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Resiliency against food insecurity among the Black population in Scarborough during the COVID-19 pandemic

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Abstract

Background One of the effects of the COVID-19 pandemic is the increased level of food insecurity, especially during the first wave. Food insecurity is an indication of poverty and results in serious health and social effects. Even though several studies have been conducted to assess the impact of COVID-19, there is a paucity of information on the role of individual community members and local organizations in addressing food insecurity in the province of Ontario, Canada. Consequently, the objective of this study is to examine the role of individuals and community organizations in addressing food insecurity challenges among the Black population in Scarborough in the Greater Toronto Area.

Methods This qualitative study recruited 20 Black participants from the TAIBU Community Health Center (CHC) located in Scarborough. Furthermore, the study recruited eight nurses and two Black doctors in the Greater Toronto Area (GTA) but only one affiliated with TAIBU. In-depth interviews were used to gather information for analysis. The study used manual coding and NVivo software to analyze the qualitative data.

Results The study found that there was a reported incidence of food insecurity among the population but new local food aid organizations sprang up to assist the existing ones in tackling food insecurity. However, the study found that the operations of food aid organizations are not sustainable.

Conclusions Despite the reported cases of food insecurity, local community organizations and individual community members volunteered to support people to boost their resiliency to food insecurity. The findings of the study highlight the role of community organizations in addressing food insecurity during crises including pandemics. Based on the health effects of food insecurity, the study recommends that both federal and provincial governments prioritize food insecurity as a major public health issue.

Keywords Food insecurity, Resiliency, Community organization, COVID-19 pandemic

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Introduction

Food insecurity is the inability to meet one's daily food requirements for normal growth and healthy living. Furthermore, consumption of high-calorie and carbohydrate diets, eating expired food, and buying, and consuming inexpensive or unhealthy foods also constitute food insecurity [1]. One of the effects of the COVID-19 pandemic has been increasing cases of food insecurity reported during the first wave. Studies reveal food insecurity is an indicator of poverty and hardship [2, 3]. Additionally, food-insecure households are likely to default on the payment of bills, rent and mortgage [4] and may be unable to afford medication [5]. However, the concept of resilience generally refers to "the ability of an ecological system to resist a change in state or to recover in response to perturbations" [6]. Concerning food security, resilience refers to maintaining sufficient and nutritious food in the face of chronic and acute environmental crises including pandemic [6].

The COVID-19 pandemic created an unprecedented level of human suffering including economic hardship due to the loss of jobs [7, 8], increased depression and anxiety due to loneliness [9, 10], a rise in gender-based violence [11, 12], heightened levels of food insecurity [13, 14], and record global mortality [15, 16]. It is, therefore, indispensable to address the food insecurity situation because of its negative health outcomes such as poor mental health [17, 18] type 2 diabetes, cardiovascular and other chronic diseases [19, 20], reduced immune system function [19] chronic pain [21], higher risk of hospitalization from acute chronic infection [19, 22], as well as high morbidity from infectious diseases [23, 24]. Furthermore, the pandemic has exacerbated existing food insecurity and increased the number of food-insecure households [25, 26]. For instance, the number of food-insecure households increased fourfold during the COVID-19 pandemic in the UK [27]. Ironically, the proportion of people experiencing food insecurity in the fall of 2020 in Canada (9.6%) was lower than the previously estimated 12.6% in 2017/2018 [17]. This can be attributed to economic relief packages like the Canada Emergency Response Benefit (CERB) introduced by the federal government to fight the COVID-19 pandemic [18, 28]. Similarly, the level of food insecurity in the United States remained unchanged at the national level [16] but increased for the racialized population [26]. The stability of food security status in the United States has been attributed to the economic relief package introduced by the government during the pandemic which provided temporal relief to poor households [29, 30].

