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Mental Health of South Asian Youth in Peel Region, Toronto, Canada: Determinants, Coping Strategies, and Service Access

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ABSTRACT

Objectives: This qualitative study set out to understand the mental health challenges and service access barriers experienced by South Asian youth populations in the Peel Region of Toronto, Canada.

Setting: In-depth semi-structured interviews were carried out with South Asian youth living in Peel Region (Mississauga, Brampton, and Caledon), a suburb of Toronto, Canada, home to over 50% of Ontario's South Asian population.

Participants: South Asian youth (n = 10) engaged in thoughtful, candid dialogue about their mental health and service access barriers.

Primary and secondary outcome measures: Qualitative interview themes related to mental health stressors and mental health service access barriers experienced by youth living in Peel Region were assessed using thematic analysis.

Results: South Asian youth face many mental health stressors, from intergenerational and cultural conflict, academic pressure, relationship stress, financial stress, and family difficulties. These stressors can contribute to mental health challenges, such as depression and anxiety and drug use, with marijuana, alcohol, and cigarettes cited as the most popular substances. South Asian youth were only able to identify about a third (36%) of the mental health resources presented to them and did not feel well-informed about mental health resources available in their neighborhood.

Conclusions: They offered recommendations for improved youth support directed at parents, education system, South Asian community, and mental health system. Institutions and bodies at all levels of the society have a role to play in ensuring the mental health of South Asian youth.

Article Summary

Strengths and limitations of this study:

- 1.5 hour in-depth semi-structured interviews with youth allowed for rich qualitative data collection
- This is one of the first studies to focus on the mental health and service access issues experienced by South Asian youth living in Peel Region, home to over 50% of Ontario, Canada's South Asian population
- The stigmatized nature of mental illness made it difficult to recruit youth, and the sample was biased towards females, likely because of the different socialization of males and females in regards to sharing emotions and personal life histories

INTRODUCTION

Canada is home to an ever-increasing population of immigrants from all over the world. In recent years, Canada has witnessed large numbers of immigrants from Asia and Africa (Statistics Canada, 2014a). South Asian, Chinese, and Black populations accounted for 61.3 % of the racialized population in Canada in 2011, with South Asians making up the largest segment at 25% (Statistics Canada, 2014a). In Ontario, large populations of South Asian immigrants have made parts of the Greater Toronto Area (GTA) their home. Peel Region, part of the GTA just west of Ontario's capital, consists of the cities of Brampton, Mississauga and the town of Caledon. Peel Region is home to a large population of immigrants from South Asian countries such as India, Pakistan, Bangladesh, Sri Lanka, and Nepal and these numbers are increasing. Over half of all youth in Peel Region belong to racialized communities and South Asian populations (Ontario Trillium Foundation, 2010).

Youth are at critical stage of life for mental health and substance use intervention (McGorry, 2011). According to the National Institute of Mental Health (NIMH) (2005), 50% of cases of lifetime mental illness and addiction issues begin before the age of 14, and 75% of cases begin before the age of 24. Substance abuse and addiction are usually present in early adulthood (NIMH, 2005). Mental health care treatment and intervention that begins at an early age greatly increases a young person's chances of recovery (World Health Organization, 2004). As South Asian communities in Peel Region continue to grow, there is a need to address specific issues affecting the mental health and well-being of these communities, particularly for youth. Various acculturative stressors can accompany growing up in Canada as a new immigrant or the child of immigrants (Weber, 1996). South Asian youth face the task of balancing family expectations, cultural standards, and religious demands, all of which can cause internal and external conflict.

Anisef and Kilbride (2000) found that immigrant and newcomer youth face many stressors, including identity development, language barriers, as well as, tensions between balancing societal expectations and what is expected of them at home. Many of these youth can face challenging intergenerational conflict, competing between their own values and the values of the elders of the community. This can be the cause of stress and misunderstanding when trying to negotiate between the dominant Canadian culture and language with the various traditional South Asian culture and religious beliefs. There are also gender differences in the immigrant youth experience with males experiencing more difficulty in settings outside of the home and females facing the majority of conflict at home through disparities between societal and cultural values. It is important to also note the heterogeneity of different South Asian youth populations. For example, Canadian-born Muslim youth of Pakistani background face different stressors compared to Sikh youth who have migrated from India. Muslim immigrant youth may be at risk for maladaption in the host country because of discrimination and difficulties in cultural transition (Stuart, 2012). On the other hand, stressors such as peer relations, lack of attention from parents, and parental pressure to succeed have been identified for Punjabi Sikh youth (Gill, 2010). Each subpopulation of youth faces unique challenges to their mental health.

Research with South Asian adults in Canada has found lower prevalence rates of mental health service use (Tiwari & Wang, 2008). Gadalla (2010) found that almost one-third of South Asians diagnosed with Major Depressive Episode cited no access to available care. South Asian populations face many barriers including, language barriers, lack of culturally safe care through providers and agencies that cater to specific religious and cultural needs, lack of integration between services and agencies, transportation issues, as well as the lack of awareness and presence of stigma regarding mental health in the community. However, there is little to no

research available on the mental health service access barriers specifically affecting South Asian youth populations. In line with the Mental Health Strategy of Canada's (2012) goal to reduce disparities in risk factors and access to mental health services and strengthen the ability to meet the needs of diverse communities, further research is needed to understand the issues facing the growing South Asian youth population. Thus, this present study sought to obtain a deeper understanding of how South Asian youth populations in Peel Region define mental health, their mental health concerns, their level of knowledge of available mental health resources, and the major barriers they face when seeking care in order to inform the development of effective mental health services and resources in Peel Region, which are responsive to the needs of South Asian youth populations.

METHODS

Research Design and Research Questions

A qualitative study was designed as part of a larger multi-method study to answer the following research questions:

1) How do South Asian youth define "mental health" and "recovery"?
2) What are the major mental health concerns of South Asian youth?
3) What are the barriers to mental health service access for South Asian youth living in Peel Region?
4) Which mental health services are South Asian youth familiar with?
5) What recommendations do South Asian youth have for improving mental health service access in Peel Region?

Theoretical Frameworks

A Social Determinants of Health (SDOH) and intersectionality lens was applied to this

research project. Mikkonen & Raphael (2010) stress the importance of considering social factors impacting upon health and healthcare access such as socioeconomic status, education, and social exclusion, and ethnicity. Khanlou (2003) asserts the importance of contextualizing the individual within "intersectionalities of influence." Mental health and attitudes towards seeking care are complex phenomena, and this study cuts across many critical intersections such as migration, acculturation pressures, religion, and gender. Care was taken to develop a complete picture of each individual's context to understand the impact of cross-cutting and unique contextual factors upon attitudes towards seeking mental healthcare rather than oversimplify and further marginalize. Important contextual variables such as gender, social support, and socioeconomic status were included in this study to capture the complexities of participants' everyday lived experiences shape mental health status, perspectives about mental health, and coping and service access strategies.

Sampling

Purposive homogenous sampling or purposeful/non-random sampling from a single segment of the population (Creswell & Plano Clark, 2011) was carried out. South Asian youth (13-24 years old) living in Peel Region were recruited from March – July 2015. The recruitment flyer was posted in public areas of congregation (community centers, public libraries, universities, etc.) and through social media. In addition youth workers were encouraged to ask their youth clients to participate in the study. Youth proved to be much more difficult to recruit than anticipated likely because of the stigmatized nature of mental illness. Youth workers such as social workers, school counselors, religious leaders, psychiatrists, mental health therapists, etc. were approached as well to encourage their clients to participate. The majority of youth were recruited through social workers from various organizations. Full written consent was obtained

from the youth participants. Youth interviews began in May 2015. A total of 10 South Asian youth participated in one-on-one in-depth interviews. Interviews were conducted at locations convenient for the participant (e.g. home, public library, etc.) Research ethics were submitted and approved by the Centre for Addiction and Mental Health's Research Ethics Board.

Interviews

A semi-structured in-depth interview/focus group guide was developed to investigate the study's research questions. Some examples of questions were: "Can you name some sources of stress in your life?" and "What are some recurring conflicts you have with your parents/guardians?" Interviews were offered with the following choice of language options: English, Punjabi, Urdu, Hindi, and Bengali. All interviews were conducted in English except for one in Bengali. Youth participants were given a $15 gift card upon agreeing to partake in the study. The 1-hour interviews were audio-recorded using the "Easy Sound Recorder" app downloaded on a Windows Surface tablet. The mp3 files were translated and transcribed into English for analysis. The interview questions were not translated/back translated. Rather, the interviewer translated the one Bengali interview from the English guide as she conducted the interview. The interviewers were bilingual. The translation of the interview was done by the bilingual interviewer.

Rigor

Several strategies were employed to ensure rigor in this study (Guba & Lincoln, 1981; Guba & Lincoln, 1982; Lincoln & Guba, 1985). A sample size of 10 participants was collected to allow for rich data collection and data saturation. Former and current residents of Peel, youth living at home and those who were not, youth currently in school as well as those who had dropped out, and users and non-users of the mental health system, and youth who had

professionals recommend they seek mental health services but chose not to follow through were interviewed to ensure a wide range of youth perspectives could be captured. The recruitment poster had Punjabi, Hindi, and Urdu writing to attract non-English speaking South Asian youth. Interviews were offered in the major South Asian languages in Peel Region (Punjabi, Urdu, Hindi, and Bengali), and the interview team traveled to any location that was convenient for the participant. A self-reflexive journal and field notes were kept for reference and to contextualize the analysis of the data. Researcher positionality was noted and reflected upon during the interview and analysis as the researcher could be viewed as both an insider (South Asian immigrant to Canada, Peel Region resident) and outsider (adult, academic).

The first author was involved in the analysis of the transcripts. The transcripts and coding were reviewed by the three senior mentors and authors of this paper. Peer auditing took place, where the analysis of the transcripts was presented to some of the youth participants. The youth felt the analysis was successful in capturing their thoughts and concerns.

Lastly, member checking took place after the study, where findings were presented to youth (13 – 24 years old) from both South Asian and non-South Asian backgrounds living in the Greater Toronto Area in multiple community forums. All youth expressed that the findings presented resonated with their life experiences.

Data Analysis

The interview transcript text was analyzed using Braun and Clarke's (2006) guidelines on thematic analysis. Thematic analysis was used to identify, analyse and report the patterns within the interview transcripts and describe the findings in rich detail. The basic elements of interest in the transcribed interviews were preliminarily coded. This coding was largely conceptually/theory-driven (as opposed to data-driven) following the research questions. A

constant comparative technique and iterative refinement process was utilized throughout. Qualitative analysis was done manually, and codes were organized into sub-themes and overarching themes. Themes or patterns related to the five research questions outlined above were searched for in the interview transcripts. A thematic map was finalized, and detailed analyses were written for each theme.

RESULTS

Youth Sample Profile

The sample of youth participants ranged in age from 15 – 23 years old (mean: 20; SD: 2.44). Two young men and eight women were interviewed for a total of 10 participants (n = 10). Seven were current/former residents of Mississauga, while five participants were current/former residents of Brampton (two participants had lived in both cities). There were 3 Canadian-born and 7 immigrant participants. On average, the immigrant youth had lived in Canada for over 12 years (SD 5.56). A few had experienced multiple migrations. The youth represented the following countries in terms of South Asian ancestry: India, Pakistan, Bangladesh, Trinidad, and Guyana and represented the three major South Asian religions of Islam, Hinduism, and Sikhism. Seven youth reported accessing mental health services. This high number is likely explained due to the majority of the referrals by social workers. Three youth also mentioned having a family member with mental illness. Youth reported mental health consultation with their family doctor, general practitioner, psychiatrist, psychologist, counselor, and social worker. Sample sizes for the majority of characteristics have been omitted to ensure confidentiality of youth participants. The long interviews with the 10 participants allowed for data saturation to be achieved.

Major Themes

Definitions of "Mental Health" and "Recovery"

Participants had varying definitions of mental health that encompassed psychological, cognitive, social, environmental, and behavioral aspects of mental health. Positive mental health was often described as being well-rounded and having balance in one's life. "It's like your ability to process information, your emotions, and like how you respond to situations… Positive mental health?…involved in extra curriculars…go out with friends, volunteer, so just involved in the community." (Youth #6). "I feel that mental health is affected by your surroundings, the environment you are in." (Youth #4). "…a kid [with positive mental health] is perfectly all rounded. Who drinks in his limit, nice, smart, genuine, everything." (Youth #9).

Many also referenced the connection between mental and physical health. One youth described it in terms of brain health, "Mental health…You know how there's physical health - keeping fit. So I guess exercising your brain - keeping it healthy." (Youth #7). About half the youth spoke of mental health negatively and solely in terms illness rather than health. Mental health was described as "mentally problems" (Youth #8) and "physical sickness" (Youth #3).

Youth envisioned a person who had recovered as someone who recognized mental health challenges as an issue in their life, knew how to recognize stressors and triggers, and knew effective methods to deal with it.

"For them to be dealing with it positively and recovered from the depression is for them to do things practically that would make them feel good even though they are still very depressed...So it is their mindset and how they choose to interact instead of closing everyone out and just not dealing with it and reverting to those behaviors, maybe smoking or drinking or anything of that

sort. They do everything in moderation. – Youth #10

The youth also felt that recovery needed to be self-motivated. "…you have to tell yourself you want to recover. You can't just take other people's word for it." (Youth #9). Youth also felt that social support was important for the process. However, many felt that support, especially from family, was lacking because of stigma. The resulting social isolation can further undermine recovery.

"Often the recovery for some, mental health issues, they often come with the support of your family. They are usually your number one resource, especially for South Asian people, because you live with your family. Usually, you can't openly talk about your recovery with your parents because then they will know that oh, you're going through a mental health crisis? Why didn't you tell us first? Again the blame goes back on you. You can't go to the mosque. You can't go to the imam [Muslim religious leader]. You can't tell them hey, I am going through this issue. You can't tell them why. You can't tell anyone. The recovery too, is a very lonely process… I feel if you don't have support in the recovery process it's not going to work. Cuz recovery, the whole point is so that you can be well adjusted again. It's just not going to happen by yourself. So that's why like there is no support in that sense." – Youth #7

Mental Health Concerns

Acculturation Stress and Intergenerational Conflict

Conflicts with parents were the major mental health stressor raised by South Asian youth. Overall, the underlying root for these conflicts was related to migration and resettlement and how

this creates a dynamic where two very different cultures (Western/Canadian and South Asian) have to co-exist under the same roof. "…our parents came here because they wanted to give us a good education. A lot of parents aren't understanding that when you come here, you also have to adapt to the environment. You don't just move for the money. You have to adapt to everything else that comes along with it." (Youth #3). The youth spoke about having to be "cross-culture kid[s]" with a "dual identity" (Youth #1). The parents and youth found themselves in a constant struggle to find balance and mutual understanding. All too often, because of the power differential, the youth felt they had to be the yielding party because their parents refused to adapt. "They don't have the tools. Nobody tells you how to transition when you move to a country with a different culture. And then the kids have to bear the brunt of it…I had to bear the brunt inside me for so many years." (Youth #1). For some, the rules set were not up for discussion and strict obedience was expected, which left youth feeling resentful. "My mom wants me to do everything from her point of view, her way. Not my way, not anyone else's way, her way." (Youth #8).

Academic Pressure from Parents

One of the major arenas for this intergenerational family tension was in terms of academic pressure to succeed at school and have a good career. Youth also spoke about this pressure extending to expectations of perfection at home. "Like studies, study, study! And to pray, you have to be religious and studious, you can't really go out. It's kind of like you are home-grown. Basically home life. That is basically my tradition. And chores. You have so many chores to do. Lots of responsibility." (Youth #6). Youth felt that parents rigidly conformed to the South Asian community's expectations and norms of what "success" should look like rather than consider their child's feelings. "This comes down to what career choices South Asian people have, we

usually lawyer, medicine, engineer, there's not a lot." (Youth #7). South Asian youth felt they were put under extreme pressure to succeed and felt particularly frustrated that no matter what they did, their parents still constantly compared them to some "model student," where they always failed in comparison.

"Everything I did for my parents was to make them happy. But everything they did, their expectations were up here. They compared me to doctors and engineers when I was in grade 4. It was stressful. I guess it is family image…They force us to, it's like 99% or you don't come home…And then they compare you to other people's kids. They tell you, you know that kid studies 20 hours a day." (Youth #9).

Comparisons and disappointment also came from the youth, who compared their peers' way of life and couldn't understand the reason for the disparity. "It was strict [at home]. Then you go out to the real world and you ask other kids, other brown kids, I tell them, oh so your parents don't do this. And they say no, they are pretty chill. And then I am just wondering why is that?... I guess that's the culture barrier." (Youth #9).

Relationship Stress

Marriage, dating, and opposite gender interactions was another battleground for parents and youth. Again, youth compared themselves to their peers. "And traditionally in my culture, you don't date. But I want to date. It must be one of those things you see around you a lot, so you want it. It is so popularized. So that is the way you want to do things." (Youth #1). South Asian parents had expectations that their children would follow traditional norms of finding a spouse for marriage. "My parents would prefer if we met and we go to each other's houses, something like that, with family there." (Youth #1). Any kind of opposite gender interaction was frowned

upon, particularly for female youth. "Even still my mom's mentality is like that. Don't talk to guys. Don't go close to guys. Stay away from guys." (Youth #8). Youth had a difficult time understanding how they were supposed to get married if opposite gender interaction was not possible and many wanted the opportunity to date and explore. The pressure to get married early was reported largely by female youth. "And my mom's like, I want you to be married soon! I tell them first of all, I am struggling with mental health issues and second of all, I haven't met anyone. Where is this magical husband going to come from? [laughs] Just kind of these expectations for gender…" (Youth #1). This lack of guidance on how to navigate opposite gender interactions led some youth to hide relationships from their parents, feel deeply conflicted regarding relationships, and even caused some to fall into depression when the relationships did not work out. "I want to find someone and I just came to the conclusion, I felt really, having a romantic relationship is important to me, and I understand it is also not good." (Youth #1). "I had a crush on him for 3 years in high school. So as soon as it ended, the summer began, I was miserable. Really really miserable…I tried to get help…Why was it just written off as love? I was really like, my sadness about that was really big. But like, I was isolating myself from other things. So other things were falling apart too." (Youth #1).

