

# **POTENTIAL FOR USING SOCIAL MEDIA TO COMMUNICATE FAMILY HEALTH INFORMATION TO SOUTH ASIAN IMMIGRANTS**

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## **EXECUTIVE SUMMARY:**

The use of social media is a new way of delivering health information more efficiently to a large number of individuals. The Region of Peel intends to raise awareness of Family Health programs and services through social media. Consisting of Brampton, Mississauga and Caledon in Southern Ontario, the Peel region's population is growing at a rapid pace and is expected to continue to grow steadily. Within this population, 51% were born in Asia and the Middle East, of which South Asian women are the largest ethnic group of child-bearing age (15-49 years) (Region of Peel, 2008, p. 46). Despite growth of the immigrant population, there is a lack of data referring to how immigrant populations access health services, including the use of the internet and social media. Understanding how immigrants access health information will help service delivery.

The Family Health division at the Region of Peel Public Health provides health information for families with children 0-6 years of age, education prenatally, during pregnancy, when baby arrives, and as a child grows and develops. There is interest in understanding how South Asian immigrant populations of child-bearing age access and use the internet and social media. To this end, this project identifies how South Asian immigrant parents access the internet, where they seek health information, use social media to access health information, classify the type of information they access, determine the advantages to using social media, and any barriers that exist when seeking health information using social media for this population. This paper uses these findings to provide recommendations to enhance the use of social media among this group, and recent immigrants generally.

The literature review indicates that minority populations are seeking credible health information online from healthcare agencies and licensed professionals. It indicates that internet use for health information is increased if they know who is delivering health information online. Minority populations are primarily using social media to communicate with friends and family from their country of birth. Further, the literature review identifies factors influencing their access to the internet and social media, such as income, level of education, technological skills required to use a computer and internet and familiarity of language affect its use. Level of education, income and literacy levels were identified as barriers affecting immigrant internet and social media use.

The findings from semi-structured qualitative interviews provided insight to who uses the internet and in what ways along with barriers South Asian immigrants face with accessing computers, the internet and social media. The results suggest that South Asian immigrants who have been in Canada for less than five years and with high school education were unlikely to use a computer and internet whereas those college or university educated, despite length of residence in Canada, were more likely to use the internet. High school educated participants residing in Canada more than five years had an increased likelihood of accessing a computer and internet. Many participants indicated seeking health information from a doctor, healthcare professionals

and the internet. Participants also had an opportunity to suggest areas for improvement in online services, such as providing information relating to diet and fitness, increasing social supports online, reaching community health agencies and other family members, and addressing language barriers.

Recommendations for the literature review and interviews were separated into two categories, those members of the research population with access to internet and social media and those with limited access to a computer and internet.

Recommendations for those with access to the internet include:

- continuing to inform community partners of Peel services and delivering health information over social media and identify leaders in the community that can reach community members,
- incorporate culturally sensitive content relating to immigrant diet during child-bearing age available over the internet which can be shared over social media
- increase social supports available over social media.
- inform the community of public health family health services available over the internet

Recommendations for those without or limited internet access include:

- advocating for English as a second language classes and community centres to teach new immigrants how to use a computer and the internet
- inform the community of public health family health services available over the internet

In conclusion, there is potential to deliver Family Health information to the South Asian population, with consideration to those without internet and lack the skills required to use these technologies, such as language and computer skills.

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## **CHAPTER ONE: Introduction to Social Media and Internet Use amongst South Asian Immigrants in Peel Region**

The Regional Municipality of Peel (Region of Peel) is located in Southern Ontario and is inclusive of Brampton, Mississauga and Caledon. The population of Peel is growing rapidly, with currently 1.3 million people, which increased by 11.8% from 2006 to 2011, and the second highest population in Ontario. Specifically, during this period, the population in Brampton grew 20.8% (Region of Peel, 2012). In this region, 51% of the population were born in Asia and the Middle East (Region of Peel, 2008, p. 46). Further, South Asian women are the largest ethnic group of child-bearing age (15-49 years) (Region of Peel, 2008). According to Statistics Canada (2013), 66.4% of the population of Brampton account for the visible minority population. South Asians were identified as the highest visible minority group in Canada with a median age of 32.8 as collected in the 2011 National Household Survey (NHS) (Statistics Canada, 2013). Despite growth of the immigrant population, there is a lack of data referring to how immigrant populations access health services. Understanding how immigrants access health information will help service delivery as the South Asian population accounts for a large portion of Peel Region. Specifically, at present, there is a lack of awareness regarding technological uses specific to internet and social media amongst South Asian families of child-bearing age and whether there are implications for service delivery in Peel Region. This area will be investigated within this study.

Using technology as a method for delivering services to residents in Peel Region, including the use of social media to deliver family health key messages has increased over the past few years. Social media involves exchanging, sharing and creating information through interactions between individuals over the internet. The use of social media is a new way of delivering health information more efficiently to a large number of its target audience. The Family Health division at the Region of Peel Public Health provides health information for families with children 0-6 years of age, education prenatally, during pregnancy, when baby arrives, and as a child grows and develops. In this report, the above topics are defined as family health information in order to maintain consistency with the Family Health division at the Region of Peel Public Health. This division manages health promotion strategies in areas around preconception, childhood obesity, breastfeeding messaging and positive parenting. As part of this work, the region has created a Facebook page to deliver family health information for residents in Peel to raise awareness of Family Health programs, services, and to provide credible health information and updates. It is maintained by staff within the Family Health division.

Despite this use of social media to deliver health services, there is a lack of data regarding social media use in public health settings, especially with immigrant populations. There is a need to examine the usage of the internet and social media amongst South Asian immigrants as this community accounts for a large segment of the region. The findings from this project will be used for current and future social media projects with public health strategies targeted at South

Asian populations, as it examines this new way to deliver health information for a large audience and changing communication needs.

This research project's purpose is to identify and demonstrate the potential for using social media to communicate family health information to first generation South Asian immigrants in Peel Region, Region of Peel Public Health. The findings of this study could determine the potential for using the internet, websites and social media to communicate family health information to immigrants from South Asia, describing online health information seeking behaviours, barriers, and the type of information sought. The Region of Peel has delved into delivering family health information to individuals online, this research project will explore use of social media and identify any recommendations for a specific sub population- South Asian immigrants of child-bearing age.

The research question for this project is: *What is the potential for using social media to communicate family health information to South Asian immigrants of child-bearing age residing in Peel?* The objectives of this research project include:

- 1) To describe how South Asian immigrants of child-bearing age parents:
  - Access the internet
  - Where they seek health information
  - Use social media to access health information
  - Classify the type of information they access
- 2) Determine the advantages to using social media for this population
- 3) Identify barriers to seeking health information using social media
- 4) Provide recommendations about the use of social media

The findings from this project will be used for current and future social media projects with public health strategies targeted at South Asian populations, as it examines this new way to deliver health information for a large audience with changing communication needs. Social media provides an additional avenue where clients can access credible health information from healthcare professionals.

The report begins with a section on the background information for this project, potential for using social media to communicate health information to South Asian immigrants, and includes a description of research conducted by the Region of Peel Public Health. This is followed by a literature review on common themes arising from internet and social media use amongst immigrants, which is followed by a methodology for the interviews with South Asian born participants residing in Brampton, Ontario. Next the findings are presented. The following section discusses these findings in the context of the literature review, followed by recommendations and conclusions.

## **CHAPTER TWO: Background Context of Public Health in the Region of Peel**

### **2.1 Introduction:**

This section introduces the context of the Region of Peel Public Health and existing research that has been conducted by this organization in relation to social media. The following section identifies the population in Peel Region and the target population for this study. It will identify the Region of Peel Public Health and social media use within the organization, followed by a conclusion to the background analysis.

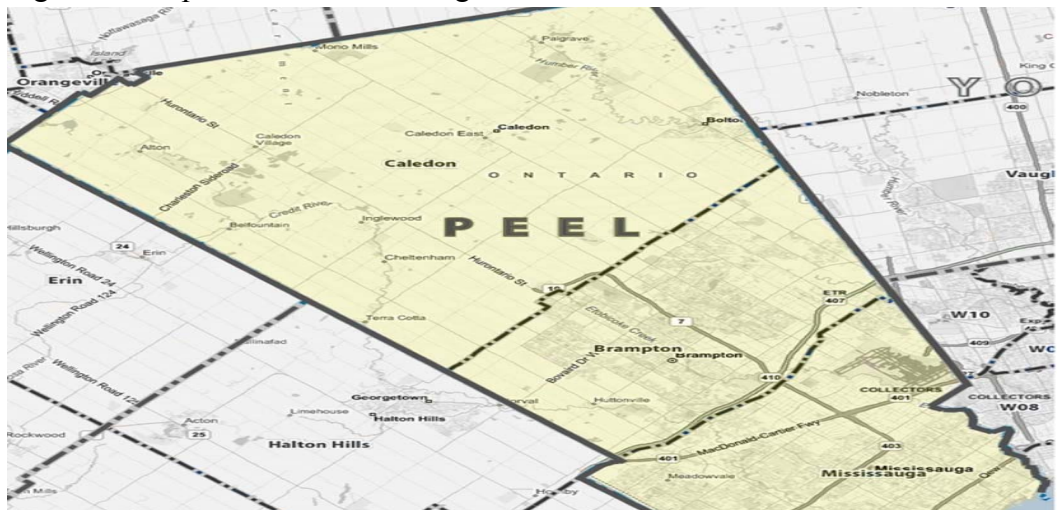
Peel Public Health protects and promotes health, prevents disease through a population health approach (Region of Peel, 2009, p. 2). The Region of Peel delivers many regional services, of which includes public health which includes the following divisions: Family Health, Chronic Disease and Injury Prevention, Environmental Health, Sexual Health and Communicable Disease (Region of Peel, 2012). This report will focus on internet and social media use amongst South Asians of child-bearing age, reflecting content application within the Family Health division.

### **2.2 Social Media use within the Region of Peel:**

This Region of Peel delivers services to residents in Brampton, Mississauga and Caledon within Southern Ontario, as shown in Figure 1. Its Public Health Unit provides health promotion programs and services to residents of Peel. In November 2010, the Region of Peel's Family Health division conducted a needs assessment of 865 Peel residents which indicated that 58% of all respondents have used social media sites that year, and 56% of those surveyed indicated that they would follow a Family Health Facebook page, which would facilitate interactive dialogue between public health staff and Peel residents (Region of Peel, 2010). In response to the results of the needs assessment, Peel created a Family Health Parenting Facebook page which is intended to raise awareness of Family Health programs, services and provides credible health information and updates to residents in Peel.

The Peel Parenting Facebook page is managed by the Digital Media Committee (DMC) at the Region of Peel Public Health. It is composed of Family Health employees, which is led by a child health supervisor. Members from this committee and guest posters from other divisions at the Region of Peel Public Health contribute to the day to day operations of the Parenting Facebook page to deliver key messages and answer questions from parents, caregivers and parents to be.

Figure 1: Map of Cities in Peel Region



### 2.3 The South Asian Population in Peel Region:

This research project will focus on South Asian immigrants in Brampton as 51% of the population in Peel were born in Asia and the Middle East (Region of Peel, 2008, p. 46). A breastfeeding duration survey conducted by the Region of Peel indicated that 81.8% of South Asian women use the internet, of which 74.5% of South Asian women use the internet to access health related information (Region of Peel, n.d.). This study did not determine the number of immigrant populations that use Facebook, how they access the internet and their English speaking ability.

There is a need to examine the usage of the internet and social media amongst immigrants as this community accounts for a large segment of the region. For the purpose of this research project immigrants will be defined as people who have been granted the right to live in Canada permanently by immigration authorities (Region of Peel, 2008, p. 46). South Asian in this project will be first generation immigrants from a South Asian country, including India, Pakistan, Bangladesh, Sri Lanka, Bhutan, Nepal, Maldives, Iran and Afghanistan.

### 2.4 Conclusion:

The population of Peel is expected to grow at a rapid pace (Region of Peel, 2009, p.3). The number of immigrants in Peel account for a large portion of the population, particularly within Brampton, Ontario. The Region of Peel's Family Health division is currently using social media to deliver key messages to its residents. The findings from this project will be used for current and future social media projects with public health strategies targeting the South Asian population, as it examines this new way of delivering health information to a large audience with changing communication needs.

## **CHAPTER THREE: Literature Review**

### **3.1 Introduction:**

This section reviews themes arising from literature investigating the potential for using social media to communicate family health information to South Asian immigrants residing in Peel Region. It will begin by defining social media in general and its emergence and then identify computer and social media use amongst minority ethnic groups. It will then highlight the increasing trend of mobile use amongst minority ethnic groups to access social media. It will follow with identifying what individuals are seeking online and barriers to social media use amongst minority groups.

After conducting a literature search, it was found that there is minimal research in this area of study, particularly amongst the South Asian immigrant population. The literature search was expanded to include an investigation of minority populations' internet and social media use as well as how these groups access health information through the internet. Expanding the search for this literature review enabled opportunities to create themes arising amongst diverse ethnic populations.

### **3.2 Defining Social Media:**

Social media refers to the online interactions between individuals in which information is exchanged, shared and created. This term refers to the use of web and mobile based applications that are highly accessible and contribute to social interactions and information sharing, often classified as Web 2.0. Web based social media application include Facebook, Twitter, YouTube, blogging and others (Cain, Rommanelli & Fox, 2010, p. 746). With over 800 million active users, Facebook is a social networking website that allows registered users to send messages, comments and create personal profile pages. Twitter allows users to send, read and share short messages over the internet and has grown exponentially. According to the Global Web Index (2013), 21% of the global internet users access Twitter on a monthly basis (Global Web Index, 2013). YouTube allows individuals to view, share and comment on videos online. A blog involves the creation of posts which allows individuals to comment on the content presented. All of which are examples of social media platforms which has the capacity for individuals to share and comment on content.

