

Investigating the Experiences of Ontario's Rural Residents during the COVID-19 Pandemic

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Received: April 8, 2023

Accepted: May 12, 2023

Online Published: May 16, 2023

doi:10.5539/jsd.v16n4p34

URL: <https://doi.org/10.5539/jsd.v16n4p34>

Abstract

Rural residents are often more disadvantaged in responding to challenges compared to urban dwellers. Using a case study, our study aims to enhance the understanding of the COVID-19 pandemic's effects on rural residents. The objectives of our study are to 1) explore rural residents' experiences as it relates to communication, access to government services, food security, and transportation; 2) examine the economic effects on rural populations on their income and employment. An online survey was completed anonymously through a google forms link by Middlesex County residents sample size N= (436). The survey questionnaire contained socio-demographics-related questions and closed-ended and open-ended questions. The quantitative data were analyzed using SPSS, while qualitative data were analyzed using thematic analysis. The pandemic has affected participants' economic and social lives in significant ways. The primary reported issues were physical and mental health, employment and less income, transportation/travel inconvenience, access to food and essential needs, and social isolation.

Keywords: rural communities, COVID-19, social and economic impacts

1. Introduction

Approximately 19% of Canadians live in rural areas and are more likely to experience socioeconomic barriers and challenges that impact rural livelihood and have left them disproportionately impacted by the pandemic (Erwin et al., 2020; Moffit et al., 2022). Rural populations face geographical inequities in health and disease that have resulted in a lower life expectancy for both men and women in rural Canada compared to the Canadian average (Division, C. M. H. A. O., & Gibson Library Connections, I, 2009). Poorer health outcomes compared to their urban counterparts and a higher prevalence and incidence of underlying health conditions such as cardiovascular disease (CVD), high blood pressure, obesity, diabetes, cancer, and chronic respiratory illnesses have led to disproportionate rates of morbidities and mortalities in rural regions (Chandler et al., 2020; Cosby et al., 2008; Fleet et al., 2018; Sibley & Weiner, 2011; Canadian Institute for Health Information, 2012). Chronic health diseases weaken the body's immune system and ability to fight against the virus, putting the individual at a greater risk of more severe infection and death from the coronavirus (American College of Cardiology, 2020). The geographical and historical barriers to receiving healthcare, limited or lack of access to healthcare services, and poor healthcare infrastructure result in unmet healthcare needs (Fleet et al., 2018; Sibley & Weiner, 2011). Patients that have the means to travel long distances to healthcare facilities during the pandemic in rural areas have witnessed the persistent shortages and lack of services providers, Intensive Care Units beds, ventilators, personal protective equipment, and other essentials required to manage the overwhelming burden of coronavirus cases (Sharma et al., 2020). Rural regions tend to consist of older populations that are more susceptible to contracting and dying from the Coronavirus infection, and their informal caregivers often experience barriers to providing and accessing support such as transportation issues and longer travel times (Chu et al., 2020; Henning-Smith, 2020; Richman et al., 2019). As a result, rural communities were more likely to contract COVID-19, have a more severe infection, and experienced higher mortality rates (Wang et al., 2021; Cuadros et al., 2021).

There are many more challenges that come with living in a rural area and serve as risk factors for poorer mental health including social segregation and aloneness, poverty, low socioeconomic status, insufficient educational opportunities, fewer job possibilities, lower income, higher levels of unemployment, stressors caused by farming and ranching to maintain livelihood, higher levels of domestic violence, elevated rates of mental health stigma, an

older population with more Indigenous peoples, fewer community resources, inequitable access to health services, and difficulty maintaining clean water, sufficient and affordable housing, adequate transportation, and securing quality food (Inuit Tapiriit Kanatami, 2020; Manywounds, 2019; Palmater, 2019; Statistics Canada, 2016; Rural Health Information Hub, 2021; Kevany & Jones Bitton, 2020). Rural residents are often disadvantaged in responding to challenges due to their smaller population, the former experience limited workforce availability, more considerable distances to markets, seasonality of economic activity, reliance on small industries, and limited access to the Internet (Hall et al., 2020). Our study aims to enhance the understanding of the COVID-19 pandemic's effects on rural residents by using a case study. It is designed to shed light on the social and economic impacts of the COVID-19 pandemic on rural Canadians, focusing on a region, Middlesex County. The region is a predominantly rural area in Southwestern Ontario facing the same struggles as other rural communities in terms of the pandemic's impacts, including non-existent transportation access and unavailable broadband internet connectivity (Cane et al., 2012; Clarke & Braun, 2017; Vaismoradi et al., 2013). Exploring the experiences of Middlesex County residents during the COVID-19 pandemic will lay the groundwork for future studies to investigate the barriers rural communities encounter and devise recovery policies that address the unique needs and health inequities in rural areas.