Financial Stress

A number of youth faced financial pressure, particularly for youth growing up in single- parent households and youth who were living on their own. "I think financial reason is the one main reason that my mom [a single parent] had her breakdown because she was worried about us being alone, with no one to care of, I think financial was also the one reason that sometimes like I get really depressed." (Youth #3). "I have worked a lot. Since I started living on my own at 17…it's like bills after bills after bills. A lot of the time I run out of money so it's just like I just have to

like stretch you know, stretch it out. But financial problems, yeah, it's always a problem." (Youth #9).

Divorce

In addition, family issues such as parents' divorce were difficult for youth to cope with. Many of the youth took on financial and parental responsibilities to help out at home. "I am very attached to my mom, anything she goes through, I automatically react. So if she's happy, I am happy, if she's not, then I am definitely not. So for me that was a very stressful time… My mom is a single mom and has been for a while, so I have seen her struggle." (Youth #3).

Mental Illness in the Family

Very interestingly, two youth had mothers who had untreated depression, particularly postpartum depression. The youth felt their mothers not dealing with their mental health issues perpetuated the stigma against mental illness. The lack of role modeling of healthy help-seeking behavior from their mothers impacted the youth's mental health and made it more difficult for them to seek help for their own mental health issues.

. "Because I realized later she had postpartum depression and then suffered more depression after I was born and then because it all gets ignored within my family, it all just carries on. And then 10 years later she was just battling general depression. Then my sister was born, then it was postpartum depression. It was just a cycle." (Youth #10). "My mom also dealt with postpartum depression. And so that helped her understand how it felt when I first told her I was depressed." (Youth #1).

Mental Health, Addictions, and Drug Use

When it came to mental health and addictions, South Asian youth cited alcohol, tobacco, and

marijuana as the drugs of choice. Youth cited various reasons for drug and alcohol use, including its use as a coping method to deal with family problems, as a practice youth partake in because they are young and feel immune to its negative consequences, and as a means of rebelling against South Asian tradition.

"All the guys were all doing drugs and we, we are maybe not drinking because we're Muslim but some of them even drank. And I think that the reason that this exists because okay so, it's like, I feel a lot of South Asian parents are going through divorce, going through issues at home, which is automatically impacting the children and in their way to cope with it is drugs, like violence, or gangs. And I feel it might be not such a big issue in the other cultures is because the kids' parents understand that yeah, their issues are also impacting the kids but it also because they are ok with drinking or that stuff, but also they are understanding that if they are going through an issue they will put their kids in counseling sessions or whatnot." (Youth #3). "Alcohol is strong. Yes. A lot with the Punjabi people…They drink a lot of alcohol including my friends. They kind of do it with the excuse, we're young, why not? I am not sure if they do have an alcohol problem…Ok, my friends that I know like all the brown kids I know… yes, marijuana is number one." (Youth #9).

"I have heard of more like South Asian youth more are drinking now. Because just like non South Asian youth, they think it's a way to forget problems and forget about stuff…South Asian youth sometimes feel like oh this is the only freedom they have sometimes. When they are hanging out, they are kind of like, the social issue, oh yeah, like drink you're Canadian and stuff like that. Even though back home we never drank because of our culture, but here you're

rebelling against your culture." (Youth #7).

Barriers to Mental Health Service Access

Youth reported both systemic-level and family and community-level barriers to mental health service access. At the mental health system level, youth viewed the lack of South Asian mental health professionals in the field, lack of representation of people from of South Asian background in mental health promotion, long wait times, prohibitive fees for services not covered by OHIP (e.g. psychologist, psychotherapist, counselors), lack of specialized professionals, and the dominance of adherence to Western models of psychiatry as barriers to care. Youth felt the excessive focus treating mental health through psychotropic medication and lack of consideration of how religion and other social factors affect mental health made Western models of mental health care difficult to accept.

"…Psychiatrists who deal especially with youth. The thing is that there is not many of them…Also, the lack South Asian mental health professionals…The Western approach to mental health is very very different from the South Asian approach to mental health. One is not better. It's just very different…There is a huge emphasis on meds…Also big difference between Western and South Asian mental health, is that there is more emphasis on religion in South Asian mental health I guess, treatment…In Western health it is very secular and very like you need to do things on your own." (Youth #7).

"One is that I am not targeted for suffering from mental health. I am really not targeted for anything except racism… I feel like some people see a poster and feel like they are not, they don't see themselves in it and feel like they are not included. They will think like oh, only white

people suffer from mental health, I am fine, they might think something like that." (Youth #1).

The youth felt that the education system in Ontario also posed a barrier to mental health service access because of the lack of mental health education incorporated into the curriculum. Youth felt that if they had learned about the importance of mental health, the warning signs, and about available resources from a young age, they would be more open to the idea of seeking care. "They only teach it or recognize physical unhealthy things in your body. Like if you are feeling sick or you feel nauseous or tummy is not feeling well…But there is never anything about if you feel like crying, if you feel very sad, if you feel very angry all the time." (Youth #10). Youth were aware of guidance counselors in schools but also felt that the guidance counselors were not readily accessible or did not effectively address the mental health needs of students. "In high school too there was no mental health awareness, surprisingly, as far as I knew. You actually had to go to the counselor and book and appointment, which by the way, got cancelled several times. You had to go to the counselor and they tell you resources, but even then they don't properly tell you. They don't educate you." (Youth #7).

University students felt the restrictions on the number of times a student could have an appointment with the counselor on campus limited the efficacy of care and ability to develop a relationship with the mental health professional. "You're allowed to see them I think only 5-6 times in the school term…appointments are really really spaced out…So it did help, but only to an extent. The rest of it you need to do by yourself." (Youth #7). "There is a problem with waiting times. So like you make an appointment and then the next time you want to make an appointment…you'll be lucky if you get it in the next month…therapy with my counselor is

sparse…I want something regular. Or and just more, close, more frequent." (Youth #1).

At the family and community level, mental health stigma arose again and again as a major barrier to seeking mental health care. "Sometimes the family feels that if we take him to the hospital, it will help him, but everybody else will know that our child is like this. Family feels like we should not tell anyone that our family has these problems. Because if people know, in the future to get him married, it is going to be difficult…Fear of consequences." (Youth #8).

"I think it's ignorance, like, What? We can't have these issues. *You* have these issues…We are the perfect culture and you're white, or you're not South Asian, so you guys have the issues. You guys are the ones that do the drugs…NO there are more South Asian kids who are into drugs than other people. So I think it's ignorance, arrogance, and a lack of knowledge, a lack of enthusiasm to seek knowledge or to understand their environment [from South Asian parents and the older generation]." (Youth #3).

Mental Health Service Knowledge

When asked to rate their level of knowledge of mental health services and resources on a scale of 1-5, on average youth felt they did not feel confident in their knowledge and rated themselves at a 2.65 (SD 1.08). The youth were shown a series of information sheets on 13 local resources for the general public (Centre for Addiction and Mental Health (CAMH), Canadian Mental Health Association of Peel (CMHA), Tangerine Walk-in Counseling), youth (Good2Talk helpline, Kids Help Phone, Peel Children's Centre, Nexus Youth Services, Rapport Youth Services, InUrHead website), and ethnospecific services (India Rainbow, Punjabi Community Health Services (PCHS), 315 NISA Muslim Women's Helpline, Naseeha Muslim Youth Helpline). These resources were chosen based on the recommendations of the

33 service providers and professionals interviewed for the study. The youth were asked if they were familiar with the service or had ever come across any ads or logos. On average, youth were familiar with 4.7 (SD 2.58) or roughly a third (36%) of the mental health services or resources presented to them (Figure 1). Considering that many of the youth in the sample were service users themselves, this lack of familiarity with mental health resources suggests that youth who may be struggling but not actively seeking mental health services are at even more of a disadvantage in terms of knowledge of mental health resources.

Nine out of ten youth were familiar with Kids Help Phone, while none had seen or heard of Punjabi Community Health Services or InUrHead. The majority were familiar with Kids Help Phone because of their extensive ad campaigns within schools, public spaces, and on commercial goods (e.g. juice boxes). The youth were able to recall some mental health resources through TV ads. Service users felt that services that took an open, non- judgmental approach were the best. They particularly appreciated programs where youth could interact, for example play pool together and have the chance to organically, over time, develop enough trust to share their experiences. They also appreciated programs where youth were taken on field trips like camping, where they could bond with their peers and youth workers.

[insert Figure 1]

Recommendations

Youth voiced their recommendations for improved mental health services for youth in their community, directed to the school, university, mental health system, and South Asian community.

South Asian youth felt that mental health awareness and education need to be incorporated into the Ontario curriculum beginning from elementary school. "More the curriculum in school the earlier on…whereas things such as healthy relationships that affect mental health more than physical health…There is hardly ever anything though from a young age." (Youth #10). In addition, it was recommended that guidance counselors in schools take on a more proactive role when it comes to mental health, rather than only helping students with academic matters. This will go a long way in normalizing help-seeking for mental health issues from a young age. None of the youth had seen a South Asian guidance counselor at their school and felt increasing the number of staff from racialized backgrounds (teachers and guidance counselors) would also help break down barriers.

"Most of the teachers are Caucasian. They are not as diverse as the students. Yeah, why don't they hire South Asians or Asians? You really don't see, or even African, or black community, I don't see any of them. No. Not seeing any change… Guidance counsellors are mainly used for academics, even though they are there for emotional guidance" (Youth #6).

Youth felt the university did a better job at promoting mental health than grade school; however, they still felt more could be done. Mental health counseling services on campus, while very convenient, did not address the demands of the youth adequately. Availability of professionals, number of appointments allowed in a given semester, and the variety of specialized services offered need to be increased. "Just more people on hand to work with students and also dealing with lots of different therapies." (Youth #1). Counselors should also be offered training so they can deal effectively with the mental health needs of South Asian

youth. “They should be given special training. Like counselors too. Special training to give resources for the minority groups. Like LGBTQ a hotline. A Sikh student hotline.” (Youth #1).

At the mental health system level, youth recommended increasing free or low cost services with professionals specifically trained to deal with youth issues, offering services in convenient community locations (shopping plaza, community centre, place of worship, etc.), increasing the number of South Asian mental health professionals, and increasing representation of South Asian youth in mental health promotion material. “I love for there to have posters with a hijabi girl and other South Asian people regarding mental health, you know they are like, you are feeling…those posters, go see a doctor. If you are having these symptoms. Obviously, just generally, South Asian representation needs to increase.” (Youth #1). Youth also wanted to see youth mental health programs offered that did not necessarily use the term “mental health,” for example sports, science, or arts-based programs that fostered social connections and built resilience. Many felt that their parents would be less reluctant to send their kids to extra-curricular activities that were not obviously related to mental health. Lastly, youth felt that South Asian beliefs needed to be respected and incorporated within models of mental health care.

Youth had a number of recommendations for how parents could promote better intergenerational relationships and understanding in post-migration contexts to deal with acculturation pressures. The majority of youth felt that South Asian parents did little to foster the emotional health or build the resilience of their children, although it was viewed as the parents’ responsibility to teach their children about mental health. “It’s the mother and father’s

responsibility to teach their kids about it, teach their kids about mental health. Teach them all the things, it is their responsibility to do." (Youth #8). Youth felt that many of the parenting techniques, such as constantly comparing their kids to other children and extreme academic pressure, were in fact debilitating to their mental health. [When asked if parents fostered emotional health] "Noooo, not even close! Otherwise it was the opposite…They just told it to me in my face. Yeah you're a failure, you're this you're that. Look at this kid, look at that kid. She's done this, she does that." (Youth #9).

"[Parents] always just say, they only say, you have to be big. You have to have good job, you have to have this…They always push you to higher level but they never think that the child cannot take it…But they never, I see white people say to their child, you did a good job, you got an A+. In our South Asian culture, if you get a B+, they will say, why didn't you get an A+? Why didn't you focus? It doesn't help. You need to be appreciative of how much your child is trying. Not all kids are the same." (Youth #8).

In addition, youth felt their parents' ignorance and denial of mental health issues also presented a major stumbling block. Participants spoke about how their parents did not express their emotions in a healthy or clear manner (particularly fathers) and viewed help-seeking with disdain. "I feel like my dad, is just like, the way, traditional thinking of Pakistani men. Right? Unfortunately. Like it has nothing to do with oh, I will miss you or anything. [i.e. he does not express how much he loves his children.]" (Youth #1). If parents could be role models and proactive in caring for their own mental health, in addition to the mental health of their children, it would help youth seek care earlier. As outlined earlier, a number of the youth had

mothers who had not sought help for their depression. "You don't talk about emotions, you don't' deal with mental health, it doesn't exist. You just need to get a job, go to school, do what you need to do, pay your bills, buy your house. All of that. You just ignore mental health." (Youth #10).

Youth also felt their parents' obsession with social standing and community repercussions needed to change, especially when it became detrimental to the health of the child. "We need to teach parents that don't look at what other people think. You know? Don't think about what Sharma's family is going to think about it or this family is going to think about it. Do things for your kids." (Youth #8).

Youth recommended that prominent leaders within the South Asian community like religious leaders, politicians, celebrities, etc. take a more active role in facilitating mental health awareness and combatting mental health stigma within the parental generation.

"Honestly, because I know a lot of our South Asian [people]…only listen to elders and religious aspects in their life. Try to get them on board and have this information be shared. Pushing this information more…Whenever they are doing whatever celebration or regular attendances to prayers and stuff like do it, try to find a way to fit it in there…They will only listen to the pandit[Hindu religious leader] and no one else." (Youth #10).

"You know how mental health awareness should be placed in mosques, cuz I feel like…even if you are very new to Canada, you will know where your mosque is. That is usually the first

resources for many people. It feels familiar to back home. So I feel like mental health awareness in mosques or any religious place, gurdwaras [Sikh place of worship] and stuff, it would be very helpful. And it would be effective. Umm, and also like usually when there's any ailments in the South Asian household they usually go to religious, that's what their families do. And if religious leaders are not educated on that, it's going to be a problem…you know during Friday khutbahs [sermons] and stuff, they could do a khutbah on mental health…You have such a big audience…You should take advantage of that." (Youth #7).

Thematic Map

Participants envisioned a multi-level society working together to ensure South Asian youth mental health and had recommendations for parents, the education system, South Asian community, and mental health system (Figure 2 and 3). Participants recommended that parents take on a foundational role in building the emotional health and resilience of their children. If parents could model positive mental health and encourage help-seeking, this would help to normalize the process and reduce stigma. Youth also envisioned the education system taking on a fundamental role, particularly in teaching children from an early age about mental health. Participants also felt that the school and university both had responsibilities in terms of mental health service provision and had specific recommendations on how they could improve in that respect. Youth felt that prominent leaders within the South Asian community had an important responsibility to champion positive mental health and help to reduce stigma in the parental generation. Places of worship and cultural centers were also well situated to provide mental health awareness and education. Lastly, youth expressed their recommendations on how the mental health system in Peel Region could better serve the needs of South Asian youth in terms of mental health services and resources offered, mental health promotion, and programming.

[Insert Figure 2 and 3]

DISCUSSION

This qualitative study provides youth perspectives to understand the mental health challenges and service access barriers experienced by South Asian youth living in Peel Region. The in-depth one-hour interviews gleaned rich information and allowed youth participants to speak candidly about the issues they were facing. The interviews point to the multiplicity of perspectives and stress the importance of considering the heterogeneity of youth populations.

Conflicts with parents continually emerged as a major mental health stressor for South Asian youth, with migration and resettlement as the underlying cause of the intergenerational and culture clash between parents and youth. Conflicts regarding career path, dating and relationships, and the young person's desire to adopt "Western" or "Canadian" practices have been documented as major sources of conflict within South Asian families (Almeida, 1996; Segal, 1991). Youth usually acculturate faster than their parents, which can cause conflict in terms of language, communication, and the transmission of culture and identity (Anisef et al. 2001; Bernhard et al. 1996). Finding themselves in a new country and unable to effectively cope with the rapid fire change, parents often interpret any behavior that veers from their expectations as a type of cultural/religious betrayal or rebellion and their typical knee-jerk response is to renew efforts to force their children to conform (Sharma, 2000; Wakil et al., 1981). The youth in this study were aware of the push-and-pull within this struggle, but felt that the power dynamics usually played in favor of the parents. More open dialogue, perhaps with

role-playing, where both youth and parents can effectively express their positions would greatly help in mitigating these conflicts. The Public Health Agency of Canada promotes the "Nobody's Perfect" parenting program for parents with children up to the age of 5 particularly in newcomer neighborhoods(Public Health Agency of Canada, 2015). A similarly tailored, government-sponsored, proven program to promote more effective communication between newcomer parents and adolescents is needed. Much of this work is happening within the community but funding always remains an issue. There is potential for government and public health agencies to partner with community, religious, and cultural institutions to deliver such programs. Many of the youth participants expressed how ill-equipped their parents are for life in Canada and parenting in a new cultural context. If parents could be armed with the tools needed to effectively foster their children's emotional health, it could go a long way in safeguarding youth mental health.