The COVID-19 pandemic and resultant food insecurity disproportionately affected racialized communities [31, 32]. For instance, Black people in the UK were disproportionately impacted by COVID-19, with a 10 to 50% greater risk of death than their white counterparts [31]. From March to May 2020, half of the population of Canada was adversely impacted by the COVID-19 pandemic with many experiencing a reduced ability to meet their financial obligations or essential needs [32]. Indeed, during the first year of the pandemic, the rate of unemployment increased by 15%, with 3 million jobs lost and 32% of the Canadian population experiencing reduced work hours in active labor in this same period [29, 33]. This hardship compelled the Government of Canada to initiate a host of measures including the CERB, employment insurance, waiving proof of sickness before assessing sick benefits, etc. to support individuals whose income and livelihood have been affected [34, 35]. Collectively, these measures were geared toward allowing individuals to voluntarily stay at home to minimize viral transmission and ensure food security. However, the charity-based model of food security practiced in Canada is not sustainable [36, 37]

Research suggests that Black people are among the most food-insecure populations in Canada [38, 39], the United States [40], and the United Kingdom [41]. A study in the United States found that Black people were more disproportionately affected by food insecurity than any racial category [42, 43]. The rate of food insecurity (21.2%) among Black people is twice the national average (11.1%) [42, 43]. Similarly, in the United Kingdom Black people, as well as Asian and minority ethnic groups, experienced an above-average level of food insecurity [41]. In Canada, Black people are 3.56 times more likely to become food insecure compared to their White counterparts [39].

Several researchers have delved into uncovering the impacts of the COVID-19 pandemic on the food system [27, 44], the food security status of minority populations [3], mental health [9, 17], and increased gender-based violence [11, 12, 45], among other important intersections. However, there is a paucity of information on the role of individual community members and local organizations in addressing food insecurity in the province of Ontario, Canada. Given this paucity and the inequities described here, the primary objective of the study is to assess the resiliency against food insecurity among the Black population in Scarborough during the COVID-19 pandemic. Specifically, the study aims to investigate the role of individuals and local organizations in addressing food insecurity in Scarborough during the COVID-19 pandemic.

Materials and methods

This qualitative study is grounded in anti-Black racism and an Afrocentric lens which informed data analysis and discussion. Afrocentric theory involves the development of consciousness, quality of thought, and demonstrable actions where people of African descent seek, from the agency, to assert their subjective position within African history and culture [46–48]. Using Afrocentric theory, Karenga [49] argued that food insecurity is a consequence of historical and ongoing racial inequalities that restrict access to resources and opportunities for Black people. Study participants were Black people who previously enjoyed or continue to partake in the services of TAIBU Community Health Center (CHC). TAIBU's services are based on seven Afrocentric principles of cooperation, creativity, self-determination, responsibility, spirituality, unity, and purpose [50]. TAIBU is the only Community Health Center in the country that is grounded in an Afrocentric approach and dedicated to serving Black communities. The TAIBU CHC is an ideal setting for this study because of its unique Afrocentric [45] approach to primary health care and health promotion for and with the Black community and collaboration with other Black organizations. A poster calling for research participants was distributed through TAIBU's listserv and Twitter accounts. Participants who contacted the principal investigator (PI) were listed and purposively selected to join the study based on their experience with the Black community. The principal investigator further used purposive and snowball sampling techniques to select community leaders based on their vast knowledge and experience about the needs of their community members. The researchers selected 20 individuals from TAIBU CHC for an in-depth interview. The inclusion criteria for members of TAIBU stipulated individuals who self-identified as Black, had previously or continuously patronized the CHC's services, and resided within Scarborough.

Snowball sampling was also used to select 10 healthcare professionals comprising two medical doctors and eight registered nurses from diverse fields of specialization. The inclusion criteria for healthcare professionals called for individuals who self-identified as Black and work as a nurse or medical doctor within the Greater Toronto Area (GTA). In all, a total of 30 individuals took part in the study including 25 females and 5 males. Participants were asked questions such as how would you describe your food situation (i.e., access to food) before COVID-19 and now? What factors do you think contribute to your current food security situation? How do you cope with food insecurity? How did COVID-19 affect you physically, mentally, economically and spiritually? In addition, four local organizations working at the intersection of food and health were interviewed.

Community organizations were asked questions including, how would describe the food security situation now and before COVID-19? Would you describe the role of your organization in addressing the food needs of your community during COVID-19? What kind of support did your organization receive and from whom?

Before each interview, the PI and sole interviewer read out a consent form indicating the rights of the participant and the anonymity clause that prevents the researchers from revealing the identity of the study participants. Participants were verbally asked if they agreed to take part in the research as approved by the University of Toronto ethics board and those who agreed were interviewed. Interviews ranged from 20 to 65 min. All interviews were done virtually due to COVID-19 restrictions and protocols. In all, the researchers conducted 28 interviews via telephone and two interviews via Zoom. Participants disproportionately opted for telephone interviews likely due to this requiring less time to prepare the surrounding environment and the ability to talk freely about their situation and knowledge about the community.

