	Egypt	1
	Senegal	1

5.2. Answering the research question

The following sections describe participants' discriminatory experiences and their consequences. We have divided them into three main categories: discrimination in daily life, in the healthcare system, and the dental healthcare system (Table 4.). Within these categories, we have identified particular behaviors or perceptions and described the consequences of such behaviors. Let's see these categories and their consequences one by one.

5.2.1 Discrimination experienced in daily life

Participants experienced discrimination in various public places such as in the metro, on the bus or at bus stops, in the street, etc. We divided these discriminatory experiences into two sub-categories: 5.2.1.1. Verbal and non-verbal aggressions; 5.2.1.2. Physical aggression.

Table 4. Experiences and consequences of religious discrimination

Settings of discriminatory experiences	Types of discriminatory experiences		Consequences
1. Daily life	Public aggressions	• Verbal and non-verbal aggressions • Physical aggressions	• Stress & anxiety • Feeling of insecurity • Escape and migration
1. Healthcare system	Attitudes of healthcare professionals/ receptionist	• Negative behaviors • Dis-interestedness	• Lack of trust in healthcare professionals
2. Dental care system	Attitudes of dental healthcare professionals/ receptionist	• Negative behaviors	• Lack of trust in dental care professionals • Avoidance of dental visits

5.2.1.1. Verbal and non-verbal aggressions

Most participants experienced verbal and non-verbal attacks in public places from unknown people. All participants experienced recurrent attacks or abuses and told multiple, recent stories of verbal or physical aggression. They mentioned being verbally abused by disrespectful or insulting comments and criticism on their religion, religious beliefs, or practices. They also described non-verbal abuse in the form of stares and judging looks in public places. One participant, for instance, shared the following experience: she was reading a book while waiting for the bus when she suddenly noticed a man beside her, throwing an improper comment on her wearing a Hijab.

> *[…] he said it in French, I can't remember, but he said like 'oh take this(hijab) and put it up on your you know like your ass,' and I think so I was just super shocked… [Participant 2]*

Another participant expressed her feelings about being verbally humiliated in front of her daughter and husband while traveling in public transport. Similar stories recurred from her as she was

targeted more than once just for wearing a hijab. She also shared another story of a man passing by her and mocking their Islamic phrase "Allahu-Akbar" (which means "God is most great").

> *[…] A man was sitting beside me, and he whispered in my ears that 'I will take you, I will put you back in the business, and I will fuck you'... [Participant 8]*

> *[…] I was walking on the street, and he took his bicycle and followed me by saying 'Allahu- Akbar Allahu- Akbar'… [Participant 8]*

Some participants also experienced non-verbal aggression, such as judging and staring looks in public places. For instance, a participant reported that she was walking with her daughter on the streets and noticed that many people were staring at her. After some time, her daughter asked her, "mom, everyone is staring at us. What are they staring at?" She narrated the above story as;

> *[…] Me and my daughter were walking down on the street of Brossard. I noticed that some people were staring at me. I was annoyed. However, I stood strong for my kid and showed my confident face to the people who were staring. I didn't say anything to them. After some time, my daughter started noticing, and she is only six years old. She asked me, 'mom, everyone is staring at us, what are they staring at?' So, that was like a breaking point for me… [Participant 3]*

5.2.1.2. Physical aggressions

Some participants also described experiences of physical violence and assault in public places such as pulling off the headscarf, intentional pushing, or attacking. These physical attacks were not as common as verbal abuses. One participant, for instance, explained being physically and verbally abused at a metro station in Montreal. According to her, she was intentionally nudged by an unknown person who also used depreciatory words against Muslims: "Sale Musulman," which means "Dirty Muslims."

> *[…] she said very derogatory words about Muslims while pushing me: Like she said (speaks in French) 'Sale Musalman' Like 'dirty Muslims' and I fell. And nobody helped me to stand up… [Participant 6]*

An 18-year-old participant explained having experienced many aggressions in public places. One of the most recent was an attack from an unknown man in Montreal metro; she explained that a man attempted to pull her niqab and said aggressive comments against her.

> *Ummm, most recently, I was attacked by a man in the metro. He came too close to me*

and became very aggressive. Then he tried to pull my niqab, and started speaking less things about me… [Participant 10]

Another participant from the UAE reported both physical and verbal aggression in the street, which occurred when she was with her one-year-old child visiting downtown Montreal in the summer. Suddenly, one man came very close to her and screamed, "this is not your place and leave, get out of the country." He also used some bad words against the Islamic religion and prophet Mohammed. Then, he crossed the street to see traffic police and complained about the participant that she was trying to kill him.

[…] suddenly, a person came across and kind of came too close to my ear and asked me to leave the country. And he said, 'this not your place and leave' and he said bad words about me, my religion and prophet Mohammed. I approached a security guard standing on the street. They already saw him screaming on me. The man went to see a security guard before me and started saying that, 'She (participant) was trying to kill me'… [Participant 7]

5.2.1.3. Consequences of daily life discrimination

The consequences of daily life discrimination are; a) stress and anxiety; b) feeling unsafe; c) escape or migration.

5.2.1.3.1. Stress and anxiety

The participants persistently described the impact of religious discrimination on their psychological and emotional well-being, using terms such as "depression" and "anxiety." They described the immediate consequences of the aggression, like crying, trembling episodes, and sleep disturbance. For instance, one participant expressed that she was "shivering" and "couldn't sleep" the whole day after a man attacked her on the street.

[…] So, the whole day I was shivering, I couldn't sleep. After this incident, I became dependent on other people. I was always scared; my sleep was disturbed at some point. I was a bit depressed. I did not want to live here anymore; you know like I wanted to leave, but I can't leave I have my school... [Participant 7]

The participants expressed their anger as one of the immediate as well as long-term outcomes to physical aggression. Their anger was targeted towards the individuals and, more generally, to the society that has discriminated them. For instance, an 18-year-old graduate student expressed her

"anger" as well as "disappointment" towards our society. She further added that it was sad to experience discrimination in Canadian society, which she considers her home.