The connection between first generation immigrant mothers, postpartum depression (PPD) and how that impacted upon their children's mental health was very interesting. Immigrant women in Canada have a two-fold risk of developing PPD and often contend with exacerbating factors such as the stressors of migration and resettlement, low socioeconomic status, lack of social support, and the difficulties of parenting in a new country (Kingston et al., 2011; Lanes, Kuk & Tamim, 2011; MechakraTahiri, Zunzunegui & Seguin, 2007; Myers et al., 2013; Urquia et al., 2012). In addition, conceptions of PPD may differ for South Asian newcomer mothers in Canada (Meiyappan & Lohfeld, 2013). It is estimated that about 1,100 immigrant women in Peel Region experience PPD every year and face significant barriers to mental health service access(Bodolai, Celmins & Viloria-Tan, 2014). The youth in this study spoke about the far-

reaching impact of their mothers' untreated depression. The depression often made it difficult for mothers to parent effectively, and this in turn, affected the youth's mental health. PPD can impact parent-child attachment, cognitive, and behavioral development (Paediatrics & Child Health, 2004), and adolescents of depressed parents are at a higher risk for developing the affective or mood disorders themselves (Klein, Depue & Slater, 1985; Lewinsohn, 1993). This area warrants further research and the development of culturally safe postpartum depression and pre/post-natal programs specifically geared towards immigrant South Asian mothers is needed to ensure South Asian youth mental health. Intergenerational mental health interventions may be particularly helpful in this regard. For example, the 8-week parenting program SITICAF (Strengthening of Intergenerational/Intercultural Ties in Immigrant Chinese American Families) has been found to be successful in fostering a greater sense of parenting control and increasing the child's self-esteem (Ying, 1999).

The youth called for culturally safe models of mental health care that respected South Asian beliefs and practices. This recommendation is in line with the Mental Health Commission of Canada's (MHCC) Mental Health Strategy (Mental Health Commission of Canada, 2012; MHCC, 2015). The Journey to Promote Mental Health culturally sensitivity training program(MHCC, 2012) could be adapted to South Asian populations and offered in areas of high demographic concentration like Peel Region. South Asian youth also felt that beyond "cultural sensitivity training" capacity needs to be built in order to increase the number of South Asian and other racialized mental health professionals. In addition, the Commission's Multicultural Mental Health Resource Centre (MHCC, 2012) needs to move beyond simple translation of mental health information to cultural adaptation of resource information and increased representation of racialized people within mental health promotion material.

Limitations

This study's sample size was biased towards mental health service users since many of the referrals came from social workers. Even after months of recruitment, the researchers found it difficult to recruit South Asian youth participants, most likely because of the stigma surrounding mental health and illness. The average level of knowledge of mental health resources for this sample is likely much higher than the general youth population as a result. The bias towards service users made female recruitment for the study more likely (World Health Organization, 2015). A South Asian male interviewer was specifically included on the interview team in anticipation of this issue but did not prove to be effective in attracting male youth to participate. The social workers tried to encourage their male clients to participate but found that young men were not interested in sharing their views. This may be due to the different socialization of male and female youth, where males are taught from a young age not to be as open and expressive about their emotions (Lewis, 1978). Different methods of research inquiry need to be explored that can more effectively engage male youth. However, both male and female participants offered the views of their male peers, for example, many female participants shared the opinions of their male friends and brothers, which contributed to a much more robust male perspective in this study.

Conclusions

Peel Region is uniquely situated with a high South Asian concentration. South Asian youth mental health needs to be prioritized and real work needs to begin to bridge gaps in understanding and create partnerships between mainstream mental health services and cultural, religious, and community centers that are already taking part in de-stigmatizing efforts and service provision. South Asian youth in Peel Region engaged in thoughtful, candid dialogue.

Their perspectives on the mental health stressors and the service access barriers they face have important implications and need to be considered for mental health service delivery and program planning in Peel Region. Programs specifically designed to help South Asian youth deal with intergenerational conflict, migration stress, academic pressure, relationship stress, financial worries, and family difficulties are needed. Recommendations for increasing the number South Asian mental health professionals and service capacity need to be considered, amongst others. Mental health information and promotion needs to change to effectively engage South Asian populations. The education system also has a role to play with starting mental health education earlier and having guidance counselors take a more proactive mental health promotion role. South Asian youth felt that at the university-level, the services offered simply did not keep up with the demand of the service needs of students. Lastly, the South Asian community and parents also have a crucial role to play. South Asian youth called for community leaders to take on the role of mental health champions, responsible for spreading awareness about mental health issues within the community and de-stigmatizing help-seeking. Parents have a foundational role to play in building the emotional health and fostering the resilience of their children. Government and community parenting programs could help in this regard. Taken together, considering the recommendations put forth could go a long way in ensuring the mental health of South Asian youth populations living in Peel Region.

Footnotes

Contributors

FI: Conception and design, analysis and interpretation of data, critical writing and revision of the article, AM: writing of abstract section of article, MH, YS, KM: critical review and mentorship of study process and final approval of article.

Competing interests

None.

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Data sharing statement

If researchers are interested in obtaining samples of recruitment posters, translated consent forms, and the interview guide used for this study, please email the corresponding author.

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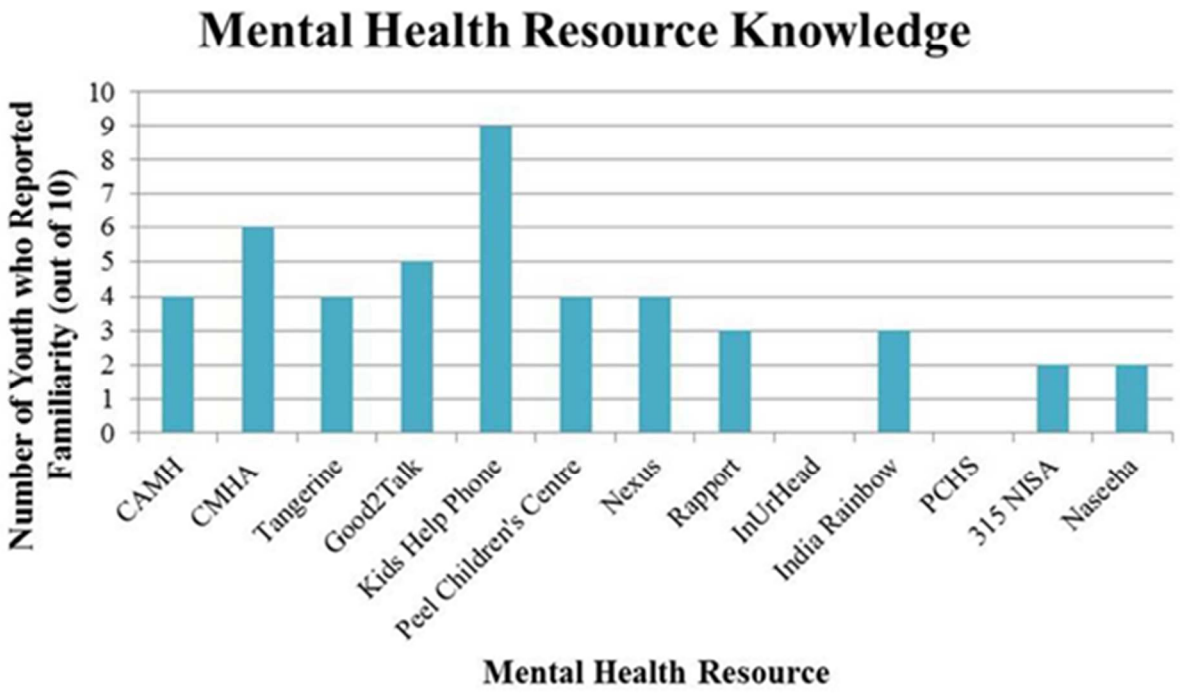

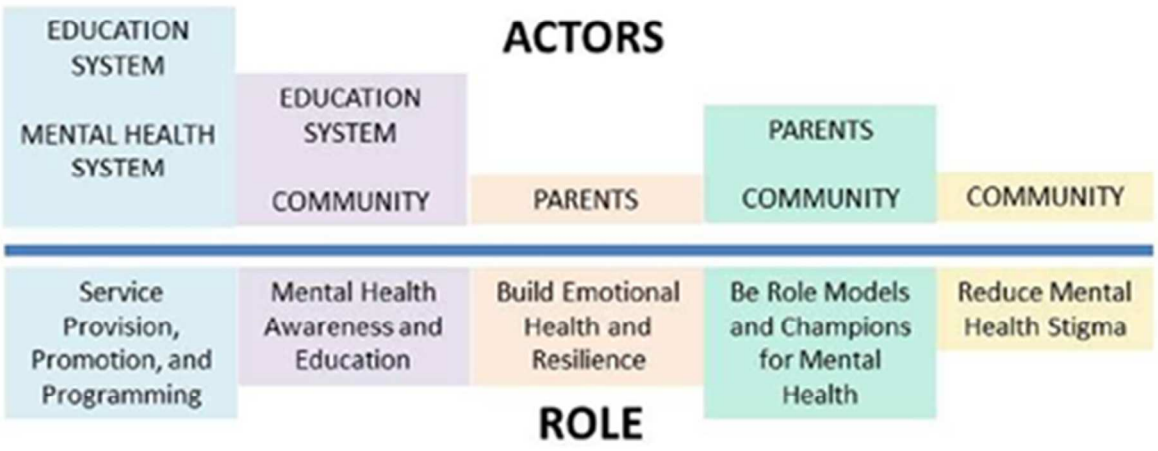

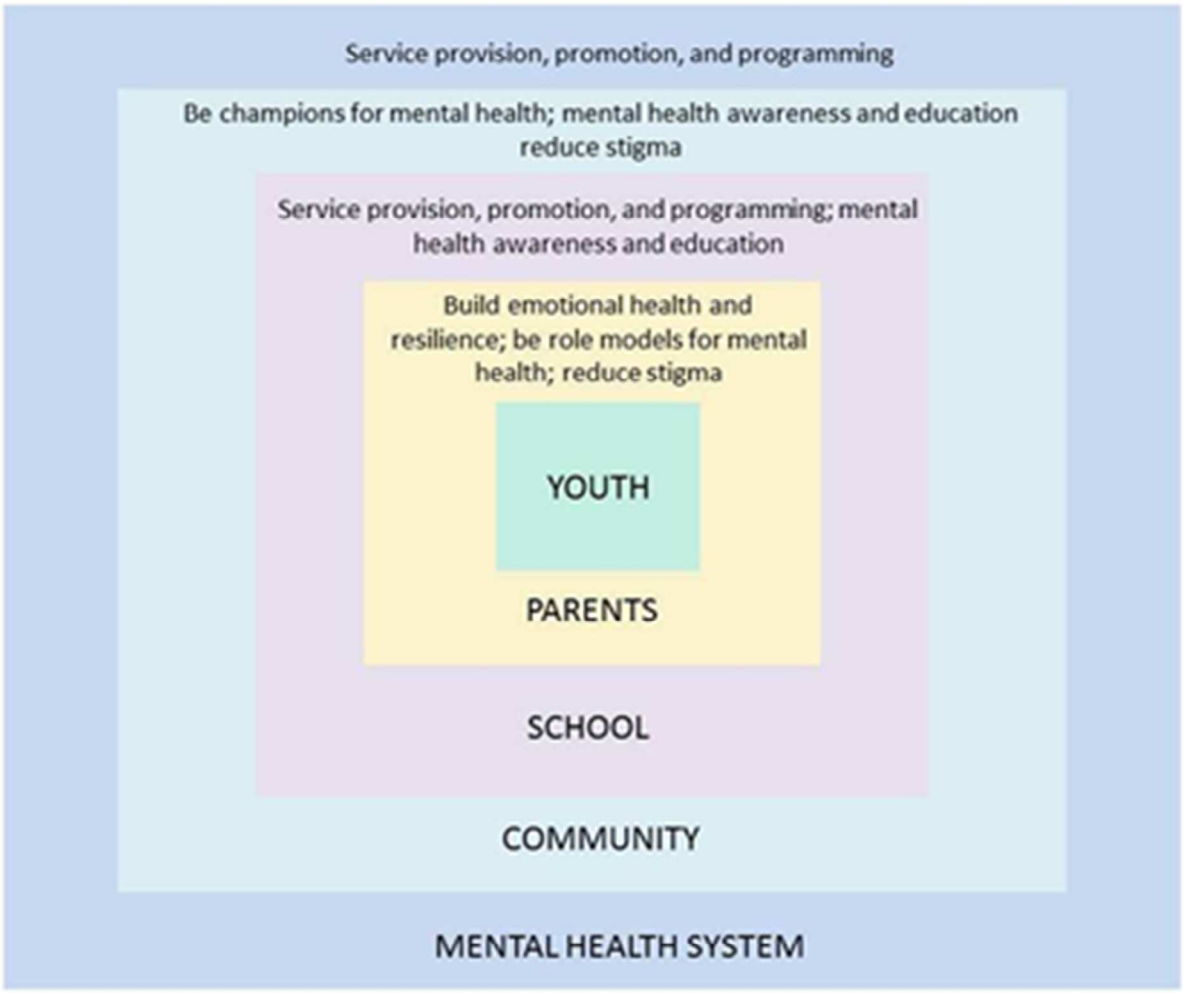

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RESEARCH ARTICLE Open Access

South Asian populations in Canada: migration and mental health

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Abstract

Background: South Asian populations are the largest visible minority group in Canada; however, there is very little information on the mental health of these populations. The objective of this study was to determine the prevalence rates and characteristics of mental health outcomes for South Asian first-generation immigrant and second-generation Canadian-born populations.

Methods: The Canadian Community Health Survey (CCHS) 2011 was used to calculate the estimated prevalence rates of the following mental health outcomes: mood disorders, anxiety disorders, fair-poor self-perceived mental health status, and extremely stressful life stress. The characteristics associated with these four mental health outcomes were determined through multivariate logistic regression analysis of merged CCHS 2007–2011 data.

Results: South Asian Canadian-born (3.5%, 95% CI 3.4-3.6%) and South Asian immigrant populations (3.5%, 95% CI 3.5-3.5%) did not vary significantly in estimated prevalence rates of mood disorders. However, South Asian immigrants experienced higher estimated prevalence rates of diagnosed anxiety disorders (3.4%, 95% CI 3.4-3.5 vs. 1.1%, 95% CI 1.1-1.1%) and self-reported extremely stressful life stress (2.6%, 95% CI 2.6-2.7% vs. 2.4%, 95% CI 2.3-2.4%) compared to their Canadian-born counterparts. Lastly, South Asian Canadian-born populations had a higher estimated prevalence rate of poor-fair self-perceived mental health status (4.4%, 95% CI 4.3-4.5%) compared to their immigrant counterparts (3.4%, 95% CI 3.3-3.4%). Different profiles of mental health determinants emerged for South Asian Canadian-born and immigrant populations. Female gender, having no children under the age of 12 in the household, food insecurity, poor-fair self-rated health status, being a current smoker, immigrating to Canada before adulthood, and taking the CCHS survey in either English or French was associated with greater risk of negative mental health outcomes for South Asian immigrant populations, while not being currently employed, having a regular medical doctor, and inactive physical activity level were associated with greater risk for South Asian Canadian-born populations.

Conclusions: Mental health outreach programs need to be cognizant of the differences in prevalence rates and characteristics of mental health outcomes for South Asian immigrant and Canadian-born populations to better tailor mental health services to be responsive to the unique mental health needs of South Asian populations in Canada.

Keywords: Mental health, Mental illness, South Asian, Canada, Immigrant, Canadian-born, First generation immigrant, Second generation immigrant, Migration, Social determinants of mental health

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Background

South Asian populations in Canada

This study's objective was to determine the prevalence rates and characteristics associated with mental health outcomes for South Asian populations in Canada. A multiplicity of definitions of "South Asian" exists in Canada. Definitions are based on ancestral origins, culture, language, religion, and geopolitical boundaries, to name a few. Statistics Canada's Canadian Community Health Survey (CCHS) defines South Asian as those who self-identify having ancestors who are "South Asian (e.g. East Indian, Pakistani, Sri Lankan)" [1]. According to the 2006 Census [2], over 1.26 million people from South Asian populations called Canada home (4.0% of the total population), making up the largest visible minority group in Canada [3]. The majority of those reporting South Asian origin in the 2001 Census were foreign-born (68%), while only about a third were Canadian-born (32%) [3]. The Census defines "South Asian" as those who self-identify as having "ancestry that originates in South Asia, including those reporting their origin as at least one of Bangladeshi, Bengali, East Indian, Goan, Gujarati, Kashmiri, Pakistani, Punjabi, Nepali, Sinhalese, Sri Lankan, Tamil, or South Asian" [4]. About three quarters of the foreign-born South Asian population were recent immigrants, arriving in Canada in the last 20 years [5]. In 2011, over a quarter of a million people immigrated to Canada as permanent residents [6]. About 15% emigrated from South Asia: 24,965 from India (10%), 6,073 from Pakistan (2%), 3,104 from Sri Lanka (1%), 2,449 from Bangladesh (1%), and 1,249 from Nepal (0.5%) [6]. It is projected that by 2031, 55% of Canada's foreign-born population will report origins in Asia [7].

Mental health of South Asian populations in Canada

One in five Canadians will experience a mental illness or addiction during their lifetime [8]. The economic cost of mental illnesses in Canada is staggering. It was estimated that the direct and indirect costs of mental illness was at least $51 billion in 2003 [9]. Mental health is a particular area of concern for South Asian populations in Canada. Health sector workers and members of South Asian communities in Toronto, Ontario identified mental health as a highly stigmatized and silenced health issue within South Asian populations [10]. South Asian individuals with major depressive episode reported the highest proportion (48%) of unmet mental healthcare need and highest proportion (33%) of perception of barriers to the availability of mental healthcare compared to eight other ethnic groupings in Canada [11]. Few studies have examined prevalence rates of depression in South Asian populations, and inconsistency exists within the literature. While analyses of the National Population Health Survey (NPHS) found lower rates of depressive symptoms and major depression (prevalence rates not reported) [12,13], a study of older adult South Asians in Calgary found more than double the prevalence rate of mild depression (21%) compared to the national average (10%) [14]. Hierarchical regression analysis revealed that being female, poorer self-perceived health, lower physical health, and a higher level of agreement with South Asian cultural values increased the likelihood of depression for older adult South Asians in Calgary, Alberta [15].