Data collection started on April 1, 2021, and ended on March 30, 2022. This duration allowed data collection and analysis to be done concurrently to allow the researchers some time for follow-ups. Data obtained from interviews were transcribed manually and the researchers reviewed the text repeatedly to correct spelling mistakes and minor grammatical errors, in accordance with the work of Demi [2]. Notably, this close review of the text helped the PI gain a clearer sense of the data before coding. The researchers assigned four-letter pseudo names to each participant to keep the identity of the participant secure. The four-letter names were chosen because of easy pronunciation and the fact that none of the participants bears four-letter names. We used various colors to highlight some statements and quotes as the first layer of coding. We coded the transcribed data using process and descriptive coding techniques [51]. The raw data were disaggregated into various sub-themes and later aggregated into main themes based on the objectives of the research and the new findings.

Results

As stated earlier, the study aims to examine the role of individual community members and local organizations in addressing food insecurity. The findings of the study are discussed below.

Role of local organizations and community members in addressing food insecurity

The emergence of the COVID-19 pandemic highlighted the resiliency of Black communities. This resiliency and resourcefulness are visible, particularly in addressing

food insecurity are demonstrated by mutual aid and local organizations.

Mutual aid and local Black organizations in Scarborough

The research participants were asked to describe their food security situation in their community before and during COVID-19. Participants revealed that the early stages of COVID-19 resulted in shortages of food at grocery stores due to the lockdown measures, reduced working hours, unemployment and the closure of food banks in the Scarborough neighborhood. These presented challenges to many Black families who struggled to feed themselves. However, individuals and local organizations stepped up to support their community members to boost their resiliency to food insecurity. The resilience of Scarborough residents was evident in the sporadic emergence of new community-led organizations that supported existing agencies to address food insecurity in their community. Black Scarborough residents took the initiative to support their community and countless others volunteered to address food insecurity orchestrated by the COVID-19 pandemic. As one of the representatives of the organizations notes:

...we were born out of the pandemic, primarily. And when our only food bank in the community closed its doors. A bunch of labourers at that time just came and said how can we help everybody. So, we decided to start to get food and delivered it to people's homes last March. Long story short, now we have four food banks in the community, we serve over 1000 people every week. And we have a mobile meal program that goes from three different places and serves out a hot meal. And also, we are working on a few other different programs. One is community gardens we have a couple of community gardens. (Feed Scarborough)

The above quote indicates the community organization emerged out of the zeal of the community members to help their neighbors. It further indicated the initiators of the organization are workers and some are low-income but who saw the need to help their fellow citizens. As noted above, the initial lockdown affected even the food banks due to the restriction on public gatherings. Consequently, some food banks closed to enable them to re-organize to serve the people safely. The closures were also a means to preventing food banks from becoming spreaders of the COVID-19 virus, particularly among members of vulnerable communities. Still, as food banks closed out of necessity, people who relied on them for food had no place to turn to for support. This crisis necessitated the creation of local organizations that collected food from food banks

and other sources, including individual food donations and delivered them to the people in need directly. Delivering food directly to people made it possible for those who otherwise would not have visited food banks for fear of stigma, to have access to much-needed food. Apart from helping people to achieve their immediate food needs, the organizations represented in this study also worked hard to address the root cause of food insecurity in their surrounding community, namely poverty. Consequently, one of the local organizations is dedicated to providing employment skills to new community members:

... we are creating a training program for youth and new immigrants and refugees in Culinary and Hospitality, to get them employable in the business. And also, we are just in the process of starting a business incubation program. And our goal with that is especially, new immigrants, or people who are trying to start their own business and working from home, how we can give them the support to have, how to open a business in Canada, or how to register a company and things like that to incubate their business and train them. And then the last program that we are starting is a mobile farmers' market. So, our truck will go to different parts of the community and will have access to fresh vegetables and fruits, it will be market rate for anybody who can afford it, and people who are our clients and who cannot afford as much will get a sizable discount on the wholesale price to be less than No Frills' prices. (Feed Scarborough)