> *Yeah, um, I think I do feel fear, but more than fear, I feel anger against people who discriminate against me. I am more upset about Canadian society. We allow these things to happen, and there are people like that in this society, Yes, I feel scared, but at the same time, I also feel angry, sad and disappointed in the society and especially for the place where I called my home to treat me like that. [Participant 2]*

Some outcomes of the aggression lasted for a couple of weeks, during which the participants felt depressed. They described the manifestations of their depression in the forms of a lack of interest in work, fatigue, and fear of going out alone. One participant highlighted that feeling of being depressed made her "less energetic" and "slow" in her work progress. She further explained that she was not able to complete her academic assignments on time.

> *[…] I became very depressed and less energetic. I started doing less things. Depression made my work slow on. I was working slowly on my thesis. I was supposed to finish my thesis in December; instead, I submitted in April. It happened due to shifting to a new place I had to care for children and make sure that they get adjusted to a new environment. I was ill emotionally and physically. I would suffer every single morning to wake up. I had no energy to work in the morning. I had to force myself to work and sit down on my table at my desk until I finish my work… [Participant 3]*

It should be noted that the immediate and later consequences of the experiences we mentioned in this section lasted from a few days to several weeks. Besides, the participants did not consult a physician or used any medication for the symptoms related to discrimination.

5.2.1.3.2. Feeling of insecurity

Many participants associated feelings of insecurity to threat or endanger of attacks from their surroundings (public places). Due to the experience of non-verbal devaluation, such as staring looks, a participant explained that she was more attentive at civic places to avoid discriminatory incidences.

> *[…] So, I became more aware of my surroundings because of some incidences. I became more aware of what's happening around me like who is around me; what am I doing; you know not facing these situations myself, even though these things (verbal or physical abuse) can happen. [Participant 2]*

Whereas, another participant said that she too afraid to go outside by herself because an unknown man attacked her when she was carrying her baby in a stroller. Since then, she explains living in

constant fear of an attack. After the incident, she was even afraid to go outside alone during the day. Further, she expressed that whenever she wanted to go out for any reason, she always needed someone to accompany her. Hence, she became more dependent on her family and friends for her own safety.

> *[…] I didn't want to leave the house; I didn't want to go outside. I had to be very dependent on other people that I need someone to go out with me; I need someone to be there to do my daily chores like, to get my groceries, to do any normal stuffs, and that was a very big obstacle for me, you know. It wasn't winter, it wasn't anything, rather it was a perfect time for me to go and enjoy my time outside, and I just couldn't. That incidence just ruined the rest of my summer. And to keep on record that I am alone here and it wasn't very secure. For me to be alone and there was no person to help me if anything happens. So, I always had to wait for my husband to finish his work or to go out with me. I would avoid going out and like we barely have summer here. So, I just ruined my summer staying at home, which wasn't acceptable, and of course, it affected me psychologically in that sense. […] This was one of the most traumatic experience for me because I was walking alone, and he got very close, didn't have any personal space, and It was more traumatic than scaring. I wasn't scared for myself but scared for my baby as I was with my baby, and it was terrifying… [Participant 7]*

5.2.1.3.3. Escape and migration

Discriminatory experiences had a major impact on participants' life. Some tried to avoid discrimination by changing places in response to physical and verbal assaults; they migrated to a different neighborhood of the same city, and one even returned to her country of origin. As expressed by a participant, she moved from Brossard to downtown Montreal, as she experienced a non-verbal aggression when she was with her daughter. Thus, to avoid such an unpleasant experience and to safeguard her daughter's upbringing and overall development, she decided to move to a neighborhood with the hope to find a community that would respect her better. This change of locality, though, added a financial burden on her family.

> *[…] So, I have to break my lease, well I didn't break it, but I lost a lot of my money. As I had to take someone else in my lease, and I gave them one month free so that they can take over the place, and I then came back to downtown. And now I am paying more rent in downtown just because I can't live outside downtown. So, this was like a major thing for me… [Participant 3]*

Another story of migration was told by a 36-year-old participant who immigrated to Canada with her family in 2012. She reported being a victim of insults in public places. Also, concerned about

the safety of herself and her daughter, she stated, reaching a breaking point and decided to leave Canada; she then went back to Egypt and stayed there for nine months.

> *Ummm, I was thinking of leaving Canada for a long time. Because we arrived in 2012 and in the very first month, I had lots of experience of bullying, lots of discrimination mostly in the streets. So, I told my husband: 'No, I don't want to live here. If you want to continue, you continue, I am going back to Egypt.' And then, I went back to Egypt for almost nine months… [Participant 8]*

5.2.2. Discrimination experienced in the healthcare system

Most participants (n=8) had also experienced discrimination in public and private hospitals, but these experiences in the healthcare system were not as frequent as discrimination in daily life. They explained being discriminated by various members of the medical staff, including receptionists, nurses, and physicians, due to their Islamic identity. We divided the discriminatory attitudes or behaviors into two categories, as shown in Table 4: 5.2.2.1. Negative behaviors, 5.2.2.2. Dis-interestedness.

5.2.2.1. Negative behaviors

The participants described negative behaviors from healthcare and non-healthcare professionals (receptionists), which encompassed discourteous behaviors. Such behavior can be defined as inconsiderate conduct towards the feeling of other people. It included disrespectful remarks towards religious ritual (Ramadan) and rude reaction (irritation and anger) to Muslim women's clothing. One of the participants, for instance, explained her experience at a gynecologist during her pregnancy. When the gynecologist learned that she was fasting, the former angrily commented that "Ramadan is a stupid thing for a pregnant woman."