### **3.3 The Emergence of Social Media:**

The internet serves billions of users worldwide through a web of interconnected networks which individuals use to seek and share information. It has grown in popularity over the years. According to Statistics Canada (2011), a 2010 survey indicated that eight of every 10 households in Canada have internet access. This advancement in technology trends involve social media as its use has soared worldwide and internet use has increased around the world (Cain, Rommanelli & Fox, 2010, p. 746; Gibbons, 2011, p. 79). According to the market research company Ipsos

Reid Interactive Report (2012), 86% of Canadians aged 18 to 34 used the internet and had a social network profile (p. 2). Similarly, in an American study conducted by the Pew Internet and American Life Project found that 86% of adults aged 18 to 29 used social media sites (Duggan & Brenner, 2012, p.8).

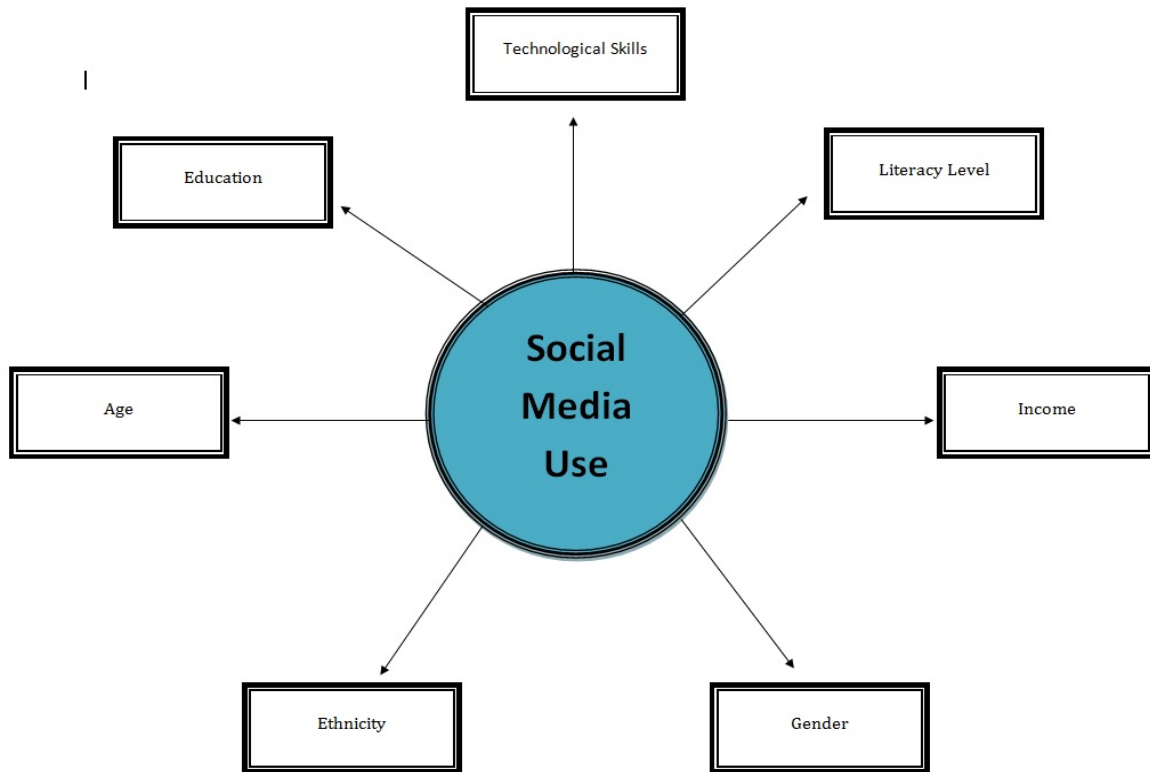
Social media usage has increased around the world and has led organizations to utilize this type of platform to increase visibility and deliver interactive service over the internet through social networking internet sites. It emerged from consumer demands, focusing on interactivity over the internet allowing users to add content online whereas Web 1.0 focuses on one direction of information sharing (Gibbons, 2011, p. 79). Facebook is the fastest growing social media platform worldwide. In 2011, over 14 million Canadians had a Facebook profile. Twitter use has also increased 850% in Canada from 2009-2011 to 3 million users. According to the Pew Internet and American Life Project (2013), 67% of internet users use Facebook and 16% use Twitter. These trends indicate a large number of Canadians and Americans use the internet and social media, however, demographic factors influence its use. Each social media platform serves various specialties which users seek. All of which involve social networking. For example, LinkedIn allows users to network with other individuals sharing similar work experiences and linking relationships and YouTube allows users to share and comment on posted videos.

Studies have indicated that the emergence of social media is influenced by the demographics of its users. Demographic factors such as gender, income, ethnicity, and education influence whether one owns a computer and uses the internet and social media. This will be explored further in the demographics subsections below.

#### *Demographic Influences affecting Computer, Internet and Social Media Use:*

A number of factors influence whether an individual has access to the internet and uses social media at home. These influential factors include an individual's income, ethnicity, and level of education (Dewing, 2012, p. 2). According to the Library of Parliament Canada (2013), new immigrants tend to use the internet differently than Canadian-born, using it to communicate with friends and family. This may be the result of culture, in which the internet and social media are used as methods to communicate with family from their home country (Dewing, 2012, p.2). Immigrants to Canada tend to use the internet for telephone calls and instant messaging with friends and family (Dewing, 2012, p. 3). Figure 2 below identifies factors affecting social media use. These factors include: technology skills, literacy level, education, age, ethnicity, gender, and income. Each of which will be discussed in turn.

Figure 2: Factors Affecting Social Media Use



The factors that were not identified in detail within the literature include ethnicity, age and gender. The factors affecting internet use are linked to the social determinants of health, as some of these factors are influential in the overall health of an individual. The social determinants of health highlights that those individuals that are disadvantaged have poor health and reduced access to the quality of health services (WHO, 2013). These individuals are less likely to have internet access in comparison to affluent cultures (Gibbons et al., 2011, p. 78). According to The National Healthcare Disparities (2011) report, disparities relating to race, ethnicity, and socioeconomic status impact health seeking behaviours of an individual (Gibbons et al., 2011, p. 77). It is important to maintain in-person opportunities for individuals to communicate with organizations and groups to support health and well-being. Social media can be used as an option individuals can use to communicate, in addition to in-person supports.

According to Statistics Canada Connectedness Series Research paper titled “How Canadians’ use of the Internet Affects Social Life and Civic Participation” (n.d.), of recent immigrants are more likely than Canadian born individuals, to use the internet (56.6% versus 42.6% respectively) to communicate with family and friends and indicates that this is a top priority for recent immigrants (Veenhof et al., n.d., p. 17). Recent immigrants are seeking avenues online to

communicate with friends and family and are less likely to create or add content for others than a Canadian-born (Veenhof et al., n.d., p. 17).

Studies have also indicated individuals that have higher levels of education tend to use the internet and social media more than others. Recent immigrants with high levels of education are more likely to use the internet (Veenhof et al., n.d., p. 17). An individual's level of education influences whether they use and have access to the internet. A study conducted by Gibbons et al. (2011) identified that 86% of individuals with college degrees had broadband internet access versus 33% with less than a high school diploma (p. 80). According to the Pew Internet and American Life Project (2012) study, in comparison to all other groups, the black non-Hispanic minority group's mobile internet use increased from 2010 to 2012 from 29% to 35% and for minority Hispanics increased from 25% to 38%, indicating minority groups are using their mobile devices to access the internet (Fox & Duggan, 2012, p. 9). There were no studies identifying South Asian immigrant computer and internet use. However, studies have identified individuals with education beyond a high school diploma have a higher likelihood of using the internet which is needed to access social media sites. According to the Portraits of Peel report (2011), new immigrants to Canada are highly skilled and educated, of which 44% in Peel Region have a bachelor degree or higher compared to 19% of Canadian born Peel residents (p. 5). Despite education, new immigrants are faced with their experience being devalued, where language skills and lack of Canadian workplace experience affecting employment (p. 5). This has potential to affect new immigrants' level of income, resulting in an influence of internet use at home.

The amount of household income is another influential factor affecting internet and social media use. According to a Statistics Canada survey conducted in 2010, 97% of households with incomes greater than \$87 000 had internet access compared to 54% of households making \$30 000 or less (Statistics Canada, 2011). Similar results were found in the United States of America. The U.S. Department of Commerce Census Bureau (2001), high-income households were more likely to use the internet and own a computer (U.S. Census Bureau, 2001, p. 2). The study identified that 88% of respondents with incomes of \$75 000 or more had at least one computer in the home and 28% of individuals with incomes below 25 000 had a computer of which 19% had internet access in the United States of America (p.2). Further, the November 2010 Pew Internet survey results indicate that 61% of American adults use social media sites (Gibbons et al. 2011, p. 80). It identified that 87% of American families earning \$75 000 or more had broadband internet whereas 45% of those making \$30 000 have broadband internet at home (Gibbons et al. 2011, p. 80). According to the Portraits of Peel Report (2011), 33% of Peel's recent immigrants live in poverty. This Peel report highlights this is three times the poverty rate for non-immigrants in Peel. This has potential to influence recent immigrant access to online resources and social media platforms.

A number of ethnic factors influence whether an individual accesses the internet and has a computer at home. The U.S. Department of Commerce Census Bureau (2001) study found that

Asian and Pacific Islanders were 65.1 % more likely to have a computer in the house, and 56.2% have home internet access, in comparison to white non-Hispanics of which 53.4% have a computer in the household and 43.7 % have home internet access (p.3). Immigrants may experience additional challenges affecting access, such as language barriers and technological skills. A study conducted by Tripp (2011), minority parents lack skills to use the internet and that there is a need for this population to learn how technology works which will assist in skill development to support children and utilize online venues to locate information (p.565). This skill is necessary to understand how social media works on the internet and how to communicate with service providers through this channel.

There are additional factors that may influence an individual's internet and social media use. According to Statistics Canada (2011), 71% of Canadians have internet access from their desktop computer. The study includes reasons individuals are not accessing the internet, identifying that 20% do not use it due to cost of services and equipment, 15% identified lack of computer and devices to access the internet and 12% lacked the knowledge and skills to use the internet. The study identifies that 70% of internet users search for health information online, specifically 74% of women and 66% of men. The study did not specify ethnic background of individuals and length of time residing in Canada (Statistics Canada, 2011). According to an American study conducted by Gibbons (2011), 77% of adults in America use the internet, of which 80% seek health information on the internet. The internet was ranked second to healthcare providers as a source for information, indicating that females are more likely than men to access and search for health information that males online.

This section provided some statistics relating to influential factors affecting internet and social media use. Although, there were no data relating specifically on the South Asian population, immigrants and minority populations from the identified studies may be applicable. Immigrants are using the internet to keep in touch with family but demographic factors affect whether an individual is likely to have internet access. Factors affecting whether an individual has access to the internet include education and literacy level, income, technological skill level, age and cultural influences. It is important to understand internet use and influences of immigrant populations as it affects social media use. In order to access social media channels, individuals require access to the internet.

### **3.4 Potential Barriers affecting Internet and Social Media use amongst Immigrants:**

Immigrants are faced with a number of challenges prior and upon arrival to a new country. According to the University of Toronto Annual Review of Information Science and Technology Information Practices of Immigrants (n.d.), structural and social barriers and challenges affect the information seeking practices of new immigrants (Caidi, Allard, & Quirke, n.d., p.515). These pressures include limited knowledge of language, learning of the settlement and immigration process, social isolation, variations in cultural values and problems arising from communication (Caidi, Allard & Quirke, n.d., p. 515).

According to the Government of Canada Policy Horizons Canada report (2012), there are technological implications affecting immigrant integration, such as skills required to use a computer. The report identifies potential gaps in service evolution, which may impact service access to immigrants from the traditional face-to-face service delivery. It highlights potential gaps between pre-arrival immigrants and those who have access to internet, and implications on how it can affect employment prospects (Ashad & Gaye, 2012; Rowel et al., 2001, p. 124). These areas need to be further investigated as it has the potential to affect new immigrant experiences, such as how they access services and employment opportunities. There is limited research in the area of social media, as studies have indicated there are barriers that prevent all groups of individuals from accessing health information online. This is due to fear over privacy violations and lack of confidentiality (Fisher & Clayton, 2012, p. 104; Kontos et al., 2010, p. 217; Gibbons, 2011, p. 5). Other perceived barriers affecting internet use of all groups of individuals include lack of time, too expensive, not interested in learning anything new and difficult to learn (Fisher & Clayton, 2012, p. 104; Stroeve et al., 2011, p. 2). Lack of health literacy is also a barrier to using social media to communicate health related information (Gibbons et al., 2011, p. 87). A lack of cultural relevance and trust has also been identified as barriers to accessing information online. Establishing a relationship with a healthcare professional can facilitate trust in the information provided, such as that provided over the internet (Gibbons, 2011, p. 5). In addition to poor computer knowledge, literacy and skills of how to use a computer and read affect computer use. Literacy levels influence navigation on a computer and internet as individuals are unable to understand the information identified (Gibbons, 2011, p. 4; Akhu-Zaheya & Dickerson, 2009, p. 188; Cain, Romanelli & Fox, 2010, p. 748; Kommalage, 2009). Each of these barriers will be discussed further below.

The internet use in South Asian countries can potentially influence immigrant use of the internet when arriving in Canada. According to a study conducted in Pakistan by Shafique & Mahmood (2009), lack of literacy and education affected internet use, identifying that 92.8% of the country does not use the internet. In order to improve use there should be campaigns and educators in society to teach necessary skills (p. 352). If these barriers were reduced and support was provided to recent immigrants, this would facilitate internet and social media practices. English literacy and income pose a large barrier affecting use. Supporting newcomers attending English as a second language classes with how lessons on how to navigate and use computers, the internet and social media as a follow-up class to the English classes can provide immigrants an overview of its function and use.