The quote above suggests the organization focuses on the most vulnerable groups in the community such as new immigrants and refugees. Canada admits the best, most well-educated and skilled immigrants, however, their skills and expertise are often disregarded for lack of "Canadian experience." As a result, many skilled newcomers resort to menial jobs to survive [52]. In their work, Ng and Gagnon [56] found that skilled immigrants in Canada face obstacles in securing jobs and earn less than Canadian-born even with higher levels of educational qualification. Hence, the creation of a program that trains new immigrants in the culinary and hospitality industry to help develop employable skills and the requisite "Canadian experience" required by many employers. In addition to focusing on addressing the unmet food needs of their respective communities, some of the organizations that participated in the study expanded their focus to include attention to the mental health of women in the community. This was eloquently stated by the representative of the Uzima Women Relief Group, which supports women from various parts of GTA:

So Uzima provides support, all-around support for around wellness, what Uzima means is wellness. We do a lot of, we take a lot of health care and support women, and families. So, we actually help the community, we address issues of the social determinants of health that are surrounding most people who are, who live in low-income communities, who are in low-income, impoverished areas and neighbourhoods... We had a program to support women during COVID. So, we supplied groceries to a few women who are really in need. Our program focused on ensuring that we included a balanced diet from the groceries we give them, like the fruits and vegetables that can be very expensive at this time and brought them food that some could not afford. (Uzima)

This organization focuses on the most vulnerable women in the community, namely homeless and precariously housed nursing mothers. They offer support to these women through guidance and counseling to address mental health conditions exacerbated by the COVID-19 pandemic. This is very important and quite needed because of the association of COVID-19 with a rising prevalence of mental health concerns [9, 10]. Indeed, studies found that COVID-19 restrictions coupled with the poor economic situation and food insecurity increased people's anxiety levels and resulted in poor or decreased mental health [9, 10].

Furthermore, this organization recognized early that most food-insecure or economically disadvantaged households cannot afford fruits and vegetables due to the exorbitant cost. Therefore, they focused on supplying individuals with groceries that contain fruits and vegetables to supplement household food stock. The importance of fruits and vegetables in ensuring good health cannot be over-emphasized. Research has shown that the consumption of adequate vegetables and moderate consumption of fruit can minimize cases of chronic illnesses such as hypertension, cancers, obesity, diabetes, and cardiovascular diseases [53]. Hence, providing adequate fruits and vegetables to community members can boost their immune systems against COVID-19 and other health concerns [53]. To ensure that the groceries meet the needs of the recipients, respect peoples' dignity and self-determination and help build relationships, Uzima Women's Relief Group takes the recipients to the grocery stores and asks them to select food items of their choice. This practice serves a few purposes: it enables the participating organization to familiarize newcomers with Western supermarkets and introduce them to stores that provide quality and culturally appropriate foods. It further provides an

opportunity for the recipient to obtain their preferred fruits and vegetables and the organization is also satisfied that their money is used for the intended purpose.

Other organizations that participated in the study focused on Black urban growers who grew crops before the onset of the COVID-19 pandemic but had no place to sell their products due to the closure of flea and farmer's markets creating another form of economic hardship. To create a channel for these farmers to sell their produce, Scarborough Farmers' Market (SFM) moved the market online to allow farmers to sell their products and created opportunities for consumers to get fresh and nutrient-dense food. The representative of SFM explains: "So last year we pivoted and moved from, you know, the regular Farmers Market in person during the height of the pandemic...to an online mode, or one of the first markets to do that. And that's how we were working." The representative explained that the market was slow initially because people prefer an in-person market where they get to talk to each other and exchange pleasantries. However, the market ramped up when the closure of farmers and flea markets became imminent and by the summer of 2020, the market was in a full section serving people in Scarborough and the surrounding neighborhood. The representative further explained the goal of establishing the farmers' market as follows:

My mission is to partner with local urban farmers and small business entrepreneurs... small family farms... people of colour; women-led enterprises...I want the market to reflect the diversity of the communities that we serve. And the aim is to have culturally appropriate nutrient-dense products for people to enjoy at an affordable price. (SFM)

