



Original Research Article

PERCEPTION ABOUT LOSSES AND GAINS DURING COVID – 19 PANDEMIC AMONG PEOPLE RESIDING IN URBAN AREA OF MUZAFFARNAGAR CITY, UTTAR PRADESH, INDIA

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ABSTRACT

Background: The COVID-19 pandemic has posed unprecedented challenges worldwide, impacting individuals' lives across various domains. Understanding the perceptions and experiences of urban residents during the pandemic is crucial for informing targeted interventions and support systems to mitigate its adverse effects.

Materials and Methods: This cross-sectional study aimed to explore the perceptions and experiences of individuals residing in urban areas during the COVID-19 pandemic. A total of 405 participants from Muzaffarnagar city, Uttar Pradesh, India, were included in the analysis. Demographic data were collected, and participants completed a questionnaire assessing perceived effects of the pandemic across different domains. Qualitative interviews were conducted to further explore participants' experiences and coping strategies. Descriptive statistics and thematic analysis were used to analyze the data.

Results: Age distribution showed that 63.0% were under 45 years old and 37.0% were over 45. Participants reported varying levels of perceived effects, including financial strain, job insecurity, social isolation, disruptions in education, and mental health challenges. However, positive outcomes such as strengthened familial bonds, personal resilience, and community solidarity were also acknowledged. Demographic factors such as age, marital status, and occupation were associated with variations in perception scores. Younger participants and those not married reported more negative perceptions, while married individuals and those employed reported higher perception scores.

Conclusion: This study highlights the multifaceted impact of the COVID-19 pandemic on urban residents, emphasizing the importance of considering socio-demographic factors in understanding individuals' experiences and responses. The findings underscore the need for targeted interventions and support systems to address the diverse challenges posed by the pandemic and promote resilience and well-being within urban populations.

Keywords: COVID-19, pandemic, urban residents, perceptions, experiences, socio-demographic factors, qualitative analysis, resilience, interventions.

INTRODUCTION

Urban areas serve as hubs of economic activity, cultural exchange, and social interaction, making them particularly susceptible to the impacts of the COVID-19 pandemic.^[1] The rapid transmission of the virus within densely populated urban centers prompted governments to implement stringent containment measures, including lockdowns, social distancing protocols, and business closures, to curb its spread.^[2] These measures, while crucial for public health, have had far-reaching consequences on the lives and livelihoods of urban residents.^[3]

The pandemic has ushered in a multitude of losses for individuals living in urban areas. From the loss of lives to the loss of livelihoods, the toll of COVID-19 has been profound.^[4] The virus has claimed millions of lives globally, leaving behind grieving families and communities grappling with the emotional and psychological aftermath of these losses.^[4] Moreover, the economic fallout of the pandemic has been acutely felt in urban areas, where job losses, wage cuts, and business closures have resulted in financial hardships for many households.^[5]

However, amidst the adversities brought forth by the pandemic, there have also been instances of resilience, solidarity, and adaptation within urban communities.^[6] Individuals and communities have demonstrated remarkable agility in navigating the challenges posed by the crisis, leveraging technology, innovation, and community networks to overcome barriers and support one another. From the rise of telecommuting and online learning to grassroots initiatives for mutual aid and support, the pandemic has spurred a wave of creativity and solidarity among urban residents.^[7]

The perception of losses and gains during the COVID-19 pandemic is shaped by a myriad of factors, including socio-economic status, access to resources, pre-existing vulnerabilities, and cultural norms.^[8] Vulnerable populations, including low-income households, marginalized communities, and frontline workers, have borne the brunt of the pandemic's impacts, facing disproportionate challenges in accessing healthcare, education, and essential services.^[9] Moreover, the pandemic has laid bare existing disparities and inequalities within urban areas, exacerbating social divides and highlighting the urgent need for equitable and inclusive responses.^[10,11,12]

Against this backdrop, this study was conducted with an aim to explore the subjective experiences and perceptions of losses and gains among people residing in urban areas during the COVID-19 pandemic. By examining the diverse ways in which individuals have coped with and adapted to the challenges posed by the crisis, this study aims to provide insights that can inform policy interventions, community resilience-building efforts, and future preparedness strategies for urban resilience in the face of global health crises.