2. Background

2.1 Rural Access to Resources

Rural communities are less likely to have the financial and social means to access resources during this pandemic (Erwin et al., 2020). Transportation, communication access through broadband services and emergency housing, and financial support are among the challenges that rural Canadians face daily (Moffit et al., 2022). Approximately one-third of the elderly population already have multiple unmet social needs, including food insecurity, inadequate transportation, loneliness, and strained financial resources (Chu et al., 2020; Henning-Smith, 2020). Older adults were further affected by the COVID-19 pandemic as they often relied on informal caregivers and experienced more difficulty caring for their elders due to social distancing and stay-at-home orders that may have led to greater isolation, and more difficulty in accessing health care services, obtaining medications, and grocery shopping (Chu et al., 2020; Henning-Smith, 2020; Richman et al., 2019). Moreover, older individuals living in rural areas are less likely to use the internet compared to younger populations leaving them left out from many of these technological advancements unable to meet social and other needs during the pandemic (Chu et al., 2020; Vindrola-Padros et al., 2020).

2.2 Rural Mental Health

The COVID-19 pandemic has adversely impacted preexisting mental health conditions and exacerbated pre-existing gaps in access to mental health services in rural regions. Job loss associated with the pandemic has been linked to anguish, lower self-esteem, and psychiatric illnesses including depression and anxiety (National Institute of Mental Health, 2018). This is of further concern in rural regions where income, employment rates, and socioeconomic status are already lower. The pandemic impacts have also lowered the life satisfaction of rural residents through public health measures leading to sensations of loneliness and grief (Government of Ontario, 2021). Fear and worry over their own health, their loved ones, job and income loss, and social isolation has caused Canadian stress levels to double since the beginning of the pandemic (Angus Reid Institute, 2020). Social isolation was difficult on most communities, however, may have differentially affected rural Canadians as social connectedness, and togetherness is often relied on for individual and overall well-being. The combination of elevated stress, feelings of isolation and loneliness, and a lack of mental health services have disproportionately impacted rural communities' mental health (National Institute of Mental Health, 2018; Angus Reid Institute, 2020). The COVID-19 pandemic has led to increased rates of homelessness and poor housing conditions (Better Toronto Coalition, 2020), opioid overdoses (Friesen et al., 2021; Ghose et al., 2022), suicidal ideation and attempts (Pathirathna et al., 2022) and domestic violence (Ireton, 2020) in rural communities. People without homes or safe and adequate housing are at an increased risk of adverse side effects from COVID-19, spreading the virus, experiencing poor mental health, and using substances (Farha & Schwan, 2020). The pre-existing issues surrounding underserved mental health and substance use services have been exacerbated by the impacts COVID-19 had on rural communities (Stack et al., 2021). The COVID-19 pandemic has also accelerated the impacts of the residential schools and longstanding, historical, and ingrained colonialism, racism, and inequity on the mental health of Indigenous peoples and has contributed to drug overdoses disproportionately affecting people of colour (Friedman & Hansen, 2022). The high levels of stigma experienced amongst rural residents, and more by Indigenous persons who experience racial discrimination (Turpel-Lafond, 2020), adversely impact mental health and rates of suicide, substance use, and the ability to seek help (Mental Health Commission of Canada, 2020). Medical conditions may not be the only factor contributing to rural health disparities. Rural living members are

more likely to take part in risk-taking behaviours such as drug and alcohol use and smoking (Richman et al., 2019), less likely to engage in healthy practices such as eating well and being physically active (Eberhardt & Pamuk, 2004; Hartley, 2004), and disproportionately face higher burdens of suicides, unintentional injuries, opioid overdoses, and living in poverty (Case & Deaton, 2015; Stein et al., 2017). People with a substance use disorder are more likely to have comorbidities that increase the risk of contracting COVID-19, requiring hospitalization, and dying from the virus (Wang et al., 2021).