According to Stroeve et al. (2011), health information should be personalized, addressed individually, and relationships established to overcome barriers to lack of trust and credibility (p. 2). This study of 19 low income families by Stroeve et al. (2011) emphasized the need to establish and maintain ongoing relationships, a means of communicating, through social media channels as parents may not be receptive to accepting health information online for their children (Stroeve et al., 2011, p.2). These potential implications identified are determinants linked to the

overall health of individuals, as moving services away from face-to-face contact can create challenges for individuals if they lack the skill and access to technology such as internet, this is referred to as the digital divide (Ashad & Gaye, 2012).

### **3.5 Health Information Individuals Access over the Internet:**

A search online on any given topic will retrieve multiple sites with an abundant amount of information which is often difficult to determine whether content is valid and evidence based. Minority group families often question whether to follow information identified online because it is delivered by an unfamiliar source and untrustworthy site (Gibbons, 2011, p. 5; Fernandez-Luque & Melton, 2012, p. 22). There is often uncertainty regarding who posted information or who is responding to their questions online (Stroeve et al., 2011, p. 2). Amongst low-income and minority populations, there is a need to bridge the gap of information delivery, creating an approach that educates and warns low-income communities of public health threats (Rowel et al., 2001, p. 124). According to Fisher and Clayton (2012), the internet is considered to be the primary source of health information, with over an estimated two billion internet users worldwide. Similarly, this article also indicates the need to engage, empower and strengthen communication between patients to optimize health outcomes. The strengthening of social relationships between patients and providers has been referred to as socialized eMedicine (Fisher & Clayton, 2012, p. 106). The internet is a vehicle used to increase patient satisfaction and a method to disseminate information in a timely rate which can improve management of health. For the provider, this can result in decreased visits to the healthcare provider office (Fisher & Clayton, 2012, p. 106).

There is a lack of research regarding access of health information of patients from South Asia. How information is delivered online is rapidly changing, including avenues of how individuals learn about their illnesses and make healthcare decisions (Kanitkar & Bichile, 2005, p. 116). Respondents from a study of 281 Indian participants conducted at an outpatient urban clinic by Kanitkar and Bichile (2005) indicate that participants could not identify accreditation standards (p. 116). Following accreditation standards and seeking credible sources for health information are important as individuals may follow what is stated online, unaware if it is accurate. This study identified that 75% of Indian participants attending an outpatient clinic at an urban tertiary care hospital used the internet to access health information. It identified that accredited sites for health information are not visible online (Kanitkar & Bichile, 2005, p. 116; Fernandez-Luque, Karlsen & Melton, 2012, p. 22). An American report conducted by Edelman's Trust Barometer (2012) indicates that there is a decline in trust for information from traditional media outlets, including newspaper, television and social networking sites (p. 5). A study conducted by Fisher & Clayton (2012) identified that, individuals consider nurses and physicians credible sources for health information (p. 100).

Minority groups are seeking credible sources for health information online (Fernandez-Luque, Karlsen, Melton, 2012, p. 22). Particularly, parents are seeking credible sources for health

information as it affects how they will care for their children. There is a need for credible sources of health information through online channels. Establishing rapport and relationships with healthcare providers has been expressed by immigrants and low income families as an important factor prior to sharing information through social media (Stroeve et al., 2011, p. 2). In a study of 281 participants, 7% were aware of quality standards for health information sites and none were able to identify accreditation standards (Akerkar et al., 2005, p. 116). These studies identify the potential for engagement of the healthcare industry with its clients through online sources; however, caution should be taken to determine the needs of its target population and its effectiveness. This gap can also become reduced by improving support and opportunities for new immigrants to develop literacy, computer, and internet navigation skills. The following subsection will investigate where individuals use the internet.

### **3.6 Advantages of using Social Media to Access Health Information:**

At present, social media is primarily being used as a method to maintain relationships and social networking. The internet creates opportunities to build and maintaining networks with family and friends in their country of birth, which has been identified as the primary factor recent immigrants use the internet (Veenhof et al., n.d, p. 17). This social aspect is one factor that influences the overall health of an individual. Overall health involves the balance of the emotional, physical, social, spiritual, environmental and mental health. The social interactions created online through social media trigger opportunities to individuals to develop areas of their health that includes receiving support from community members, friends and family online.

The internet and social media has been identified as a method to deliver support to individuals facing difficulty leaving the home, due to ailments and isolation. Immigrants are often in isolation from family and seek online support from family and friends. A study conducted amongst Polish Nationals in Dublin indicates that social media mimics real communities where individuals can communicate with one another, versus face-to-face contact which have the possibility to build social relationships (Komito & Bates, 2009, p. 233). Social networks act as a vehicle to contact family and friends and as a space where contacts have already been established and continue to communicate (Komito & Bates, 2009, p. 242). Social media is being used to create a social support system for individuals to communicate online with one another that are facing health issues (Kanekar, Sharma & Atri, 2010, p. 60; Im, Lee & Chee, 2011, p. 386; Van de Belt, 2012). The study conducted by Kanekar et al. (2010) investigated methods used to enhance social supports and mental health among Asian Indian International students which identified that internet use supports and builds friendships and emotional well-being (Kanekar, Sharma & Atri, 2010, p. 60; Im et al., 2007, p. 339). An online support group increases accessibility for patients, particularly for those unable to leave their home. It has the possibility of decreasing the feeling of isolation and increases the opportunity to build companionship (Im, Lee & Chee, 2011, p. 11).

### 3.6 Where Individuals Access the Internet and the Type of Information Sought:

Individuals tend to use social media sites to keep in contact with friends and family, using sites where they have contacts already established (Komito & Bates, 2009, p. 240). There are differences regarding the methods Asian Americans access information, which vary on the type of media source accessed (Ramakrishnan & Lee, 2012, p. 25). According to the National Asian American Survey (NAAS) (2012), this population tends to seek information from television, internet, newspaper, radio and magazine (p. 25). In comparison, African Americans and Latinos are likely to use mobile phones for text messaging, social networking and for internet access, in which minorities use their mobile devices to access a range of capabilities (Smith, 2010). The results of this study conducted in the United States over the telephone by participants that identified themselves as Asian American, of 3034 individuals indicate that 53% of individuals use the newspaper to access information, 45% through the television and 43% through the internet. This has implications for health information delivery as determining the appropriate channels to deliver health information to the Asian population. There are possible opportunities to highlight services delivered online through these sources, increasing awareness and credibility of services delivered online, such as social media sites run by government agencies.

The way individuals are accessing the internet and social media is expanding beyond the traditional desktop computers. Social media can be accessed through a variety of devices. Aside from a desktop computer, an increased number of individuals are accessing social media and the internet through mobile devices, including cellular phones and tablets. In an America study conducted by the Pew Internet Centre and American Life Project (2012), one in three mobile phone users used their mobile phone to locate health information online (Fox & Duggan, 2012, p.2). The Pew Internet (2010) report indicates that minority adults are more likely to use mobile devices to access the internet, including social media networking and text messaging (Gibbons et al., 2011, p. 78; Smith, 2010). This increased use of web 2.0 amongst ethnic minorities has the potential to connect underserved populations to health resources and towards building social support for those affected by healthcare concerns (Gibbons et al, 2011, p. 78; Kommalage, 2009, p. 2; Kanekar, Sharma & Atri, 2010, p. 66).

According to Statistics Canada (2011), in 2010, more than 78% of Canadian households indicated they had a mobile phone and 13% of people each year moved to cell phone only households. There is a lack of research regarding Canadian immigrant social media and internet use on mobile devices. Mobile phone use amongst minorities has increased in America (Fox & Duggan, 2012, p. 2). In America, of a sample of 3014 individuals, 85% of adults own a mobile phone, of which 53% are a smart phone owner (Fox & Duggan, 2012, p. 4). The Pew Internet study also identifies that 52% of smartphone users have searched for health information on their phones compared to 6% of other cell phone owners (Fox & Duggan, 2012, p. 8). It also indicates that Latinos, African Americans, individuals between 18-49 years old and college graduates are more likely to use their mobile phone to seek health information on their phones compared to

other groups (Fox & Duggan, 2012, p. 4). This further highlights the growing trend of internet use and indicates that 80% of mobile phone owners send and receive texts, of which 9% of mobile phone owners receive alerts about health and medical issues (Fox & Duggan, 2012, p.2). Specifically, 19% of smartphone owners have one health application on their phone. Diet, exercise, becoming pregnant, quitting smoking and weight applications were identified as being the most popular (Fox & Duggan, 2012, p.2).

A study conducted by Fisher and Clayton (2012), social media has the potential to improve patient engagement and communication which can result in better health outcomes (p. 100). A total of 111 patients from a Utah family practice clinic were studied, of which 83% of respondents indicated they used some form of social media and 56% of respondents of this study wanted healthcare providers to use some form of social media (Fisher & Clayton, 2012, p. 104). Of the participants who did not use social media, 41.6% would consider using it if their healthcare providers used it (Fisher & Clayton, 2012, p. 100). Effective use of social media has opportunities to decrease health disparities and improve communications with the public (Fisher & Clayton, 2012, p. 100; Chou, et al., 2009). Further studies are needed to determine if the results are conclusive.

The way that individuals access the internet is changing. Individuals are using mobile devices as an alternative to desktop computer use. The media sources also influence awareness of internet and social media services. Various ethnic groups seek various sources for information. A study conducted by Tripp (2011) identifies teens of immigrant families in America tend to use the internet in schools and libraries and consider connecting online as a virtual gathering place (p. 552). This study also identifies that there is limited data regarding how families without a home internet connection access the internet (Tripp, 2011, p. 553).

### **3.7 Recommendations and Opportunities for Public Health to Deliver Health Information Online:**

Studies have indicated that public health units should consider improving their online presence as individuals are seeking experts for individualized, one-on-one, health information from professionals they have come in contact (Betsch et al. 2012, p. 3731; Thackeray et al, 2012, p. 2). Participants of various studies indicate that it is often difficult to find reliable trustworthy health information online (Fernandez-Luque & Melton, 2012, p. 22). Patients would use social media sites for health information if their healthcare providers use it to deliver service (Fisher & Clayton, 2012, p. 100). Studies by Smith (2010), Kontos et al. (2010), Gibbons et al. (2011) and Betsch et al. (2011) indicate that it is important for government agencies to post information on social media networking sites to keep the public informed of emergencies and for preparedness such as outbreaks as social media users often receive news updates from these platforms (Smith, 2010; Kontos et al., 2010, p. 218; Gibbons et. al, 2011, p. 85; Betsch et al., 2011, p. 3731; Cha et al., 2010). Public health focuses on the health and well-being of populations (Cain, Rommanelli

& Fox, 2010, p. 746). Public health units can use social media to inform, educate and empower communities regarding health information. Through increasing the speed of delivery of key messages, informing the public during emergencies or outbreaks, mobilizing community partnerships, facilitate behavior change and understand the public's perceptions regarding various issues (Thackeray et al., 2012, p 1). This can impact the South Asian population as minority groups are seeking credible sources of health information.

*Opportunities to use Social Media to Engage with Community:*

According to Rowel et al. (2001), building partnerships and engaging with local community stakeholders can assist with developing strategies and activities to upgrade systems of communications amongst groups (p. 124). Engagement from communities is lacking in traditional service delivery and vulnerable populations have traditionally turned to grassroots organizations for support and resources during disasters (Rowel et al., 2001, p. 126). This can also be applied to the dissemination of health information individuals are seeking by increasing options for patients and creating opportunities to facilitate participation and receive feedback (Gibbons et al., 2011, p. 85).

### **3.8 Conclusion:**

Although there is limited data regarding internet, computer and social media directly related to the South Asian groups, themes were identified for minority populations. Studies have indicated that minority populations are seeking credible health information from health professionals online and that various factors affect whether individuals access the internet and ultimately social media. These factors include income, education, skills and familiarity of language. The methods minorities are accessing the internet have expanded beyond desktop computers to mobile devices. The following section will discuss the methodology of this project.

## **CHAPTER FOUR: Methodology**

### **4.1 Introduction:**

This project was conducted to determine the potential use of social media to communicate family health information to South Asian immigrant parents in Brampton, Ontario. The project included a literature review to identify barriers and opportunities for improvement for communication of health information with immigrant populations, as well as analysis of qualitative data collected through one-on-one interviews with South Asian parents.

A literature review was conducted regarding how immigrants access family health information, particularly the use of the internet, websites and social media. A search of academic journals was conducted using the following electronic databases: Cinahl, Medline, Healthstar, Embase, Social Science Research Network, and Academic Search Complete. The search terms used were social media, Facebook, Twitter, health information, health education, health promotion, immigrant, ethnic, and refugee. In addition, existing Region of Peel reports relating to immigrants, internet and social media use were reviewed.

Qualitative data were collected for this project using a series of semi-structured interview questions with South Asian immigrant parents and soon to be parents of child-bearing age from Brampton, Ontario. The following sections describe the choice of research design, the sample, recruitment and interview process, method of analysis and potential limitations of study.

### **4.2 Research Design:**

A semi-structured, qualitative interview approach was chosen to elicit narrative responses, to allow respondents to choose how to respond and to build rapport with participants. A semi-structured open-ended interview style has the capacity to elicit responses quantitative surveys cannot (Riiskjaer, E., Ammentorp, J., & Kofoed, P., 2012, p. 509).

### **4.3 Sample:**

Forty two participants were recruited from attending two Region of Peel programs- Brampton Breastfeeding Clinic (n=20), the Bramalea Civic Centre Prenatal site (n=7) and a Brampton obstetrical office (n=15). This sample size was determined prior to conducting interviews for convenience. These sites were chosen due to their convenient location for the researcher, as a resident from Brampton, Ontario and employee at the Region of Peel. To be eligible for the study, parents must have been born in a South Asian country (South Asian countries comprise of India, Pakistan, Bangladesh, Sri Lanka, Bhutan, Nepal, Maldives, Burma, Iran or Afghanistan), a resident of Peel and between 20 to 49 years of age. South Asian countries were selected based on the Southern region of the Asian continent. Participants chosen were able to speak English with sufficient fluency to be able to answer the interview questions.

