

Original Research Article

Social and micro-economic consequences of COVID-19 pandemic among urban slum population in Chandigarh- an analytical cross-sectional study

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ABSTRACT

Background: Corona virus disease-2019 (COVID-19) pandemic has disproportionately affected marginalized communities because of the loss of livelihood and lack of food, shelter, health, and basic necessities. This study assessed the socio-demographic characteristics, social and micro-economic aspect of health determinants during COVID-19 pandemic among patients attending urban health training centre (UHTC) in Indira Colony, Chandigarh.

Methods: An analytical cross-sectional study conducted in urban health training centre, Indira colony. All patients aged ≥ 18 years attended UHTC OPD were recruited till the sample size ($n=110$) was achieved. By considering 95% level of significance, Kruskal Wallis test and McNemar test were applied to determine the association between different variables.

Results: The mean age of the participants were 40 years and nearly 40% belong to the age category less than 30 years. In pre-COVID-19, only 5% of the participants were found to have weaker relationship with family members, however, during COVID-19 pandemic this had increased to nearly 19%. The unemployment status in pre-COVID-19 and during COVID-19 pandemic was found to be 8% and 65% respectively, which is statistically significant.

Conclusions: The unprecedented COVID-19 pandemic significantly affected the social and micro-economic status of the people living in the slum area due to closure of major economic activities.

Keywords: Consequence, Micro-economic, Pandemic, Social

INTRODUCTION

The outbreak of corona virus disease-2019 (COVID-19) caused by severe acute respiratory syndrome-coronavirus-2 (SARS-CoV-2) affecting millions of people globally. The COVID-19 pandemic has resulted in over 101 million cases and two million deaths worldwide including India.^{1,2} In a response to 'flatten the curve', Government of India have enforced border shutdowns, travel restrictions and quarantine for travellers and nationwide complete COVID-19 restrictions since 24th March in many phases till December 2020.³⁻⁵ In India, where approximately 80% of the workforce is employed in the informal sector and about a third are employed as day-

laborers, the lockdown policy may exacerbate existing health and economic inequalities and the consequences need careful consideration to avoid reinforcing the vicious cycle between poverty and ill health. Human Rights Watch has reported that the lockdown in India has disproportionately affected marginalised communities because of the loss of livelihood and lack of food, shelter, health, and other basic necessities.⁶ Hence, increasing concerns are arising on the economic consequences of lockdown.⁷ The concentrated time spent in lockdown means that vulnerable people are more exposed to abuse and it is more difficult for them to seek help. A significant impact of the COVID-19 pandemic is seen in video-gaming industry. With many individuals self-

isolating and/or remaining home under strict governmental regulations, online gaming has seen the emergence of record numbers of players.⁸ Therefore, this study assessed the socio-demographic characteristics, social and micro-economic aspect of health determinants during COVID-19 pandemic at the household level among patients attending urban health training centre (UHTC) in Indira Colony, Chandigarh.

METHODS

It was an analytical cross-sectional study which was conducted from May 2020 to July 2020 among patients attended outpatient department in UHTC- Indira colony, which is also the field practice area of department of community medicine and school of public health, Postgraduate Institute of Medical Education and Research (PGIMER), Chandigarh, India. Indira Colony is located in Northeast of Chandigarh bordering the nearby Panchkula district of Haryana. This colony has a population of nearly 27,420 in 2703 households consisting mainly of migrants from Uttar Pradesh (UP), Punjab, Haryana, Himachal Pradesh (HP), Uttarakhand and Bihar in descending order. Unskilled labours working in the nearby vegetable market is their main occupation. Taking an estimated prevalence of social consequence during pandemic to be 80.2% from a previous study, and assuming precision of 10%, the estimated sample size was 61.⁹ Further assuming a 10% non-response rate the final required sample size was 110. One in every fifth patients >18 years, who are married or widow visited UHTC and given consent for participating in the study were recruited till sample size was achieved. Convenient sampling was done. A pilot tested semi-structured data extraction tool was used to extract the socio-demographic characteristics, employment situation, financial conditions and social consequences before and after COVID-19 lockdown.

Ethical clearance was obtained from Institutional Ethics Committee, PGIMER, Chandigarh. Written informed consent was taken from all the study participants. Data analysis was done using Statistical Package for Social Science (SPSS) software version 23. By considering 95% level of significance, Kruskal Wallis test and McNemar test were applied to determine the association between different variables.