> *It wasn't always a pleasant experience when I went to my gynecologist. […] I could see that she would treat the people from mainstream society better than Muslims and Jews. My bad, she was a Jew. So, she was treating them well. But I noticed that she was less friendly. She was not friendly at all in any way. However, with people from the mainstream society was better. But with Muslim, she was like very; I would say discriminating and bit rough. She wasn't as friendly as she could be. Still, I had the first baby with her help. But in the Ramadan, the month where all Muslims fast. I was fasting. She told me, 'Ramadan is a stupid thing for a pregnant woman.' I was really upset. I mean, she could have said it in a different way. Showing more respect and appreciation, she could have just told me that, 'I don't think Ramadan works well for pregnant women.' But she was disrespectful towards my beliefs... [Participant 3]*

The experience of another participant from Senegal who visited the emergency room at the hospital was unpleasant: the receptionist of the hospital shouted furiously on her while she was waiting for an appointment, asking her to change the respective seats of her and a fellow Muslim woman sitting beside her. Another participant experienced something similar in which a paramedic in the ambulance reacted loudly and angrily by asking her to remove her hijab.

> *I went to register counter of the emergency room. The man sitting at the register counter was really disrespectful. You know, I didn't like the way he was talking and attacking. He seemed like he had no intentions to help me or rather even talk to me as he observed from my attire that I was a Muslim. And I thought that probably it was just me, I didn't say anything. I didn't tell him anything. I just went, and I looked at him because I am like you have to be completely close in your mind to react this way, and I went and sat. But he told me, 'you sit…. not there… there' (angrily), you know. Okay, no problem. And there was another lady who was Muslim. But she was Arab, and she came, and he treated her the same way… [Participant 6]*

5.2.2.2. Dis-interestedness

I describe the concept of disinterestedness in terms of providing healthcare as not giving sufficient time for discussing health issues and information about the treatment planning. The participants emphasized the value of communication with the clinician and compared their appointment time and experiences with other patients. To give an example, two participants pointed out that a gynecologist did not provide them enough time and information about their check-ups compared to other patients. One participant, in particular, stated that her gynecologist did not give her enough time and explanation for a pregnancy check-up. As she shared her experience with her Muslim friends, the latter acknowledged having a similar experience with the same gynecologist. Another 30-year-old woman mentioned that her gynecologist "took her all-time with other patients and treated me as if I am not as eligible as other people."

> *I talked to a lot of other Muslim friends, and they all said the same thing. She would just rush you out of the room and not give you enough information… [Participant 3]*

> *The first one, she (gynecologist) just tried to find out what's happening. As if she did not require having a good impression on me. My time with her was like for just Fifteen minutes for which I waited outside for almost 2 hours. She (gynecologist) was took most of her time with other patients in the clinic. However, with me only 15 minutes rather, I would say less than 15 minutes. I thought of making a complaint about this. But then I thought it was not worth it. [Participant 8]*

Another participant consulted a pediatrician for her child's checkup, where she explained being rushed through her son's check-up. According to her, the pediatrician did not provide her with enough time to ask more questions about her child's health.

> *You know, because of the way somebody talking, like her (pediatrician), with all the facial expressions, the way she was talking, as if she wanted to give me a message that appointment is over, and there was nothing wrong with my kids, so goodbye. The way how she talked was exactly meant to make me feel unwelcomed, and wanted me to leave the place. [Participant 1]*

5.2.2.3. Consequences of discrimination in the healthcare system

5.2.2.3.1. Lack of trust in healthcare professionals

Some participants described that building trust depended on effective communication with the clinician about their care, including diagnosis and treatment. The consequences of losing trust were a reluctancy to consult healthcare professionals in the future. As expressed by one participant, limited communication led to a lack of belief in the treatment and lesser number of visits. She added that healthcare professionals should provide all the necessary information about the treatment and time to secure cooperation from their patients.

> *It breaks the trust which affects the follow-up appointments as well. I got it now as a patient, if I feel that if I am not treated as a patient or as a human being this makes me feel or question the treatment that they are giving me, is the right treatment or not [...] Even though the sometimes doctor is doing the right thing professionally but is not communicating properly. The patient won't be satisfied even though the treatment will be right. Also, the chances are that the patient will not give the doctor information clearly. And this will hamper the treatment process, as well. This creates misunderstanding from both sides… [Participant 1]*

Another participant further elaborated that she was afraid to visit doctors due to lack of confidence in them. After experiencing discrimination, she became skeptical about doctor's treatments and always made sure that the treatment she received from the doctor was accurate to avoid any complications.

> *Like I am scared to show other healthcare professional? Like I don't have faith in them like I used to have before. I think that if I know, there is something wrong with me even if the doctor says there is nothing wrong with me, I will have to insist over and over again until I convinced them that there is something wrong*

with me. Because I know my body, they don't. So, I don't trust them. Now I don't trust them as I used to before [Participant 3]

5.2.3. Experiences of discrimination in the dental care system

Three participants reported encountering religious discrimination in the dental healthcare system, whereas the height others received reverential treatment during their dental visits. The former reported negative behaviors from the dental healthcare professionals or dental receptionists in private dental clinics.

5.2.3.1. Negative behaviors

The participants thought that they mostly experienced negative behavior due to their Islamic identity, such as their name or the fact that they were wearing a hijab. They mentioned negative behaviors of dentists and dental receptionists that we clustered into two categories; overall lack of information about their check-ups and inappropriate communication. For instance, one of Libya's participant explained that she suffered from constant pain in her jaw and consulted a private dentist. The latter suggested to extract her tooth, but the participant wished to learn more about the diagnosis and treatment planning; yet, the "dentist did not open the floor for the discussion."