2.3 Rural Diet-Related Health

Food insecurity has been a longstanding issue for rural communities that have resulted in the consumption of a poor diet and has contributed to adverse health effects, including obesity, CVD, hypertension, and type 2 diabetes (Kent et al., 2022). Higher rates of chronic health conditions have been linked to a lack of access to food, including the limited or lack of transportation and long distances required to secure food (Andress & Fitch, 2016), limited food availability (Kent et al., 2022), higher prices of food (Cuttler et al., 2019), and fewer government services that assist with food aid and insecurity in rural areas (Buck-McFadyen, 2015). Furthermore, food insecurity has been shown to increase the mortality risk among affected individuals (Niles et al., 2020). The COVID-19 pandemic has further exacerbated food insecurity and diet-related health inequities in rural regions as the public health restrictions (ie. Travelling constraints and shutting down of non-essential services) had severe consequences on food access, supply, safety, and availability (Devereux et al., 2020). It further poses a risk to food availability due to its impact on food-related expenses and infrastructure. This includes alterations in the distribution of food aid, restricted access to public transportation, and scarcity of specific food items. Moreover, market analysts suggest that there have been widespread modifications in consumer behaviour regarding food procurement (Niles et al., 2020).

2.4 Rural Economy

Higher levels of poverty and fewer job opportunities also increase rural residents' vulnerability to COVID-19. Economic impacts that have happened due to the pandemic have resulted in the shutdown of industries, outdoor recreation, tourism, and factory work that rural communities rely on (Mueller et al., 2021). During the pandemic lockdown, public health's guidelines on physical distancing have had a tremendous impact on rural residents' social lives. As rural residents often live in close-knit communities that share a strong sense of history, purpose, and respect for each other, the pandemic impacts are felt much worse during these times. The resilience of rural communities is vital due to their social support for each other and constant social interaction (Wang et al., 2021). The economic impact on rural communities has been exacerbated by the severe restrictions placed on travel for non-essential purposes (Phillipson et al., 2020). Rural communities are often known for their local attractions welcoming tourists throughout the season, but with the decrease in demand for services and products, challenges arise for local businesses. An estimated loss of 778,000 jobs in the tourism sector and a hotel occupancy of less than 10% is one of the many challenges faced by rural businesses in Canada (Hall et al., 2020). In addition to these concerns, the agricultural impact on businesses and producers was raised since the COVID-19 pandemic has resulted in restrictions on market access with limited financial resources to rely on (Weeden, 2020).

Rural areas undergo complex and distinct challenges that are often overlooked by researchers and decision-makers. To the best of our knowledge, this is the first study that aims to address the gap in understanding the lived experiences and perceptions of rural Middlesex County residents during the COVID-19 pandemic and the associated socio-economic impacts. The COVID-19 pandemic has posed distinctive challenges for rural communities, encompassing but not limited to obstacles in communication, restricted availability of government services, food insufficiency, transportation inconveniences, and social detachment. Gaining a comprehensive understanding of these challenges and their ramifications on rural inhabitants is of utmost significance in devising efficacious policies and procedures to tackle these issues.

3. Method

3.1 Study Design and Population

We used mixed-methods, cross-sectional web-based anonymous survey instruments. The study population was Middlesex County residents. Utilizing a case study approach brings a unique advantage to understanding a phenomenon in greater detail and creating a knowledge base (Crowe et al., 2011). Both purposive and snowball-sampling techniques were employed to target Middlesex County residents. The Principal Investigator (PI) has ongoing research collaboration with Middlesex County Library (MCL) employees; therefore, the survey dissemination plan was finalized by collaborating with the MCL. An e-poster containing the Google link survey and the study information was promoted and uploaded by a library employee through the MCL website. The study was open to all Middlesex County residents 18 years and older. The survey was completed between November 8,

2021, and November 16, 2021, with an interest from the Middlesex County residents. A total of 436 participants completed the online survey. To encourage participation, respondents had the option to provide their contact information to receive a \$10 e-gift card incentive. Participants that expressed their interest in claiming the incentive were sent an e-gift card. The data were collected confidentially through the internet-based survey software Google Forms (docs.google.com/forms). Our study has been approved by the Ryerson University Research Ethics Board (REB 2021-361).

3.2 Questionnaire Design

The questionnaire comprised ten questions with closed and open-ended response options, collecting both quantitative and qualitative data. Survey questions are developed using the constructs of the Theoretical Domains Framework. The Framework focuses on the influences of behaviour with 14 domains (Cane et al., 2012). We mainly used the knowledge and belief domains of the framework, which helped us categorize survey questions. The survey questions explored the pandemic experiences of Middlesex County residents. The questionnaire was designed to be completed in 15 minutes. The questionnaire was also pilot tested by four Middlesex County residents to ensure clarity and ease of understanding. Participants were required to provide informed consent before completing the questionnaire. Socio-demographic characteristics such as age, gender, education level, and income information were collected in the survey. The online survey included seven open-ended and three closed-ended questions focusing on the social and economic impacts.