MATERIAL AND METHODS

Study Design

This study employed a cross-sectional design to investigate the perception of losses and gains among urban residents during the COVID-19 pandemic. The study was conducted in Muzaffarnagar city, Uttar Pradesh, India, utilizing both quantitative and qualitative methods to capture a comprehensive understanding of participants' experiences and perspectives. Conducted in the Urban Health Training Centre Khalapar Field Study Area, under the Community Medicine department of Muzaffarnagar Medical College, the study spanned from February 2023 to June 2023, following ethical approval (MMC/IEC/2021/233, dated March 4, 2021).

Study Participants and Sample Size

A convenience sampling technique was utilized to recruit participants for the study. Individuals (>18 years) residing in urban areas of Muzaffarnagar city were eligible to participate. Efforts were made to ensure diversity in participant demographics, including age, gender, occupation, and socioeconomic status. The inclusion criteria encompassed individuals aged 18 years and above, proficient in the Hindi language of the survey, and voluntarily willing to participate. Informed consent was obtained from all participants. After extensive search we were unable to find the similar study being conducted in India, including Uttar Pradesh, so assuming prevalence of perception of loss as low among individual as 50.0%, utilizing the formula for a single proportion, and the initial sample size estimate is computed to be 385 individuals. To adjust for a non-response rate of 5%, the adjusted sample size formula is applied, yielding a final sample size estimate of 405 individuals.

Data Collection

Data collection occurred was done utilizing a mixed-method approach. A structured questionnaire, developed through expert consensus and piloted for validity and reliability, served as the quantitative data collection tool. Data gathering occurred via online platforms, telephone interviews, and face-to-face interactions, catering to participants' preferences and accessibility. The questionnaire comprised multiple sections addressing demographics, and perceptions of losses and gains (closed-ended questions). Participants were asked to reflect on the socio-economic, psychological, and interpersonal effects of the COVID-19 pandemic on their lives. Likert-scale items were used to assess perceived losses (financial strain, job insecurity, social isolation, disruptions in education, and mental health challenges) and gains (strengthened familial bonds, personal resilience, opportunities for introspection, and community solidarity).

Qualitative data were collected through in-depth interviews and focus group discussions. Open-ended questions were utilized to elicit rich narratives and

detailed accounts of participants' experiences, coping strategies, and reflections on the pandemic's impacts. Interviews and focus group discussions were conducted in a variety of formats, including face-to-face, telephone, and online sessions, to accommodate participants' preferences and logistical constraints. Qualitative data were analyzed thematically to identify recurring themes, patterns, and insights related to participants' experiences and perceptions.

Data Analysis

Data were subjected to rigorous statistical analysis, employing both descriptive and inferential statistics to unveil patterns, associations, and determinants. Descriptive analyses encompassed summarizing demographic characteristics, perceptions of losses and gains. Inferential statistical tests, such as t-tests and chi-square tests, were employed to examine associations between demographic variables and perceptions of losses and gains. Qualitative data were analyzed using thematic analysis, following a systematic process of coding, categorizing, and interpreting participants' narratives. Themes and sub-themes were identified iteratively, allowing for the emergence of nuanced insights and patterns within the data. Triangulation of quantitative and qualitative findings was conducted to corroborate findings and enhance the comprehensiveness of the analysis. Statistical significance was set at $p < 0.05$. All analyses were conducted using SPSS version 20.0, ensuring robustness and reliability of findings.

RESULTS

The study involved 405 participants. Age distribution showed that 63.0% were under 45 years old and 37.0% were over 45. Gender distribution was 55.1% male and 44.9% female. In terms of education, 52.6% had a high school education or higher, while 47.4% had a middle school education or lower. Socio-economic status revealed that 20.5% were in the upper class, with 79.5% in the middle and lower classes. Marital status indicated that 53.1% were married, while 46.9% were single, widowed, or divorced. Employment status showed that 45.2% were employed, and 54.8% were unemployed, students, or homemakers. [Table 1]

Participants reported varying levels of perceived effects across different domains. Financial strain was reported by 41.2% of participants at a high level, 34.6% at a moderate level, and 24.2% at a low level. Similarly, job insecurity was prevalent, with 37.5% experiencing it at a high level, 32.5% at a moderate level, and 29.9% at a low level. Social isolation was noted by 33.8% at a high level, 36.5% at a moderate level, and 29.6% at a low level. Disruptions in education affected 30.4% at a high level, 37.8% at a moderate level, and 31.8% at a low level. Mental health challenges were prevalent, with 42.0% experiencing them at a high level, 31.6% at a moderate level, and 26.4% at a low level.