#### **4.4 Recruitment:**

Interviews were conducted at the Region of Peel's Brampton Breastfeeding Clinic and Brampton Prenatal Class sites and a Brampton obstetrical office. A total of 30 interviews were conducted with a total of 42 eligible South Asian parents selected from these sites during the months of January and February 2013. A total of 20 respondents attended the Brampton Breastfeeding Clinic, a total of seven respondents from the Brampton Peel Prenatal site and a total of 15 prenatal respondents from a Brampton obstetrical office during the recruitment period.

Potential participants were approached before or after their breastfeeding clinic appointment, prenatal class or obstetrical appointment by the interviewer. At the Brampton Prenatal Class site, possible participants were also recruited during lunch break sessions and at the end of the class.

The recruitment script was read to the possible participants by the interviewer, see Appendix 2 and 3. The script included questions determining whether potential respondents met the inclusion criteria. Eligible parents were invited to participate in the interview at the time of recruitment.

#### **4.5 Consent Process:**

For parents who agreed to participate in the study, the interviewer read the consent form and answered any questions that the participants might have had. After the questions were answered, participants signed the consent form. Each participant was given a copy of the consent form for their records, see participant consent in Appendix 1.

#### **4.6 Interviews:**

The interviews were conducted at the Region of Peel Brampton Breastfeeding Clinic and Brampton Prenatal Class sites in a private area at the site to secure confidentiality and privacy. Interviews at an Obstetrical Practice in Brampton were conducted in the waiting area before or after their appointments. Interviews did not restrict additional family members who attend the site with possible participants from being present during interview. All participants that were visually considered to be South Asian on select dates the interviewer was at a site location were asked if they were interested in taking part in this study. The researcher asked the interview questions and prompts if respondents were uncertain of how to answer the questions. The interviews were approximately 10 minutes in length. The interviews were audio recorded and notes were taken during each session. Interviews were then transcribed afterwards for analysis of findings.

The interviews were conducted with South Asian immigrant parents or parents-to-be accessing Region of Peel programs and an obstetrical practice site in Brampton to describe how they find information and the type of health information they are looking for online with the potential of using social media to communicate family health information. The open-ended questions were

created prior to interviews to answer the research question and objectives for the project. The topics covered in the interview included demographic questions, and describing how South Asian immigrant parents use social media to access health information and classify the type of information they are looking for online, barriers to using social media among South Asian immigrant parents, determine how South Asian immigrant parents of child-bearing age access the internet, determine if South Asian immigrant parents use computers in their homes and the extent of their English speaking ability to navigate on the computer or other electronic device accessing the internet, see Appendix 4 for participant interview questions.

#### **4.7 Analysis:**

The results of the interviews were analyzed using a thematic approach. Coding was used to identify and sort common themes. After analysis of interviews, themes were identified and placed into categories using index cards. The participant responses were then summarized and placed into themed categories. The participant confidentiality of information collected was kept protected. Any specific identifying information was removed in final publications and changed to protect the participant's identity. All records of participation were kept private such that only the interviewer had access to the information. In print form, it was stored in a locked filing cabinet. In digital form, the information was in password protected files and only on computers controlled by interviewer. Information will be destroyed three months after finishing this project, electronic information will be erased and paper copies will be destroyed.

#### **4.8 Limitations:**

Limitations identified in this study included the size and convenience selection of sample. The participants were selected visually at each site by identifying individuals as South Asian. The size of the sample was selected to control the amount of time required to interview and analyze data.

#### **4.9 Conclusion:**

This chapter discussed the process involved in selecting the methodology of this study, including how participants were recruited. The following chapter will discuss the findings of this study, highlighting the demographics of participants and factors influencing social media and internet use.

## CHAPTER FIVE: Findings

### 5.1 Introduction to Findings:

This section presents findings from interviews conducted at the Region of Peel Brampton Breastfeeding Clinic, Region of Peel Brampton Prenatal site and at a Brampton Obstetrical office. It will present data collected from semi-structured open-ended interviews conducted with participants at each of these sites. A total of 30 interviews were conducted with 42 participants, there were sometimes two participants in one interview if both parents were present and interested in participating in this study. An overview of the demographics will be presented first followed by responses to interview questions in relation to South Asian internet and social media use in Peel and the objectives to this study. The final section concludes the findings portion of this report.

### 5.2 Participant Demographics:

As seen in Table 1 below, of the 42 participants interviewed in the study, 36 indicated their country of birth was India, four from Pakistan and two from Sri Lanka. A total of 25 female and 17 male participants participated. Of the 42 participants in this study, 55% indicated residing in Canada less than five years. Of those residing in Canada less than five years and no more than high school education and did not use a computer, 100% indicated they would not use social media to access health information, this was primarily due to lack of comfort using technology and having a language barrier. Participants that had no more than high school education and residing in Canada more than five years, 60% indicated they would access health information over social media, 20% would not access health information over social media and the other 20% were undecided. The majority of respondents were between the ages of 26-30 years of age with at least one child. Most of the participants were college or university educated and a few were high school educated. This study included participants residing in Canada less than and more than five years. Table 1 below details participant country of origin, gender, age, length of time residing in Canada, level of education completed and number of children.

Table 1: Participant Demographics

Characteristic (Number)	Percentage
Country of origin (42)	India 86% Pakistan 10% Sir Lanka 5%
Gender (42)	Female 60% Male 40%
Age: Female (25)	20-25 16% 26-30 44% 31-35 32% Over 35 years 8%

Age: Male (17)	20-25 0% 26-30 29% 31-35 47% Over 35 years 23%
Length of time in Canada: Females (25)	Less than 5 years 60% More than 5 years 48%
Length of time in Canada: Males (17)	Less than 5 years 47% More than 5 years 53%
Education: Females (25)	High school/some high school education: 32% Some college/university education: 68%
Education: Males (17)	High school/some high school education: 6% Some college/university education: 94%
Number of Children: (30 family units (42 individuals))	Parent with first child 17% Parent with more than one child 27% Pregnant expecting first child 30% Pregnant with children at home 27% Planning to become pregnant 0%

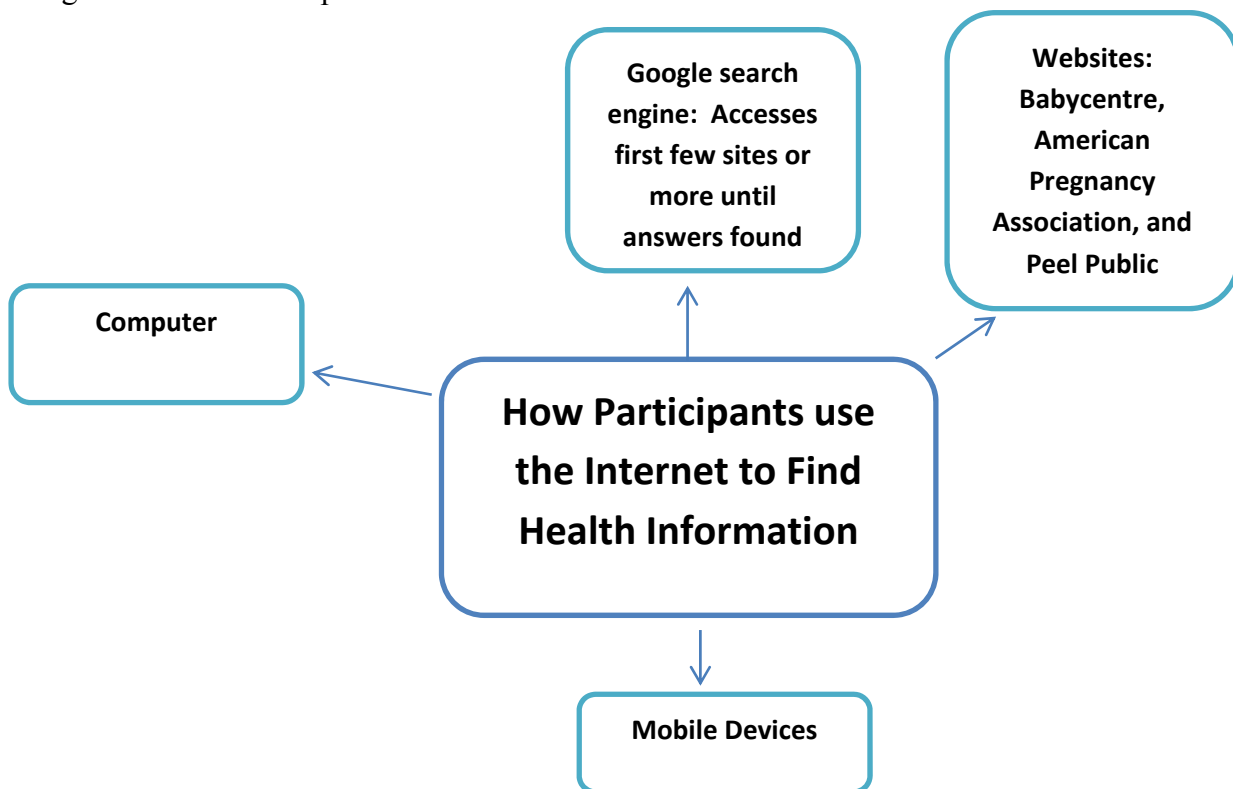
The interview questions in this study focused on understanding participant computer, internet and social media use to determine the potential for using social media to communicate family health information to the South Asian population. To do this, it was necessary to determine if the South Asian population in Peel of child-bearing age would use social media to access health information and how online health services could be improved to facilitate their needs. These findings indicate that length of time participants reside in Canada and the amount of education completed influence internet usage. As identified in Table 1, 32% of female participants completed high school or some high school education and 68% completed some or more college or university education. Of the male participants, 6% completed high school or some high school and 94% some or more college or university education. Differences existed between themes between these sub-groups of participants, those with high school education and residing in Canada more than five years were more likely to use the internet than those residing in Canada less than five years. College or university educated participants were more likely to use the internet and were not influenced by length of residence in Canada as they had the skills required to use and navigate on a computer and the internet.

### **5.3 Comparison of Computer and Social Media Usage amongst Participants:**

Differences in themes existed between sub-groups of participants' computer usage depending on the amount of education completed and length of residence in Canada of high school educated participants. The sample in this study had more participants with college or university education, and residing in Canada for more than five years. Those with college or university education,

despite length of time in Canada, indicated that they know how to use a computer and tended to own a computer and indicated they had one in their home. In contrast, the majority of participants with high school education and who have been residing in Canada for less than five years did not have the technical and language skills required to navigate on a computer and internet and less likely to own a computer. However, despite having less education, participants that have been residing in Canada for more than five years that are high school educated were more likely to own a computer. A few participants with high school education also tended to access computers and the internet in other locations. For example, one individual used a computer at the library as their internet was not working, “I access the internet at the library and use it to search for information regarding my son and baby’s growth” (Obstetric Office Participant 21). Some participants with university or college education indicated they also access a computer at work, “I use a computer and internet at home and at work” (Prenatal Class Participant 14). Participants seeking health information online indicated using the Google search engine and sites referred from their doctors or health professionals, including babycentre, American Pregnancy Association and Peel Public Health, see Figure 3.

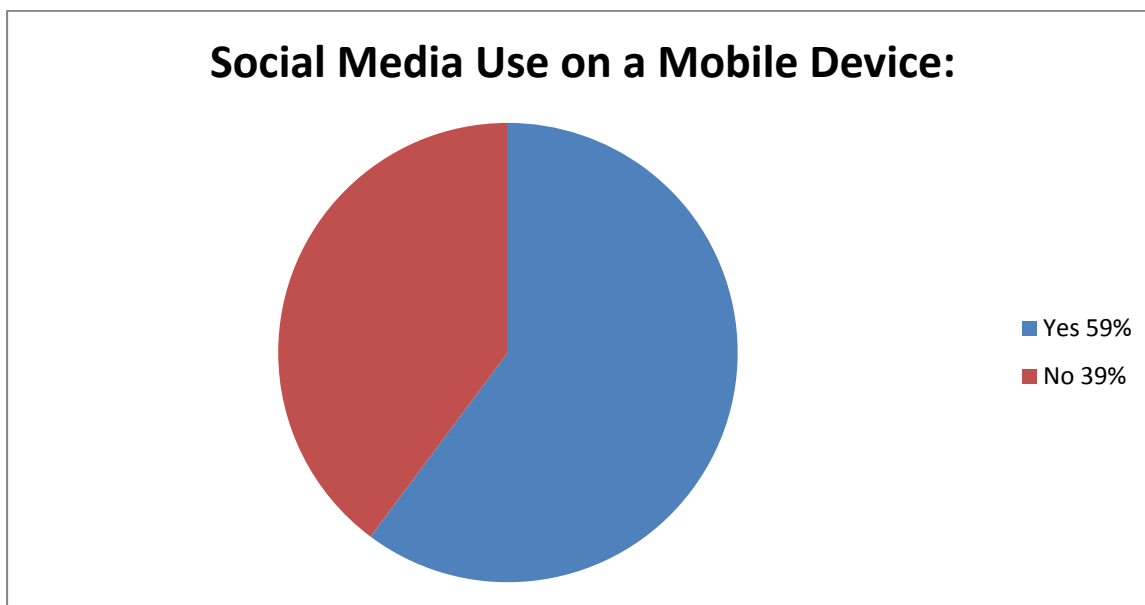
Figure 3: How Participants Access the Internet and Social Media to find Health Information:



Aside from desktop computer and laptop use, over half of the participants in this study use their mobile device to access the internet. Of the participants interviewed, 59% also indicated using mobile devices, including phones and tablets. Of these, 84% with a mobile device use it to

access social media, in addition to their home computers, see Figure 4. The participants using mobile devices were primarily university or college educated and a few high school educated residing in Canada for more than five years. Participants that used mobile devices also used a desktop computer to access social media. Participants did not indicate any differences between social media use on a computer versus a mobile device, a few of the participants indicated it being easier to access on a mobile device. As one participant indicated, “I access social media through a computer and phone, I find the phone more convenient” (Prenatal Class Participant 17). This finding suggests that over half of participants are using a mobile device, of which the majority use it to access the internet and social media. Further, one participant stated he “used all devices [mobile and computer] equally for social media” (Obstetrical Office Participant 23).