3.3 Data Analysis

Only responses from eligible participants (Middlesex County residents 18 years and older) were included in the data analysis. Descriptive statistics (i.e., frequency tabulations) were used to analyze the quantitative survey data (i.e., closed-ended questions) with SPSS. Answers to the open-ended survey questions were analyzed using NVivo 12 (QSR International), a qualitative data management software program. To gain insight and knowledge from the data and identify common themes, an inductive approach using thematic analysis in which the generated codes were organized into themes, and the key messages were summarized and reported. A thematic analysis was utilized due to its flexible, reliable, and accessible nature (Clarke & Braun, 2017; Vaismoradi et al., 2013). Furthermore, we performed a framework analysis in Excel to identify the emerging themes and sub-themes. Once collected, the data were coded by two research team members.

4. Results

4.1 Socio-Demographic Characteristics

Table 1 represents a summary of participants' sociodemographic characteristics. The relative frequency distribution of age indicates that respondents belong primarily to the 30-55 (54.1%) and 18-29 (36.2%) age categories. They identified mostly as men (53.0%) and women (42.4%). Most participants (66.7%) have obtained a degree or diploma from a college or university. In comparison, 12.4% have completed high school. Finally, the relative frequency distribution of annual household income shows that 21.6% of respondents fall into the \$40,000-59,000 range, followed by 18.1% in the \$100,000-124,999 bracket.

Table 1. Relative frequencies of age, gender, level of education, and annual household income N= (436)

Variable	Category	Percentage %
Age	18-29	36
	30-55	54
	56-64	5
	65-74	3
	75+	1
Gender	Woman	42
	Man	53
	Trans woman	1
	Trans man	1
	Gender fluid, genderqueer, gender non-conforming	2
	Non-binary	0
Highest level of education	Less than high school	1
	High school	12
	Degree or diploma from a college or university	67
	Graduate or professional degree (examples: Master, PhD, MD or LLB)	9
	Prefer not to say	1
Annual household income	0 - 14,999	5
	15,000 - 39,999	16
	40,000 - 59,999	22
	60,000 - 79,999	15
	80,000 - 99,999	15
	100,000 - 124,999	18
	125,000 - 149,999	7
	150,000 - 199,999	1
	200,000 and above	0

4.2 Close-ended Questions

4.2.1 Main Source of Income during COVID-19

Respondents N= (430) identified their primary sources of income during the pandemic (figure 1). Wages and salaries (65.6%), personal or family savings (35.1%), self-employment (28.8%), and investments (24.0%) were the most frequently selected options.

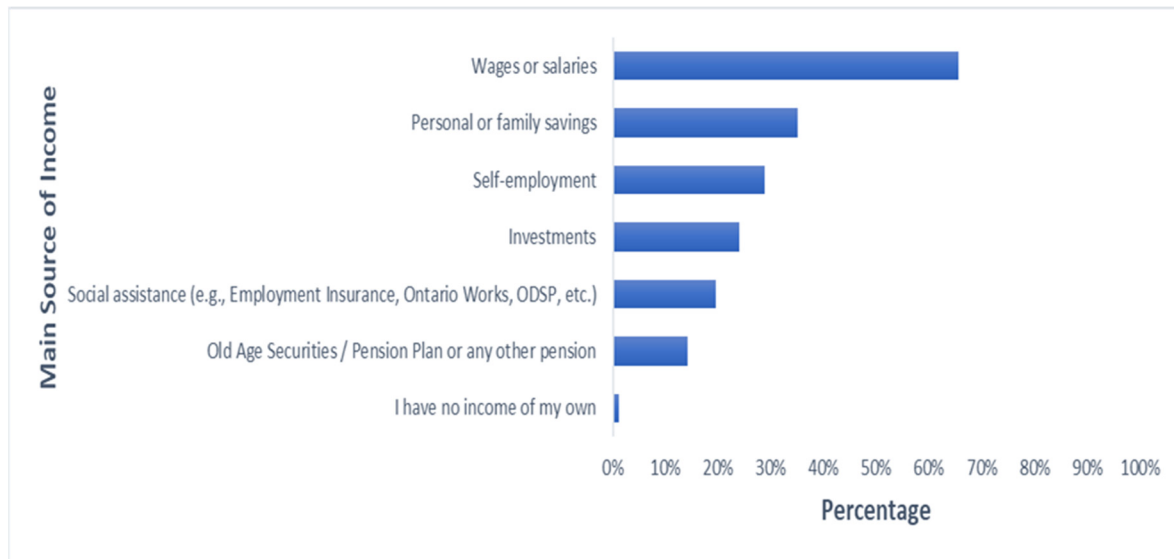


Figure 1. Participants' primary source of income during COVID-19, N= (430)