I visited a dental specialist from private dental clinic due to pain in my jaw caused by stress. He suggested extraction of my tooth. I asked him, 'how he reached this diagnosis?' But he did not open the floor for the discussion. He did not accept discussion or argument [...] I found him (dentist) self-centered. [Participant 1]

Another participant expressed her desire to consult an oral surgeon for a wisdom tooth extraction. She then booked an appointment with the oral surgeon, but two days before her appointment, the dental receptionist called her and held her responsible for missing the appointment. The participant urged that distinct date for the appointment was provided to her, but the clinic did not offer her a new appointment date. She believed that the impolite behavior of the dental receptionist was due to her name, which can be easily recognized as a one of a Muslim person. Hence, she did not revisit this particular dental clinic and added that she would prefer to visit dentists with the same religion.

So, I called the dental clinic, and yeah. So, by the name they know, not necessarily the Muslim, but they know you are not from the mainstream society. So, I called and took the appointment. I wrote the date down. And then so, I was supposed to go to see them on Wednesday, that's what I thought. So, he called me Tuesday, and he called Ali Mohammed. I am like: 'yes, how I can help you?' he is like: 'I am doctor blah blah… you are supposed to come today.'

I am like: 'oh my god, no, it is not today. It's on Wednesday. No, it's today, and you forgot. (laughs) I told him. I did not forget. If it were today, I would have shown up.' I mean, maybe it was supposed to be on Tuesday, or maybe there was miscommunication between the receptionist and me. But she can not accuse me of forgetting, especially that I wake up really early. She is like: 'no, you forgot, and you didn't show up.' I told her I didn't want to like chat back or argue with him. I told him: 'you know what I am gonna call back and reschedule. Okay. I am sorry about that…' [Participant 3]

Another participant explained spending unnecessary waiting time to see the dentist due to his name that, according to him, may sound Islamic. For cleaning and scaling procedures, this participant, originally from Pakistan, visited a private dental clinic in Montreal. He felt that he spent unnecessary waiting time before being seen by the dentist. Furthermore, he described the dentist as undermining Pakistani institutions, which made him feel like: "he (dentist) was racially discriminated that was very obvious, but then I felt pity for him for his narrow mindfulness, and yaaa immediately felt pity for him. Poor guy!"

Participant: No. Because I don't remember whether it was the receptionist or the doctor. But they were not doing anything and also making me wait. I felt like they were doing it purposely, and I think also they have it in some conversation during the treatment.
Interviewer: Can you elaborate your conversation? For instance, why did you visit the dentist, what comments dentists made, why did you feel comments was inappropriate?
Participant: Yes, he was looking down upon Pakistani institutions and made a comment on them.
Interviewer: So, what was the comment?
Participant: I don't exactly remember. But I didn't like the comments. [Participant 5]

5.2.3.2.Consequences of discrimination in the dental healthcare system

The participants who had experienced negative behaviors from dentists and dental receptionists seemed to have developed a lack of trust towards them, an issue that may lead them to avoid future dental visits.

5.2.3.2.1. Lack of trust in dental health care professionals

The participant who experienced a longer waiting time and received discourteous remarks on Pakistan's educational institutions explained that he was interested in visiting a dentist again, but not in the same dental office; he considered his dentist as "narrow-minded" and had lost faith in him.

Interviewer: So, have you visited that particular dental clinic after the incident?

Participant: Why I would do that? I don't like that place anymore.[…] with anything serious like removal of wisdom teeth or any surgery, then I won't go there. I won't trust him because of his narrow-mindedness with my body. [Participant 5]

5.2.3.2.2. Avoidance of the dental visits

Discriminatory experiences and lack of trust in dental care professionals lead to avoidance of future dental visits. As expressed by one participant, the fact that she received limited information about the diagnosis and the treatment led her to stop visiting that particular dentist.

[…] I followed up with him (dentist) but did not find improvement. I stopped going there. I found himself centered... [Participant 1]

In the same context, another participant canceled an appointment with the same oral surgeon due to the humiliation that she faced during her conversation with him and his receptionist. After this experience, she developed negativity against that specific oral surgeon and never visited his dental clinic again.

Interviewer: So, did that thing get resolved? Do you show to another dentist or it remained unresolved?
Participant: No, it remained unresolved till now its been a year now. I remember this happened maybe last June, and I still have my wisdom teeth intact. (laughs) Yeah, because I was supposed to go on Wednesday, and he accused me of not coming because I was lazy or because I forgot on Tuesday, not because of miscommunication may be. So, I am like I am not going anywhere. [Participant 3]

5.2.4. Selecting dentists

I suggested earlier that after experiencing negative behaviors with dentists and doctors in general, participants were more likely to lose trust in them. Also, these negative experiences, together with physical or verbal aggression in daily life, could affect their access to dental care in terms of selecting dentists. For instance, some participants said that they preferred visiting dentists, who shared their religious beliefs. As expressed below, one participant from the UAE explained that she had an Arab Muslim woman family dentist and had always experienced excellent communication with her.

Ummm, my doctors were from my own religion and race, as well. So, maybe that makes it easier for me like I am just communicating on my in my language. Ummm, it wasn't bad. No. it wasn't. Ummm, I didn't have any bad experiences with that. [Participant 7]

Another participant further elaborated that Muslim dentists showed respect towards their religious values and efficiently delivered dental care to them. One participant stated that her Arabic orthodontists were respectful towards her religious beliefs. For instance, this dentist provided her with a private space where she could take off her hijab for treatment formalities.

> *I mostly go to my orthodontist, and hers is like every eight weeks I go to her, and she is like very nice, and she is also respectful towards you know I guess towards my beliefs because, as an orthodontist, they have to take the pictures of your mouth, and she was like: 'Okay, you can take it off, but I will give you room with no one can see you.' I was like that is so considerate you know just small things like that you know are really helpful just knowing and caring about your patients and the yeah so, orthodontist she is super nice. I love going to see her. [Participant 1]*

6. DISCUSSION

6.1. Summary

To our knowledge, this is the first qualitative study to explore the impact of religious discrimination on oral health care. Our study presents experiences of discrimination based on religious beliefs or practices and, subsequently, their consequences. The participants experienced religious discrimination in three different settings, most commonly in daily life but also in the healthcare and the dental healthcare systems.