RESULTS

The mean age of the participants were 40 years and nearly 40% belong to the age category less than 30 years. More than two-thirds (72%) of the study participants were female. Majority (80%) of the study participants were Hindu by religion and nearly half (48%) belongs to general caste. Among the study participants, nearly 35% were found to be illiterate and only 18% were educated up to high school. Before COVID-19 pandemic, nearly 40% of participants were engaged in elementary occupation, followed by 29% on skilled workers.

On analysing, it was found that the unemployment status in pre- and during COVID-19 was found to be 8% and 65% respectively and it has significantly increased after COVID-19 pandemic restrictions (p value <0.001). Similarly, the socio-economic status also changed between pre- and during COVID-19 period (Table 1).

Table 1: Employment status and socio-economic status of participants before and during COVID-19 pandemic, n=114.

Variables	Pre-COVID-19, N (%)	During COVID-19, N (%)
Employment status		
Employed	105 (92.1)	40 (35.1)
Unemployed	9 (7.9)	74 (64.9)
Socio-economic status (Modified BG Prasad scale)		
I (upper)	5 (4.4)	2 (1.8)
II (upper middle)	19 (16.7)	5 (4.4)
III (middle)	31 (27.2)	11 (9.6)
IV (lower middle)	39 (34.2)	17 (14.9)
V (lower)	20 (17.5)	79 (69.3)

Table 2 shows that the median income per month in pre-COVID-19 (Rs. 11,000) is significantly higher than during COVID-19 (Rs.9,000). Similarly, the expenditure per month in pre- and during COVID-19 was found to be Rs.9,625 and Rs. 7,850 with significant p value of 0.001. The total savings was decreased by 50% during COVID-19 with significant p value of 0.001. Similarly, the total debt was found to be increased during COVID-19 pandemic with significant p value of 0.001.

The amount of money spent on food in pre- and during COVID-19 period is same (Rs.5000 per month) but the source of expenditure for food differs, i.e. savings and earnings during pre-COVID-19 and debt during COVID-19 pandemic. Nearly 2.6% expenditure on medicine was done from debt in pre-COVID-19 whereas during COVID-19 pandemic it was increased to nearly 30% and this difference was found to be statistically significant (p value =0.001).

Our study also found that more than two-thirds (79%) of the study participants faced financial difficulty and out of this, nearly 90% revealed that their financial difficulty increased during COVID-19 pandemic.

Table 3 shows that during COVID-19, the relationship with family members have become significantly weaker than pre-COVID-19 period. The proportion of participants using social media and gaming had decreased during COVID-19, however the time spent in social media, mobile games and watching television has increased approximately twice during COVID-19 which were found to be statistically significant.

Table 2: Economic status of participants before and during COVID-19, n=114.

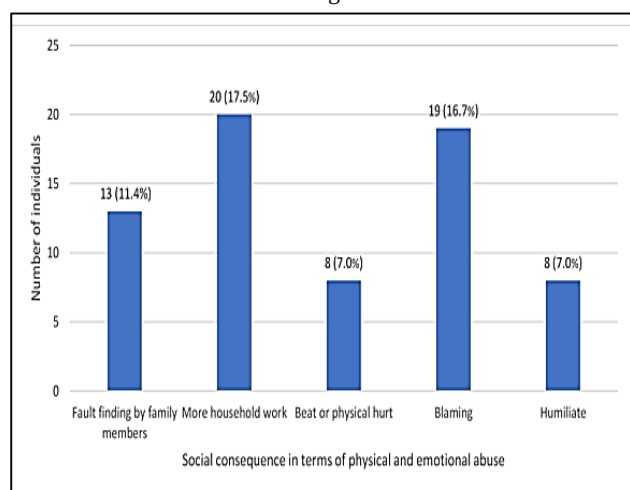
Variables	Pre-COVID-19				During COVID-19				P value*
	N (%)	Median (IQR) in rupees	Range in rupees	Mean rank	N (%)	Median (IQR) in rupees	Range in rupees	Mean rank	
Income per month	114 (100)	11000 (9000)	2000-80000	150.44	61 (53.5)	9000 (11000)	1000-60000	78.56	0.001
Expenditure per month	114 (100)	9625 (6687.5)	1200-63510	128.79	114 (100)	7850 (6500)	800-23750	100.21	0.001
Total savings	89 (78.1)	4000.0 (7250.0)	500-200000	145.5	33 (28.9)	2000.0 (9000)	500-25000	83.5	0.001
Total debt	17 (14.9)	6000.0 (12750.0)	1000-400000	99.62	45 (39.5)	10000 (15000)	2000-405000	129.38	0.001

* Kruskal Wallis Test

Table 3: Social consequences of COVID-19 pandemic at the household level, n= 114.