Migration as a determinant of mental health

Health is determined by a broad set of factors beyond health care and lifestyle choices [15]. "Social" factors such as income, social status, gender, and social support networks also impact upon health [15]. Both premigration (circumstances leading to migration, i.e. in the cases of war trauma for refugees) and postmigration factors (loss of social status, social support, separation from family, difficulty integrating into a new culture, and lack of employment) can be sources of stress for newcomers (Beiser & Edwards, [16]). Migration and culture are important social determinants of mental health [16,17]. In an open-ended survey, where South Asian populations in Toronto were asked to write in their responses to a questionnaire, migration and the culture clash between the parental first generation of immigrants and second generation of South Asian youth were identified as risk factors for mental health and sources of stress, anxiety, depression, and identity loss [10]. Moreover, migration stress, low income and loss of social status, poor social networks, low education and literacy, unemployment and difficult working conditions, language barriers, and older age were all outlined as risk factors of mental health for immigrants (and additionally for refugee, ethnocultural, and racialized groups) [17].

Furthermore, there is evidence for a short-lived "healthy immigrant effect" for mental health, where immigrants converge to national-born levels of lower mental health status within a decade of living in Canada [18-22] In addition, there is also evidence for an "age at immigration effect" for mental health, where those who immigrated before the age of 18 years old have a higher risk of depression [13].

The majority of immigrants arrive in Canada during their working adult life between the ages of 25–64 years old [23]. Age is also an important determinant of mental health in addition to migration, with the risk of mental health issues varying over the life course [24]. While there are published reports on the prevalence rates and factors associated with mental health of South Asian older adults (aged 55 and older) [14], to our knowledge we have no information on other age groupings.

To date, there are no prevalence statistics for mental health outcomes of South Asian populations across Canada (other than older adult populations). Moreover, most of the research conducted so far on South Asian and immigrant populations has focused solely on the mental health outcomes of depression or self-reported mental health status, neglecting anxiety disorders (the most common mental illness) and self-reported life stress (a particularly salient self-reported mental health measure for immigrants considering the stressors of migration and resettlement and potentially less stigmatized). It is important to examine the risk factors and protective factors of mental health outcomes for South Asian populations through quantitative epidemiological analysis, to add onto research findings to date that have been mostly qualitative in nature. In addition, South Asian populations self-identified the generational culture clash between parents and youth and migration as significant mental health stressors [10]; however, no research in Canada has compared the prevalence and determinants of mental health for first-generation immigrant and second-generation Canadian-born South Asian populations.

Thus, the objective of this study is to determine the estimated prevalence rates, risk factors, and protective factors of mental health outcomes (mood disorders, anxiety disorders, self-perceived mental health, and self-perceived life stress) among the adult South Asian first-generation immigrant and second-generation Canadian-born populations aged 25–64 years old in Canada and assess if the prevalence and determinants are different for these two migration generations.

Methods

Data source - Canadian Community Health Survey (CCHS)

Statistics Canada conducts the annual Canadian Community Health Survey (CCHS) to collect health-related data from January to December of each year, surveying individuals over the age of 12 in all provinces and territories, excluding those residing on Indian Reserves, institutions, remote regions, and full-time members of the Canadian Forces. In order to administer surveys to a variety of households, the CCHS samples households by area framing, telephone list framing, and random digit dialing. Response to the survey is voluntary with a response rate of about 69% [25].

Sample population

This study examined data on South Asian populations across five CCHS cycles from 2007–2011 (unweighted n = 3918; weighted n = 5,962,903). Those between the ages of 25–64 years old (the working adult population) were selected for analysis as this age group comprises of the majority of the immigrant population in Canada. Individuals who responded yes to either of the two following questions were selected as South Asian: "To which ethnic or cultural groups did your ancestors belong? South Asian?" and "You may belong to one or more racial or cultural groups on the following list: South Asian?" The South Asian sample was stratified by immigrant status. South Asian immigrants were selected based on the derived variable Immigration Flag: yes, immigrant; not an immigrant, while the Canadian-born South Asian sample was selected using the survey question: In what country were you born? Canada. (yes, no).

Outcome variables

Four different mental health outcomes were analyzed (both self-reported clinically diagnosed and self-perceived variables). The presence of mood disorders (depression, bipolar disorder, mania or dysthymia) and anxiety disorders (phobia, obsessive- compulsive disorder or a panic disorder) were assessed based on questions where participants were asked if they had such disorders diagnosed by a health professional (yes, no). Two self-perceived measures of mental health were also analyzed. Self-perceived mental health was examined using the question, "In general, would you say your mental health is excellent, very good, good, fair, or poor?" The outcome was recategorized into a dichotomous variable: self-perceived mental health fair-poor (yes (fair-poor), no (good-excellent)) [19,21]. Lastly, self-perceived life stress was assessed using the survey question, "Thinking about the amount of stress in your life, would you say that most days are: not at all stressful, not very stressful, a bit stressful, quite a bit stressful, or extremely stressful?" This variable was also recategorized into a dichotomous outcome: self-perceived life stress extremely stressful (yes (quite a bit-extremely), no (not at all-a bit)) [26].

Covariate variables

The following sociodemographic variables were analyzed as potential determinants of mental health outcomes: gender (male, female) and age (25–44, 45–64 years old). The following social support variables were analyzed: marital status (married/common-law, not married), sense of belonging to community (very strong-somewhat strong, somewhat weak-very weak), and the number of children under the age of 12 within the household (none, 1 or more). Indicators of socioeconomic status (SES) were also included: highest level of education (highschool graduate or less, some post-secondary or more), income adequacy (low income household, not low income household) [27,28], food security (food secure, food insecure status), and working status last week (employed, not employed/unable to find job/permanent unable). Lastly, health and behavioral factors were also examined: self-rated health (good-excellent, poor-fair), chronic conditions (having cardiac disease, hypertension, diabetes, chronic obstructive

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pulmonary disorder, or arthritis) (none, 1 or more), having a regular medical doctor (yes, no), physical activity (active, inactive), and current smoking status (yes, no). For the South Asian immigrant sample, three additional variables of acculturation were examined: years since immigration (0–9 years, 10+ years), age at time of immigration (≤17 years, 18+ years), and language of CCHS interview (English or French, non-official language).

Data analysis

The estimated prevalence rates (percentages) of the four mental health outcomes were calculated for South Asian immigrant and South Asian Canadian-born populations using the CCHS 2011. Merged data files create an artificial population, which is not the best for calculating descriptive statistics [29] and therefore the unmerged and most recent CCHS data was used (CCHS 2011). CCHS sample weights were applied, estimated prevalence rates were bootstrapped, and 95% confidence intervals (95% CI's) were reported. CCHS weights are calculated based on how many people each person surveyed represents in the population [30]. Following a similar method to the one used to determine the CCHS sampling design, these weights are then post-stratified according to demographic data [30]. Sample weights are applied to survey data in order to make inferences to the Canadian population [29]. Since the CCHS follows a complicated multistage survey design, the re-sampling method involved in bootstrapping ensures that the best calculation of the variance between estimates is made [27]. Sample weights are re-calculated for simple random samples taken repeatedly from the CCHS dataset repeatedly [30]. These weights are then post-stratified for each stratum [30]. This process is repeated 500 times and results in the calculation of 500 bootstrapped weights for each cycle of the CCHS [30]. Statistics Canada has developed programming to carry out these calculations. The application of bootstrapped weights to the inferential statistics was done in consultation with analysts at Statistics Canada.

To determine the factors associated with the mental health outcome measures, data was merged across five separate CCHS cycles 2007–2011 (merged data can be used for modeling). Four multivariate logistic regression models were run separately for the South Asian immigrant population and South Asian Canadian-born population examining the four dichotomous mental health outcomes. Significance was set at $p < 0.05$. Odds ratios (OR's) and 95% confidence intervals (CI's) were reported. CCHS sample weights were applied and the results of the regression modeling were bootstrapped. Preliminary data analysis was carried out using IBM SPSS version 21, while the application of sample weights and bootstrapping of results from the descriptive and multivariate regression analysis were conducted using STATA version 12. Data analysis was conducted at the Statistics Canada York University Research Data Centre and approved for release.

Results

Sample characteristics

The sample characteristics of South Asian Canadian-born (unweighted n = 97; weighted n = 265,056) and immigrant populations (unweighted n = 682; weighted n = 997,706) in the CCHS 2011 are displayed in Table 1. In the CCHS 2011, 2.18% of the Canadian population surveyed between the ages of 25–64 years old belonged to South Asian populations. Analysis of sample demographics revealed that in 2011, the South Asian Canadian-born population was significantly younger, less likely to be married/common-law, more likely to have no children, less educated, less likely to experience food insecurity, less likely to have chronic conditions, and more physically active compared to their South Asian immigrant counterparts. Many of these differences may be due to the age difference between the South Asian Canadian-born and immigrant populations.

Estimated prevalence rates of mental health outcomes

In 2011, 3.48% (95% CI 3.41-3.55%) of South Asian Canadian-born and 3.49% (95% CI 3.46-3.53%) of South Asian immigrant populations reported a diagnosed mood disorder (there was no significant difference). However, South Asian Canadian-born and South Asian immigrant samples varied significantly on all other mental health outcome measures. South Asian immigrant populations had a higher estimated prevalence rate of anxiety disorders (3.44%; 95% CI 3.41-3.48%) compared to South Asian Canadian-born samples (1.09%; 85% CI 1.05-1.13%). South Asian immigrant populations also reported significantly higher estimated prevalence rates of extremely stressful life stress (2.63%; 95% CI 2.60-2.66%) than their South Asian immigrant counterparts (2.35%; 95% CI 2.30-2.41%). In contrast, South Asian Canadian-born populations had a higher estimated prevalence rate of fair-poor self-reported mental health status (4.39%; 95% CI 4.31-4.47%) compared to South Asian immigrant populations (3.44%; 95% CI 3.41-3.48%). Estimated prevalence rates of the four mental health outcomes for South Asian Canadian-born and immigrant populations are displayed in Table 2.

Characteristics of mental health outcomes

Multivariate logistic regression modeling

In order to increase power, data from CCHS cycles 2007–2011 were merged for multivariate logistic regression analysis. In the CCHS 2007–2011, 2.12% of the Canadian population surveyed between the ages of 25–64 years old belonged to South Asian populations. Multivariate logistic regression modeling revealed different factors associated with mental outcomes for South

Table 1 Sample characteristics of South Asian Canadian-born and South Asian immigrant populations in Canada aged 25–64 years old, CCHS 2011

		South Asian Canadian-born weighted n (%) 265,056 (21.0%)	South Asian Immigrant weighted n (%) 997,706 (79.0%)	p-value
SOCIODEMOGRAPHIC				
Gender	Male	147,173 (55.5)	530,978 (53.2)	0.480
	Female	117,884 (44.5)	466,728 (46.8)	
Age	25-40 years old	96,597 (89.7)	530,978 (53.2)	0.0001
	41-64 years old	11,090 (10.3)	466,728 (46.8)	
SOCIAL SUPPORT				
Marital status	Married/common-law	75,850 (28.9)	774,264 (77.7)	0.0001
	Not married	186,888 (71.1)	222,858 (22.4)	
Sense of belonging to community	Strong	197,034 (76.0)	720,613 (74.8)	0.693
	Weak	62,332 (24.0)	242,235 (25.2)	
Number of children in household under age of 12	None	190,258 (71.8)	610,579 (61.2)	0.0001
	1 or more	74,799 (28.2)	387,127 (38.8)	
SES				
Highest level of education	HS grad or less	96,109 (37.2)	267,390 (27.3)	0.002
	Some post-sec or more	162,056 (62.8)	711,560 (72.7)	
Income adequacy	Low income household	119,744 (45.2)	332,091 (33.3)	0.0001
	Income adequate	145,313 (54.8)	665,615 (66.7)	
Food security	Food secure	247,441 (96.3)	896,756 (92.6)	0.008
	Food insecure	9,569 (3.7)	72,021 (7.4)	
Working status last week	Employed	160,215 (69.0)	580,261 (61.6)	0.027
	Not employed	72,117 (31.0)	362,495 (38.5)	
HEALTH & BEHAVIOR				
Self-rated health status	Poor-fair	235,978 (89.2)	905,151 (91.0)	0.354
	Good-excellent	28,680 (10.8)	89,311 (9.0)	
Chronic conditions	No conditions	248,349 (93.7)	733,716 (73.5)	0.0001
	1 or more conditions	10,708 (6.3)	263,990 (26.5)	
Regular medical doctor	Yes	228,199 (86.1)	835,919 (83.9)	0.351
	No	36,858 (13.9)	159,975 (16.1)	
Physical activity level	Active	167,736 (64.4)	431,643 (44.5)	0.0001
	Inactive	92,793 (35.6)	539,461 (55.6)	
Current smoking status	Yes	20,791 (7.9)	75,326 (10.2)	0.495
	No	242,929 (92.1)	663,559 (89.8)	
ACCULTURATION				
Years since immigration	0-9 years	—	378,199 (37.9)	—
	10+ years	—	619,507 (62.1)	—
Age at time of immigration	≤ 17 years	—	205,764 (20.8)	—
	18+ years	—	783,294 (79.2)	—
Language of CCHS interview	English or French	—	972,073 (97.4)	—
	Not English or French	—	25,633 (2.6)	—

Asian Canadian-born (unweighted n = 523; weighted n = 1,223,141) and South Asian immigrant populations (unweighted n = 3395; weighted n = 4,739,762) (Table 3). Due to small sample size, food security status and self-rated health status were omitted from the South Asian Canadian-born models.

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Table 2 Estimated prevalence of mental health outcomes for South Asian Canadian-born and South Asian immigrant populations in Canada aged 25–64 years old, CCHS 2011

	Mood disorder % (95% CI)	Anxiety disorder % (95% CI)	Poor-fair self-perceived mental health % (95% CI)	Extremely stressful self-reported life stress % (95% CI)
South Asian Canadian-born	3.5 (3.4-3.6)	1.1 (1.1-1.1)	4.4 (4.3-4.5)	2.4 (2.3-2.4)
South Asian Immigrant	3.5 (3.5-3.5)	3.4 (3.4-3.5)	3.4 (3.3-3.4)	2.6 (2.6-2.7)
p-value	0.771	0.0001*	0.0001*	0.0001*

*Indicates significant difference in estimated prevalence rates between South Asian Canadian-born and South Asian immigrant sample.

Mood disorders

For Canadian-born South Asians, those who were not employed (OR 2.8; 95% CI 1.0-7.6) and those who were physical inactive (OR 3.6; 95% CI 1.5-8.7) were at a significantly increased odds of reporting a diagnosed mood disorder. In contrast, for immigrant South Asians, females (OR 2.8; 95% CI 1.5-5.1), those experiencing food insecurity (OR 2.7; 95% CI 1.5-5.0), those with self-rated fair-poor health status (OR 4.5, 95% CI 2.4-8.4), current smokers (OR 2.6; 95% CI 1.2-5.6), and those who immigrated at the age of 17 or younger (OR 2.6; 95% CI 1.2-5.3) were at a significantly higher risk of mood disorders.

Anxiety disorders

Not having a regular medical doctor (OR 0.2; 95% CI 0.04-0.7) was the only significant factor associated with decreased odds of anxiety disorders for Canadian-born South Asian populations. While fair-poor self-rated health status (OR 5.3; 95% CI 2.7-10.4) and immigrating at the age of 17 or younger (OR 3.0; 95% CI 1.4-6.5) were the significant factors associated with increased odds of anxiety disorders for South Asian immigrant populations.

Poor-fair self-perceived mental health status

For South Asian Canadian-born populations, not being employed (OR 3.2; 95% CI 1.1-9.3) and being physically inactive (OR 3.2; 95% CI 1.3-8.1) were significantly associated with a greater risk of reporting fair-poor mental health status. On the other hand, for South Asian immigrant populations, having one or more children in the household under the age of 12 (OR 0.8, 95% CI 0.2-2.9) was significantly associated with a decreased odds of reporting fair-poor mental health status, while experiencing food insecurity (OR 4.3; 95% CI 2.4-7.9), poor-fair self-rated health status (OR 8.7; 95% CI 5.0-15.4), and being a current smoker (OR 3.0; 95% CI 1.6-5.9) were significant factors associated with a higher odds of self-reporting poor-fair mental health status.

Extremely stressful self-reported life stress

Similar to anxiety disorders, not having a regular medical doctor was the only significant factor associated with a decreased odds reporting extremely stressful life stress for Canadian-born South Asian populations. In contrast, experiencing food insecurity (OR 5.8; 95% CI 2.7-12.7), self-rating health status as poor-fair (OR 2.9; 95% CI 1.5-5.7), reporting one or more chronic conditions (OR 2.2; 95% CI 1.3-3.7) and immigrating at the age of 17 or younger (OR 3.6; 95% CI 1.9-6.6) were significantly associated with higher odds of self-reporting extremely stressful life stress levels for South Asian immigrant populations. Moreover, carrying out the CCHS survey in a non-official language was significantly associated with a decreased odds (OR 0.2; 95% CI 0.03-1.7) of reporting extremely stressful life stress for South Asian immigrant populations.