The participants experienced discrimination in the form of verbal, non-verbal, and physical aggression related to Islamic clothing and prayer rituals in public places (metro station, streets, bus, etc.). These experiences had a significant impact on their life, including stress and anxiety, feelings of insecurity and, in some cases, emigration to escape discrimination. However, the participants did not specifically report any direct consequence of these experiences on their oral health-related behaviors, namely oral hygiene habits and diet.

Some participants experienced negative behaviors and disinterestedness from healthcare professionals and their staff (such as the receptionists). This generated psychological stress and a lack of trust in healthcare professionals in general. Three participants had similar experiences during their dental visits that lead them to lose trust in dentists and, ultimately, avoid dental visits.

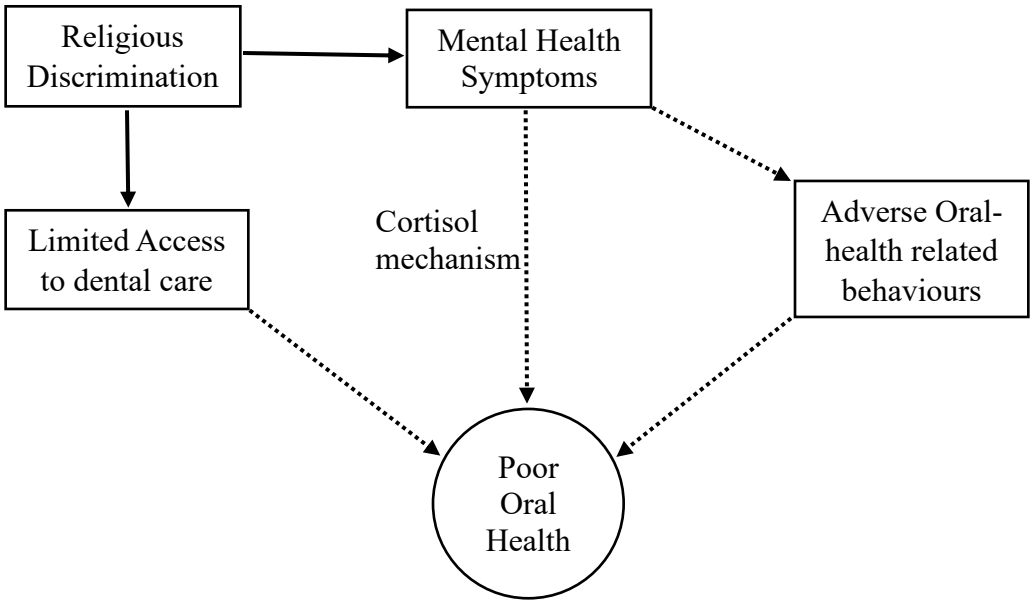
We also found that several participants were generally satisfied with the treatment they received in private dental clinics, mentioning respectful and satisfying treatment from dentists. Most participants preferred to visit dentists with the same religion or ethnic origin to receive respectful behaviors towards their religious beliefs.

6.2. Potential pathways between discrimination and oral health care

Our findings are important as they reveal how the attitudes of people towards Muslim people living in Montreal may affect their health and, more specifically, their oral health. They help understanding potential pathways between religious discrimination and oral health care. Our study showed that religious discrimination experienced in daily life may not necessarily affect the oral health of people but could impact on mental health through stress and anxiety (Figure 6).

We did not find any link between mental health symptoms and oral health-related behaviors, but we cannot exclude this phenomenon, considering that our sample was relatively small. The literature has shown that mental health symptoms can affect oral health through oral health-related behaviors such as dietary and brushing habits (Lee, Choi, Chung, Son, & Chang, 2013). More specifically, people with psychological stress have been shown to eat more food with high sugar levels (Rutters, Nieuwenhuizen, Lemmens, Born, & Westerterp-Plantenga, 2009), which may lead to dental caries and periodontal problems (Hujoel & Lingström, 2017; Marcenes & Sheiham, 1992). Regarding the relationship between stress and brushing habits, studies have shown that people with higher stress were most likely to display less brushing frequency, i.e., once in a day instead of two times (Ben et al., 2014; Lee et al., 2013). The literature also presents an association between mental health symptoms and oral health through cortisol-related mechanisms: stress, depression and anxiety have indeed been associated with elevated levels of cortisol (Johannsen, Rylander, Söder, & Marie, 2006; Kirschbaum, Wolf, May, Wippich, & Hellhammer, 1996), which induce gingival inflammation and periodontitis (Rai, Kaur, Anand, & Jacobs, 2011; Rosania, Low, McCormick, & Rosania, 2009).

Figure 6. Potential links between religious discrimination and poor oral health



(Note: the non-dotted lines represent links derived from this study whereas dotted lines indicate links given by the scientific literature)

Our study also showed that religious discrimination in medical and dental clinics might limit access to dental care services. Few participants of our study avoided dental visits due to the experience of negative behaviors from dentists or dental receptionists; clinicians thus need to show an empathetic and positive attitude towards their patients while delivering dental care (Karydis, Komboli-Kodovazeniti, Hatzigeorgiou, & Panis, 2001; Yamalik, 2005).

6.3. Limitations of the study

We cannot generalize the findings generated from our study. We conducted it with Muslim people residing in Montreal and its vicinity. Hence, the social, economic, and cultural contexts of Montreal, as well as the demographics of the Muslim population, must be considered before transferring our findings to a different context.

Another limitation is its small sample size. Although it is common to have a smaller sample size in qualitative research, we stopped recruiting participants after 11 interviews because we found that more interviews would not produce additional information. However, more men participant's recruitment would have yielded more information about their experiences. According to Guest, such sample sizes are enough "to understand common perceptions and experiences of relatively homogeneous individuals" (Guest, Bunce, & Johnson, 2006).