4.2.2 Main Concerns during COVID-19

Respondents N= (430) expressed their main concerns during the pandemic (Figure 2). Health (71.20%), food security (55.60%), and employment (53.70%) were their most recurrent selected concerns.

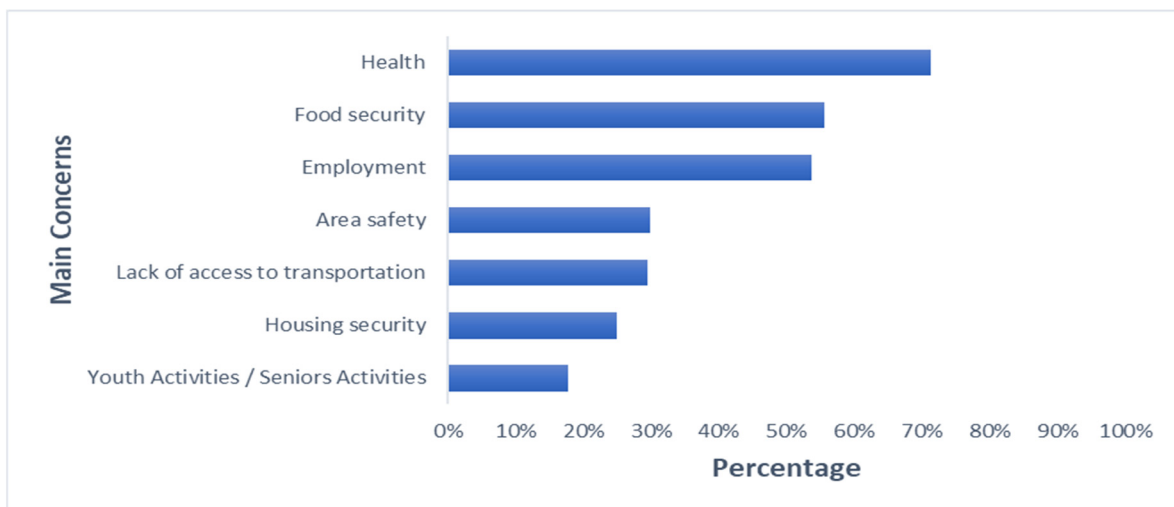


Figure 2. Participants' main concerns during COVID-19, N= (430)

4.2.3 Governmental Services Accessed during COVID-19

Figure 3 specifies that N= (432) participants have accessed several governmental services during the pandemic. Primary health care (68.10%), hospitals (61.80%), and township/county services (31.30%) were the most recurrent selected options.