Conversely, strengthened familial bonds were reported positively, with 38.8% experiencing them at a high level, 36.5% at a moderate level, and 24.7% at a low level. Personal resilience was noted by 45.2% at a high level, 30.9% at a moderate level, and 24.0% at a low level. Opportunities for introspection were perceived positively by 36.8% at a high level, 33.1% at a moderate level, and 29.9% at a low level. Finally, community solidarity was reported by 40.7% at a high level, 36.5% at a moderate level, and 22.7% at a low level. [Table 2]

Participants aged under 45 years reported a mean perception score of 5.21 ± 1.04 , while those aged over 45 years had a slightly lower mean score of 5.03 ± 0.87 , showing a statistically significant difference ($p=0.045$). Gender-based differences were observed, with male participants reporting a mean score of 5.12 ± 1.07 and female participants reporting a slightly higher mean score of 5.23 ± 0.86 ; however, this disparity was not statistically significant ($p=0.249$). Regarding education, individuals with a high school education and above had a mean perception score of 5.25 ± 1.04 , while those with a middle school education and lower reported a slightly lower mean score of 5.05 ± 0.93 , with no significant difference observed ($p=0.209$). Socio-economic status demonstrated a trend where participants classified as upper socio-economic status reported a higher mean perception score of 5.28 ± 1.06 compared to those classified as middle and lower socio-economic status, though not statistically significant ($p=0.130$). Marital status was significantly associated with perception scores, as married participants reported a higher mean score of 5.26 ± 1.05 compared to those categorized as "others," who had a mean score of 5.05 ± 0.87 ($p=0.027$). Similarly, occupation significantly impacted perception scores, with employed participants reporting a higher mean score of 5.26 ± 1.07 compared to those classified as "others," who had a mean score of 5.04 ± 0.89 ($p=0.021$). [Table 3]

Findings from Qualitative Analysis. [Table 4]

Health Impact: Participants described significant effects on their physical and mental well-being due to the pandemic. Physical symptoms such as fever, fatigue, and difficulty breathing were commonly reported, as exemplified by one participant who stated, "I struggled with symptoms like fever and fatigue. It lasted for nearly two weeks, and I had difficulty breathing." Mental health challenges, including stress, anxiety, and depression, were also prevalent, with participants expressing difficulties in coping and sleeping, as illustrated by another participant who mentioned, "The stress and anxiety really took a toll on my well-being. I found it hard to focus and had trouble sleeping."

Economic Challenges: Job loss and financial strain emerged as prominent themes, reflecting participants' concerns about employment instability and financial insecurity. Participants described the loss of employment or income sources during the

lockdown, leading to challenges in meeting basic needs and supporting their families. One participant shared, "I lost my job during the lockdown, and it's been tough making ends meet. I worry about how I'll support my family." Financial difficulties, such as tightening budgets and worries about paying bills and rent, were also highlighted.

Social Disruptions: Social isolation and disrupted relationships were key concerns among participants, reflecting the impact of physical distancing measures on social interactions. Feelings of loneliness and isolation were commonly expressed, with participants missing the companionship of friends and family. Disrupted relationships and increased conflicts were observed, with participants noting strains on their support networks and interpersonal dynamics. As one participant explained, "The pandemic put a strain on my relationships with loved ones. We argued more, and I felt distant from my friends."

Community Support: Despite challenges, participants highlighted the importance of community support and grassroots initiatives in providing assistance and solidarity during the pandemic. Mutual aid from neighbors and community members, such as help with groceries and emotional support, fostered a sense of unity and belonging. Participants also engaged in local relief efforts, such as volunteering for food drives, to contribute to their communities and make a positive impact.