Figure 4: Social Media use on a Mobile Device:



A couple in this study identified an example of the difference between level of education and length of time in Canada. The male participant was college educated and the female participant was high school educated and residing in Canada for less than five years. The female participant did not know how to use a computer and lacked the skills and ability to understand English well, although the male participant indicated using a computer and accessing the internet from home. This participant indicated, “my wife does not know how to use a computer, I [husband] use the internet to search about what to use for baby, diet, and banking” (Breastfeeding Participant 16). These participants highlight the differences between level of education and length of residence in Canada and its effects on computer and internet use despite living in the same household. Further, one male participant mentioned,

Women need to be encouraged to use the internet and technology. There is a language barrier. Women do not take much initiative and depend on husbands, they need to try to

be more independent [as they] learn most of what they know from family. They need to learn technology (Breastfeeding Clinic Participant 11).

Table 2: Themes Identified Relating to Length of Residence in Canada and Likelihood of Computer and Internet Use:

Participant Length of Residence in Canada and Computer and Internet Use:	
Length of Residence less than 5 years: High School Educated=	Unlikely to use computers and internet
Length of Residence more than 5 years: High School Educated =	Increased use of computers and internet
Length of Residence more than and less than 5 years: College or University Educated=	Did not affect computer and internet use

#### **5.4 Advantages and Disadvantages to Internet and Social Media Use Identified by Participants:**

All of the male participants who have lived in Canada for more than five years indicated using social media, particularly the Facebook platform. Of the female participants using social media, 8% of these participants residing in Canada more than five years did not use social media because of personal reasons and lacked the time to use it. These participants were concerned their information is available for everyone to view over the internet. Participants were primarily concerned about privacy of information posted online and would only follow information being provided by credible health professionals. They considered credible sources as being those that were registered health professionals and from government agencies. As one participant indicated, “we are looking for credible sources for information and prefers face-to-face contact but would use it [social media for health information] if it is coming from a credible source (Prenatal Class Participant 15). Further, another participant indicated, “we are concerned about privacy, private information. But [I am] ok with registered people answering questions” (Breastfeeding Client Participant 9). All of the other female participants residing in Canada more than five years indicated they use social media. As one participant indicates, “I use Facebook to communicate with family and friends, and don’t think it’s the right platform for health information because it’s not authorized. [I am] looking for authorized sources of information including registered people and government agencies with legible research” (Breastfeeding Clinic Participant 8).

Half of the participants with high school education residing in Canada for more than five years indicated they use a computer, social media and would use it to access health information. A few participants whom were high school educated and residing in Canada more than five years

indicated they use a computer and no social media. A small number of participants in this group indicated using social media and a computer, although would not use it to access health information. As one participant indicated, “I prefer to talk to someone one-to-one, [I’m] not comfortable using [social media] for health information, and use social media for friends” (Obstetric Office Participant 24).

All participants with some college or university education indicated using a computer, of which a small number did not use social media, and some participants residing in Canada more than five years would not use social media to access health information. Almost half of the participants residing in Canada less than five years would not use social media for health information. As one participant indicated, “I use social media to socialize with friends and to access photographs. I use it to stay connected with friends. I don’t trust information on Facebook [as] anyone can set up a group” (Prenatal Class Participant 15). Social media was used by majority of participants with college or university education despite length of residence in Canada.

The use of social media was similar for all participants using it, primarily to communicate with friends and family. Similarly, whether participants would use social media to access health information was split between high school educated participants residing in Canada more than five years and college or university educated participants. Amongst those using social media, the level of education did not influence whether participants would use social media to access health information.

Participants in this study with college or university education indicated accessing the internet, majority use social media. A small number of participants with some college education did not use social media. The length of time these participants with college or university education residing in Canada was not a factor influencing internet use, as all of these participants used the internet. In this study, 60% of participants residing in Canada less than five years indicated they would access health information over the internet and 40% indicated they would not. The participants residing in Canada more than five years and with college or university education, 54% indicated they would access health information over the internet and 38% would not, and 8% were undecided. The reasons participants chose not to use social media included lack of privacy of information. Another participant identified lack of time to use social media although “uses babycentre.ca, and other searches relating to baby and pregnancy through Google searches” (Breastfeeding Client Participant 3).

Reasons participants chose not to use social media to access health information were consistent amongst all participants that used it. Reasons participants would not use social media for health information included: only using social media to keep in touch with family and friends, seeking credible sources of health information, does not feel it is the right platform, not comfortable with posting personal information over the internet, and does not feel it is reliable. Participants who did not use a computer and the internet identified reasons why they did not use social media, including: a lack of technological skills and low literacy levels as barriers to using a computer

and internet. A participant indicated that, “many people don’t know English. Information should be translated. Make it [internet sites] easier to use, use more titles for services available” (Obstetric Office Participant 25). Participants who were unsure whether they would use social media for health information indicated if it came from a credible trusting source, such as a doctor, government agency and registered individuals. As one participant mentioned, “...if there is anything related to health issues, it should be authorized” (Breastfeeding Clinic Participant 8). These findings emphasize the need for credible sources for health information from health professionals.

### **5.5 Where Participants seek Health Information:**

All participants who use a computer indicated they use it to access the internet for various searches and reasons. All participants that use the internet indicated seeking health information, primarily about pregnancy. Topics included what to expect in each trimester and looking for further information presented by their doctor which was mentioned during their appointments about their pregnancy or child, seeking clarification online. They tended to look at a few pages until they found the information that they desired. As one participant mentioned, “I am not searching as much now that baby is here, before I was searching how much baby has grown in womb, what to eat and avoid during pregnancy” (Breastfeeding Participant 3). Participants with additional children at home also look for information about their older children. One participant indicated, “finding information about what foods are good for her four year old son” (Obstetric Office Participant 21).

### **5.6 Barriers and other Factors Influencing Internet and Social Media Use:**

Majority of participants residing in Canada less than five years with high school education indicated that they did not use a computer or social media. These participants indicated they were unaware of the term social media and do not own a computer, nor have the skills to use a computer and know limited English which affected technology use. As one participant whom spoke minimal English mentioned, “no language or skills [to use a computer]” (Obstetric Office Participant 31). Further, another participant indicated “I don’t have the skills of how to use and get information online and speak minimal English” (Obstetrical Participant 22).

Participants with college or university education had a higher likelihood of accessing social media despite residing in Canada for less than five years. Participants with some high school education and limited English were less likely to use a computer or social media as they did not have the skills necessary to use a computer and navigate over the internet. One participant with some high school education and living in Canada for one year mentioned that he, “does not know how to use a computer and [has difficulty] reading English” (Obstetric office participant 30).

In addition to the factors identified above, affording to pay for internet connections was also identified by a participant as a barrier to accessing information online. This participant indicates use of the internet would increase if costs for connections are lower, he mentioned a need to,

“make internet connections cheaper, more accessible and in available languages” (Breastfeeding Clinic Participant 16). Language and improving awareness of health services available online was identified by all participants attending prenatal classes and a few other participants with college or university education, considering it a barrier to its use amongst the South Asian population. As identified by the participants that did not own a computer, language and technology skills were barriers to its use. Language was highlighted by most participants as a barrier to accessing services online for their community.

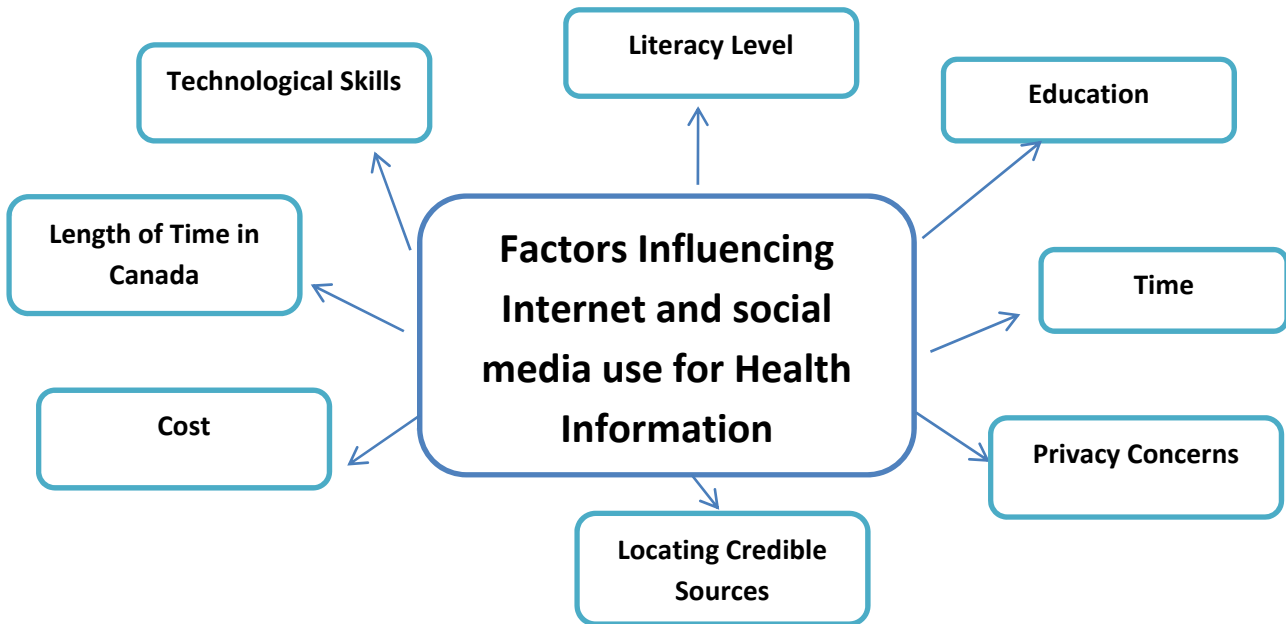
*Additional Factors Influencing Internet and Social Media Use:*

There were no significant differences relating to the length of time participants have been residing in Canada and use of social media to access health information. All participants that use the internet and have no more than high school education indicated they would access health information over social media. More than half of the participants with high school education and residing in Canada for more than five years indicated they would access health information over the internet. All participants that use the internet and social media indicated that their primary social media platform used is Facebook, which they use to communicate with family and friends from their country of birth. The age of participants did not present differences in regards to internet and social media use as majority of participants were between the ages 26-35 years old.

Seeking trustful sources for health information was a common theme identified by majority of the participants in this study as a reason not to use the internet for health information, see Figure 5. This was identified by majority of participants that accessed the internet, despite their level of education completed and the length of time residing in Canada.

Other factors influencing the health seeking patterns of individuals over the internet were dependent on their current situation and stage in life. Majority of participants that use the internet, indicated during pregnancy seeking information relating to their current situation, such as signs of a normal pregnancy and if they were experiencing complications they would search terms used by their doctor. Participants that are or were pregnant indicated seeking pregnancy related information, how to care for their newborn. Participants that had additional children at home and used the internet also indicated seeking information about their other child’s health, including signs and symptoms of an illness. As one participant mentioned, “my doctor mentioned baby was not in the right position, so I searched for information on my baby’s position (Obstetric Office Participant 26). Further, another participant stated, “I search online for best foods to eat while pregnant and after baby is born and what is best for their baby and family. I search for information about diet, cholesterol, blood pressure and foods [I should eat] during pregnancy” (Obstetric Office Participant 19). Another breastfeeding clinic participant mentioned searching online for information on, “how to bath baby, how to feed baby, nutrition and pregnancy” (Breastfeeding Clinic Participant 7).

Figure 5: Factors Influencing Internet and Social Media Use for Health Information:



**5.7 How Social Media is used and Type of Health Information Sought:**

All participants that use social media indicated they use it to keep in touch with family and friends, through the Facebook platform. Of the male participants interviewed 19% indicated they also use social media to connect with work through the platform LinkedIn. These particular participants were college or university educated. Of the participants that use the internet, 30% indicated using YouTube in addition to Facebook. This included participants with high school education and residing in Canada more than five years and participants with college or university education.

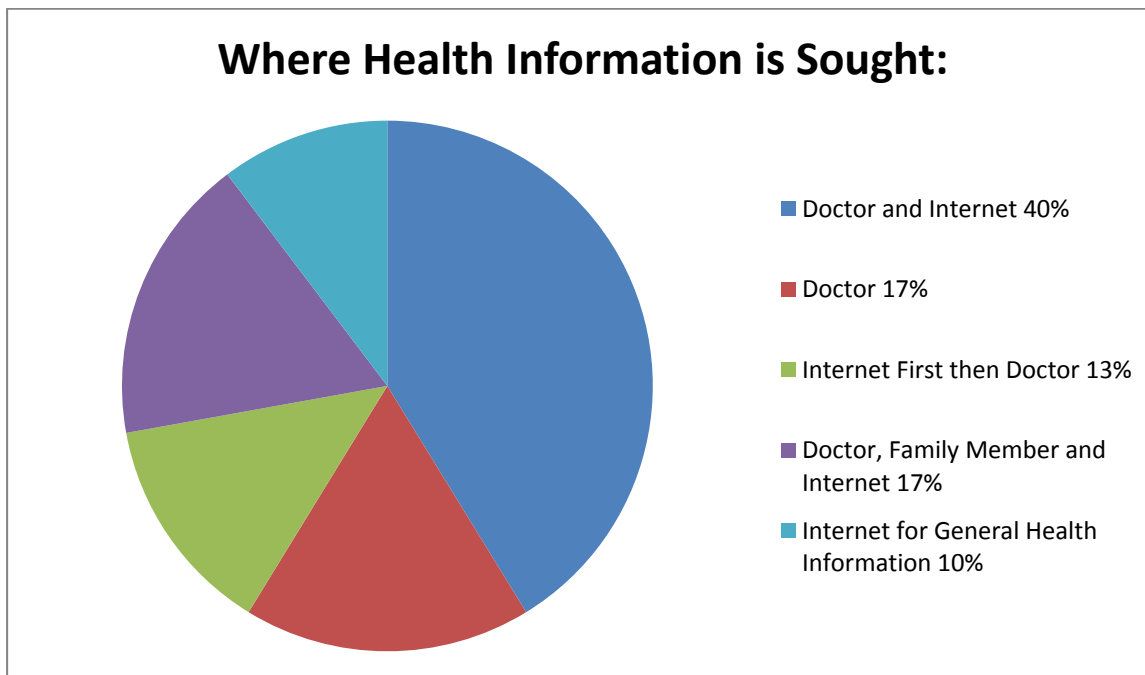
Of the participants using social media, 19% indicated using Twitter in addition to Facebook and 3% indicated using Google Plus to keep in touch with friends and family. These participants have college or university education and residing in Canada more than five years. One participant mentioned, “I use Facebook to keep in touch with friends and family, other people’s lives and to post pictures” (Breastfeeding Clinic Participant 10).