As indicated by the above quote, SFM operates with a critical lens, providing a seat at the table for small enterprises with limited support. There is ongoing criticism of how corporate farms are displacing small-family farms in Canada. Data from Statistics Canada shows that from 2011 to 2016 the number of family farms decreased by 5.9%, and the trend has continued since 1961 [54]. Therefore, having a market that supports family farms can provide a respite for them to stay in business. Ethical food consumers have long advocated for support for small-family farms [55]. Apart from the support for growers and small businesses, the central focus of one of the organizations interviewed is to provide nutrient-dense food to the people of Scarborough and its surrounding communities. According to the representative: "[a] nutrient-dense vegetable is, you know, high in vitamins and minerals or a lot of green so anything that is, is green and healthy and rich where you know you're getting a good bang for your buck when you're eating. SFM." The organization focuses on

providing nutritious green leafy vegetables to people to promote healthy food habits. The nutritional properties of green leafy vegetables in the prevention of chronic illnesses have been well documented in the literature [55]. Hence, ensuring adequate consumption of green leafy vegetables is a way to boost people's immune system and in so doing help to protect against the risk of COVID-19 infection and associated morbidity.

Support from community members

Acts of mutual aid of the people of Scarborough peaked during the COVID-19 pandemic. However, this paper focuses on the members of TAIBU CHC who devoted their time to supporting their community to overcome food insecurity. TAIBU CHC provided enormous support to Black people in Scarborough by taking care of their health needs, distributing food, provisioning food vouchers, organizing exercises and yoga classes, as well as organizing health and educational events. These programs were taking place at TAIBU CHC before the onset of COVID-19, but food distribution was further enhanced to tackle food insecurity brought about by the COVID-19 pandemic. Notably, food distribution was facilitated by active volunteers, many of whom do not directly benefit from TAIBU programs. Their volunteering was mainly born out of necessity and the need to support members of their community. For instance, Emma, who lived in the United States for several years and returned to Canada upon retirement, decided to devote her time to volunteering at TAIBU CHC to tackle food insecurity. She explained

...I'm not in need but I do volunteer at TAIBU. I don't do all the help, but the lunches and all of that, every week I go, and I do the lunches... we have been given out food for like more than 300 people every week... I think is a really great thing, the TAIBU is doing a lot for these people who are in need. (Emma)

According to the research participants, apart from the delivery of raw/uncooked food directly to the doorsteps of the people, TAIBU cooks lunch or buys prepackaged lunch for weekly distribution. The volunteer coordinator at TAIBU CHC tasked her team with identifying people in need and distributing the food directly to their apartments on a weekly basis while being mindful of recipients' safety. This weekly distribution helped many food-insecure households to obtain guaranteed meals to reduce their burden of food insecurity. Individuals also go their way to identify and support the needy in their community. One such individual is Ella, a retired data analyst who unconventionally supported her neighbors. She asserts

...there's a lady in the Malvern area. She is really needy. Okay, and I reached out to TAIBU, and I got like food vouchers for her. I used to go to the west and become a nice community in the west and they used to get groceries and stuff from... one of these food banks, and my husband and I would go on Tuesdays, and we get stuff from the food bank. And we'll bring it, and we give it to the community, or we give to a specific woman, and she shares it with this other lady, or because she knows that she's needy. (Ella)

As the quote above shows, Ella and her husband who are food secure due to a good pension decided to visit food banks and join a long queue to obtain food for members of their community. To keep it discreet, she gives the food to the confidant of the needy to pass it on. Furthermore, she looks for needy people in her community and links them to relevant organizations for support. A retiree who is supposed to rest but instead chooses to volunteer to help working families who are struggling demonstrates the resilience of the Black people in Scarborough. The combined effort of local organizations and the volunteering spirit of individual community members made a difference in the lives of those struggling with food insecurity. Hence, the study found that although there was an incidence of food insecurity during the first wave of COVID, assistance from local organizations and individuals counteracts the impact of food insecurity. This finding is consistent with earlier studies which found that economic relief packages in the United States offset the impact of COVID-19 on food insecurity among the population [29, 30]. This shows food and financial aid can help minimize the impact of food insecurity during an emergency. Many of the participants agreed that food assistance helped them to overcome the impact of food insecurity. They further reported that food distribution or assistance ramped up during the peak of the pandemic. One such participant is Aria who notes