Variables		Pre-COVID-19, n (%)	During COVID-19, n (%)	P value
Social relationship*				
Relationship with family members	Better	109 (95.6)	93 (81.6)	0.001
	Weaker	5 (4.4)	21 (18.4)	
Relationship with friends	Better	109 (95.6)	110 (96.5)	1.00
	Weaker	5 (4.4)	4 (3.5)	
Feelings while staying at home	Good	106 (93.0)	77 (67.5)	0.001
	Bad	8 (7.0)	37 (32.5)	
Involvement in social media and gaming#				
Social media		42 (36.8)	36 (31.6)	0.031
Mobile games		36 (31.6)	9 (7.9)	1.00
Watching television		84 (73.7)	72 (63.2)	0.002
Time spent in hours#				
Social media [Median (IQR)]		1.00 (1.00)	1.88 (1.34)	0.003
Mobile games [Median (IQR)]		1.00 (0.50)	2.00 (2.00)	0.041
Watching television [Median (IQR)]		1.50 (1.00)	2.00 (2.00)	0.001
Addiction habits*				
Smoking		15 (13.2)	17 (14.9)	0.50
Smokeless tobacco		6 (5.3)	13 (11.4)	0.016
Alcohol		25 (21.9)	18 (15.8)	0.167

* McNemar Test # Wilcoxon Signed Ranks test

**Figure 1: Social consequences in terms of physical and emotional abuse at the household level during lockdown, n=114.**

Our study also shows that physical abuse i.e. the household work for the participants were more during COVID-19 (17.5%), followed by blaming 19 (16.7%) and physical hurt 8 (7.0%). Out of eight participants who had physical hurt, slapping 8 (100%) was the most common mode of hurt followed by pushing 5 (62.5%), kicking and beaten with stick 2 (25.0%), which has caused marks in body and required treatment (Figure 1).

DISCUSSION

COVID-19 pandemic led to uncertainty in employment status and financial resources to sustain the livelihood of majority of people living in marginalized areas. A study showed that 50% were either uncertain about it or did not have the resources to sustain the COVID-19 restrictions due to lack of major economic activities.¹⁰ The present study also showed that, 70% faced financial difficulty during COVID-19 and the most common reason for facing financial difficulty was arranging food for the

family. Due to COVID-19 restrictions there was fall in incomes at the individual and family level. An online survey done in India showed that households in the lowest of the five income groups were severely affected with average monthly per-capita earnings of less than \$50 (Rs.3,800).¹¹ Similarly in our study, the median income and expenditure in rupees in pre-COVID-19 period was Rs. 11,000 and Rs. 9,625 respectively, whereas during COVID-19 pandemic the median income and expenditure in rupees has reduced to Rs. 9,000 and Rs. 7,850 respectively.

COVID-19 restrictions and social distancing measures to prevent spread of COVID-19 have heightened fears of increasing levels of domestic violence. United Kingdom's (UK) domestic abuse charities, has reported a 25% increase in calls made to its helpline since lockdown measures were announced.¹² Our study also shows that, 17.5% of the participants experienced more household work during COVID-19. Due to various restrictions by the governments, many individuals self-isolated themselves or stayed in home due to closure of all major economic activities, online gaming has seen the emergence of record numbers of players, which has facilitated a boost in revenue for many companies.¹³ Our study showed that though involvement in social media, mobile games and watching television decreased during the COVID-19 when compared to pre-COVID-19, the time spent on social media, mobile games and watching television has increased during COVID-19 induced restrictions. A cross-sectional study done on the social effect of COVID-19 showed that around 31.6% of the participants reported that their social relationships were affected to a high degree by the COVID-19 pandemic.¹⁴ Our study also analysed the social relationship during pre-and during COVID-19 pandemic, which showed that 93% felt good while staying at home in pre-COVID-19, whereas only 67% felt good while staying at home during COVID-19.

CONCLUSION

The unprecedented COVID-19 pandemic significantly affected the social and micro-economic status of the people living in the slum area due to closure of major economic activities.

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