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Original Research Article

Assessing the post-pandemic socioeconomic and health impacts on daily wage and private sector workers in India: a cross-sectional analysis

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ABSTRACT

Background: The COVID-19 pandemic, a global health and socioeconomic crisis, has severely impacted various demographics, with daily wage and private sector workers in India among the hardest hit. Lockdown measures, aimed at curbing the virus's spread, resulted in widespread job losses, financial instability, educational challenges, and mental health issues, leading to a critical examination of the post-pandemic effects on these vulnerable populations. This study aims to assess the socioeconomic and psychological impacts of COVID-19 on daily wage and private sector workers. Specifically, it examines employment and income loss, access to basic needs, educational disruptions, lifestyle changes, and mental health effects post-lockdown.

Methods: A cross-sectional survey was conducted with 100 participants selected through simple random sampling. Data collection spanned from October to December 2023, utilizing a structured questionnaire to capture sociodemographic, economic, lifestyle, and psychological information. The depression, anxiety and stress scale-21 items (DASS-21) scale was employed to measure depression, anxiety, and stress levels among respondents.

Results: Results show that 42% of participants experienced job losses, predominantly among daily wage workers, with many respondents also reporting decreased financial stability. Educational impacts were notable, with limited access to digital learning tools exacerbating the digital divide. Significant lifestyle changes included shifts towards healthier habits and increased compulsive behaviours, such as handwashing. Mental health assessments indicated that 30% of participants had mild depression, while moderate levels of stress and anxiety were common.

Conclusions: The findings highlight the pandemic's lasting socioeconomic and mental health toll on daily wage and private sector workers in India. Immediate policy interventions are needed to strengthen social support systems, ensure access to mental health care, and facilitate economic recovery for these communities.

Keywords: COVID-19, Socioeconomic impact, Daily wage workers, Private sector workers, Mental health, DASS-21

INTRODUCTION

The COVID-19 is a globe-spanning health and socio-economic crisis. Along with news of fatalities, our country has witnessed enough disturbing visuals of discrimination, hunger, and poverty as well. On the other hand, we also saw the benevolent side of many institutes, firms, and individuals who've reached out to those in need. This also led to many of us probing the socio-economic structure.

India has been put on lockdown to halt the spread of the coronavirus outbreak. People have been told to stay indoors, but this was not an option for many daily-wage earners. As a result of the emergence of the coronavirus disease 2019 (COVID-19) outbreak caused by severe acute

respiratory syndrome coronavirus 2 (SARS-CoV-2) infection in the Chinese city of Wuhan, a situation of socio-economic crisis and psychological distress rapidly occurred worldwide. Although social activities have been restricted in most countries, almost all non-essential individual movements were prohibited due to quarantine, while the local hospitals received suddenly thousands of critically ill COVID-19 patients and were forced to implement their emergency protocols. In this context, the general population as well as most of the front-line healthcare workers became vulnerable to the emotional impact of COVID-19 infection due to both the pandemic and its consequences worldwide.[1]

Considering the current situation of the world environment, viral outbreaks may affect animals and humans without causing extensive fatalities, however, their psychological impacts can be serious such as anxiety, insomnia, panic behaviour, fear, and hopelessness. In some cases, viral outbreaks infect thousands of people, cause hundreds to thousands of fatalities, and spread around the globe, thereby affecting millions of people to induce anxiety, panic behaviour, and other related psychiatric disorders. To cope with such outbreaks and epidemics, the healthcare authorities should have effective plans, which must consider psychological health.[2] The COVID-19 outbreak is emotionally challenging for everyone, especially for individuals who are already at risk (e.g. those suffering from depression). During and following the COVID-19 outbreak and the outcomes of isolation and quarantine, we might see an increase in suicide ideation and behaviour among at-risk populations.[3]

The expected number of job losses due to COVID-19 was taken from the International Labour Organization's press release from 18 March 2020, reporting a decline of 24.7 million jobs as a high scenario and 5.3 million jobs lost as a low scenario. In the high scenario, the worldwide unemployment rate would increase from 4.936% to 5.644%, which would be associated with an increase in suicides of about 9570 per year. In the low scenario, the unemployment would increase to 5.088%, associated with an increase of about 2135 suicides.[4]

Along with its high infectivity and fatality rates, the 2019 corona virus disease (COVID-19) has caused a universal psychosocial impact by causing mass hysteria, economic burden, and financial losses. Mass fear of COVID-19, termed “corona phobia”, has generated a plethora of psychiatric manifestations across the different strata of society. This situation can produce acute panic, anxiety, obsessive behaviours, hoarding, paranoia, depression, and post-traumatic stress disorder (PTSD) in the long run. These have been fuelled by an “infodemic” spread via different platforms of social media. Outbursts of racism, stigmatization, and xenophobia against particular communities are also being widely reported.[5] So, this study was undertaken to define the psychosocial, economic, social, lifestyle, and health impact of COVID-19 in the post-COVID phase.