Okay so before COVID, because I just had the surgery and I [am] not working, and my ODSP cheque was adjusted. I was getting way less than what I'm used to. And so, I had to do a lot of adjustments. It was everything that I've spent money on, just so that I can have a little bit of food, but it still wasn't enough. Being on it still was not enough. And so then, my daughter, who worked at the time, at the Boys and Girls Club, she started getting food, so that helped a lot. (Aria)

Aria who was temporarily unemployed because of surgery notes that the money she receives from ODSP was insufficient to cover her bills and she consequently made several adjustments to survive. She explained that her

family relied on the food brought home by her daughter who worked in the Boys and Girls Club. However, when the Boys and Girls Club closed their office due to COVID-19 restrictions, TAIBU CHC and food banks became their main source of food. She asserts that she never lacked food because of the support they received from TAIBU and other sources. Other food-insecure households who participated in the study agreed that food aid in the community minimized the adverse impact of the COVID-19 pandemic and related closures and restrictions. Responding to the question, how would you compare your access and availability of food now and before COVID-19? Nora states

For me, I will say there is no difference, even during this COVID pandemic, in fact, they increased their food supply. ... because I know that when, during the first shutdown, they were able to provide more food than before. Yeah, because there, there were a lot of cartons of food and then they really tried that time.

Nora, who received food assistance before the COVID-19 pandemic, argued that the local food charity organizations increased their frequency and quantity of food distribution which helped offset the adverse impact of the pandemic. Zoey, who lost her job before the onset of COVID-19 agreed with Nora, noting, that "...since the COVID, the assistance, I found out that, especially with the Black community, we've been stepping up and they've been assisting more, be more accessible for a person to get assistance."

Nora and Zoey's assertions were supported by experiences shared by other participants, further demonstrating the resolve of Black residents of Scarborough to address food insecurity through collective care and mutual aid. Contrary to this finding, a large-scale Canadian study found that only 0.4% and 7.4% of food-secure and food-insecure households, respectively, received food assistance [24]. However, the authors admitted that they administered their questionnaires when there was no robust measure to address food insecurity which might have accounted for the low food aid. That said, individual community members also helped their friends and colleagues who were in need. Nora explains why she never borrowed money to buy food:

I've never borrowed money to buy my food because, by His Grace, I have very good friends that give, that buy groceries for me every week. They take us out, they give us money. If they don't buy, that my friend is not only her [who] buys for me. She also encourages some of her friends to buy, so they now buy it in bulk for us and bring. So, we never lack food anyway. (Nora)

From Nora's account, friends take them out, give them money when needed, and encourage others to assist them with food. Consequently, she has never lacked food despite being unemployed throughout the pandemic. She advises that those in need must avail themselves, eschew shyness, and let people know their situation to assist and asserted that it is okay to ask for assistance when you need it. That said, some community members assisted their compatriots anonymously to eliminate any element of shyness or embarrassment. Others channeled their donation through places of worship such as churches, mosques, and temples, among other institutions. This was evident in Nora's quote:

So, the community, even my own church, people from my own church again, I don't know [them], buy food for us. Keep it in the church, then the church people will call us. They usually stay anonymous because they don't tell me their names, or they have never known their names. I asked their names and they say no, they say that is anonymous. When they keep the food, they would just call us from the church office that we have some food, that we should come and pick it up. (Nora)

Nora notes that her church members buy food for them through the church channel. The anonymous donors support struggling families not to claim glory but to solve a problem in the community. They do it so discreetly that sometimes the church leaders themselves do not know the donors. This community support brought relief to the struggling families without which life would be very difficult for these families. Nora voiced this when she was responding to a question, how would you imagine life without community support? She asserts

it will be very difficult, yes... You know because of the pandemic; the kids are home. They were not at school. I don't go to work. if I don't go to work, I won't get paid. Yeah. So, I supplement with the food I get from them, yeah." (Nora)

Nora, who is a new immigrant to Canada with two children, could not work because of school closures. She has no family in Toronto to babysit her children to enable her to work. Her husband lives in their home country; hence, she lives in Toronto as a single mother. Her plight reflects the disproportionate impacts of COVID-19 on single mothers specifically and women in general. Further, it shows the struggle of new immigrants to survive in a Canadian system that values "Canadian experience" and disregards skills and expertise gained outside of Canada and people's humanity. The above commitment on the part of the residents of Scarborough demonstrates their resilience against food insecurity in their community.