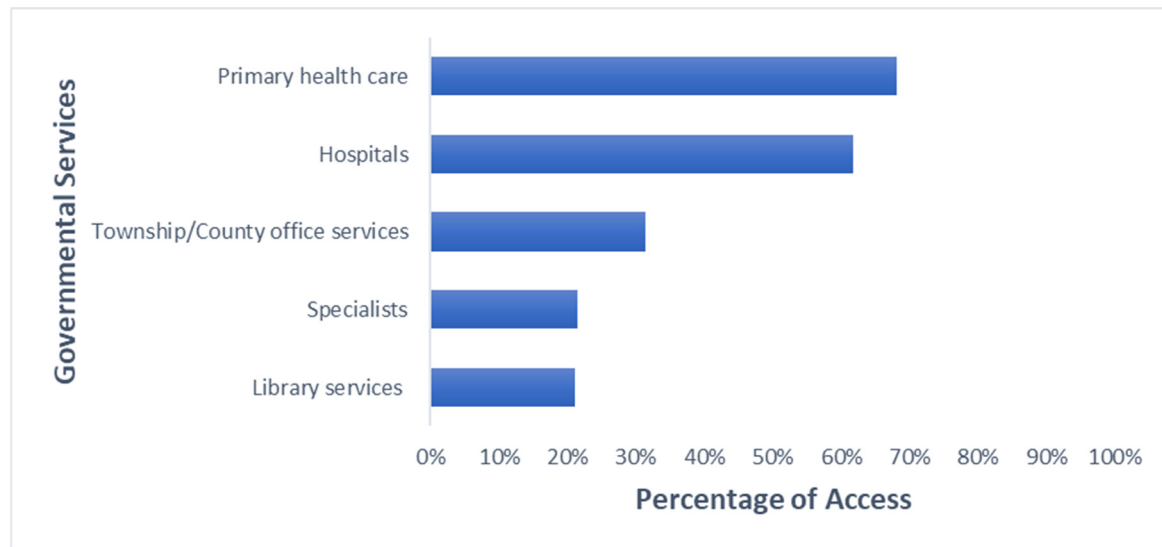


Figure 3. Governmental services accessed during COVID-19, N= (432)

4.3 Open-ended Questions

The categories from 4.3.1 to 4.3.6 emerged from the thematic and framework analysis of the survey's open-ended questions, and their sub-themes were identified. The respondents' sub-themes and quotes are summarized in paragraphs; Two tables are displayed in 4.3.5 and 4.3.6. We used the identifier [P #] before each respondent's quote.

4.3.1 Top Challenges during COVID-19 and Actions to Overcome Them

214 respondents reported experiencing numerous challenges during the pandemic. The major reported issues were employment and less income (37%), physical and mental health (34.6%), access to food and essential needs (33.1%), transportation/travel inconvenience (22.9%), and social isolation (11.2%).

[P51]: "Fewer jobs, less money, and worries about food and the safety of everything you touch."

[P113]: "Fewer job opportunities, broadly lack access to healthcare, far more limited access to COVID-19 testing. It is not easy to overcome these issues."

[P89]: "The biggest challenge was grocery shopping. When we were shut down we had to stay within our municipality for shopping. Our local grocery store doesn't have all we need and is too expensive, but I also didn't want to shop in the big city with a lot of covid cases. I shopped online mostly but sometimes didn't get the items I needed. Nothing else was really a challenge."

[P150]: "The transportation is inconvenient, and many places are difficult to get to."

[P46]: "We have less contact with the outside world"

Residents affirmed adopting some essential measures to overcome their challenges. They complied with public health measures, minimized travel, and sought to maintain a healthy lifestyle by exercising and reducing stress.

[P133]: "Keep your distance and wear a mask for protection."

[P128]: "I try not to go outside. I must respect social distancing. I cancel all unnecessary outdoor activities"

[P190]: "Don't quit your job, keep exercising, and don't mess with your food."

4.3.2 Impact of the Pandemic on Communication with Neighbours and Friends

With a response rate of N= 288, 35.5 % of the responses affirmed no impact of the pandemic on residents' communication with neighbours and friends. Nevertheless, 24.8% of the responses pointed at forced social distancing, while 10.8% stressed the decreased frequency of communication with neighbours and friends. Finally, 7.5% of the answers pointed to replacing in-person gatherings with online activities through phones and the internet.

[P8]: "Yes, there were fewer trips and fewer gatherings during the pandemic, so there was less time for friends to see each other"

[P34]: "Yes a lot. Social distancing has been a blockage to my communication with neighbours"

[P94]: “The epidemic has affected my communication with neighbours and friends. The outbreak of the epidemic has cut off communication between people. For our own and everyone's health, we must obey the arrangement and stay at home”

[P127]: “The pandemic made me communicate with my friends online”

[P128]: “It has affected your communication with neighbours and friends. We have reduced communication and contacts, and communication is mainly through phone calls.”

4.3.3 Impact of COVID-19 on Mental Health and Well-Being

From a total of 288 answers, 37.8% indicate no impact of the pandemic on residents' mental health; nonetheless, some were worth noting. Worry (15.3%), anxiety (10.4%), fear (9.7%), depression (6.6%), and boredom (4.5%) were the most reported conditions during the pandemic.

[P164]: “To a certain extent, we are worried that the epidemic will bring us great health risks”

[P251]: “Yes, I was nervous and anxious every day”

[P37]: “Yes, the world feels substantially more unstable and unpredictable now, and I feel more stressed about what is coming next”

[P106]: “The pandemic has made me less happy than before, a little depressed”

[P93]: “The pandemic has kept us isolated for so long that we sometimes don't want to communicate with others; Even introverted, lonely, sometimes become irritable, poor sleep quality”

4.3.4. Impact of COVID-19 on Daily Routine

228 Participants affirmed that their daily routines have changed during the pandemic 60.4 % of the responses pointed at unpleasant lifestyles with fewer outings, decreased socialization, and increased fear of COVID. 23.7% of the responses suggested changes in the living habits, such as the transition to an online environment with work and studies. Finally, 9.5% of the answers highlighted the limitations of the transportation system, such as difficulties in reaching the workplace or accessing other public transportation services.