Besides, the participants were mostly immigrants, and English was not their first language. Therefore, they may not have been able to express the full extent of their experiences during the interviews. We also excluded people who did not speak English at all, and this may have limited the range of perspectives and experiences that we collected.

The fact that we were able to recruit more woman than men may be due Muslim women's greater willingness to participate in the study; they may also experience more discriminating events due to their religious symbols like hijab or niqab (Afshar, 2008; Byng, 1998; Koura, 2018). Since we have recruited more women, we do not deeply address the issue of discrimination against men. Hence, the findings of this study may not apply to men.

6.4. Strengths of the study

Despite some limitations, our findings and recommendations may play an important role in developing awareness and critical consciousness about discrimination among dental students, educators, and practitioners.

This study provided a platform to the Muslim people to voice their discriminatory experiences in Quebec society. All the participants appreciated participating in this study as they were able to express and share their experiences freely.

6.5. Knowledge translation plan

Our goal is to share our findings with different audiences, researchers, dental students, community partners, and dental healthcare professionals in particular, through various ways that we described in Table 5.

To inform the scientific community, I have already presented the study's protocol and findings through several poster and oral presentations: McGill dentistry research day (I won the 3rd prize for oral presentation competition at McGill University Faculty of Dentistry 14th Annual Research Day on April 12th, 2019); RSBO (Réseau de recherche en santé buccodentaire et osseuse) scientific days in June 2018 and June 2019, in Montreal. Lastly, we submitted an abstract to the IADR (International Association for Dental Research) conference that will be held in March 2020. We are also planning to submit a manuscript to a scientific journal for further knowledge dissemination.

Our findings will also be shared with dental educators, who are responsible for developing future dental healthcare professionals. My supervisor, Dr Christophe Bedos, as well as members of my advisory committee, will share findings of this study with dental students through their academic position at McGill University. Their initiative will help to raise awareness and develop critical consciousness among dental students.

It is also essential to communicate with dental care professionals and make them aware that people experiencing discrimination may be very sensitive when they visit a dental clinic. We will translate

our findings and recommendations to the Order of Dentists of Quebec (ODQ) and the Association des Chirurgiens Dentistes du Québec (ACDQ) through online electronic newsletters (the thread/ archives) and publications. Both dental students and dental health care professionals need to be mindful, inclusive, and welcoming towards this population.

To further broaden the scope of people, we will reach the members of the community through mosques and Muslim student associations (MSA). Many times, the sheik of the mosques requested me to send a report of our study. Hence, we will submit them a page report that will include results and recommendation.

Table 5. List of target audiences for knowledge translation

	Targets of the recommendations
1) Researchers	• McGill University Faculty of Dentistry Annual Research Day • RSBO Journée Scientifique • IADR • Scientific journal
2) Dental students	• Seminars or lectures
3) Dental healthcare professionals	• Order of Dentists of Quebec (ODQ) • Association des Chirurgiens Dentistes du Québec (ACDQ)
4) Community partners	• Sheiks of the mosques

6.6. Directions for future research

Future research should consider the experiences of different communities living in Montreal, Quebec. For instance, researchers could include the Sikh, Jewish, or Hindu communities to widen our understanding of experiences about discrimination and oral health. Furthermore, new studies should compare the experiences of the people based on their geographic locations. For example, future research should examine the experiences of the Muslim people living in Canada and the USA to widen the understanding of their experiences and oral health.

6.7. Our recommendations

We have recommendations for dental health care professionals, dental educators, and students to deliver effective dental care to their patients who have been traumatized by discriminatory experiences in their life. As demonstrated by our findings, some participants expressed a lack of trust and avoidance of dental visits due to previous negative experiences. Hence, our recommendations are as follows:

1. We encourage dentists to learn about and use person-centered care (PCC), and trauma-informed care (TIC) approaches to provide effective dental care to their patients (Noushi, Bedos, Apelian, Vergnes, & Rodriguez, 2018; Raja, Hoersch, Rajagopalan, & Chang, 2014). We wrote recommendations for dentists by combining PCC and TIC approach. These guidelines are as follows:
    - Greeting and showing respectful behavior towards any religious beliefs or practices.
    - Exploring patient's history of traumatic experiences related to discrimination and consider their impact in their daily life and on overall health.
    - Understanding patient's concerns or expectations related to their health (physical, mental, or dental), treatment procedures, and outcomes.
    - Providing additional information on local community support groups, public mental health services, social clubs to those patients who have experienced a disturbing level of discrimination affecting their mental health.
2. Dental schools and educators are responsible for the training of future dental healthcare professionals. Hence, we recommend to:
    - Introduce academic and clinical training in undergraduate courses on effective communication and engagement skills to deliver effective dental care to victims of discrimination.
    - Offer scholarships and awards to the dental students engaged in minority population-oriented research on access to oral health care (Yoder, 2006).
    - Invite religious representatives or speakers to take part in academic seminars or meetings for the discussion on socio-cultural issues.
    - Incorporate community service learning and trauma-informed care (TIC) approaches in the dental curriculum to develop students' cultural sensitivity, critical consciousness and interpersonal skills (Broder & Janal, 2006; Raja et al., 2014).

3. The Order of Dentists of Quebec (ODQ) is responsible for implementing policy, rules, and regulations for the dentists in Quebec. It also provides continuing education programs for the dentists. Thus, we recommend to:
    - Encourage dentists to develop critical consciousness and awareness towards victims of discrimination.
    - Increase the knowledge of dentists about the impact of traumatic events of discrimination on the oral health care of the people.
    - Give more focus on implementation of anti-discrimination policies with the help of the Quebec government.
4. This study made us realize that people with experience of discrimination may become more sensitive. Hence, the dental healthcare providers should be more inclusive in their approach while treating such population.