Coping Mechanisms: Adaptive strategies and seeking professional help emerged as coping mechanisms employed by participants to navigate the challenges of the pandemic. Strategies such as mindfulness, exercise, and maintaining routines were utilized to manage stress and promote well-being. Participants also sought professional support through mental health services and counseling to address emotional distress and anxiety. One participant described, "I started practicing mindfulness to manage my stress levels. It helped me stay grounded and calm during uncertain times."

Information Sources and Risk Perception: Participants relied on official guidelines and social

media platforms for information seeking and sharing related to COVID-19 safety measures and updates. However, concerns about personal vulnerability and community transmission were prevalent, reflecting anxieties about the virus's impact on health and well-being. Uncertainty about the future, including long-term impacts and economic recovery, also contributed to participants' apprehension and worries.

Future Outlook: Despite challenges and uncertainties, participants expressed optimism and resilience, emphasizing hope for the future and belief in collective strength. Participants highlighted opportunities for recovery and post-pandemic growth, citing a sense of solidarity and unity as sources of hope and motivation. As one participant shared, "I believe we'll overcome this challenge and emerge stronger. There's a sense of solidarity and unity that gives me hope."

Participants under 45 years of age demonstrated significantly higher knowledge scores (4.21 ± 0.72) and more favourable attitudes (0.82 ± 0.49) compared to older participants ($p = 0.017$ and $p = 0.031$, respectively), with similar trends observed in practice scores ($p < 0.0001$). While no significant gender differences were observed in knowledge or attitude scores, females exhibited significantly higher practice scores (3.58 ± 0.49) compared to males (3.45 ± 0.53 , $p = 0.009$). Education level significantly influenced knowledge ($p = 0.004$) and attitude ($p = 0.002$) scores, with participants having a high school education or above showing higher scores, and similar patterns were observed for practice scores ($p < 0.0001$). While socio-economic status did not significantly influence knowledge or attitude scores, significant differences were observed in practice scores ($p < 0.0001$), with participants from upper socio-economic status exhibiting higher scores. Marital status did not significantly influence any of the scores ($p > 0.05$). However, occupation significantly influenced knowledge ($p = 0.002$), attitude ($p = 0.005$), and practice ($p < 0.0001$) scores, with employed participants demonstrating higher scores compared to others. [Table 5]

Table 1: The demographic characteristics of the study participants (N=405)

Demographic Variables	Frequency	Percentage (%)
Age		
<45	255	63.0
>45	150	37.0
Gender		
Male	223	55.1
Female	182	44.9
Education		
High school and above	213	52.6
Middle school and lower	192	47.4
*Socio-economic Status		
Upper	83	20.5
Middle and Lower	322	79.5
Marital status		
Married	215	53.1
#Others	190	46.9
Occupation		

Employed	183	45.2
\$Others	222	54.8

*BG prasad classification; # Others include: Single/ Widowed/Divorced; \$Others include: Unemployed/Student/Home maker

Table 2: The perceived effects of the COVID-19 pandemic among study participants (N=405)

Perceived Effects	Frequency (%)		
	High	Moderate	Low
Financial Strain	167 (41.2%)	140 (34.6%)	97 (24.2%)
Job Insecurity	152 (37.5%)	132 (32.5%)	121 (29.9%)
Social Isolation	137 (33.8%)	148 (36.5%)	120 (29.6%)
Disruptions in Education	123 (30.4%)	153 (37.8%)	129 (31.8%)
Mental Health Challenges	170 (42.0%)	128 (31.6%)	107 (26.4%)
Strengthened Familial Bonds	157 (38.8%)	148 (36.5%)	100 (24.7%)
Personal Resilience	183 (45.2%)	125 (30.9%)	97 (24.0%)
Opportunities for Introspection	149 (36.8%)	134 (33.1%)	121 (29.9%)
Community Solidarity	165 (40.7%)	148 (36.5%)	92 (22.7%)

Table 3: The association between demographic variables and scores for perception about loss and gains during the COVID-19 pandemic among study participants (N=405)