[P66]: “Before COVID-19 we could go to many entertainment places to play life has become very colorful, but now, life is more boring, do not know how to kill time”

[P38]: “Totally distancing yourself from the people you love -- like friends, family, co-workers, or your cult community -- can be difficult. It can also lead to a change in plans”

[P93]: “The crisis has a radical uncertainty about the way the world around the government operates, in the face of the health of a given trade-off”

[P104]: “COVID-19 has changed my daily work and life, slowing down and learning to work from home”

[P151]: “School was switched to online, so I moved back home and wasn't given the full college experience.”

[P208]: “The COVID-19 pandemic has made it very inconvenient for me to travel, and MANY places I want to go are worried about the epidemic”

4.3.5 Impact of COVID-19 on Employment and Economic Status

Table 2 reveals the impact of COVID-19 on residents' employment and economic status. Respondents indicated that the most remarkable impacts are fewer job opportunities and less job income (53.7%), job loss and income loss (21.7%), and vulnerable economic status (20.5%).

[P12]: “With reduced income, I could do odd jobs and other part-time jobs before, but now I can't do them. I completely rely on my main job to support my life”

[P94]: “My income is lower and less stable than it used to be”

[P176]: “I lost my job, and I lost my source of income”

[P89]: “Unable to work properly, resulting in a long period of no financial income”

Table 2. Frequencies of COVID-19's impact on employment and economic status, N= (229)

Impact	<i>f</i>	Percentage %
No impact	50	21.8
Less job opportunities/less income	123	53.7
Reduced working hours	17	7.4
Extra hours to balance income	1	0.4
Job and income loss	49	21.7
Unstable jobs	12	5.2
Stressful working conditions	10	4.4
Increased worry	18	7.9
More expenses	4	1.7
Less expenses	3	1.3
Working online	11	4.8
Business financial struggle	9	3.9
Vulnerable economic status	47	20.5
Reliance of government financial help	4	1.7

4.3.6 Residents' Feelings about the Effects of COVID-19 in the Future

As indicated in Table 3, participants N= (239) expressed their feelings about the future while facing the pandemic. Optimism (69.5%), pessimism (23.0%), and trust in the country's plan to tackle the pandemic (10.5%) were the most relevant sentiments.

[P194]: "I am optimistic about the future impact of the outbreak as vaccines are delivered, and specific drugs are developed"

[P128]: "The epidemic will definitely have a negative impact on the future"

[P153]: "I am positive because the government's help makes me feel that the epidemic will be resolved soon"

Table 3. Frequencies of residents' feeling about the pandemic in the future, N= (239)

Feeling	<i>f</i>	Percentage %
Pessimistic	55	23.0
Optimistic	166	69.5
Worry about the future	23	9.6
Mixed feeling	11	4.6
Trust in country's plans to tackle the pandemic	25	10.5

5. Discussion

Our study describes the economic and social impacts of COVID-19 on Middlesex County residents. We explored rural residents' experiences relating to income and employment, access to essential services, food security, transportation, communication, daily routines, and mental health.

5.1 Income and Employment Outcomes

Our respondents relied mainly on job salaries, self-employment, and personal savings during the pandemic. Consequently, many of them experienced sudden job and income losses. A significant majority of the rural residents had reduced income and faced challenges with their employment. Rural residents are more likely to be self-employed and own smaller businesses with less to fall back on when disruptions are caused by the pandemic (2020). One of the many concerns raised by rural Canadians includes the risks of local businesses shutting down (Phillipson et al.), amidst rising COVID-19 cases, reduced incomes, and rising unemployment rates (Weeden, 2020;

Chen & Chen, 2020; Glenister et al., 2021).

5.2 Essential Services Outcomes

Our findings suggest that residents' access to essential services, transportation, and reliance on government help became restricted during the pandemic. Food security was raised by several participants and was considered the second biggest challenge after health concerns. Living in a rural area often raises food security issues based on accessibility or financial concerns. Compared to urban areas, rural areas do not have the infrastructure and financial means to get necessities such as groceries delivered or transit to travel to grocery stores (Chu et al., 2020). The digital divide between rural and urban communities exists in Canada as health, education, and government support systems are being switched to digital platforms (Weeden & Kelly, 2020). Due to rural residents' barriers, they are often neglected when the government plans health, social and financial services (Kevany & Jones, 2020).