*Type of Health Information Sought over the Internet:*

Participants shared where they currently seek health information. As identified in the interviews, 17% indicated they would only seek health information from a doctor, 40% indicated they would seek health information from a doctor first and then the internet, 13% indicated they would seek health information over the internet prior to their doctor, 17% indicated seeking health information from their doctor, family members and internet, 10% indicated seeking only the internet for general health information, 7% indicated first contacting a call centre, doctor and internet for health information, see Figure 6. The majority of participants sought health information from a doctor. Participants also sought health information from the internet in

addition to a doctor, learning more about what the doctor presented at their appointment. Overall, participants that used the internet for health information would search through the Google search engine and review the first few websites that populate. Participants specified also searching general information about how to care for their children, such as safe products to use. Some participants indicated they would continue to seek sites that populated below the first few if they did not have their questions answered. A few participants indicated they did not have their questions answered and would like content on websites easier to navigate when seeking information, such as categories. Participants shared what they felt was lacking online regarding their health. Many participants mentioned dietary information lacking. As one participant mentioned, “If I have to work on diet, I don’t get that information all the time. I’m a vegetarian from a South Asian background, I can’t find the information here [Canada] sometimes. I get it from South Asian websites. The information found is not consistent” (Breastfeeding Clinic Participant 12). And further, another participant mentioned “I don’t get the answers online and not satisfied with answers. It’s not easy to find what I’m looking for” (Obstetric Participant 26). Another participant stated, “[website] links no giving answers I’m looking for through Google” (Breastfeeding Clinic Participant 13).

Figure 6: Where Health Information is Sought:



Participants in this study with college and high school education identified their reasons for using the internet and social media. This included a variety of information, such as general health information through the Google search engine, seeking news from their country, parenting advice and entertainment. Topics participants sought regarding health information included: guidelines for a healthy pregnancy, diseases and their treatment, pregnancy complications, diet

and fitness, see Figure 7 and Figure 8. Some participants identified websites they sought regularly for health information during their pregnancy and when caring for their child. Topics participants sought regarding their country of origin included: Email, Facebook to keep in touch with family. Parenting advice sought by participants included: Child development, breastfeeding, safe products to use on their child, prenatal information and classes, and application for birth certificates and other registrations for child. Other topics participants used the internet included for work, banking, general Google searches and entertainment. Various topics relating to women's and children healthcare were sought, reflecting the current experiences of the participant. There were no particular differences relating to type of information sought on the internet between those that used the internet and their length of time residing in Canada and level of education. Those that used the social media platform LinkedIn had college or university education, and all groups that used social media, despite length of time in Canada and level of education, used Facebook to communicate with family and friends.

Figure 7: Why Participants use the Internet and Social Media to Find Health Information:

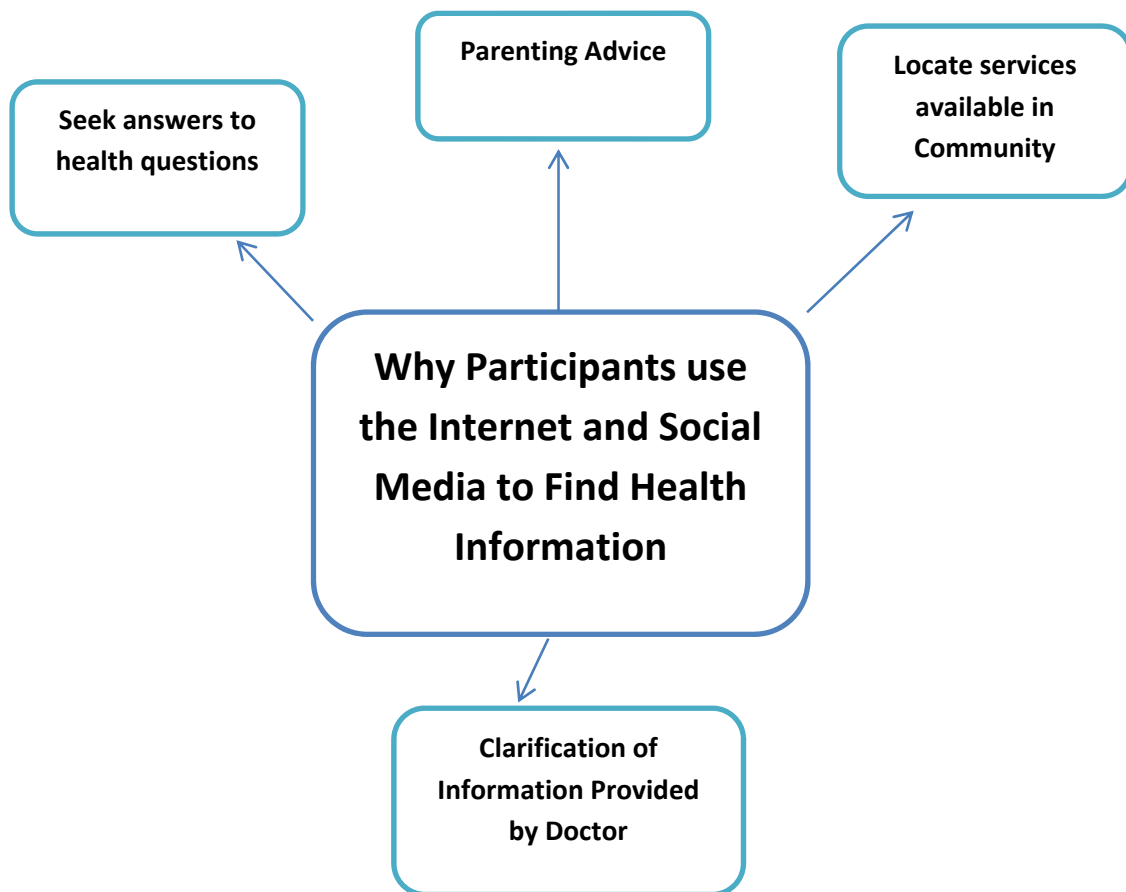
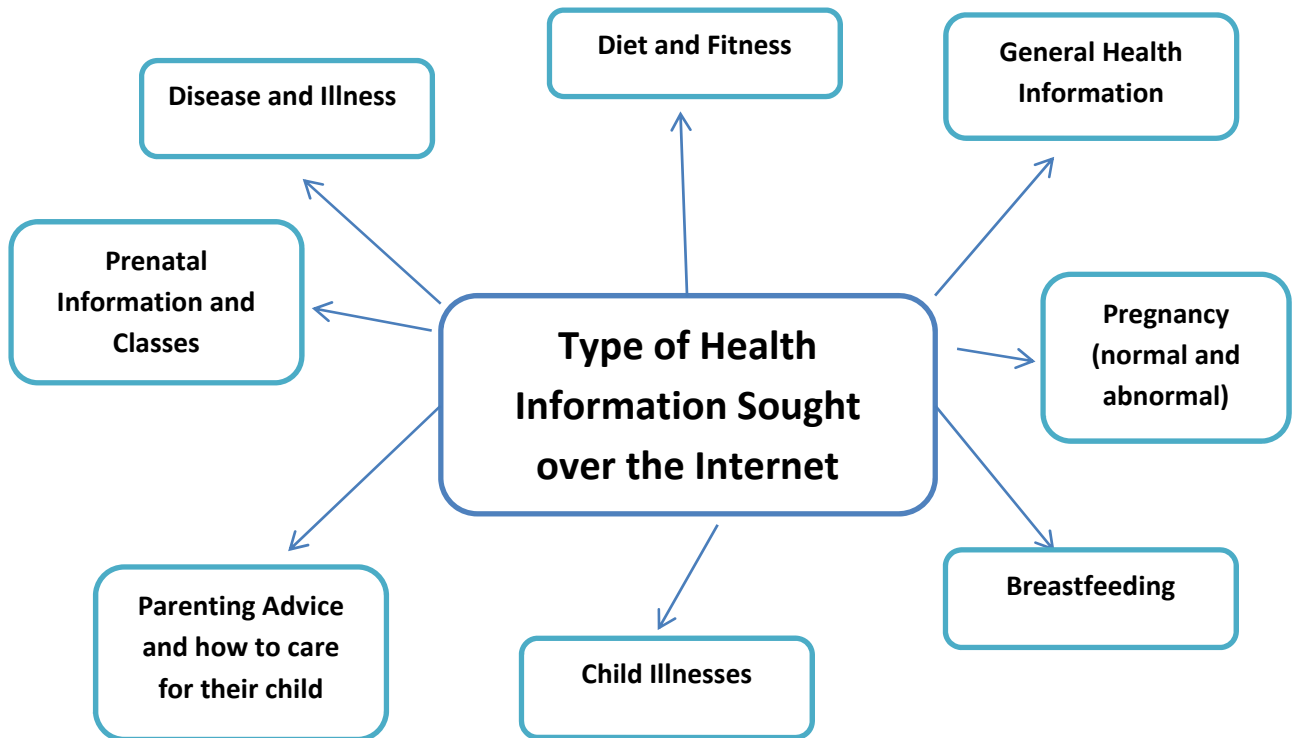


Figure 8: Type of Health Information Sought over the Internet:



### 5.8 Recommendations to Improve Health Information over the Internet Identified by Participants:

Participants had an opportunity to voice ways that health information provided over the internet could be improved for the South Asian population. A few participants indicated that they felt their needs were being met when seeking health information online. The majority of participants in this study that use the internet from all groups identified difficulty finding answers to their questions and navigation. Participants would like it to be easier when locating information on websites, as it would reduce the amount of time spent searching on webpages. This included using effective headings and clearer guidance to find information on the website. As one participant indicated, “there is a lot of information online. People can get easily confused, make it simpler to locate information” (Obstetric Office Participant 25).

Additional areas for improvement identified by many participants from all groups included language, content specific to diet for the South Asian community, easier and less confusing ways to find information they are looking for, this was identified by participants in all groups that use the internet despite level of education. Participants shared how to improve awareness of services to the South Asian population, “If we [South Asians] have people that are going to deliver [have a baby], they don’t know there are prenatal classes available. Introduction and referrals [of services] can be made through social media. Word-of-mouth is much more powerful than social

media” (Prenatal Class Participant 14). A few participants shared the influence of their mother-in-law in relation to how to care for themselves and their children, suggesting it helpful to involve them in the process of improving awareness of services. As one participant identifies,

Involve the parents in health awareness, possibly create something for them, as they have not seen this change in practice. Improve awareness through churches, food places, and volunteers. Even if she [wife] attends prenatal class, what is said by her mother will outweigh everything else. Once someone has been through these situations [pregnancy, breastfeeding], have her be a volunteer and meet with a group of people now in that situation and share her experiences and ending with an emphasis of all these services are available online (Prenatal Class Participant 15).

Many participants were eager to share additional areas for improvement. Participants identified health information that would be useful to improve health services online, including: dietary needs, where to locate credible sources for health information, improving awareness of online services available to the South Asian population, improve ease and clarity of locating information sought, providing cheaper, accessible information, opportunities to share parenting experiences, locating social services available, developing language and skills to access information online, educating family and cultural awareness and language of content online. Some participants provided details as to how public health units can enhance services to the South Asian population. A few participants with high school education and residing in Canada for more than five years and participants with university or college education indicated locating credible sources for health information, classifying these as government sites including the Region of Peel Public Health, from health associations and sites recommended by their doctor. As one participant identified,

We look for relevant reliable sites. Offer language or extra classes about where you should go [for information] because the community is closed. Doors have to open, we attended university and know about prenatal classes. But how many immigrants know about prenatal classes? Attitude needs to change, pregnancy is not talked about. Are you going to discuss breastfeeding problem? Not going to be discussed within the community. Would use social media for health information if they knew it was coming from a credible source (Prenatal Class Participant 15).

A few participants from all groups, despite level of education and length of time in Canada, indicated not understanding terms used by their doctor and conducting a search through the internet for more information. Further, it is important to consider whether information presented is understandable to clients and providing avenues where they can access for clarity of information presented. The number and age of children did not present significant differences in the findings.

## 5.9 Conclusion:

There were differences and similarities of themes identified between the internet and computer use of participants in relation to the amount of education completed and length of time residing in Canada. There is potential for using social media to delivering health information. The majority of participants in this study identified using social media although a small group did not know how to use a computer and social media. Those that have been residing in Canada for less than five years and high school educated were less likely to use a computer and access the internet and social media. Participants that are college or university educated are more likely to use a computer, internet and social media. High school educated participants residing in Canada more than five years were more likely to use a computer, internet and social media. There were no significant findings were made between male and female social media use and age of participants as age range of participants in this study. Differences were identified in regards to participants speaking minimal English and lacked the skills to use a computer affected their computer, internet and social media use. Participants who use social media indicated using the Facebook platform, primarily to communicate with friends and family. Participants primarily use the internet at home. A few indicated also using it at work and the library. More than half also used a mobile device to access social media.