Discussion

This study found a varying pattern of mental health for South Asian immigrant population compared to Canadian-born populations. South Asian immigrants experience higher estimated prevalence rates of diagnosed anxiety disorders and self-reported extremely stressful life stress. Moreover, South Asian Canadian-born and South Asian immigrant populations do not vary significantly in estimated prevalence rates of mood disorders. Lastly, South Asian Canadian-born populations have a higher estimated prevalence rate of poor-fair self-perceived mental health status compared to their immigrant counterparts.

Socioeconomic status, acculturative, and health and behavioral factors emerged as important social determinants of mental health outcomes in South Asian populations. Working status, physical activity level, and having a regular medical doctor were the three recurring factors associated with mental health outcomes for South Asian Canadian-born populations. In contrast, South Asian immigrant populations had much greater variety in the risk factors and protective factors for mental health outcomes. Food security status, self-rated health status, and age at time of immigration were the recurring factors associated with mental health outcomes for South Asian immigrant populations.

This study examined the mental health of South Asian populations in Canada at the intersection of immigrant status and found important differences in the estimated prevalence rates and determinants of mental health outcomes. The findings stress the importance of not painting the mental health of all South Asian populations with the same brush. Caution needs to be exercised in treating South Asian populations in Canada as a monolithic entity;

Table 3 Characteristics of mental health outcomes of mental health outcomes for the adult (25–64 years old) South Asian Canadian-born and South Asian immigrant populations, CCHS 2007-2011

	Presence of a mood disorder		Presence of an anxiety disorder	
	Canadian-born OR (95% CI)	Immigrant OR (95% CI)	Canadian-born OR (95% CI)	Immigrant OR (95% CI)
SOCIO DEMO GRAPHIC				
Gender	0.7 (0.2-2.1)	**2.8 (1.5-5.1)**	1.9 (0.6-5.8)	1.4 (0.7-2.9)
Male (ref)				
Female				
Age	1.1 (0.3-4.6)	1.7 (0.9-3.1)	1.1 (0.2-7.3)	1.4 (0.7-2.9)
25-40				
41-64 (ref)				
SOCIAL SUPPORT				
Marital status	1.0 (0.2-4.4)	0.5 (0.2-1.2)	1.9 (0.4-10.2)	0.8 (0.3-2.3)
Married/common-law (ref)				
Not married				
Sense of belonging to community	0.9 (0.3-2.5)	1.1 (0.6-2.0)	1.2 (0.4-4.0)	1.0 (0.5-2.1)
Strong (ref)				
Weak				
Number of children in household under age of 12	1.5 (0.5-5.0)	0.6 (0.3-1.1)	1.4 (0.3-6.0)	1.0 (0.4-2.6)
None (ref)				
1 or more				
SOCIOECONOMIC STATUS				
Highest level of education	0.4 (0.09-2.1)	0.8 (0.5-1.5)	1.8 (0.5-5.9)	0.6 (0.3-1.5)
≤ HS grad				
≥ some post-sec (ref)				
Income adequacy	3.6 (0.8-15.5)	1.4 (0.8-2.3)	2.6 (0.7-10.0)	1.3 (0.6-2.6)
Low income household				
Income adequate (ref)				
Food security	#	**2.7(1.5-5.0)**	#	1.8(0.7-4.5)
Food insecure				
Food secure (ref)				
Working status last week	**2.8 (1.0-7.6)**	1.3 (0.7-2.3)	1.5 (0.6-4.3)	1.9 (0.9-3.9)
Employed (ref)				
Not employed				
HEALTH & BEHAVIOR				
Self-rated health status	#	**4.5 (2.4-8.4)**	#	**5.3 (2.7-10.4)**
Good-excellent (ref)				
Poor-Fair				
Presence of chronic conditions	1.9 (0.6-6.3)	1.7 (0.9-3.1)	1.8 (0.4-8.9)	1.4 (0.7-2.9)
No conditions (ref)				
1 or more conditions				
Having a regular medical doctor	2.1 (0.4-9.7)	0.4 (0.09-1.5)	**0.2 (0.04-0.7)**	0.5 (0.1-1.5)
Yes (ref)				
No				

Table 3 Characteristics of mental health outcomes of mental health outcomes for the adult (25–64 years old) South Asian Canadian-born and South Asian immigrant populations, CCHS 2007-2011 *(Continued)*

Physical activity level	**3.6 (1.5-8.7)**	1.0 (0.6-1.8)	2.7 (0.9-7.9)	1.4 (0.7-2.8)
Active (ref)				
Inactive				
Current smoking status	1.2 (0.4-3.6)	**2.6 (1.2-5.6)**	3.4 (0.9-12.4)	2.2 (1.0-5.2)
Yes				
No (ref)				
ACCULTURATION				
Length of stay in Canada	—	0.8 (0.4-1.4)	—	1.0 (0.4-2.4)
0-9 years (ref)				
10+ years				
Age at time of immigration	—	**2.6 (1.2-5.3)**	—	**3.0 (1.4-6.5)**
≤ 17 years old				
18+ years old (ref)				
Language of CCHS interview	—	0.6 (0.1-2.2)	—	0.6 (0.1-3.5)
English or French (ref)				
Not English or French				
	Poor-fair self- perceived mental health status		**Extremely stressful self-reported life stress**	
	Canadian-born OR (95% CI)	**Immigrant OR (95% CI)**	**Canadian-born OR (95% CI)**	**Immigrant OR (95% CI)**
SOCIODEMOGRAPHIC				
Gender	0.6 (0.2-1.7)	1.1 (0.6-1.9)	1.3 (0.31-5.9)	0.6 (0.4-1.1)
Male (ref)				
Female				
Age				
25-40				
41-64 (ref)	1.3 (0.3-5.2)	1.4 (0.7-2.8)	1.5 (0.4-6.8)	0.7 (0.3-1.2)
SOCIAL SUPPORT				
Marital status	0.8 (0.2-3.4)	0.5 (0.2-1.3)	0.3 (0.04-1.7)	0.6 (0.2-1.5)
Married/common-law (ref)				
Not married				
Sense of belonging to community	1.1 (0.4-3.0)	1.6 (0.9-2.6)	1.7 (0.3-8.6)	1.0 (0.6-1.8)
Strong (ref)				
Weak				
Number of children in household under age of 12	2.1 (0.6-7.1)	**0.5 (0.3-0.9)**	0.8 (0.2-2.8)	1.1 (0.6-2.0)
None (ref)				
1 or more				
SOCIOECONOMIC STATUS				
Highest level of education	0.3 (0.07-1.6)	1.0 (0.6-1.7)	2.3 (0.6-8.6)	1.4 (0.8-2.5)
≤ HS grad				
≥ some post-sec (ref)				
Income adequacy	2.6 (0.5-12.7)	1.2 (0.7-2.1)	1.5 (0.5-3.9)	0.7 (0.4-1.6)
Low income household				
Income adequate (ref)				

Table 3 Characteristics of mental health outcomes of mental health outcomes for the adult (25–64 years old) South Asian Canadian-born and South Asian immigrant populations, CCHS 2007-2011 *(Continued)*

Food security	#	**4.3 (2.4-7.9)**	#	**5.8 (2.7-12.7)**
Food insecure				
Food secure (ref)				
Working status last week	**3.2 (1.1-9.3)**	1.1 (0.7-1.9)	1.5 (0.5-5.0)	0.9 (0.5-1.8)
Employed (ref)				
Not employed				
HEALTH & BEHAVIOR				
Self-rated health status	#	**8.7 (5.0-15.4)**	#	**2.9 (1.5-5.7)**
Good-excellent (ref)				
Poor-Fair				
Presence of chronic conditions				
No conditions (ref)	1.8 (0.6-5.5)	2.0 (1.0-3.8)	0.6 (0.2-2.2)	**2.2 (1.3-3.7)**
1 or more conditions				
Having a regular medical doctor	2.3 (0.6-9.5)	0.5 (0.2-1.5)	**0.2 (0.03-0.9)**	1.2 (0.6-2.3)
Yes (ref)				
No				
Physical activity level	**3.2 (1.3-8.1)**	1.3 (0.7-2.3)	1.6 (0.5-5.2)	1.3 (0.7-2.4)
Active (ref)				
Inactive				
Current smoking status	0.6 (0.2-1.7)	**3.0 (1.6-5.9)**	0.9 (0.2-3.6)	1.8 (0.8-4.1)
Yes				
No (ref)				
ACCULTURATION				
Length of stay in Canada	—	1.0 (0.6-1.8)	—	1.2 (0.7-2.1)
0-9 years (ref)				
10+ years				
Age at time of immigration	—	1.9 (0.9-3.8)	—	**3.6 (1.9-6.6)**
≤ 17 years old				
18+ years old (ref)				
Language of CCHS interview	—	1.8 (0.5-6.0)	—	**0.2 (0.03-1.7)**
English or French (ref)				
Not English or French				

#Omitted from model due to low sample size.
Boldface indicates significant difference between Canadian-born and immigrant groups ($p < 0.05$, 95% CI does not cross 1).

rather we need to view them as multiple populations with unique mental health needs. The heterogeneity of South Asian populations cannot be underemphasized. While this study focused on South Asian ethnicity at the intersection of immigrant status, South Asian populations differ along many other axes such as religion, country of origin, and language. Future studies need to examine South Asian mental health in specific sub-populations (e.g. Tamil-speaking Sri Lankan Hindu populations). An intersectional approach to research [31,32] can help ensure that these important contextual factors are taken into consideration.

The differences in estimated prevalence rates of mental health outcomes for South Asian populations highlight the importance of tailoring mental health outreach to specific South Asian sub-populations in Canada. Our findings suggest that anxiety disorders and life stress may be particular areas of concern for South Asian immigrant populations. The estimated prevalence rates of anxiety disorders and extremely stressful life stress may be related to the stressors of migration and acculturating to a new land [10,17]. Programs to deal with anxiety and stress management may be targeted toward South Asian

immigrant populations as they had significantly higher prevalence rates of anxiety disorders and high life stress compared to their Canadian-born counterparts. Taking the findings from the multivariate logistic regression analysis, stress management programs for South Asian immigrants could potentially target those living in food insecurity, those with one or more chronic condition, and those who immigrated to Canada before reaching adulthood. Patterson et al. [33] found the highest prevalence rates and risk of mood disorders, anxiety disorders and substance abuse amongst those who had immigrated to Canada before the age of 6 even after adjusting for age, sex, region of origin, marital status, urbanicity, household income, and household size. Mental health programming needs to concentrate on those who migrate to Canada in early childhood as they are at a greater risk for mental health issues. In Guzder, Yohannes, and Zelkowitz's [34] study comparing Canadian-born and immigrant parents of children with mental health issues in Montreal, immigrant parents were more likely to report barriers in accessing mental healthcare, including the dearth of family doctors and presence of language barriers. Kirmayer et al.'s [35] concluded that cultural or language barriers may be related to the lower prevalence rates of mental health service utilization for immigrants compared to Canadian-born populations in Montreal. Targeted mental health promotion is needed to address these gaps. This study found important differences in the South Asian immigrant and South Asian Canadian-born population aged 25–64 years old, which may be related to mental health outcomes. South Asian Canadian-born populations had significantly higher proportions of those who were younger (25–44 years old), not married, had no children, less educated (high school education or less), experiencing income inadequacy, food insecurity, and not currently employed. On the other hand, South Asian Canadian-born populations had higher proportions of those who reported no chronic conditions and were more physically active. Many of these factors may be related to the younger age of South Asian Canadian-born populations. However, the SES indicators that emerged may have important implications. Food insecurity was the most significant factor associated with extremely stressful life stress for South Asian immigrants. Increased economic assistance from the government for immigrants may help to alleviate this. Moreover, the SES indicator of working status emerged as an important factors related to mental health for South Asian Canadian-born populations. Further research into the impact of SES on mental health for South Asian sub-populations is warranted.

This study found that there was no gender difference in mood disorder risk for Canadian-born South Asians but females were found to have a greater risk of mood disorder than males amongst South Asian immigrant populations. Golding and Burnam [36] carried out stepwise multivariate regression modeling of depression in US-born and immigrant Mexican populations and found that after controlling for social integration, the gender difference in levels of depressive symptomology disappeared. It may be that for the Canadian-born South Asian population the inclusion of other sociodemographic and health factors in the model led to the disappearance of the association between gender and mood disorders, but this did not occur for the South Asian immigrant sample. Further research into this interesting finding, perhaps with stepwise regression analysis, would be helpful.

Self-perceived fair-poor mental health status was the only mental health outcome in which Canadian-born South Asians fared worse than their immigrant counterparts. Despite having similar rates of mood disorders and lower rates of anxiety disorders and extremely stressful life stress, Canadian-born South Asians still perceived their mental health more negatively than South Asian immigrant populations. Further investigation into additional mental health outcomes and reasons for this negative self-perception need to be carried out.

Different characteristics associated with mental health outcomes also emerged in this study for South Asian immigrant and Canadian-born populations. To ensure the delivery of focused and tailored mental health services, the different protective factors and risk factors for South Asian sub-populations need to be considered. For example, female immigrant South Asians were at almost a three-fold greater risk of mood disorders in comparison to their male counterparts (this sex difference where women are at a greater risk of mood disorders has been established in the literature cross-nationally [37]). Mental healthcare professionals and outreach programs for mood disorders can use this information to target female South Asian immigrant populations knowing that this is a particularly at-risk population. Mood disorder mental health programs tailored to South Asian immigrant populations could target women, those living in food insecurity, current smokers, and those who immigrated before the age of 18. On the other hand, mood disorder programs tailored for South Asian Canadian-born populations may potentially target those who are currently not working and not physically active. Socioeconomic status factors such as food security and working status emerged as important characteristics associated with mental health outcomes for South Asian populations. Poverty, low income, unemployment, and precarious employment are important social determinants of mental health [17,37-40]. These factors seem to not only be a problem for South Asian immigrant populations new to Canada, but Canadian-born populations as well.

Poverty alleviation, job placement, job skills-matching, professional mentorship and educational programs need to be bolstered in Canada to promote a more equitable job market [38]. Self-rated health status also emerged as a recurring characteristic associated with mental health outcomes. The literature corroborates the association of this factor with mental health [13,41]. Taking the highly stigmatized nature of mental health into consideration and since health encompasses both physical and mental health, self-rated health may be a question mental health professionals can use with South Asian populations as a starting point as it is a potentially less stigmatized question that may be able to point to deeper mental health issues. Those who did not have a regular medical doctor were more likely not to self-report anxiety disorder and high life stress risk amongst Canadian-born South Asian populations. It is estimated that about 15.3% of Canadians do not have access to a regular medical doctor (Statistics Canada, [42]). Not having a family doctor that can diagnose and identify mental health issues may lead to underreporting of these mental health outcomes. Finally, the acculturation measure of age at time of immigration was found to be an important factor associated with mental health outcomes for South Asian immigrant populations. Corroborating Wu and Schimmele's [12] findings, immigrating during adulthood (18+ years old) seems to be protective for mental health. It may be that those who immigrate as adults do not have as difficult of a time acculturating to a new land as they already arrive with a fully developed sense of their culture and identity. On the other hand, those who immigrate during childhood and as youth experience the pangs of being "caught between two cultures" and must struggle to negotiate a new identity in a new land [43]. Interestingly, length of stay in Canada was not associated with any of the four mental health outcomes for South Asian immigrant populations in Canada. Further investigation in the form of longitudinal studies that can follow South Asian newcomers upon arrival in Canada over time would help elucidate the effect of length of stay in Canada on mental health for South Asian immigrant populations.

Limitations

This study relied upon cross-sectional survey data, which is not ideal to study the time-dependent variable of migration and the healthy immigrant effect. Longitudinal studies that follow cohorts of immigrants and Canadian-born individuals over time may help to better elucidate the impact of migration on South Asian mental health. In addition, the CCHS relies on self-reported data which is subject to recall bias and social desirability bias. The prevalence rates of mental health are reported estimates and not true prevalence estimates, since not all households chose to participate in the CCHS survey (78% response rate) and certain populations were excluded from the CCHS (those residing on Indian Reserves, institutions, remote regions, and full-time members of the Canadian Forces). Members of South Asian populations with the four mental health outcomes analyzed in this study may have been more or less likely to choose to participate in the survey. The stigma against mental illness may lead to underreporting and non-disclosure of diagnoses. In addition, those living in low income situations and newcomers and immigrants to Canada also may be less likely to take part in population health surveys. The population weights developed by Statistics Canada are unable to correct for this selection bias. The odds ratio estimates may lead to underrepresentation of the risk of mental health outcomes in South Asian populations because of this selection bias. Moreover, as with all epidemiological surveys, the prevalence rates calculated are only estimates. Caution needs to be exercised in interpreting them. As South Asian populations are a relatively new community in Canada, the sample size of Canadian-born South Asians was low. Data across five CCHS cycles was merged in order to increase sample size and power, however, the Canadian-born South Asian sample (unweighted n = 523) still remained relatively small. Findings related to this group also need to be interpreted with caution. Moreover, the social support scales available in the CCHS were only administered as optional content for select provinces. As a result, we were limited in the social support variables available to us across Canada. We used marital status, number of children in the household under the age of 12, and sense of belonging to the community as social support variables. Perceived discrimination and racism are important post-migratory variables especially for racialized populations [44]. However, these variables were not available in the CCHS and could not be included in the models. Sense of belonging to the community was used as a proxy measure. In addition, Canadian-born South Asians are still a new population in Canada. As a result, sample sizes for the variables of food security and self-rated health status were too small to allow for inclusion in the multivariate regression models. In the absence of a variable of migration generation in the CCHS, the South Asian Canadian-born population served as a proxy measure of "second-generation" since the Canadian-born South Asian population is still new to Canada. Technically, second-generation South Asians would only be those whose parents were first-generation immigrants to Canada.