Discussion

COVID-19 created an increased level of food insecurity, especially during the first wave of the pandemic [18]. Studies have associated the increased level of food insecurity with lockdown measures, the closing of borders in Canada and the US for food trucks and closures or reduced labor strength of most companies [18, 56]. The Black community disproportionately felt the impact of COVID-19 in terms of the severity of infection, the likelihood of hospital admission, the death rate, unemployment and food insecurity [57]. Some of the reasons why Black communities were especially hard hit include many people working in precarious jobs and as front-line workers. Despite the disproportionate impact, there was a lack of specific programs to address the food insecurity situation in Black communities. Consequently, existing local and emerging organizations in Scarborough stepped up to address the food needs of members of their community. The study found that community members initiated new food aid organizations that supported the existing ones to address food insecurity. The initiative was propelled by the closure of food banks in Scarborough [58]. The failure to meet the food needs of vulnerable populations in the communities necessitated the creation of food aid organizations which mainly consist of the people in the communities without any formal structures.

Support from community organizations

The services provided by TAIBU CHC helped the participants minimize the impacts of food insecurity brought about by COVID-19. TAIBU CHC played a pivotal role in helping the Black community improve their resilience to food insecurity by distributing hot meals weekly to vulnerable populations. They also created a hotline for people who experience food insecurity to call and get food delivered to them. TAIBU further created a volunteer network that facilitated food distribution. The food was delivered to the seniors in their apartments and homes to stop the spreading of the COVID-19 pandemic. Other organizations including Tropicana, the University of Toronto Scarborough, Feed the City Scarborough and various religious groups distributed food that provided relief to some of the participants. The research participants agreed that food distributed by various organizations helped to reduce the impact of the COVID-19 pandemic. This finding implies that food and financial aid can help minimize the impact of food insecurity during emergencies such as environmental crises or pandemics. However, this also reveals the loopholes in the Canadian food system. The emergence of COVID-19 exposed the vulnerability in the Canadian food system to a crisis or pandemic. This calls for robust policy to address food

insecurity during emergencies rather than relying on ad hoc measures.

Challenges facing new immigrants

New immigrants to Canada became one of the vulnerable groups to experience food insecurity during the COVID-19 pandemic. Consequently, the new organizations helped to obtain and distribute food to food-insecure households including new immigrants. Some of the organizations aim to address food insecurity beyond COVID-19 by initiating programs to help make their operation sustainable. The area of focus of these initiatives includes enhancing the employment skills of new immigrants by helping them register small businesses and training them in cutlery skills. This is relevant because studies have found that new immigrants are not easily absorbed in the Canadian labor market without Canadian experience [59]. This requirement has made many new immigrants unqualified to work high-skilled employment and, therefore, resort to menial jobs to survive until they upgrade their schooling in Canada. Factors that impede the integration of new immigrants into the Canadian labor market include lack of Canadian work experience and Canadian credentials, language barrier and access to a vehicle [59]. Consequently, even highly skilled immigrants experience poverty and food insecurity due to a lack of reliable jobs. One of the participants, an MPP in Scarborough reported that there is negotiation with the provincial government to ease the certification requirement of medical doctors to facilitate their integration into the Canadian health sector due to a shortage of medical professionals. These impediments substantially impede the overall well-being and contribution of new immigrants to the Canadian economy. Consequently, the Canadian government should review policies that impede the integration of new immigrants to facilitate and harness their skills.

Boosting community immune system through nutrition

Some of the organizations not only address food insecurity but also nutritional security. The organization devoted funds to providing fruits and vegetables to augment the nutritional needs of the participants. Fruits and vegetables contain vital nutrients that protect against chronic non-communicable illnesses such as hypertension, diabetes, cardiovascular diseases and various forms of cancers [60, 61]. A study revealed that people who have underlying conditions of chronic illness have compromised immune systems and, therefore, are susceptible to COVID-19 and experience high admission and death rates from COVID-19 [62]. Therefore, adequate consumption of vegetables helps to improve the immune system and resistance against COVID-19 [53, 63]. Another

organization focused on providing people with nutrient-dense green leafy vegetables to boost their immune systems. All these were part of the community effort to increase resiliency among members of the Scarborough community. It is important for both the federal and provisional governments to introduce policies that will promote healthy eating, particularly increasing consumption of green leafy vegetables. This proposed health promotion policy should start in schools by educating students and pupils about the health benefits of green leafy vegetables. Research shows that children can influence their parents' eating habits [63], hence, schools are places to commence nutritional health promotion.