The study found that 40% of participants seek health information primarily from their doctor and the internet. Many participants indicated they would use social media and the internet for health information if it was delivered by credible sources, including government agencies, hospitals, and healthcare providers. This increases their trust in the information delivered. Many participants indicated seeking health information online relating to their pregnancy and health of their family, indicating they would seek information on a needs basis depending on their current situation. Those with more than one child indicated also searching additional information over the internet for their other children in addition to their newborn or expectant baby.

Barriers that affected participants' computer, internet and social media use included lacking the language and skills required for navigation. In this study, high school educated participants residing in Canada less than five years experienced these barriers to access. Participants also offered suggestions for improving access to information over the internet including: (i) adding other languages, (ii) linking individuals to available online resources at English as a second language sites and other community services in contact with new immigrants, (iii) making layout of webpages simpler to find information, (iv) informing the South Asian community of social media platforms and its use through volunteers, restaurants and healthcare professionals that come into contact with families of child-bearing age and their family members. Informing other family members was identified as an important determinant of health outcomes as participants indicated their mother-in-law influenced their healthcare decisions despite hearing information from a healthcare provider, such as a prenatal educator. As identified through interviews conducted in this study, social media use is influenced by knowledge and skill on how to use a

computer, literacy level in combination with amount of education completed and length of time residing in Canada.

## CHAPTER SIX: Discussion

This discussion explores and compares themes arising from the findings of this study and its relation to the literature review. It will examine the potential for using social media to communicate family health information to first generation South Asian immigrants in Peel Region including factors influencing how South Asian immigrant parents use social media to access health information and classify the type of information they are seeking online. The comparison of findings will also include barriers to using social media amongst South Asian immigrants of child-bearing age, areas for improvement, how South Asian immigrant parents of child-bearing age access the internet, determine if South Asian immigrants of child-bearing age use computers in their homes and the extent of their English speaking ability to navigate on a computer or other electronic device when accessing the internet and determining where South Asian Immigrant parents seek health information. The final section concludes the discussion.

The research question for this project is: *What is the potential for using social media to communicate family health information to South Asian immigrants of child-bearing age residing in Peel?* The themes from findings identified from sub-groups in this study found that those South Asian immigrants who are high school educated and residing in Canada less than five years were less likely to use the internet and social media. This contrasts with those who are high school educated residing in Canada more than five years who are more likely to use the internet and social media despite length of residence in Canada. College or university educated South Asian immigrants were more likely to use a computer, internet and social media, length of residence in Canada did not influence use. In comparison to the literature, there were similarities relating the amount of education affecting immigrants' internet and social media use.

### Comparison of Findings:

According to the themes identified from findings in this study, the length of time South Asian immigrants of child-bearing age reside in Canada and level of education influences their internet and social media use. The literature review identified that level of education has an influence over an individual's internet use although did not address whether length of residence in another country affects its use. All participants with college or university education, which was majority of the sample, in this study know how to use a computer and have access to the internet at home. A few of these participants did not use social media, although they were aware of these social media platforms, had personal reasons impeding them from using social media. The other reason participants with university or college education chose not to use social media was time constraints; however, this was not investigated in depth within the literature. Lack of time, being too expensive and not interested in learning anything new or difficult to learn were identified as perceived barriers affecting internet use amongst all individuals (Fisher & Clayton, 2012, p. 104; Stroever et al., 2011, p. 2).

Fear of using social media due to privacy concerns increased when participants were asked if they would use social media for health information. Participants with high school, university or college education were concerned about having their personal questions available for everyone to view over the internet, privacy concerns and seeking credible sources of health information, discrediting social media as an avenue for health information as their primary use for it is to communicate with friends and family. Increasing comfort level can be facilitated by communicating with other families of child-bearing age in addition to having health questions answered by credible sources, such as public health professionals. A few participants indicated also being interested in what other parents are doing, indicating that social media can act as a social support system.

Majority of the participants with college or university education and a few participants with high school education and residing in Canada for more than five years indicated searching for credible sources for health information. A participant with university background identified privacy as a concern chose not to use it as she felt uncomfortable posting her personal information for everyone to view online. The literature identified this as one of the barriers affecting social media use, due to fear of privacy violations and lack of confidentiality (Fisher & Clayton, 2012, p. 104; Kontos et al., 2010, p. 217; Gibbons, 2011, p. 5).

Establishing trust and a relationship was identified in the literature as a possible solution prior to communicating with individuals for health information over the internet, as a lack of trust affects whether parents will follow health information (Stroeve et al. 2011, p. 2). This was important to participants prior to following information identified from online sources. Majority of participants that use the internet in this study indicated using sites recommended by their doctor, healthcare professionals and from government agencies, considering these as credible sources. Similarly, as identified in the literature privacy violations were identified as a barrier individuals choose not to use social media. The literature identified potential to deliver health information once relationships have been established with healthcare providers, which establishes trust and confidence in the service provided (Gibbons, 2011, p. 5).

The sub-group of participants residing in Canada less than five years and identified a language barrier and lack of technological skills were also identified in both the literature and findings of this study as less likely to own a computer and access the internet. According to the findings in the study, of those identified with high school education and residing in Canada for less than five years, majority of these participants lacked the language and technological skills to navigate on a computer and the internet, and were unaware of the term social media. Participants in this study speaking minimal English and residing in Canada for less than five years did not own a computer and indicated they lacked the skills to use it and were unaware of how to access the internet. Similarly, within the literature, the Government of Canada Policy Horizons Canada report (2012) also identified limited knowledge of language as a barrier to computer use, as literacy levels and skills are required to navigate on a computer which ultimately affects its use. Further, the literature identified strategies to improve access which was also identified by a few participants

in this study. Participants in this study and the literature identified methods to reduce barriers to internet use and support social media practices. This can be facilitated by supporting newcomers attending English as a second language classes, educating individuals about how to navigate and use computers, the internet and social media. It can also act as a complement to visits with healthcare professionals. The sub-group of participants with high school education and residing in Canada for more than five years were more likely to use a computer, social media and were split between using social media for health information. The literature did not identify whether the length of time immigrants reside in Canada influence computer and internet use. Although, the longer an individual resides in Canada has the potential to influence their comfort level and understanding of English due to exposure of language.

Participants in this study and the literature indicated the social media platform Facebook is primarily being used to communicate with family and friends from their country of birth. All participants that accessed social media used Facebook and indicated using it to connect with family and friends. All participants that used social media indicated this as the reason for its use. Social media platforms, such as Facebook was also identified in the literature as a method immigrant families use to communicate with friends and family from their country of birth.

Common themes sought over the internet identified by participants in this study were related to pregnancy and general information relating to their current health situation, the health of their children and information relating to the South Asian diet. As identified in the literature, a report completed by the Region of Peel, individuals are seeking information as needed depending on their situations (Region of Peel, 2012). This was also reflected in the participant interviews. Participants indicated seeking health information relating to their current situation and experiences. For example, participants that had recently had a baby or expecting a baby expressed that they sought pregnancy information. These participants were interested in learning about what to expect during normal pregnancy progression and abnormal findings presented by their doctor. Parenting information was also identified, including relating to their newborn, and their other children. Dietary information was also identified by all demographic groups as being something they searched the internet and found it lacked specific information relating to the South Asian diet. The literature identified diet, exercise, becoming pregnant, quitting smoking and weight applications were identified as being the most popular sought by immigrants (Fox & Duggan, 2012, p.2).

Participants identified a lack of data available over the internet relating to their health and the health of their family. Addressing topics over social media and having external resources to direct the South Asian population can ease concern of inconsistent information delivered over the internet. A lack of awareness of resources recommended by health units was identified by participants, which was thought the South Asian community would benefit, in addition to increasing awareness to the whole community as what is advised by family is highly influential in their healthcare decisions and the care of their children. A study conducted by the Region of Peel (2012) identified the influence of mother-in-law in the infant feeding practices of children

(p.5). Identifying family members as influential in the healthcare and parenting decisions of families (DaCosta, 2012). Informing the South Asian community of health services through word-of-mouth and printable resources at community centres, government agencies, including Healthy Babies Healthy Children visits, churches, ethnic restaurants, newspapers and television sources can increase reach to extended family members in the community. This has the potential to target extended family members, including their mothers-in-law who have an influence over the families' health practices.

Differences existed between where participants sought health information. Findings in this study indicated where those participants that did not own or use a computer sought health information directly from a doctor. Majority of the other participants that used the internet and a computer sought health information from both a doctor and the internet, many indicating seeking clarity from the internet after meeting with their doctor. Many of these participants indicated seeking health information from the internet and a doctor. Many participants that use the internet indicated using it for clarity of information provided by doctor and side effects of medications. Findings from the literature review found that 70% of internet users seek health information online, and women were more likely than men to locate health information online (Statistics Canada, 2010). The literature did not specify specific details of where immigrants seek health information. The literature identified the importance of options where individuals access health information, including face-to-face contact (Government of Canada, 2012). Options are important as not everyone accesses information online.

Similarly, from the responses identified by participants in this study and the literature review, there was a consistent finding, not trusting internet sites was one of the primary reasons immigrants avoid using social media for health information. The participants in this study indicated searching for health information from trustworthy credible sites, such as government agencies and sites recommended by their doctor. Similarly, the literature identifies that participants in other studies have difficulty finding reliable health information online (Fernandez-Luque & Melton, 2012, p. 22). Further, the literature suggests potential for government agencies to post information over social media networking sites to keep the public informed about their community, such as emergency preparedness (Smith, 2010; Kontos et al., 2010, p. 218; Gibbons et al, 2011, p. 85; Betsch et al., 2011, p. 3731).

The barriers to using a computer, internet and social media in this study were similar to the literature review. The responses from participants included a lack of technological skills and language barriers. Participants not experiencing these barriers also identified lack of technological skills and language barriers as being factors affecting the internet and social media use for the South Asian population. As identified in the literature, immigrants may experience additional barriers to accessing the internet and computer due to language barriers and lack of technological skills (Tripp, 2011, p. 565). New immigrants can be supported through continued partnerships with external community services and centres within Peel Region, supporting new immigrants that are learning English as their second language. Targeting agencies teaching

English and technological skills to support computer use and navigating over the internet appears to be a useful strategy. Improved awareness of the Facebook public health page and what it is used can be promoted and taught to individuals attending sessions.

Majority of participants in this study had access to a computer and internet. The methods South Asian immigrant participants in this study use to access the internet were also explored. Similar to the literature review, there is an increasing number of immigrants using mobile devices to access the internet and social media. This was similar to the literature review. As indicated in this study, 59% of participants indicated using a mobile device, of which 84% used it to access social media. Some participants indicated using their mobiles more for social media, as it is easier to access. The participants that used social media on a mobile device indicated they used a desktop, laptop and mobile device to access the internet equally. Majority of the participants that accessed the internet and social media on their mobile devices included those with university or college education and high school educated residing in Canada for more than five years. None of the participants with high school education residing in Canada less than five years accessed social media over their mobile device. As indicated in the literature, in 2010 more than 78% of Canadian households indicated they had a mobile phone and 13% indicated they no longer have a landline (Statistics Canada, 2011). Mobile phone use amongst minorities has increased in America (Fox & Duggan, 2012, p. 2). As identified in the Pew Internet study, 52% of smartphone users have searched for health information on their phones compared to 6% of other cell phone owners (Fox & Duggan, 2012, p. 8). Participants with university or college education and high school education residing in Canada more than five years were more likely to also use a mobile device to access health information over the internet.

### **Conclusion:**

The literature review and responses from the participants in this study seem to indicate a potential to use social media to communicate health information amongst the South Asian population, providing the population is aware of who is providing this information and that the users see the provider as credible and trustworthy. This was identified by all groups as a necessity by many participants before following content provided. In order to promote internet services, populations need to be aware of the available service, which can be facilitated by targeting healthcare professionals coming into contact with this community. This method of delivering health information is not the best median for all groups, as identified by participants in this study that lacked skills of using a computer and language barriers, this affects where they access health information. As identified in this study, these participants will seek health information primarily from a doctor. There is a potential for doctors and other related health professionals to direct their clients to public health and community related services. There is also potential to link new immigrants with programs and services where they can learn language and technology skills. Addressing these barriers can improve new immigrant access to employment and comfort level with language, technology and social skills.

## CHAPTER SEVEN: Recommendations

This section identifies options for consideration in public health units delivering health services online and through social media to immigrant populations. These recommendations were based on the responses of participants in this study and findings from the literature review. There are two groups to consider; as such the recommendations were created to address each group. The two groups to consider from themes identified in this study include those comfortable with using the internet and social media and the other includes building capacity for those unfamiliar with computers, internet and social media.

The research question for this project is: *What is the potential for using social media to communicate family health information to South Asian immigrants of child-bearing age residing in Peel?* The objectives of this study included:

- 1) To describe how South Asian immigrants of child-bearing age parents:
  - Access the internet
  - Where they seek health information
  - Use social media to access health information
  - Classify the type of information they access
- 2) Determine the advantages to using social media for this population
- 3) Identify barriers to seeking health information using social media
- 4) Providing recommendations about the use of social media by healthcare providers

The recommendations will explore these objectives and the answer to the research question. There is potential for use of social media to communicate family health information to South Asian immigrants residing in Peel with consideration of two groups, those comfortable with using social media and building capacity for its use for those unfamiliar with it. Addressing the needs of individuals in each group has the potential to improve and expand the way health information is communicated to the South Asian population residing in Peel. Public health involves health promotion and protection which results in improved quality of life (PHAC, 2004). Examining this new way of delivering health information to a large audience reflects the changing communication needs while maintaining and establishing points of contact with Peel's target population. This can be facilitated by following the recommendations identified below: Majority of participants in this study indicated that they use social media and access health information over the internet. Although, many felt there were pieces missing in regards to content and ease of navigation. Below are broader recommendations relating to those familiar with using social media followed by specific recommendations for those with limited access to the internet and unfamiliar with computers, which will support answering the research question for this project and relate back to the above objectives. The recommendations are not presented in any order of priority but are considered to be appropriate as a packaged approach to addressing the practical dimensions of the research question.