Aims and objectives

Aims and objectives were to: find out the extend of economic impact of COVID pandemic in daily wage workers/private job workers; evaluate COVID-19 pandemic impact on quality of education; assess the impact on transport, groceries, medical and other essential needs; and to study the life style changes and NCDS during COVID-19 pandemic.

METHODS

A cross-sectional study was conducted among 100 participants in the Mapusa municipality community in the state of Goa from February 2023 to April 2023. Data was collected using a structured Questionnaire after obtaining consent to participate. Study participants were allotted based on a simple random sampling technique.

Initially, a pilot study was carried out to find out the prevalence of anxiety, depression, and stress among daily wage workers. Using this prevalence Sample size was calculated according to the sample size calculation for a cross-sectional study, where Z (standard normal value at the level of 95% confidence interval=1.96, P=prevalence from pilot study=15%, Q=1-P, and D=allowable error=7%, and sample size=100 (rounded to the nearest value).

$$Sample\ size = Z^2PQ/D^2$$

Inclusion criteria

People who are working as daily wage workers or in private jobs and those who give consent are included in the study.

Exclusion criteria

Government job workers/retired government workers who have a fixed pension every month are excluded from the study. Those who do not wish to participate and have not given consent to be a part of the study are also exempted from the data.

100 private job workers were interviewed using a semi-structured questionnaire. Details about the participants like sociodemographic, medical, and psychological data noted. They were screened for depression, anxiety, and stress by using a DASS-21 scale. The depression anxiety stress scales – 21 (DASS-21) is a 21-item self-report measure designed to assess the severity of general psychological distress and symptoms related to depression, anxiety, and stress in older adolescents (≥17 years).

Each of the three DASS-21 scales contains 7 items, divided into subscales with similar content. The depression scale assesses dysphoria, hopelessness, devaluation of life, self-deprecation, lack of interest/involvement, anhedonia, and

inertia. The anxiety scale assesses autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experience of anxious affect. The stress scale is sensitive to levels of chronic nonspecific arousal. It assesses difficulty relaxing, nervous arousal, being easily upset/agitated, irritable/over-reactive, and impatient. Scores for depression, anxiety, and stress are calculated by summing the scores for the relevant items.

Recommended cut-off scores for conventional severity labels (normal, moderate, severe) are as given in Table 1.

Table 1: Recommended cut-off scores for conventional severity labels (normal, moderate, severe).

Severity labels	Depression	Anxiety	Stress
Normal	0-9	0-7	0-14
Mild	10- 13	8-91	15-18
Moderate	14- 20	10-14	19-25
Severe	21-27	15-19	26-33
Extremely severe	28+	20+	34+

Scores on the DASS-21 will need to be multiplied by 2 to calculate the final score

Participants were given a "language validated questionnaire" in our case, Konkani/Hindi/English language, so it was easily understood by them and scoring could be done. Participants who had scores more than 10 which suggested that they were at risk of probable depression' were referred for psychiatry follow-up.

Data was entered in an excel sheet and analyzed using statistical package for the social sciences (SPSS) software. Parameters were explained in descriptive statistics i.e. percentages and proportions.

RESULTS

Most participants are aged 20-40, with 52 individuals in this category. The study includes 64 males and 36 females. Among study participants, 62% are in private wage jobs, while the rest rely on daily wages. Most worked in semi-professional or technical/professional roles. 38 participants earn between 21,000-30,000 per month. Post-lockdown, 36 participants saw increased income, while 25 experienced a decrease (Table 2).

78% of participants reported having family members attending classes post-pandemic.Most classes are offline (38), with fewer hybrid (7) and online (8) modes.

58 participants could provide devices for education. Around 60 participants noted similar academic performance to pre-pandemic levels and 58 reported students' assessment exams were happening as the pre-pandemic period (Table 3).