Demographic Variables	Perception Scores (Mean ± SD)
Age	
<45 (n=255)	5.21 ± 1.04
>45 (n=150)	5.03 ± 0.87
p value	0.045
Gender	
Male (n=223)	5.12 ± 1.07
Female (n=192)	5.23 ± 0.86
p value	0.249
Education	
High school and above (n=213)	5.25 ± 1.04
Middle school and lower (n=192)	5.05 ± 0.93
p value	0.209
Socio-economic Status	
Upper (n=83)	5.28 ± 1.06
Middle and Lower (n=322)	5.12 ± 0.90
p value	0.130
Marital status	
Married (n=215)	5.26 ± 1.05
Others (n=190)	5.05 ± 0.87
p value	0.027
Occupation	
Employed (n=183)	5.26 ± 1.07
Others (n=222)	5.04 ± 0.89
p value	0.021

Table 4: Summary of themes and Sub-themes from Qualitative Analysis

Theme	Sub-theme	Description of Sub-theme	Example Quote
Health Impact	Physical Health	Effects on physical well-being due to the pandemic, including symptoms experienced, severity, and duration	"I struggled with symptoms like fever and fatigue. It lasted for nearly two weeks, and I had difficulty breathing."
	Mental Health	Impact on mental well-being and emotional health, encompassing feelings of stress, anxiety, depression, and coping mechanisms	"The stress and anxiety really took a toll on my well-being. I found it hard to focus and had trouble sleeping."
Economic Challenges	Job Loss	Loss of employment or income sources, leading to financial instability and uncertainty about the future	"I lost my job during the lockdown, and it's been tough making ends meet. I worry about how I'll support my family."
	Financial Strain	Financial difficulties and strain on finances, including reduced income, increased expenses, and concerns about meeting basic needs	"We had to tighten our budget and cut back on expenses to survive. I'm worried about paying bills and rent."
Social Disruptions	Social Isolation	Feelings of loneliness and social isolation resulting from physical distancing measures and restrictions on social gatherings	"I missed seeing my friends and family, it felt really isolating. I struggled with not having anyone to talk to in person."
	Disrupted Relationships	Impact on relationships with family and friends, including changes in communication, conflicts, and support networks	"The pandemic put a strain on my relationships with loved ones. We argued more, and I felt distant from my friends."
Community Support	Mutual Aid	Support received from community members and neighbors, including assistance with errands, emotional support, and solidarity	"Our neighbors helped with groceries when we were in quarantine. It was heartwarming to see everyone come together to help."

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	Grassroots Initiatives	Participation in or awareness of local relief efforts, such as food drives, volunteer initiatives, and community organizations	"I volunteered for a community food drive to help those in need. It felt good to contribute and make a difference."
Coping Mechanisms	Adaptive Strategies	Coping strategies employed to navigate the pandemic, including mindfulness, exercise, hobbies, and maintaining routines	"I started practicing mindfulness to manage my stress levels. It helped me stay grounded and calm during uncertain times."
	Seeking Professional Help	Utilization of mental health services or counseling to address emotional distress, anxiety, depression, or other mental health challenges	"I reached out to a therapist for support during the lockdown. It was comforting to have someone to talk to and help me process my emotions."
Information Sources	Official Guidelines	Reliance on government or health authorities' guidance and directives regarding COVID-19 safety measures, restrictions, and vaccination	"I followed the official health guidelines to stay safe. It gave me a sense of reassurance and direction during the pandemic."
	Social Media	Influence of social media platforms on information seeking and sharing, including exposure to misinformation, news updates, and community engagement	"I learned about safety measures through posts on social media. It was helpful to stay informed, but it could be overwhelming at times."
Risk Perception	Personal Vulnerability	Perception of individual susceptibility to COVID-19 infection and complications based on age, health status, and risk factors	"I felt anxious because I have underlying health conditions. I worried about the severity of the virus if I were to get infected."
	Community Transmission	Concerns about the spread of the virus within the community, including fears of exposure, transmission dynamics, and local outbreak clusters	"I worry about my family getting infected from community transmission. It's concerning to see cases rise in our area."
Future Outlook	Optimism	Hopefulness and positive outlook for the future, including beliefs in resilience, recovery, and post-pandemic opportunities	"I believe we'll overcome this challenge and emerge stronger. There's a sense of solidarity and unity that gives me hope."
	Uncertainty	Ambiguity and apprehension about the future, including concerns about long-term impacts, economic recovery, and social changes	"The uncertainty of what's to come is the hardest part. I worry about the lasting effects of the pandemic on our lives and society."