Creating opportunities for local farmers

One organization focused on creating a platform for local farmers to sell their farm products to consumers at reasonable prices. This created an opportunity for consumers to get fresh fruits and vegetables and also get to know the farmers. By having the opportunity to interact with farmers, consumers can contribute to the safety of the food they consume. The creation of online farmers' markets allowed farmers to sell their farm products to customers at farm gate prices to stay in business. It further reduced the losses farmers would have incurred during the locked period when farmers had no place to sell their farm products. The goal of SFM is to create an opportunity to diversify the food market where people at the helm of affairs represent the society. Another goal of SFM is to provide nutrient-dense foods especially green leafy vegetables to boost consumer's immune systems. Studies revealed that green leafy vegetables contain phytochemicals and anti-oxidants which fight against chronic non-communicable diseases [61].

Strengths and limitations of the study

The strengths of the study include providing insights into understanding community mobilizations against food insecurity in urban settings. It further provides an in-depth analysis of community support and resilience in tackling food insecurity and how participants feel about the food security situation in their community beyond figures. Furthermore, the study selected people who were involved directly or indirectly in food distribution in the community and, therefore, have first-hand and adequate knowledge about the food security situation in their community. However, the limitations of the study include gender disparity (25 Females and 5 males) among the participants which may limit male voices. Furthermore, the small sample size does not allow the findings of the study to be generalized even though the purpose of qualitative study is not for generalization.

Conclusions

The study explored the role of individuals and local organizations in addressing food insecurity in Scarborough during the COVID-19 pandemic. We used in-depth interviews and a brief survey to obtain data for analysis. A key finding of the study concerns mutual aid. Specifically, among study participants, food insecurity was high during the COVID-19 pandemic, however, local organizations and individuals stepped up to address this food insecurity with new local food aid organizations springing up to assist existing agencies in tackling this formidable problem. Community members also supported friends and neighbors who had difficulty getting food. Furthermore, foods were delivered to the doorsteps of recipients which made it easy for people with disabilities, those unable to walk to food distribution centers, or those with a compromised immune system (and, therefore, might be scared to go out) to have access to food. Some community organizations prioritized supplying fresh green leafy vegetables and fruit to participants to boost their immune system. The combined efforts of the local food aid organizations and the volunteerism spirit of individual community members reduced the burden of food insecurity on struggling families.

Based on the study's findings, we recommend that all levels of government prioritize food insecurity as a major public health issue. The government should replace the current charity-based model of addressing food insecurity with a substantive policy that works to reduce poverty, unemployment, and precarious employment. This can be achieved by replacing the minimum wage with a living wage, reducing restrictions preventing new immigrants from working in their trained profession and granting food coupons to those on government assistance.

To bolster community resilience and community capacity to address food insecurity, community members should be encouraged to continue to support and strengthen local organizations through cash and in-kind contributions. Local community organizations addressing food insecurity should continue to work towards conscientizing people about the importance of community and backyard gardening to increase access to quality food in their community. Furthermore, smaller community organizations should align themselves and work in partnership with recognized organizations to access funds and ensure food reaches the most food-insecure population. Community members should be encouraged to mobilize to call on all levels of government to support Black food security and increase funding to support mutual aid and community organizations that provide services to those in need. Lastly, food distribution should prioritize vulnerable populations including the

elderly, people with sickle cell anemia, and people with disabilities.

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Author contributions

The corresponding and first author conceptualized the research and conducted individual interviews and data curation. The first, second and third authors developed the methodology and conducted the validation and formal analysis of the data. The first author drafted the paper and was reviewed and edited by all the authors. All the authors have read and agreed to the published version of the manuscript.

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Availability of data and materials

The data generated and/or analyzed during the current study are available from the corresponding author upon reasonable request.

Declarations

Ethics approval and consent to participate

Ethical consent was obtained from all participants. The study complied with the University of Toronto Ethics Board (Protocol #: 00039871).

Consent for publication

Not applicable.

Competing interests

The authors declare that they have no competing interests.

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