7. CONCLUSION

This study was designed to understand the experiences of religious discrimination and their impact on the oral health of Muslim people. Although the scientific literature has established that discrimination affects mental and physical health through depression, anxiety and chronic illnesses, there is a scarcity of research in the oral health care field. Thus, I addressed this research gap by conducting a qualitative exploratory study to understand the impact of religious discrimination on Muslim people's oral health.

Our findings showed that religious discrimination had an impact on the mental health of Muslim people through stress and anxiety. It may also have an impact on the use of dental healthcare services and access to care, which in turn may negatively affect their oral health. We were unable to determine if psychological stress and anxiety had an impact on oral health-related behaviors such as diet and oral hygiene.

We believe that our findings are useful for healthcare professionals, particularly dentists and physicians. They should be aware that people experiencing discrimination may be very sensitive when they visit a dental clinic or any health care professional. The latter thus need to be mindful, inclusive and welcoming towards this population.

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APPENDIX A. ADVERTISEMENT POSTER

INVITATION FOR PARTICIPATION

A Qualitative Study of Impact of Racial or Religious Discrimination on Oral Health of Muslim Community in Montreal, Canada.

We invite people to discuss their experiences of racial or religious discrimination and the way it may impact their health. Please come and participate in this study. Your comments, thoughts and perspectives will give a fulfilling approach and profoundness to the study.

Research Representatives

Dr. Madhura Tandale, BDS
Graduate Student, (MSc)
Division of Oral Health and Society,
Faculty of Dentistry, McGill University
2001McGill College avenue
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2001McGill College avenue
Montreal, Quebec, Canada H3A 1G1
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Mobile: 514-398-7203, ext. 0129#

Any comments and queries are most welcome, please contact Dr. Madhura Tandale

APPENDIX B. PAMPHLET

PARTICIPANTS NEEDED IN A RESEARCH STUDY AT MCGILL UNIVERSITY

- **Have you experienced religious discrimination as a Muslim in oral health care system?**
- **Are you more than 18 years of age?**
- **Do you communicate in English?**

If your answer is **YES**, **PLEASE PARTICIPATE IN OUR STUDY**

Our goal is to understand how experiences of religious discrimination may affect your oral/dental health. The information learned from this study may improve awareness and practices among oral healthcare providers.

What will be your participation?

- An interview of 45-60 minutes in duration about the participant's experiences
- All information will be kept confidential
- The researcher could meet you at a convenient place/time for you (at your house, or in a quiet public place nearby)

Please call **Madhura Tandale** at **514-574-8428** or email **madhura.tandale@mail.mcgill.ca**

Dr. Christophe Bedos (Associate Professor)
2001 McGill College, suite 500
Montreal, Quebec H3A 1G1

Dr. Madhura Tandale (Student)
2001 McGill College, suite 500
Montreal, Quebec H3A 1G1

APPENDIX C. INTERVIEW GUIDE

Hello, my name is Madhura and I am research graduate from McGill University Faculty of Dentistry. Thank you so much for taking time to meet and to discuss with me. Make yourself comfortable. As you know the aim of the research is to know how religious or racial discrimination affect people's health in particularly oral health. I need to check out few things with you before we get started. I know you have agreed to participate in the interview, but can you please take some time to read this consent form and sign it, if you agree? If you want to ask any questions regarding the study or the interview, please feel free to ask me, I will be happy to explain you.

1. Introduction:

Before starting the discussion, I would like to know more about you, so I will ask you a couple of questions.

- How old are you?
- What is your marital status?
- Do you have kids?
- What is your occupation?
- Where do you live in Montreal?
- Are you an Immigrant?
    - ✓ If yes, where are you from?
    - ✓ When did you arrive in Canada?
    - ✓ Would you like to share more about your experience of immigrating in Canada?

2. Experience of discrimination in daily life:

Thank you very much. Now, I would like to discuss more about your experiences of discrimination in daily life.

- Could you describe your experiences of discrimination in Canada? (could you describe in detail the most disturbing ones?) What happened?
    - ✓ How often you have experienced this?
    - ✓ Could you tell me how you felt when this happened? What kind of impact did/does it have on you and on your life, in general?
- In which way do you think these experiences have affected your overall health?
    - ✓ Has it affected your level of stress? (if so, could you explain)
    - ✓ Has this stress impacted your behaviours related to health? (if so, could you explain in which ways? Possibility to probe on potential impact on diet, tobacco, visits to health care professionals, etc.)
- In which ways do you think these experiences have affected your oral health?
    - ✓ Has this stress impacted your behaviours related to oral health? (if so, could you explain in which ways? Possibility to probe on potential impact on diet, tobacco, visits to dentists, etc.)

3. Experience of discrimination in health care system:
    - Have you experienced discrimination within the health care system? (if not, are you afraid of being discriminated?)
        - ✓ If so, could you describe your experiences? (the most recent ones or the more disturbing ones)
        - ✓ In which ways do they have affected you? (what have been the consequences?)
    - Have you experienced discrimination within the oral health care system? (if not, are you afraid of being discriminated?)
        - ✓ If so, could you describe your experiences? (start with the most disturbing one, or the most recent one)
        - ✓ In which ways do they have affected you?
        - ✓ Are you afraid to be discriminated in the oral health care system in the future?

4. Closing part of interview:

We are almost finished, but before we stop, I would like to think with you about the future:

- Do you have recommendations or suggestions to improve the health of Muslim people in Canada?
    - ✓ Do you have recommendations or suggestions to improve the health care system?
    - ✓ Do you have recommendations or suggestions to improve the dental care system?
- Are there things that dentists (and other professionals) should know about the discriminations that you and other people face? (if so, could you explain?)
- Do you have any comments or questions about this research? Anything you want to add about what we've discussed.
- How did you find the experience of the interview?