Strengths

The CCHS offers a nationally representative database with a large sample size, allowing modeling such as multivariate logistic regression analysis. The large sample size is also well suited for capturing the heterogeneity

of South Asian populations in Canada. To our knowledge this is the only study to conduct a within ethnic group comparison between South Asian immigrant and Canadian-born populations in order to understand mental health differences between migration generations. This study also utilizes multiple measures of mental health outcomes, both clinically diagnosed and self-perceived, to paint a better picture of the mental health of South Asian populations in Canada.

Conclusions

Migration is an important social determinant of mental health for South Asian populations in Canada. Significant differences in estimated prevalence rates and characteristics of mental health outcomes were found for first-generation immigrants and second-generation/Canadian-born South Asian populations. Contrary to the "healthy immigrant effect," South Asian Canadian-born and immigrant populations have a much more nuanced pattern of mental health. Life stress and anxiety disorders emerged as important mental health issues for South Asian immigrant populations, while poor self-perceived mental health emerged for South Asian Canadian-born populations. Socioeconomic and health and behavioral factors were most commonly associated with negative mental health outcomes for South Asian Canadian-born populations, whereas, acculturative, socioeconomic, and health and behavioral factors were important characteristics associated with mental health of South Asian immigrant populations. Female gender, having no children under the age of 12 in the household, food insecurity, poor-fair self-rated health status, being a current smoker, immigrating to Canada before the age of 18, and taking the CCHS survey in either English or French was associated with greater risk of negative mental health outcomes for South Asian immigrant populations, while not being currently employed, having a regular medical doctor, and inactive physical activity level were associated with greater risk for South Asian Canadian-born populations. In terms of policy implications, the study findings suggest that South Asian immigrant populations require better economic support and assistance upon arrival in Canada to alleviate food insecurity and mitigate negative mental health outcomes. The effects of this lack of economic and workforce integration were also seen in the second-generation Canadian-born South Asian population, where not being employed emerged as a significant risk factor of negative mental health outcomes. Mental health outreach programs need to be cognizant of the different mental health determinants for South Asian immigrant and South Asian Canadian-born populations to better tailor mental health services to be responsive to the unique mental health needs of South Asian populations in Canada.

Abbreviations

CCHS: Canadian community health survey; CI: Confidence interval; OR: Odds ratio; SPSS: Statistical package for social sciences.

Competing interests

The authors declare that they have no competing interests.

Authors' contributions

FI was involved in developing the study design, data analysis, and writing of the manuscript. NK was involved in editing the manuscript. HT offered guidance for the study design, analysis, and writing of the manuscript. All authors read and approved the final manuscript.

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No	Item	Guide questions/description
Domain 1: Research team and reflexivity		
Personal Characteristics		
1.	Interviewer/facilitator	Which author/s conducted the interview or focus group? Farah Islam, Amanpreet Multani Additional non-author interviewer: Bassaam Salim (he did not contribute to the writing or analysis of the study)
2.	Credentials	What were the researcher's credentials? *E.g. PhD, MD* Farah Islam - PhD
3.	Occupation	What was their occupation at the time of the study? Postdoctoral Fellow
4.	Gender	Was the researcher male or female? Female – Farah Islam, Amanpreet Multani Male – Bassaam Salim
5.	Experience and training	What experience or training did the researcher have? PhD, Graduate Diploma in Health Services and Policy Research, took courses: Mixed Methods Research, Qualitative Research
Relationship with participants		
6.	Relationship	Was a relationship established prior to

No	Item	Guide questions/description
	established	study commencement? Yes
7.	Participant knowledge of the interviewer	What did the participants know about the researcher? e.g. *personal goals, reasons for doing the research* Researcher background, reasons for conducting the study, goals for what would be done with the research
8.	Interviewer characteristics	What characteristics were reported about the interviewer/facilitator? e.g. *Bias, assumptions, reasons and interests in the research topic* Bias, insider/outsider, self-reflexive journal
Domain 2: study design		
Theoretical framework		
9.	Methodological orientation and Theory	What methodological orientation was stated to underpin the study? *e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis* Braun and Clarke's (2006) Thematic Analysis
Participant selection		
10.	Sampling	How were participants selected? *e.g. purposive, convenience, consecutive, snowball* Purposive, snowball

No	Item	Guide questions/description
11.	Method of approach	How were participants approached? e.*g. face-to-face, telephone, mail, email* Recruitment poster in areas of congregation, interviewer approached youth workers to talk to their clients to participate in the study
12.	Sample size	How many participants were in the study? 10
13.	Non-participation	How many people refused to participate or dropped out? Reasons? none
Setting		
14.	Setting of data collection	Where was the data collected? e.*g. home, clinic, workplace* Place of convenience for the participant: public library, researcher's workplace
15.	Presence of non-participants	Was anyone else present besides the participants and researchers? In the library there were other people studying/browsing books but not near the interview
16.	Description of sample	What are the important characteristics of the sample? *e.g. demographic data, date* South Asian youth, 15-23 years old, 2 men and 8 women, 3 Canadian-born, 7 immigrant, countries of origin: India, Pakistan, Bangladesh, Trinidad, Guyana, Religions: Islam, Sikhism, Hinduism
Data collection		

No	Item	Guide questions/description
17.	Interview guide	Were questions, prompts, guides provided by the authors? Was it pilot tested? Yes, semi-structured interview guide followed Yes, pilot tested
18.	Repeat interviews	Were repeat interviews carried out? If yes, how many? No
19.	Audio/visual recording	Did the research use audio or visual recording to collect the data? Audio recording
20.	Field notes	Were field notes made during and/or after the interview or focus group? Yes, field notes were made during and after interview
21.	Duration	What was the duration of the interviews or focus group? Interviews ranged from 45 min – 1.5 hours
22.	Data saturation	Was data saturation discussed? Yes
23.	Transcripts returned	Were transcripts returned to participants for comment and/or correction? Yes, final manuscript returned for feedback
Domain 3: analysis and findingsz		
Data analysis		

No	Item	Guide questions/description
24.	Number of data coders	How many data coders coded the data? 1
25.	Description of the coding tree	Did authors provide a description of the coding tree? No
26.	Derivation of themes	Were themes identified in advance or derived from the data? In advance
27.	Software	What software, if applicable, was used to manage the data? None
28.	Participant checking	Did participants provide feedback on the findings? Yes, participants provided feedback on manuscript
Reporting		
29.	Quotations presented	Were participant quotations presented to illustrate the themes / findings? Was each quotation identified? e.g. *participant number* Yes, participant numbers given
30.	Data and findings consistent	Was there consistency between the data presented and the findings? Yes
31.	Clarity of major themes	Were major themes clearly presented in the findings? Yes

No	Item	Guide questions/description
32.	Clarity of minor themes	Is there a description of diverse cases or discussion of minor themes? Yes

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Mental Health of South Asian Youth in Peel Region, Toronto, Canada: A Qualitative Study of Determinants, Coping Strategies, and Service Access

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Mental Health of South Asian Youth in Peel Region, Toronto, Canada: A Qualitative Study of Determinants, Coping Strategies, and Service Access

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ABSTRACT

Objectives: This qualitative study set out to understand the mental health challenges and service access barriers experienced by South Asian youth populations in the Peel Region of Toronto, Canada.

Setting: In-depth semi-structured interviews were carried out with South Asian youth living in Peel Region (Mississauga, Brampton, and Caledon), a suburb of Toronto, Canada, home to over 50% of Ontario's South Asian population.

Participants: South Asian youth (n = 10) engaged in thoughtful, candid dialogue about their mental health and service access barriers.

Primary and secondary outcome measures: Qualitative interview themes related to mental health stressors and mental health service access barriers experienced by youth living in Peel Region were assessed using thematic analysis.

Results: South Asian youth face many mental health stressors, from intergenerational and cultural conflict, academic pressure, relationship stress, financial stress, and family difficulties. These stressors can contribute to mental health challenges, such as depression and anxiety and drug use, with marijuana, alcohol, and cigarettes cited as the most popular substances. South Asian youth were only able to identify about a third (36%) of the mental health resources presented to them and did not feel well-informed about mental health resources available in their neighborhood.

Conclusions: They offered recommendations for improved youth support directed at parents, education system, South Asian community, and mental health system. Institutions and bodies at all levels of the society have a role to play in ensuring the mental health of South Asian youth.

Article Summary

Strengths and limitations of this study:

- In-depth semi-structured interviews with youth allowed for rich qualitative data collection
- This is one of the first studies to focus on the mental health and service access issues experienced by South Asian youth living in Peel Region, home to over 50% of Ontario, Canada's South Asian population
- The stigmatized nature of mental illness made it difficult to recruit youth and the sample was biased towards females, likely because of the different socialization of males and females in regards to sharing emotions and personal life histories
- The difficulty with recruitment, the heterogeneity of the participants, and the lack of follow-up interviews did not allow for thematic saturation to be achieved

INTRODUCTION

Canada is home to an ever-increasing population of migrants from all over the world. In recent years, Canada has witnessed large numbers of immigrants from Asia and Africa[1]. South Asian, Chinese, and Black populations accounted for 61.3 % of the racialized population in Canada in 2011, with South Asians making up the largest segment at 25%[1]. In Ontario, large populations of South Asian immigrants have made parts of the Greater Toronto Area (GTA) their home. Peel Region, part of the GTA just west of Ontario's capital, consists of the cities of Brampton, Mississauga and the town of Caledon. Peel Region is home to a large population of immigrants from South Asian countries such as India, Pakistan, Bangladesh, Sri Lanka, and Nepal and these numbers are increasing. Over half of all youth in Peel Region belong to racialized communities and South Asian populations[2].

Youth are at critical stage of life for mental health and substance use intervention[3]. According to the National Institute of Mental Health (NIMH)[4], 50% of cases of lifetime mental illness and addiction issues begin before the age of 14, and 75% of cases begin before the age of 24. Substance abuse and addiction usually present in early adulthood[4]. Mental health care treatment and intervention that begins at an early age greatly increases a young person's chances of recovery[5]. As South Asian communities in Peel Region continue to grow, there is a need to address specific issues affecting the mental health and well-being of these communities, particularly for youth. Various acculturative stressors can accompany growing up in Canada as a new immigrant or the child of immigrants[6]. South Asian youth face the task of balancing family expectations, cultural standards, and religious demands, all of which can cause internal and external conflict. Anisef and Kilbride[7] found that immigrant and newcomer youth face many stressors, including identity development, language barriers. In addition, many youth face

challenging intergenerational conflict, competing between their own values and the values of the elders of the community. There are also gender differences in the immigrant youth experience with males experiencing more difficulty in settings outside of the home and females facing the majority of conflict at home through disparities between societal and cultural values. It is important to also note the heterogeneity of different South Asian youth populations. Muslim immigrant youth may be at risk for maladaption in the host country because of discrimination and difficulties in cultural transition[8]. On the other hand, stressors such as peer relations, lack of attention from parents, and parental pressure to succeed have been identified for Punjabi Sikh youth[9]. Each subpopulation of youth faces unique challenges to their mental health.

Research with South Asian adults in Canada has found lower prevalence rates of mental health service use[10]. Gadalla[11] found that almost one-third of South Asians diagnosed with Major Depressive Episode cited no access to available care. South Asian populations face many barriers including, language barriers, lack of culturally safe care through providers and agencies that cater to specific religious and cultural needs, lack of integration between services and agencies, transportation issues, as well as the lack of awareness and presence of stigma regarding mental health in the community. However, there is little to no research available on the mental health service access barriers specifically affecting South Asian youth populations. In line with the Mental Health Strategy of Canada's[12] goal to reduce disparities in risk factors and access to mental health services and strengthen the ability to meet the needs of diverse communities, further research is needed to understand the issues facing the growing South Asian youth population. Thus, this present study sought to obtain a deeper understanding of how South Asian youth populations in Peel Region define mental health, their mental health concerns, their level of knowledge of available mental health resources, and the

major barriers they face when seeking care in order to inform the development of effective mental health services and resources in Peel Region, which are responsive to the needs of South Asian youth populations.

METHODS

Research Design and Research Questions

A qualitative study was designed as part of a larger multi-method study to answer the following research questions:

1) How do South Asian youth define "mental health" and "recovery"?
2) What are the major mental health concerns of South Asian youth?
3) What are the barriers to mental health service access for South Asian youth living in Peel Region?
4) Which mental health services are South Asian youth familiar with?
5) What recommendations do South Asian youth have for improving mental health service access in Peel Region?

Theoretical Frameworks

A Social Determinants of Health (SDOH) and intersectionality lens was applied to this research project. Mikkonen & Raphael[13] stress the importance of considering social factors impacting upon health and healthcare access such as socioeconomic status, education, and social exclusion, and ethnicity. Khanlou[14] asserts the importance of contextualizing the individual within "intersectionalities of influence." Mental health and attitudes towards seeking care are complex phenomena, and this study cuts across many critical intersections such as migration, acculturation pressures, religion, and gender. Care was taken to develop a complete picture of each individual's context to understand the impact of cross-cutting and unique contextual factors

upon attitudes towards seeking mental healthcare rather than oversimplify and further marginalize. Important contextual variables such as gender, social support, and socioeconomic status were included in this study to capture the complexities of participants' everyday lived experiences shape mental health status, perspectives about mental health, and coping and service access strategies.

Sampling

Purposive homogenous sampling or purposeful/non-random sampling from a single segment of the population[15] was carried out. South Asian youth (13-24 years old) living in Peel Region were recruited from March – July 2015. The recruitment flyer was posted in public areas of congregation (community centers, public libraries, universities, etc.) and through social media. In addition youth workers were encouraged to ask their youth clients to participate in the study. Youth proved to be much more difficult to recruit than anticipated likely because of the stigmatized nature of mental illness. Youth workers such as social workers, school counselors, religious leaders, psychiatrists, mental health therapists, etc. were approached as well to encourage their clients to participate. The majority of youth were recruited through social workers from various organizations. Full written consent was obtained from the youth participants and parental consent for those below the age of 18. Youth interviews began in May 2015. A total of 10 South Asian youth participated in one-on-one in-depth interviews. Interviews were conducted at locations convenient for the participant (e.g. home, public library, etc.) Research ethics were submitted and approved by the Centre for Addiction and Mental Health's Research Ethics Board.

Interviews

A semi-structured in-depth interview/focus group guide was developed to investigate the

study's research questions. Some examples of questions were: "Can you name some sources of stress in your life?" and "What are some recurring conflicts you have with your parents/guardians?" The interview guide was developed based on interviews with youth workers in Peel Region regarding the mental health challenges and service access barriers South Asian youth face. The interview questions were informed with a SDOH[13] and intersectionality lens[14]. Interviews were offered with the following choice of language options: English, Punjabi, Urdu, Hindi, and Bengali. All interviews were conducted in English except for one in Bengali. Youth participants were given a $15 gift card upon agreeing to partake in the study. The interviews lasted on average for about an hour and a half and were audio-recorded using the "Easy Sound Recorder" app downloaded on a Windows Surface tablet. The mp3 files were translated and transcribed into English for analysis. The interview questions were not translated/back translated. Rather, the interviewer translated the one Bengali interview from the English guide as she conducted the interview. The interviewers were bilingual. The translation of the interview was done by the bilingual interviewer.

Rigor

Several strategies were employed to ensure rigor in this[16-18]. Former and current residents of Peel, youth living at home and those who were not, youth currently in school as well as those who had dropped out, and users and non-users of the mental health system, and youth who had professionals recommend they seek mental health services but chose not to follow through were interviewed to ensure a wide range of youth perspectives could be captured. The recruitment poster had Punjabi, Hindi, and Urdu writing to attract non-English speaking South Asian youth. Interviews were offered in the major South Asian languages in Peel Region (Punjabi, Urdu, Hindi, and Bengali), and the interview team traveled to any location that was

convenient for the participant. A self-reflexive journal and field notes were kept for reference and to contextualize the analysis of the data. Researcher positionality was noted and reflected upon during the interview and analysis as the researcher could be viewed as both an insider (South Asian immigrant to Canada, Peel Region resident) and outsider (adult, academic).

The first author was involved in the analysis of the transcripts. The transcripts and coding were reviewed by the three senior mentors and authors of this paper. Peer auditing took place, where the analysis of the transcripts was presented to some of the youth participants. The youth felt the analysis was successful in capturing their thoughts and concerns.

Lastly, member checking took place after the study, where findings were presented to youth (13 – 24 years old) from both South Asian and non-South Asian backgrounds living in the Greater Toronto Area in multiple community forums. All youth expressed that the findings presented resonated with their life experiences.

Data Analysis

The interview transcript text was analyzed using Braun and Clarke's[19] guidelines on thematic analysis. Thematic analysis was used to identify, analyze and report the patterns within the interview transcripts and describe the findings in rich detail. The basic elements of interest in the transcribed interviews were preliminarily coded. This coding was largely conceptually/theory-driven (as opposed to data-driven) following the research questions. A constant comparative technique and iterative refinement process was utilized throughout. Qualitative analysis was done manually, and codes were organized into sub-themes and overarching themes. Themes or patterns related to the five research questions outlined above were searched for in the interview transcripts. A thematic map was finalized, and detailed analyses were written for each theme.

RESULTS

Youth Sample Profile

The sample of youth participants ranged in age from 15 – 23 years old (mean: 20; SD: 2.44). Two young men and eight women were interviewed for a total of 10 participants (n = 10). Seven were current/former residents of Mississauga, while five participants were current/former residents of Brampton (two participants had lived in both cities). There were 3 Canadian-born and 7 immigrant participants. On average, the immigrant youth had lived in Canada for over 12 years (SD 5.56). A few had experienced multiple migrations. The youth represented the following countries in terms of South Asian ancestry: India, Pakistan, Bangladesh, Trinidad, and Guyana and represented the three major South Asian religions of Islam, Hinduism, and Sikhism. Seven youth reported accessing mental health services. This high number is likely explained due to the majority of the referrals by social workers. Three youth also mentioned having a family member with mental illness. Youth reported mental health consultation with their family doctor, general practitioner, psychiatrist, psychologist, counselor, and social worker. Sample sizes for the majority of characteristics have been omitted to ensure confidentiality of youth participants.