5.3 Social Outcomes

The transition from in-person to online gatherings limited residents' interaction with their neighbours and friends. Rural residents are less likely to have a smooth transition from out-of-home to in-home lifestyles and maintain social contact online as they have poor access to high-speed broadband and mobile signal coverage (Phillipson et al., 2020). The temporary suspension of community participation through events, volunteering, and religious organizations can be overwhelming for rural residents leading to further marginalization (Phillipson et al., 2020). It was worth noting that the participants affirmed their compliance with public health measures during the pandemic and limited their social interactions and travel to protect themselves.

5.4 Physical and Mental Health Outcomes

Middlesex County residents acknowledged the changes in their daily routines and the implications of COVID-19 on their physical and mental health. Disruptions to social relationships by the closure of schools and the transition to digital connections affect rural residents' mental health and well-being (Phillipson et al., 2020). The pandemic measures that involve staying at home have been shown to produce unintended consequences for rural communities through adverse effects on mental health and life satisfaction (Government of Ontario, 2021). The one positive news is that the participants felt optimistic about the future and that after the pandemic, life would get back to normal, and the negative consequences of the pandemic would diminish over time. The study has increased our understanding of the lives of rural Canadians during the COVID-19 pandemic and how their social and economic environment was impacted. These findings are pivotal for creating and implementing successful policies to effectively manage future pandemics and post-pandemic challenges that disproportionately affect rural communities.

The present study has adopted a case study methodology along with a voluminous online survey to amass exhaustive data from residents of Middlesex County. This data has furnished an elaborate comprehension of the encounters of rural denizens amidst the pandemic and can serve as a basis for devising targeted interventions that cater to the precise demands of these communities during and beyond the pandemic scope. It further underscores the economic consequences of the pandemic on rural populations, encompassing loss of employment and diminished income. This knowledge can be utilized to devise policies to bolster local businesses and industries while also administering targeted financial aid to the most adversely impacted individuals. Finally, the study emphasizes the significance of mitigating food insecurity while enhancing the availability of healthcare services and mental health resources in rural communities. These are pivotal areas of policy that policymakers can prioritize in their endeavours to aid rural populations during the pandemic.

6. Limitations

Despite the remarkable number of responses, our study has a few limitations. Firstly, our study provides a context for a specific community, Middlesex County residents in Southern Ontario therefore, the research findings may not be generalizable for other parts of Canada and the world. Secondly, in online surveys, some respondents may provide incomplete answers or skip questions altogether. Incomplete data affect the statistical analysis of the survey results, reducing the reliability and validity of the findings (Dong & Peng, 2013; Kang, 2013). Finally, the framework analysis is often context-specific and may not be easily transferable to other settings or populations (Ebneyamini & Moghadam, 2018, Gale et al., 2013).

7. Conclusion

Our study aimed to explore Middlesex County residents' experiences during the COVID-19 pandemic and examine the socioeconomic impacts. The COVID-19 pandemic significantly affected rural populations. The results of our research have implications that go beyond the local level and can make a valuable contribution to the current body of literature on the impact of the pandemic on rural communities worldwide. Specifically, Kim, Kim, and Park's

(2020) research highlight the difficulties encountered by rural populations in Asia and the Pacific in maintaining food security during the pandemic. According to the authors, the disruption of food supply chains and restrictions on the movement of goods and people have made it challenging for rural communities to obtain food, which could have direct or indirect health consequences. Therefore, it is necessary to conduct further investigation into the food security issues faced by Middlesex County residents to understand their potential health implications.

Moreover, our study showed that rural residents in Middlesex County demonstrated resilience during the pandemic by adopting considerable measures to overcome challenges. This result aligns with Kaseng's (2023) study, which explored the resilience of rural communities in Indonesia amid the pandemic. Based on our findings, rural communities managed to cope with the pandemic by depending on local resources, social connections, and community solidarity. This suggests that rural communities worldwide can adjust and surmount the challenges caused by the pandemic.

Although the pandemic effects on economic and social aspects were quite evident, the rural residents were considerably optimistic about their living conditions in the post-COVID-19 era. Future studies may explore the barriers and opportunities for rural residents to adapt to a post-pandemic world in Canada and worldwide. The findings of this research could assist policymakers in developing effective strategies to support rural communities during and after crises by utilizing the knowledge gained from these communities' experiences.

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