This is the end of the interview. If you would like to add anything in the future, something you think of later, please feel free to contact me. Also, would it be ok to contact you if I have any other questions? Thank you once again for participating in this interview.

APPENDIX D. CONSENT FORM

Faculty of Dentistry

McGill University, A

2001 Ave McGill College,

Montreal, QC H3A 1G1

INFORMATION AND CONSENT FORM

Title of Research Project:

We are what we are: Religious Discrimination and Oral Health of the Muslim people in Quebec.

Researchers:

Principal Investigator: Dr. Christophe Bedos, Associate Professor, McGill University, Faculty of Dentistry, Division of Oral Health and Society

Student Investigator: Dr. Madhura Tandale, McGill University, Faculty of Dentistry, Division of Oral Health and Society

Co-researchers: Dr. Belinda Nicolau, Associate Professor, McGill University, Faculty of Dentistry, Division of Oral Health and Society

Dr. Richard Hovey, McGill University, Associate Professor, McGill University, Faculty of Dentistry, Division of Oral Health and Society

Introduction:

We invite you to take part in our research project. Before you make a decision please read this consent form, it describes the purpose of this study, the nature of your participation and highlights your right. If you have any additional questions, please discuss with one of our researchers. You can also discuss with your colleagues and family members to get their advice. Participation in this study is voluntary. You can withdraw your consent at your will.

Purpose of the Research:

We want a better understanding of how racial or religious discrimination may affect people's health and oral health.

Study procedures

Your participation is voluntary. If you agree, we will ask you to take part in a face-to-face interview with Madhura Tandale. She expects to interview between 10 to 15 adults who have experienced discrimination. Your interview will take place either in a quiet room at the Faculty of Dentistry, McGill University, or in a public place of your choice, as long as it is quiet and allows a confidential discussion. It will be conducted in English and last approximately 45 to 60 minutes. The interviewer will ask simple questions about your past and current individual experiences of racial discrimination. The interview will be digitally audio-recorded with your permission and transcribed later. If you opt out of the recording, you can still take part in the study and the interviewer will document the interview with hand-written or typed notes. During this interview, you will have the choice to stop the discussion at any time or take a break whenever needed. You have the right to refuse to answer any question.

Possible risks:

There is a little or no risk associated with the interview, mainly because your participation simply consists of talking with Madhura Tandale. However, some of the questions or subjects during the interview may cause you discomfort or emotional upset. If this happens, Madhura Tandale will offer you to pause or stop the interview. She will also provide contact details of mental health services or emergency room of the hospital. In case of any emergency during the interview, she will contact the emergency room of the hospital.

Possible benefits:

You are unlikely to get a direct benefit from your participation in this study. We nevertheless hope that this study will help dental professionals to better understand the issue of racial discrimination. Ultimately, our goal is to promote access to the dental care system and to reduce inequities.

Confidentiality:

All information you will provide will remain confidential. All the identifiable data will be stored on McGill University's OneDrive network (developed by Microsoft), which is password-secured and only accessible by Madhura Tandale; access will be granted to supervisor Dr. Christophe Bedos. The data will be transferred to Dr. Christophe Bedos' OneDrive account after Madhura Tandale's graduation, and eventually be destroyed after seven years as per University policy. Any

documents such as consent forms, transcripts etc. will be stored in a locked filing cabinet in a secure central location accessible only to the principal investigator. The findings of this study will be published in a thesis, as well as in scientific journals and conferences. You might be quoted in these; however, we will make sure that these quotations will be anonymous. The readers will not be able to identify anyone - whether it is you or the people that you may mention during the interview. All names will be erased, and any information that would allow readers to recognize anyone's identity will be removed. A representative of the McGill Institutional Review Board, or a person designated by this Board, may access the study data to verify the ethical conduct of this study.

Compensation:

You will not receive compensation for taking part in the study.

Contact Information for questions about the study:

- Dr. Madhura Tandale: MSc Dental Science Student, McGill University, Faculty of Dentistry, 2001 Ave McGill College, Montreal, QC, H3A 1G1. Tel: 514-574-8428.

Email: madhura.tandale@mail.mcgill.ca

- Dr. Christophe Bedos: Associate Professor, McGill University, Faculty of Dentistry, 2001 Ave McGill College, Montreal, QC, H3A 1G1. Tel: 514-398-7203 ext. 0129#

Email: christophe.bedos@mcgill.ca

Contact Information for questions about rights of research participants:

If you have any questions or concerns regarding your rights or welfare as a participant in this study, you can contact:

- Ms. Ilde Lepore: Ethics Officer for the McGill Institutional Review Board, McGill University, Faculty of Medicine, McIntyre Building, #633-3655 Promenade Sir William Osler, Montreal, QC H3G 1Y6. Tel: (514) 398-8302. Email: ilde.lepore@mcgill.ca

CONSENT:

Please initial your choice of yes or no on the line next to your answer.

I agree to be audio-recorded □ YES _____ □ NO ____

I have read the information in this consent form. I am aware of the purpose of this study and what I am asked to do. I have asked my questions, and my questions have been answered. I was given enough time to make a decision. I am free to withdraw from this study at any time. I was informed that my name will not appear on any publications associated with this study. I do not give up any of my legal rights by signing this consent form. I will be given a copy of this signed consent form.

Name of the participant: ……. Date: ……

Signature of the participant: ……

Person who obtained consent: ……. Date: ……

Signature of person who obtained consent: ……

APPENDIX E. SAFETY PROTOCOL OR EMERGENCY CONTACTS

Call Info-Santé by dialing 811.

McGill University Health Centre

Metro-Center Médic Medical Clinic

1538 Sherbrooke Street West, Suite 100

514 932-2122

Douglas Mental Health University Institute

The main entrance of the Emergency Department is wheelchair accessible.

Douglas Institute

Reed Pavilion

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