Major Themes

Definitions of "Mental Health" and "Recovery"

Participants had varying definitions of mental health that encompassed psychological, cognitive, social, environmental, and behavioral aspects of mental health. Positive mental health was often described as being well-rounded and having balance in one's life. "It's like your ability to process information, your emotions, and like how you respond to situations… Positive mental health?…involved in extra curriculars…go out with friends, volunteer, so just involved in the community." (Youth #6). About half the youth spoke of mental health negatively and solely in

terms illness rather than health. Mental health was described as "mentally problems" (Youth #8) and "physical sickness" (Youth #3).

The youth felt that recovery needed to be self-motivated. "…you have to tell yourself you want to recover. You can't just take other people's word for it." (Youth #9). Youth also felt that social support was important for the process. However, many felt that support, especially from family, was lacking because of stigma. The resulting social isolation can further undermine recovery.

"Often the recovery for some, mental health issues, they often come with the support of your family. They are usually your number one resource, especially for South Asian people, because you live with your family. Usually, you can't openly talk about your recovery with your parents because then they will know that oh, you're going through a mental health crisis? Why didn't you tell us first? Again the blame goes back on you. You can't go to the mosque. You can't go to the imam [Muslim religious leader]. You can't tell them hey, I am going through this issue. You can't tell them why. You can't tell anyone. The recovery too, is a very lonely process… I feel if you don't have support in the recovery process it's not going to work. Cuz recovery, the whole point is so that you can be well adjusted again. It's just not going to happen by yourself. So that's why like there is no support in that sense." – Youth #7

Mental Health Concerns

Acculturation Stress and Intergenerational Conflict

Conflicts with parents were the major mental health stressor raised by South Asian youth. Overall, the underlying root for these conflicts was related to migration and resettlement

and how this creates a dynamic where two very different cultures (Western/Canadian and South Asian) have to co-exist under the same roof. "…our parents came here because they wanted to give us a good education. A lot of parents aren't understanding that when you come here, you also have to adapt to the environment. You don't just move for the money. You have to adapt to everything else that comes along with it." (Youth #3). The youth spoke about having to be "cross-culture kid[s]" with a "dual identity" (Youth #1). The parents and youth found themselves in a constant struggle to find balance and mutual understanding. All too often, because of the power differential, the youth felt they had to be the yielding party because their parents refused to adapt. "They don't have the tools. Nobody tells you how to transition when you move to a country with a different culture. And then the kids have to bear the brunt of it…I had to bear the brunt inside me for so many years." (Youth #1). For some, the rules set were not up for discussion and strict obedience was expected, which left youth feeling resentful. "My mom wants me to do everything from her point of view, her way. Not my way, not anyone else's way, her way." (Youth #8).

Academic Pressure from Parents

One of the major arenas for this intergenerational family tension was in terms of academic pressure to succeed at school and have a good career. Youth also spoke about this pressure extending to expectations of perfection at home. "Like studies, study, study! And to pray, you have to be religious and studious, you can't really go out. It's kind of like you are home-grown. Basically home life. That is basically my tradition. And chores. You have so many chores to do. Lots of responsibility." (Youth #6). Youth felt that parents rigidly conformed to the South Asian community's expectations and norms of what "success" should look like rather than consider their child's feelings. "This comes down to what career choices South Asian people

have, we usually lawyer, medicine, engineer, there's not a lot." (Youth #7). South Asian youth felt they were put under extreme pressure to succeed and felt particularly frustrated that no matter what they did, their parents still constantly compared them to some "model student," where they always failed in comparison.

"Everything I did for my parents was to make them happy. But everything they did, their expectations were up here. They compared me to doctors and engineers when I was in grade 4. It was stressful. I guess it is family image…They force us to, it's like 99% or you don't come home…And then they compare you to other people's kids. They tell you, you know that kid studies 20 hours a day." (Youth #9).

Comparisons and disappointment also came from the youth, who compared their peers' way of life and couldn't understand the reason for the disparity. "It was strict [at home]. Then you go out to the real world and you ask other kids, other brown kids, I tell them, oh so your parents don't do this. And they say no, they are pretty chill. And then I am just wondering why is that?... I guess that's the culture barrier." (Youth #9).

Relationship Stress

Marriage, dating, and opposite gender interactions was another battleground for parents and youth. Again, youth compared themselves to their peers. "And traditionally in my culture, you don't date. But I want to date. It must be one of those things you see around you a lot, so you want it. It is so popularized. So that is the way you want to do things." (Youth #1). South Asian parents had expectations that their children would follow traditional norms of finding a spouse for marriage. "My parents would prefer if we met and we go to each other's houses, something like that, with family there." (Youth #1). Any kind of opposite gender interaction was frowned upon, particularly for female youth. "Even still my mom's mentality is like that. Don't talk to

guys. Don't go close to guys. Stay away from guys." (Youth #8). Youth had a difficult time understanding how they were supposed to get married if opposite gender interaction was not possible and many wanted the opportunity to date and explore. The pressure to get married early was reported largely by female youth. "And my mom's like, I want you to be married soon! I tell them first of all, I am struggling with mental health issues and second of all, I haven't met anyone. Where is this magical husband going to come from? [laughs] Just kind of these expectations for gender…" (Youth #1). This lack of guidance on how to navigate opposite gender interactions led some youth to hide relationships from their parents, feel deeply conflicted regarding relationships, and even caused some to fall into depression when the relationships did not work out. "I want to find someone and I just came to the conclusion, I felt really, having a romantic relationship is important to me, and I understand it is also not good." (Youth #1). "I had a crush on him for 3 years in high school. So as soon as it ended, the summer began, I was miserable. Really really miserable…I tried to get help… my sadness about that was really big.." (Youth #1).

Financial Stress

A number of youth faced financial pressure, particularly for youth growing up in single-parent households and youth who were living on their own. "I think financial reason is the one main reason that my mom [a single parent] had her breakdown because she was worried about us being alone, with no one to care of, I think financial was also the one reason that sometimes like I get really depressed." (Youth #3). "I have worked a lot. Since I started living on my own at 17…it's like bills after bills after bills. A lot of the time I run out of money so it's just like I just have to like stretch you know, stretch it out. But financial problems, yeah, it's always a problem." (Youth #9).

Divorce

In addition, family issues such as parents' divorce were difficult for youth to cope with. Many of the youth took on financial and parental responsibilities to help out at home. "I am very attached to my mom, anything she goes through, I automatically react. So if she's happy, I am happy, if she's not, then I am definitely not. So for me that was a very stressful time… My mom is a single mom and has been for a while, so I have seen her struggle." (Youth #3).

Mental Illness in the Family

Very interestingly, two youth spoke about their mothers having untreated depression, particularly postpartum depression. The youth felt their mothers not dealing with their mental health issues perpetuated the stigma against mental illness. The lack of role modeling of healthy help-seeking behavior from their mothers impacted the youth's mental health and made it more difficult for them to seek help for their own mental health issues.

"Because I realized later she had postpartum depression and then suffered more depression after I was born and then because it all gets ignored within my family, it all just carries on. And then 10 years later she was just battling general depression. Then my sister was born, then it was postpartum depression. It was just a cycle." (Youth #10).

Mental Health, Addictions, and Drug Use

When it came to mental health and addictions, South Asian youth cited alcohol, tobacco, and marijuana as the drugs of choice. Youth cited various reasons for drug and alcohol use, including its use as a coping method to deal with family problems, as a practice youth partake in because they are young and feel immune to its negative consequences, and as a means of rebelling against South Asian tradition.

"All the guys were all doing drugs and we, we are maybe not drinking because we're Muslim

but some of them even drank. And I think that the reason that this exists because okay so, it's like, I feel a lot of South Asian parents are going through divorce, going through issues at home, which is automatically impacting the children and in their way to cope with it is drugs, like violence, or gangs. And I feel it might be not such a big issue in the other cultures is because the kids' parents understand that yeah, their issues are also impacting the kids but it also because they are ok with drinking or that stuff, but also they are understanding that if they are going through an issue they will put their kids in counseling sessions or whatnot." (Youth #3). "Alcohol is strong. Yes. A lot with the Punjabi people…They drink a lot of alcohol including my friends. They kind of do it with the excuse, we're young, why not? I am not sure if they do have an alcohol problem…Ok, my friends that I know like all the brown kids I know… yes, marijuana is number one." (Youth #9).

"I have heard of more like South Asian youth more are drinking now. Because just like non South Asian youth, they think it's a way to forget problems and forget about stuff…South Asian youth sometimes feel like oh this is the only freedom they have sometimes. When they are hanging out, they are kind of like, the social issue, oh yeah, like drink you're Canadian and stuff like that. Even though back home we never drank because of our culture, but here you're rebelling against your culture." (Youth #7).

Barriers to Mental Health Service Access

Youth reported both systemic-level and family and community-level barriers to mental health service access. At the mental health system level, youth viewed the lack of South Asian mental health professionals in the field, lack of representation of people from of South Asian background in mental health promotion, long wait times, prohibitive fees for services not covered by OHIP (e.g. psychologist, psychotherapist, counselors), lack of specialized

professionals, and the dominance of adherence to Western models of psychiatry as barriers to care. Youth felt the excessive focus treating mental health through psychotropic medication and lack of consideration of how religion and other social factors affect mental health made Western models of mental health care difficult to accept.

"…Psychiatrists who deal especially with youth. The thing is that there is not many of them…Also, the lack South Asian mental health professionals…The Western approach to mental health is very very different from the South Asian approach to mental health. One is not better. It's just very different…There is a huge emphasis on meds…Also big difference between Western and South Asian mental health, is that there is more emphasis on religion in South Asian mental health I guess, treatment…In Western health it is very secular and very like you need to do things on your own." (Youth #7).

"One is that I am not targeted for suffering from mental health. I am really not targeted for anything except racism… I feel like some people see a poster and feel like they are not, they don't see themselves in it and feel like they are not included. They will think like oh, only white people suffer from mental health, I am fine, they might think something like that." (Youth #1).

The youth felt that the education system in Ontario also posed a barrier to mental health service access because of the lack of mental health education incorporated into the curriculum. Youth felt that if they had learned about the importance of mental health, the warning signs, and about available resources from a young age, they would be more open to the idea of seeking care. "They only teach it or recognize physical unhealthy things in your body. Like if you are feeling sick or you feel nauseous or tummy is not feeling well…But there is never anything about if you feel like crying, if you feel very sad, if you feel very angry all the time." (Youth #10). Youth were aware of guidance counselors in schools but also felt that the

guidance counselors were not readily accessible or did not effectively address the mental health needs of students. “In high school too there was no mental health awareness, surprisingly, as far as I knew. You actually had to go to the counselor and book and appointment, which by the way, got cancelled several times. You had to go to the counselor and they tell you resources, but even then they don’t properly tell you. They don’t educate you.” (Youth #7).

University students felt the restrictions on the number of times a student could have an appointment with the counselor on campus limited the efficacy of care and ability to develop a relationship with the mental health professional. “You’re allowed to see them I think only 5-6 times in the school term…appointments are really really spaced out…So it did help, but only to an extent. The rest of it you need to do by yourself.” (Youth #7). “There is a problem with waiting times. So like you make an appointment and then the next time you want to make an appointment…you’ll be lucky if you get it in the next month…therapy with my counselor is sparse…I want something regular. Or and just more, close, more frequent.” (Youth #1).

At the family and community level, mental health stigma arose again and again as a major barrier to seeking mental health care. “Sometimes the family feels that if we take him to the hospital, it will help him, but everybody else will know that our child is like this. Family feels like we should not tell anyone that our family has these problems. Because if people know, in the future to get him married, it is going to be difficult…Fear of consequences.” (Youth #8).

“I think it’s ignorance, like, What? We can’t have these issues. *You* have these issues…We are the perfect culture and you’re white, or you’re not South Asian, so you guys have the issues. You guys are the ones that do the drugs…NO there are more South Asian kids who are into drugs than other people. So I think it’s ignorance, arrogance, and a lack of knowledge, a lack of

enthusiasm to seek knowledge or to understand their environment [from South Asian parents and the older generation]." (Youth #3).

Mental Health Service Knowledge

When asked to rate their level of knowledge of mental health services and resources on a scale of 1-5, on average youth felt they did not feel confident in their knowledge. The youth were shown a series of information sheets on 13 local resources for the general public (Centre for Addiction and Mental Health (CAMH), Canadian Mental Health Association of Peel (CMHA), Tangerine Walk-in Counseling), youth (Good2Talk helpline, Kids Help Phone, Peel Children's Centre, Nexus Youth Services, Rapport Youth Services, InUrHead website), and ethnospecific services (India Rainbow, Punjabi Community Health Services (PCHS), 315 NISA Muslim Women's Helpline, Naseeha Muslim Youth Helpline). These resources were chosen based on the recommendations of the 33 service providers and professionals interviewed for the study. The youth were asked if they were familiar with the service or had ever come across any ads or logos. On average, youth were familiar with roughly a third (36%) of the mental health services or resources presented to them (Figure 1). Considering that many of the youth in the sample were service users themselves, this lack of familiarity with mental health resources suggests that youth who may be struggling but not actively seeking mental health services are at even more of a disadvantage in terms of knowledge of mental health resources.

Nine out of ten youth were familiar with Kids Help Phone, while none had seen or heard of Punjabi Community Health Services or InUrHead. The majority were familiar with Kids Help Phone because of their extensive ad campaigns within schools, public spaces, and on commercial goods (e.g. juice boxes). The youth were able to recall some mental health

resources through TV ads. Service users felt that services that took an open, non- judgmental approach were the best. They particularly appreciated programs where youth could interact, for example play pool together and have the chance to organically, over time, develop enough trust to share their experiences. They also appreciated programs where youth were taken on field trips like camping, where they could bond with their peers and youth workers.

[insert Figure 1]

Recommendations

Youth voiced their recommendations for improved mental health services for youth in their community, directed to the school, university, mental health system, and South Asian community. South Asian youth felt that mental health awareness and education need to be incorporated into the Ontario curriculum beginning from elementary school. "More the curriculum in school the earlier on…whereas things such as healthy relationships that affect mental health more than physical health…There is hardly ever anything though from a young age." (Youth #10). In addition, it was recommended that guidance counselors in schools take on a more proactive role when it comes to mental health, rather than only helping students with academic matters. This will go a long way in normalizing help-seeking for mental health issues from a young age. None of the youth had seen a South Asian guidance counselor at their school and felt increasing the number of staff from racialized backgrounds (teachers and guidance counselors) would also help break down barriers.

"Most of the teachers are Caucasian. They are not as diverse as the students. Yeah, why don't

they hire South Asians or Asians? You really don't see, or even African, or black community, I don't see any of them. No. Not seeing any change… Guidance counsellors are mainly used for academics, even though they are there for emotional guidance" (Youth #6).

Youth felt the university did a better job at promoting mental health than grade school; however, they still felt more could be done. Mental health counseling services on campus, while very convenient, did not address the demands of the youth adequately. Availability of professionals, number of appointments allowed in a given semester, and the variety of specialized services offered need to be increased. "Just more people on hand to work with students and also dealing with lots of different therapies." (Youth #1). Counselors should also be offered training so they can deal effectively with the mental health needs of South Asian youth. "They should be given special training. Like counselors too. Special training to give resources for the minority groups. Like LGBTQ a hotline. A Sikh student hotline." (Youth #1).

At the mental health system level, youth recommended increasing free or low cost services with professionals specifically trained to deal with youth issues, offering services in convenient community locations (shopping plaza, community centre, place of worship, etc.), increasing the number of South Asian mental health professionals, and increasing representation of South Asian youth in mental health promotion material. "I love for there to have posters with a hijabi girl and other South Asian people regarding mental health, you know they are like, you are feeling…those posters, go see a doctor. If you are having these symptoms. Obviously, just generally, South Asian representation needs to increase." (Youth #1). Youth also wanted to see youth mental health programs offered that did not necessarily use the term "mental health," for example sports, science, or arts-based programs that fostered social connections and built resilience. Many felt that their parents would be less reluctant to

send their kids to extra- curricular activities that were not obviously related to mental health. Lastly, youth felt that South Asian beliefs needed to be respected and incorporated within models of mental health care.

Youth had a number of recommendations for how parents could promote better intergenerational relationships and understanding in post-migration contexts to deal with acculturation pressures. The majority of youth felt that South Asian parents did little to foster the emotional health or build the resilience of their children, although it was viewed as the parents' responsibility to teach their children about mental health. "It's the mother and father's responsibility to teach their kids about it, teach their kids about mental health. Teach them all the things, it is their responsibility to do." (Youth #8). Youth felt that many of the parenting techniques, such as constantly comparing their kids to other children and extreme academic pressure, were in fact debilitating to their mental health. [When asked if parents fostered emotional health] "Noooo, not even close! Otherwise it was the opposite…They just told it to me in my face. Yeah you're a failure, you're this you're that. Look at this kid, look at that kid. She's done this, she does that." (Youth #9).

"[Parents] always just say, they only say, you have to be big. You have to have good job, you have to have this…They always push you to higher level but they never think that the child cannot take it…But they never, I see white people say to their child, you did a good job, you got an A+. In our South Asian culture, if you get a B+, they will say, why didn't you get an A+? Why didn't you focus? It doesn't help. You need to be appreciative of how much your child is trying. Not all kids are the same." (Youth #8).