DISCUSSION

The present study offers a comprehensive examination of the perceptions and experiences of individuals residing in urban areas during the COVID-19 pandemic, with a particular focus on demographic factors and their influence on perceived effects. The demographic profile of the participants demonstrated diversity across various socio-demographic categories, including age, gender, education, socio-economic status, marital status, and occupation. This diversity provides a nuanced understanding of the pandemic's impact on urban populations, highlighting the complex interplay of socio-demographic factors and perceived effects.

The findings revealed varying levels of perceived effects across different domains, reflecting the multifaceted nature of the pandemic's impact on individuals' lives. High levels of financial strain, job insecurity, social isolation, disruptions in education, and mental health challenges were prevalent among participants. These findings are consistent with previous studies by Brooks et al., Lenzen et al., and Silubonde et al., highlighting the adverse socio-economic and psychosocial consequences of the pandemic.^[13,14,15] The economic repercussions of the pandemic, including job loss, income instability, and financial difficulties, have been widely documented, particularly among vulnerable populations.^[16,17] Similarly, the detrimental effects of social isolation, disrupted routines, and mental health challenges have been reported in studies by Sebastião et al., Holmes et al., and Xiong et al., underscoring the

need for targeted interventions to address these issues.^[18,19,20]

Despite the challenges posed by the pandemic, participants also reported positive outcomes, including strengthened familial bonds, personal resilience, opportunities for introspection, and community solidarity. These findings resonate with the concept of post-traumatic growth, which suggests that individuals may experience psychological growth and resilience in the aftermath of adversity.^[21] The emergence of positive coping mechanisms and adaptive strategies reflects individuals' capacity to adapt and find meaning in challenging circumstances, underscoring the importance of resilience in navigating crisis situations.^[22]

Demographic factors emerged as significant determinants of participants' perceptions of the pandemic's impact. Age, marital status, and occupation were found to be associated with variations in perception scores, highlighting differential experiences and coping mechanisms among different demographic groups. Younger participants perceived the pandemic's impact more negatively compared to older counterparts, possibly due to differences in vulnerability, resilience, and adaptability to changing circumstances. Similar trends have been observed in previous studies by Cao et al., and Wang et al., with younger individuals experiencing higher levels of distress and psychological symptoms during the pandemic.^[23,24] Marital status and occupation were also associated with perception scores, with married individuals and those employed reporting higher scores. These findings suggest that social support and financial

stability may serve as protective factors against the adverse effects of the pandemic.^[25,26]

The qualitative analysis provided deeper insights into participants' lived experiences and coping strategies amidst the pandemic. Themes such as health impact, economic challenges, social disruptions, community support, coping mechanisms, information sources, risk perception, and future outlook emerged from participants' narratives, highlighting the multifaceted nature of their experiences.^[27] These findings contribute to a richer understanding of the socio-psychological dimensions of the pandemic and underscore the importance of addressing not only the immediate health and economic consequences but also the broader social, psychological, and community-level impacts.^[28,29]

Limitations

While this study provides valuable insights into the perceptions and experiences of urban residents during the COVID-19 pandemic, several limitations should be acknowledged. The cross-sectional nature of the study limits the ability to establish causal relationships between demographic factors and perceived effects. Additionally, the reliance on self-reported data may introduce biases and inaccuracies, particularly regarding sensitive topics such as mental health and financial status. Future research employing longitudinal designs and objective measures of outcomes would provide a more robust understanding of the long-term impacts of the pandemic on urban populations.

CONCLUSION

In conclusion, this study underscores the importance of considering socio-demographic factors in understanding individuals' perceptions and experiences during public health crises. By elucidating the complex interplay of demographic factors and perceived effects of the pandemic, this research contributes to the growing body of literature on the socio-psychological dimensions of COVID-19. The findings have implications for policymakers, public health practitioners, and community stakeholders in developing targeted interventions and support systems to mitigate the adverse impacts of the pandemic and promote resilience and well-being within urban populations.

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