*Recommendations for using Social Media to Communicate Family Health Information to South Asian Immigrants residing in Peel:*

- 1) **Continuing to collaborate with community partners and locate leaders in the community to increase awareness and educate and inform the immigrant population of public health family health services delivered over the social media platform Facebook.** Continuing to inform community partners of the social media platform Facebook delivering health information from Peel Public Health. This can be done by health professionals working at Peel Health through direct contact, email, phone and other methods of communication. Continue to inform healthcare facilities and community centres, in Peel Region, of the social media platforms offered from Peel public health for families of child-bearing age. This study and the literature identified that participants are seeking credible trusting sources for health information online, including through government agencies and healthcare professionals. Individuals are often hesitant to follow information regarding their families' health, including over social media, if they do not know who is delivering the information. This provides a resource that community partners can be confident about when referring their clients with family health related questions in addition to using a contact centre. The messaging provided on these public health social media platforms are delivered by health professionals and provide evidenced based information. Inform health professionals in Peel, including physicians, nurses, and midwives to direct the community to webpages and social media platforms where they can access health information online and have their questions answered by health professionals. This can be facilitated through hospital rounds, email sent out to staff, updates and reinforced periodically to enforce its use and to direct their clients to Peel's Facebook page. Participants in this study indicated having difficulty locating answers to their questions. Increase awareness of social media platforms which are available to answer health questions online. Participants identified considering increasing awareness through the South Asian community, this can be facilitated through identifying leaders in the community. Resources available in the region can be posted onto social media platforms, highlighted and informing the community of events and services available as well as an opportunity to seek clarification of available services.
- 2) **Peel Public Health can incorporate culturally sensitive evidence based information to existing online resources including dietary needs.** This can be incorporated by Family Health staff at Peel health working on the digital media committee in collaboration with Peel research analysts. Participants identified a lack of data available over the internet relating to their dietary and fitness needs for themselves and their family. Addressing these topics over social media and can ease concern of such inconsistent information delivered over the internet. Incorporating or locating credible sites, such as those from health professionals, offering details of the South Asian diet, including any modifications that should be made throughout the life cycle, such as

diabetes during pregnancy. This includes providing details about dietary requirements whether there should be differences in diet during pregnancy and breastfeeding.

- 3) **Create additional opportunities where communities can chat and interact over social media, particularly through the Facebook platform.** This can be done by possibly creating a subsection within Facebook where individuals can communicate amongst each other or directing community members to alternate parenting social media support systems. Majority of participants indicated using social media to keep in contact with friends and family as well as share pictures. Continue reinforcing that health professionals will answer questions and that individuals have the option of sending private messages can increase comfort level with trusting information posting and potential for following the social media platform without having personal health information posted for everyone to view. Participants indicated also being interested in what other parents are doing and can act as a social support system.
- 4) **Inform the South Asian community of public health family health services available over the internet.** This can be done through word-of-mouth, Peel health's printable resources at community centres, government agencies, ethnic restaurants, newspapers and television sources. This study identified that there is a lack of awareness of services amongst the South Asian community, including family members as they are influential in the healthcare practices of those of child-bearing age. Participants identified obstacles with family members, indicating the responses of family member and doctor influence health practices. Participants identified the South Asian community values word-of-mouth from family members and South Asian community members. Participants in this study identified a need to reach family members as they influence health practices, spreading messaging through word-of-mouth family members as they are not always aware of changes in time. Consider raising awareness of Peel's social media platforms at South Asian restaurants, churches, community centres and Facebook advertisements. Consider using South Asian volunteers and community members that have utilized Peel's social media services and have experienced pregnancy and child rearing to share their experiences of services available in the community with share this with other families of child-bearing age.

*Recommendations for using Social Media for Health Information in individuals with limited Internet Access:*

This study and the literature review identified barriers to computer and internet use, which included lack of technological skills and limited ability to speak and read English. In this study, this was identified in participants with high school education and residing in Canada for less than five years. The following recommendations have been made to help facilitate the learning needs of this group of immigrants.

- 5) **Advocate for English as a second language classes and South Asian community centres to teach how to use a computer and the internet.** Establish partnerships with external community services and centres within Peel Region to support new immigrants that are learning English as their second language. Target external agencies in Peel region that teach English and technological skills to support computer use and navigating over the internet. The awareness of the Family Health Facebook page and what it is used can be promoted and taught to individuals attending sessions. This can facilitate comfort level with computer use and increase traffic and comfort with using the family health Facebook page to learn about their families' health and ask questions.
- 6) **Inform the South Asian community of Peel Public Health Family Health services available online.** Inform the community of health services through word-of-mouth and printable resources at community centres, government agencies, including Healthy Babies Healthy Children visits, churches, ethnic restaurants, newspapers and television sources can increase reach to members in the community. Advertise the Family Health Facebook page on popular immigrant sites and newspapers to assist in educating and drawing immigrant communities to services and the understanding of community members. This has the potential to target extended family members, including the mother-in-law whom has an influence over the families' health practices. It will support families of child-bearing age as participants in this study indicated that their family members have a pronounced influence on their health seeking and child-rearing behaviours.

Table 3 and Table 4 provide a summary of these recommendations indicating additional information concerning the timeframe and desired outcomes associated with each recommendation.

Table 3: Recommendation for Immigrants with Access to Internet and Social Media

Recommendation:	Possible Activities:	Barriers Addressed:	Timeframe:	Desired Outcome:
-continue to inform community partners of Peel services delivering health information over social media	-continue collaborating with community partners to increase awareness of staff to educate and inform clients of health services delivered over social media by direct contact,	-reinforcing services available/increase awareness	-ongoing	-ongoing collaboration between community partners

	pamphlets, email and phone			
-incorporate culturally sensitive content, including diet and fitness during childbearing age available over the internet which can be shared over social media	-incorporate or locate external links with evidenced based content currently lacking on Peel health's websites	-lack of available Canadian information and conflicting information available online	-mid-term upon locating and creating content	-expanding content available relating to immigrant dietary needs during child-bearing age
-increase social supports available over social media	-create or direct community members to a social support network over Facebook where parents and caregivers can share stories and pictures	-lack of social support groups available over the internet	-mid-term as options are explored on the creation of a social support network over social media	-expanding types of social support
-continue informing the South Asian community of public health family health services available online over social media	-word-of-mouth, community leaders and printable resources at community centres, government agencies, ethnic restaurants, newspapers and television sources	-increase awareness of services amongst the South Asian community, including family members as they are influential in the healthcare practices of those of child-bearing age.	-ongoing	-improved community awareness

Table 4: Recommendations for Immigrants with Limited Access to Internet and Social Media

Recommendation:	Possible Activities:	Barriers Addressed:	Timeline:	Desired Outcome:
-advocate for English as a second language classes and South Asian community centres to teach how to use a computer and the internet	-support staff at centres with resources available in Peel region	-language ability, skills required to use a computer, lack of trust	-ongoing	-continue to collaborate with external partners and increased community awareness
-continue informing the South Asian community of public health family health services available online over social media	-word-of-mouth, community leaders, and printable resources at community centres, government agencies, ethnic restaurants, newspapers and television sources	-increased awareness of services amongst the South Asian community, including family members as they are influential in the healthcare practices of those of child-bearing age.	-ongoing	-improved community awareness

## **CHAPTER EIGHT: Conclusions**

This report investigated the online health seeking behaviours of the South Asian population in Brampton. The findings and recommendations of this report will begin to address the themes regarding social media and computer use from the South Asian immigrant community, enabling the reach of Public Health services to the South Asian and immigrant communities. In combination, these recommendations are argued to create opportunities to reach high risk groups unaware of available supports, particularly involving community members and increasing awareness of services through word-of-mouth, creating opportunities to increase understanding and awareness of credible sources available online for health information. The primary goal of this report was to determine the computer, internet and social media use amongst the South Asian immigrant population and determine options to consider for current and future projects within public health to maintain and enhance online services. Having performed this task, this research suggests that further research should take place in the areas of social media and internet use in Canada amongst immigrant populations.

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## CHAPTER TEN: Appendices

### Appendix One: Participant Consent Form

#### Potential for using social media to communicate health information to South Asian immigrants

You are invited to participate in a study entitled *Potential for using social media to communicate health information to South Asian immigrants* that is being conducted by Shelleza Hussain.

Shelleza is a graduate Student with the University of Victoria in the School of Public Administration at the University of Victoria and you may contact her if you have further questions at [Shelleza@uvic.ca](mailto:Shelleza@uvic.ca).

As a graduate student, I am required to conduct research as part of the requirements for a degree in the Masters of Community Development. It is being conducted under the supervision of Dr. Lynne Siemens. You may contact my supervisor at (250) 721-8069 or [siemensl@uvic.ca](mailto:siemensl@uvic.ca).

The purpose of this research project is to find out how to use social media to communicate family health information to South Asian immigrants in Peel Region. This research is important because the population of Peel is growing fast. There is little information on social media use in public health settings, especially with immigrant populations. The Region of Peel currently delivers family health information to families through the internet and social media. This research project will explore South Asian immigrants who are of child-bearing age (15-49), both men and women's use of social media and provide advice on how to use social media to provide family health information.

If you agree to voluntarily take part in this research, your participation will include interview questions which will take approximately 10-15 minutes after your clinic appointment or class with the Region of Peel or before/after your prenatal appointment at Dr. Suleman's office. Your medical services will not be affected if you decide not to participate in this study. The potential benefit of participating is it will provide an opportunity to think about your current internet and social media use. The potential benefit to society as the research will provide opportunities to help facilitate the use of social media in future public health projects, particularly involving immigrant populations such as the South Asian population. The research will also help increase knowledge about internet and social media use for health information in the immigrant South Asian population.

Your confidentiality of information collected will be protected. Any specific identifying information will be removed in final publications or changed to protect the participant's identity. The interview will be audio recorded. All records of participation will be kept private such that only I will have access to the information. In print form, it will be stored in a locked filing cabinet. In digital form, the information will be held in password protected files and only on computers controlled by me. Information will be destroyed 3 months after finishing this project, electronic information will be erased and paper copies will be destroyed. The anticipated results will be shared with others in a class project defense, the Region of Peel and University of Victoria's library website.

In addition, you may check the ethical approval of this study, or ask about any concerns you might have, by contacting the Human Research Ethics Office at the University of Victoria (250-472-4545 or [ethics@uvic.ca](mailto:ethics@uvic.ca)).

Your signature below indicates that you understand the above conditions of participation in this study, that you have had the opportunity to have your questions answered by the researchers, and that you consent to participate in this research project.

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*Name of Participant*

---

*Signature*

---

*Date*

***A copy of this consent will be left with you, and a copy will be taken by the researcher.***

Appendix Two: Recruitment Script- Will be asked at the end of their clinic appointment/class

The Region of Peel Public Health is working to better understand the use of social media, particularly how to use social media to communicate health information to South Asian immigrants. This study is being done on behalf of the Region of Peel Public Health. We are hoping that you would be able to tell us some information about your own use of the internet and social media to find family health information. If you decide not to participate, the healthcare services you receive will not be affected.

This will only take about 10 minutes.

Would you be interested in participating?

The information you share is very important to us.

Ask before Interview:

1. What is your ethnic background?
2. Were you born outside of Canada?

If no, disqualified from interview.

### **Appendix Three: Recruitment Script- Will be asked at the end of their clinic appointment**

The Region of Peel Public Health is working to better understand the use of social media, particularly how to use social media to communicate health information to South Asian immigrants. This study is being done for the Region of Peel Public Health. We are hoping that you would be able to tell us some information about your own use of the internet and social media to find family health information. If you decide not to participate, the health care services at Dr. Suleman's office will not be affected.

This will only take about 20 minutes.

Would you be interested in participating?

The information you share is very important to us.

Ask before Interview:

1. What is your ethnic background?

2. Were you born outside of Canada?

If no, disqualified from interview.

## Appendix Four: Interview Questions

3. How long have you lived in Canada?

- Less than 6 months
- 6 months – 1 year
- 1-3 years
- More than 5 years

4. What is your age?

- Less than 16- 19 years
- 20- 25 years
- 25- 30 years
- 30- 35 years
- Over 35 years

5. What is the highest amount of education that you completed?

- No school
- Elementary school / some elementary school
- High school/ some high school
- College or university

6. Which of the following best describes you?

- Parent
- Pregnant
- Planning to get pregnant

7. Do you have any children?

If yes..... How old is/are your children?

- Less than 6 months
- 6 months – 1 year
- 1 year-3 years
- 3 years- 6 years

over 6 years

8. Do you know how to use a computer?

9. Do you have access to a computer? /where do you use it?(*i.e. library*)

10. Do you have a computer at home? Where is computer located?

a) If yes, what do you use your computer for?

11. Do you use the internet?

a) If yes, where do you go to access the internet?

b) If you do not use the internet, what do you think are the reasons?

12. What is social media? (*i.e. Twitter, Facebook, blogs, Youtube*)

13. Do you use social media?

a) If yes, what social media sites do you use?

b) If you do not use social media, what do you think are the reasons?

c) What devices do you use to access social media? Internet? (*i.e. phone*)

d) What do you use these sites for?

14. What type of information do you access on the internet? (*prompt- health information? What type of health information?*)

15. Would you use social media to access health information for your family?

16. Where do you usually go for health information and/or advice?

17. How do you think the Region of Peel Public Health can improve services online for South Asian families? Is there anything you want to see to make it better?