In addition, youth felt their parents' ignorance and denial of mental health issues also presented a major stumbling block. Participants spoke about how their parents did not express

their emotions in a healthy or clear manner (particularly fathers) and viewed help-seeking with disdain. "I feel like my dad, is just like, the way, traditional thinking of Pakistani men. Right? Unfortunately. Like it has nothing to do with oh, I will miss you or anything. [i.e. he does not express how much he loves his children.]" (Youth #1). If parents could be role models and proactive in caring for their own mental health, in addition to the mental health of their children, it would help youth seek care earlier. As outlined earlier, a number of the youth had mothers who had not sought help for their depression. "You don't talk about emotions, you don't' deal with mental health, it doesn't exist. You just need to get a job, go to school, do what you need to do, pay your bills, buy your house. All of that. You just ignore mental health." (Youth #10).

Youth also felt their parents' obsession with social standing and community repercussions needed to change, especially when it became detrimental to the health of the child. "We need to teach parents that don't look at what other people think. You know? Don't think about what Sharma's family is going to think about it or this family is going to think about it. Do things for your kids." (Youth #8).

Youth recommended that prominent leaders within the South Asian community like religious leaders, politicians, celebrities, etc. take a more active role in facilitating mental health awareness and combatting mental health stigma within the parental generation. "Honestly, because I know a lot of our South Asian [people]…only listen to elders and religious aspects in their life. Try to get them on board and have this information be shared. Pushing this information more…Whenever they are doing whatever celebration or regular attendances to prayers and stuff like do it, try to find a way to fit it in there…They will only listen to the pandit[Hindu religious leader] and no one else." (Youth #10).

Thematic Map

Participants envisioned a multi-level society working together to ensure South Asian youth mental health and had recommendations for parents, the education system, South Asian community, and mental health system (Figure 2). Participants recommended that parents take on a foundational role in building the emotional health and resilience of their children. If parents could model positive mental health and encourage help-seeking, this would help to normalize the process and reduce stigma. Youth also envisioned the education system taking on a fundamental role, particularly in teaching children from an early age about mental health. Participants also felt that the school and university both had responsibilities in terms of mental health service provision and had specific recommendations on how they could improve in that respect. Youth felt that prominent leaders within the South Asian community had an important responsibility to champion positive mental health and help to reduce stigma in the parental generation. Places of worship and cultural centers were also well situated to provide mental health awareness and education. Lastly, youth expressed their recommendations on how the mental health system in Peel Region could better serve the needs of South Asian youth in terms of mental health services and resources offered, mental health promotion, and programming.

[Insert Figure 2]

DISCUSSION

This qualitative study provides youth perspectives to understand the mental health challenges and service access barriers experienced by South Asian youth living in Peel Region. The in-depth interviews gleaned rich information and allowed youth participants to speak candidly about the issues they were facing. The interviews point to the multiplicity of

perspectives and stress the importance of considering the heterogeneity of youth populations.

Conflicts with parents continually emerged as a major mental health stressor for South Asian youth, with migration and resettlement as the underlying cause of the intergenerational and culture clash between parents and youth. Conflicts regarding career path, dating and relationships, and the young person's desire to adopt "Western" or "Canadian" practices have been documented as major sources of conflict within South Asian families[20, 21]. Youth usually acculturate faster than their parents, which can cause conflict in terms of language, communication, and the transmission of culture and identity[7, 22]. Finding themselves in a new country and unable to effectively cope with the rapid fire change, parents often interpret any behavior that veers from their expectations as a type of cultural/religious betrayal or rebellion and their typical knee-jerk response is to renew efforts to force their children to conform[23, 24]. The youth in this study were aware of the push-and-pull within this struggle, but felt that the power dynamics usually played in favor of the parents. More open dialogue, perhaps with role-playing, where both youth and parents can effectively express their positions would greatly help in mitigating these conflicts. The Public Health Agency of Canada[25] promotes the "Nobody's Perfect" parenting program for parents with children up to the age of 5 particularly in newcomer neighborhoods. A similarly tailored, government-sponsored, proven program to promote more effective communication between newcomer parents and adolescents is needed. Much of this work is happening within the community but funding always remains an issue. There is potential for government and public health agencies to partner with community, religious, and cultural institutions to deliver such programs. Many of the youth participants expressed how ill-equipped their parents are for life in Canada and parenting in a new cultural context. If parents could be armed with the tools needed to effectively foster their children's emotional health, it could go a

long way in safeguarding youth mental health.

The connection between first generation immigrant mothers, postpartum depression (PPD) and how that impacted upon their children's mental health was very interesting. Immigrant women in Canada have a two-fold risk of developing PPD and often contend with exacerbating factors such as the stressors of migration and resettlement, low socioeconomic status, lack of social support, and the difficulties of parenting in a new country[26-30]. In addition, conceptions of PPD may differ for South Asian newcomer mothers in Canada[31]. It is estimated that about 1,100 immigrant women in Peel Region experience PPD every year and face significant barriers to mental health service access[32]. The youth in this study spoke about the far-reaching impact of their mothers' untreated depression. The depression often made it difficult for mothers to parent effectively, and this in turn, affected the youth's mental health. PPD can impact parent-child attachment, cognitive, and behavioral development[33], and adolescents of depressed parents are at a higher risk for developing the affective or mood disorders themselves[34, 35]. This area warrants further research and the development of culturally safe postpartum depression and pre/post-natal programs specifically geared towards immigrant South Asian mothers is needed to ensure South Asian youth mental health. Intergenerational mental health interventions may be particularly helpful in this regard. For example, the 8-week parenting program SITICAF (Strengthening of Intergenerational/Intercultural Ties in Immigrant Chinese American Families) has been found to be successful in fostering a greater sense of parenting control and increasing the child's self-esteem[36].

The youth called for culturally safe models of mental health care that respected South Asian beliefs and practices. This recommendation is in line with the Mental Health Commission of Canada's (MHCC) Mental Health Strategy[12, 37]. The Journey to Promote Mental Health

culturally sensitivity training program[12] could be adapted to South Asian populations and offered in areas of high demographic concentration like Peel Region. South Asian youth also felt that beyond "cultural sensitivity training" capacity needs to be built in order to increase the number of South Asian and other racialized mental health professionals. In addition, the Commission's Multicultural Mental Health Resource Centre[12] needs to move beyond simple translation of mental health information to cultural adaptation of resource information and increased representation of racialized people within mental health promotion material.

Limitations

This study's sample size was biased towards mental health service users since many of the referrals came from social workers. Even after months of recruitment, the researchers found it difficult to recruit South Asian youth participants, most likely because of the stigma surrounding mental health and illness. The difficulty with recruitment, the heterogeneity of the participants, and the lack of follow-up interviews did not allow for thematic saturation to be achieved. The average level of knowledge of mental health resources for this sample is likely much higher than the general youth population as a result. The bias towards service users made female recruitment for the study more likely[38]. A South Asian male interviewer was specifically included on the interview team in anticipation of this issue but did not prove to be effective in attracting male youth to participate. The social workers tried to encourage their male clients to participate but found that young men were not interested in sharing their views. This may be due to the different socialization of male and female youth, where males are taught from a young age not to be as open and expressive about their emotions[39]. Different methods of research inquiry need to be explored that can more effectively engage male youth. However, both male and female participants offered the views of their male peers, for example, many

female participants shared the opinions of their male friends and brothers, which contributed to a much more robust male perspective in this study.

Conclusions

Peel Region is uniquely situated with a high South Asian concentration. South Asian youth mental health needs to be prioritized and real work needs to begin to bridge gaps in understanding and create partnerships between mainstream mental health services and cultural, religious, and community centers that are already taking part in de-stigmatizing efforts and service provision. South Asian youth in Peel Region engaged in thoughtful, candid dialogue. Their perspectives on the mental health stressors and the service access barriers they face have important implications and need to be considered for mental health service delivery and program planning in Peel Region. Programs specifically designed to help South Asian youth deal with intergenerational conflict, migration stress, academic pressure, relationship stress, financial worries, and family difficulties are needed. Recommendations for increasing the number South Asian mental health professionals and service capacity need to be considered, amongst others. Mental health information and promotion needs to change to effectively engage South Asian populations. The education system also has a role to play with starting mental health education earlier and having guidance counselors take a more proactive mental health promotion role. South Asian youth felt that at the university-level, the services offered simply did not keep up with the demand of the service needs of students. Lastly, the South Asian community and parents also have a crucial role to play. South Asian youth called for community leaders to take on the role of mental health champions, responsible for spreading awareness about mental health issues within the community and de-stigmatizing help-seeking. Parents have a foundational role to play in building the emotional health and fostering the

resilience of their children. Government and community parenting programs could help in this regard. Taken together, considering the recommendations put forth could go a long way in ensuring the mental health of South Asian youth populations living in Peel Region.

Figure Legends

Figure 1. Mental Health Resource Knowledge.

This graph portrays the number of participants who reported familiarity with the 22 mental health resources presented to them.

Figure 2. Thematic map of recommendations from youth

The youth discussed the different roles their parents, schools, community, and mental health system had to play in order to ensure South Asian youth mental health.

Footnotes

Contributors

FI: Conception and design, analysis and interpretation of data, critical writing and revision of the article, AM: writing of abstract section of article, MH, YS, KM: critical review and mentorship of study process and final approval of article.

Competing interests

None.

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Data sharing statement

If researchers are interested in obtaining samples of recruitment posters, translated consent

forms, and the interview guide used for this study, please email the corresponding author.

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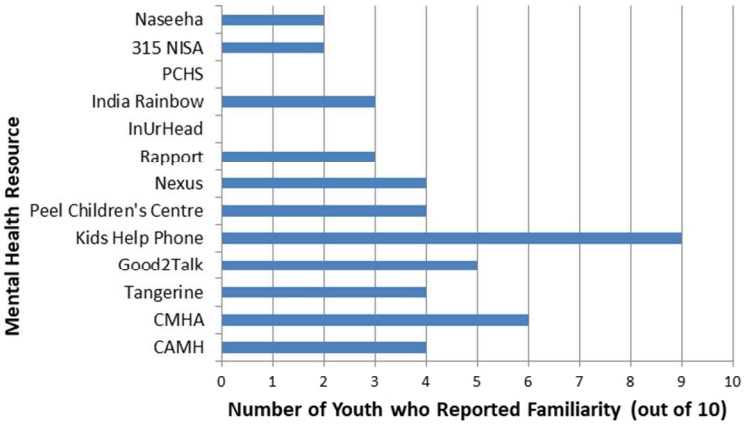

Figure 1. Mental Health Resource Knowledge.
This graph portrays the number of participants who reported familiarity with the 22 mental health resources presented to them.

81x60mm (300 x 300 DPI)

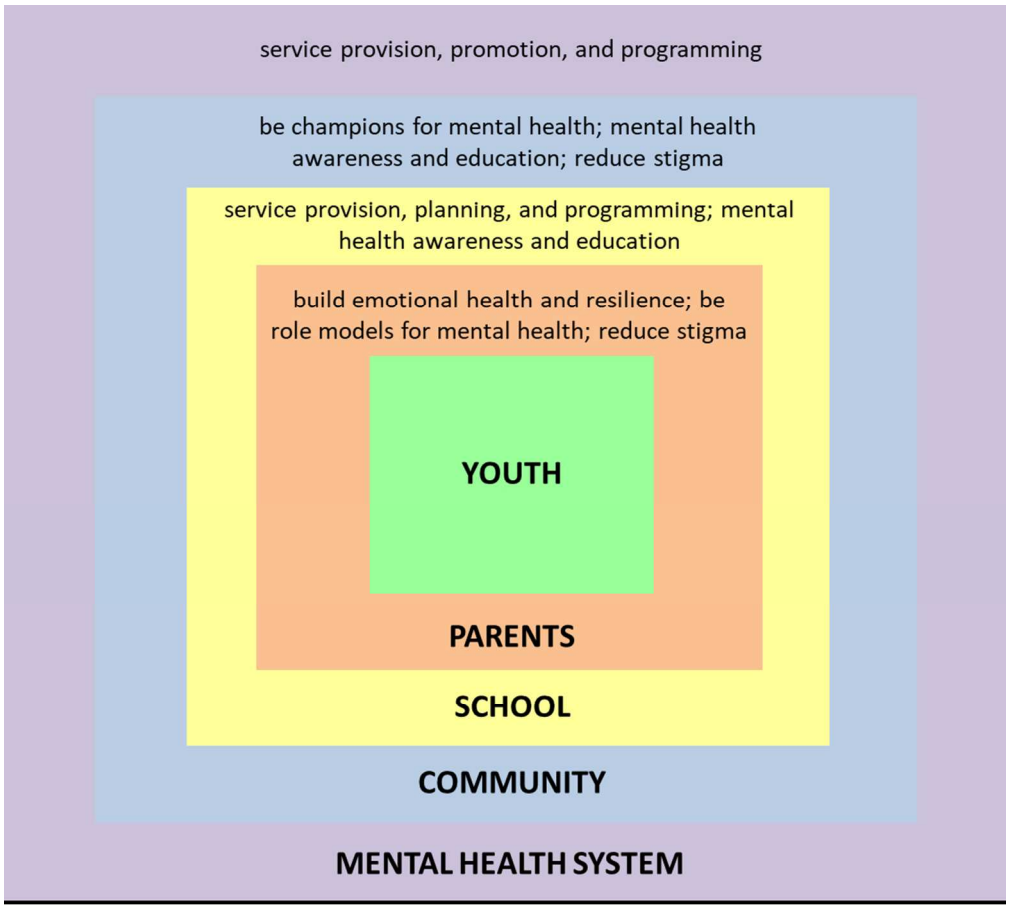

Figure 2. Thematic map of recommendations from youth
The youth discussed the different roles their parents, schools, community, and mental health system had to play in order to ensure South Asian youth mental health.

94x85mm (300 x 300 DPI)

No	Item	Guide questions/description
Domain 1: Research team and reflexivity		
Personal Characteristics		
1.	Interviewer/facilitator	Which author/s conducted the interview or focus group? Farah Islam, Amanpreet Multani Additional non-author interviewer: Bassaam Salim (he did not contribute to the writing or analysis of the study)
2.	Credentials	What were the researcher's credentials? *E.g. PhD, MD* Farah Islam - PhD
3.	Occupation	What was their occupation at the time of the study? Postdoctoral Fellow
4.	Gender	Was the researcher male or female? Female – Farah Islam, Amanpreet Multani Male – Bassaam Salim
5.	Experience and training	What experience or training did the researcher have? PhD, Graduate Diploma in Health Services and Policy Research, took courses: Mixed Methods Research, Qualitative Research
Relationship with participants		
6.	Relationship	Was a relationship established prior to

No	Item	Guide questions/description
	established	study commencement? Yes
7.	Participant knowledge of the interviewer	What did the participants know about the researcher? e.g. *personal goals, reasons for doing the research* Researcher background, reasons for conducting the study, goals for what would be done with the research
8.	Interviewer characteristics	What characteristics were reported about the interviewer/facilitator? e.g. *Bias, assumptions, reasons and interests in the research topic* Bias, insider/outsider, self-reflexive journal
Domain 2: study design		
Theoretical framework		
9.	Methodological orientation and Theory	What methodological orientation was stated to underpin the study? *e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis* Braun and Clarke's (2006) Thematic Analysis
Participant selection		
10.	Sampling	How were participants selected? *e.g. purposive, convenience, consecutive, snowball* Purposive, snowball

No	Item	Guide questions/description
11.	Method of approach	How were participants approached? e.*g. face-to-face, telephone, mail, email* Recruitment poster in areas of congregation, interviewer approached youth workers to talk to their clients to participate in the study
12.	Sample size	How many participants were in the study? 10
13.	Non-participation	How many people refused to participate or dropped out? Reasons? none
Setting		
14.	Setting of data collection	Where was the data collected? e.*g. home, clinic, workplace* Place of convenience for the participant: public library, researcher's workplace
15.	Presence of non-participants	Was anyone else present besides the participants and researchers? In the library there were other people studying/browsing books but not near the interview
16.	Description of sample	What are the important characteristics of the sample? *e.g. demographic data, date* South Asian youth, 15-23 years old, 2 men and 8 women, 3 Canadian-born, 7 immigrant, countries of origin: India, Pakistan, Bangladesh, Trinidad, Guyana, Religions: Islam, Sikhism, Hinduism
Data collection		

No	Item	Guide questions/description
17.	Interview guide	Were questions, prompts, guides provided by the authors? Was it pilot tested? Yes, semi-structured interview guide followed Yes, pilot tested
18.	Repeat interviews	Were repeat interviews carried out? If yes, how many? No
19.	Audio/visual recording	Did the research use audio or visual recording to collect the data? Audio recording
20.	Field notes	Were field notes made during and/or after the interview or focus group? Yes, field notes were made during and after interview
21.	Duration	What was the duration of the interviews or focus group? Interviews ranged from 45 min – 1.5 hours
22.	Data saturation	Was data saturation discussed? Yes
23.	Transcripts returned	Were transcripts returned to participants for comment and/or correction? Yes, final manuscript returned for feedback
Domain 3: analysis and findingsz		
Data analysis		

No	Item	Guide questions/description
24.	Number of data coders	How many data coders coded the data? 1
25.	Description of the coding tree	Did authors provide a description of the coding tree? No
26.	Derivation of themes	Were themes identified in advance or derived from the data? In advance
27.	Software	What software, if applicable, was used to manage the data? None
28.	Participant checking	Did participants provide feedback on the findings? Yes, participants provided feedback on manuscript
Reporting		
29.	Quotations presented	Were participant quotations presented to illustrate the themes / findings? Was each quotation identified? e.g. *participant number* Yes, participant numbers given
30.	Data and findings consistent	Was there consistency between the data presented and the findings? Yes
31.	Clarity of major themes	Were major themes clearly presented in the findings? Yes

No	Item	Guide questions/description
32.	Clarity of minor themes	Is there a description of diverse cases or discussion of minor themes? Yes