Table 2: Socio-demographic variables.

Age category (years)	Male	Female
20-40	34	18
41- 60	20	12
61-80	10	6
Total	64	36
Daily wage/private job worker statistics	**Count**	
Daily wage	38	
Private wage	62	
Occupation	**Count**	
Professional and technical	28	
Semi-professional	35	
Skilled workers	15	
Unskilled workers	18	
Others	4	
Per capita income	**Count**	
<10,000 per month	18	
10,000 – 20,000	26	
21000-30,000	38	
>30,000	18	
Financial status after lockdown (difference)	**Count**	
Increased	36	
Decreased	25	
No change	39	

Only 18% reported difficulty in affording essentials like groceries or health and 72% did not receive aid from any NGOs or the government during and post-pandemic period. Even though 86% own a vehicle,65% experienced transport issues post-pandemic (Table 4).

46% of participants changed their lifestyle by incorporating exercise, diet modifications, or ceasing addictions. Among these 30 participants modified their diets, and 25 began exercising (Table 5).

Around 54% felt a decrease in family connection post-pandemic and 68% reported increased compulsive hand-washing (Table 6).

Table 3: Education.

Parameters	Yes	No	
After the pandemic any of your family members attending classes	78	22	
	Online	**Offline**	**Hybrid**
Online or offline classes?	8	38	7
	Yes	**No**	
Were you able to provide gadgets like laptops/android mobile phones for education	58	20	

Continued.

Parameters	Yes	No
	Yes	No
Are they able to perform in class like before?	60	18
	Yes	No
Student assessments exams are happening like before the pandemic?	58	20

Table 4: Basic needs.

Parameters	Yes	No
Do you have economic constraints for basic needs like buying groceries/travel/health after this COVID pandemic?	18	82
During the pandemic have u received any financial assistance or essentials from any NGOs or Government?	28	72
Do you own a vehicle?	86	14
Do you have any problems with transport compared to the pre-pandemic period?	65	35

Table 5: Lifestyle changes and NCDS.

Parameters	Yes	No
After lockdown did you change your lifestyle like exercise/diet/addictions/leisure activities?	46	54
If yes in which and how it changed	Count	
Started exercise	25	
Healthy diet modification	30	
Stopped addictions	15	
Engaging in any form of leisure activities	45	

Table 6: Social factors and mental health.

Parameters	Yes	No
Are you able to connect with your family like before?	36	54
Has the COVID-19 pandemic led to an increase in uncontrollable compulsive hand-washing behaviors?	68	32

In the DASS- 21 scale 38 participants scored as normal mood, while 4 showed extremely severe depression levels. Furthermore, 46 participants scored without anxiety, but 5 reached extremely severe anxiety levels. Among study groups, 26 reported no stress, with 8 in the extremely severe category (Table 7).

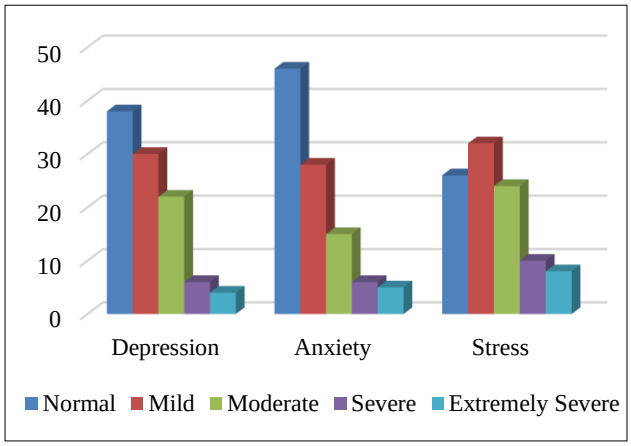

Figure 1: Psychosocial impact on DASS-21 scale.

Table 7: Psychological impact will be assessed by the DASS-21 scale.

Variables	Depression	Anxiety	Stress
Normal	38	46	26
Mild	30	28	32
Moderate	22	15	24
Severe	6	6	10
Extremely severe	4	5	8

DISCUSSION

The study sample, comprising 64 males and 36 females, predominantly fell within the 20-40 age group, highlighting the vulnerability of younger individuals in the workforce during economic crises like the COVID-19 pandemic. A smaller number of respondents (32 %) were aged 41-60, while those aged 61-80 made up the smallest group (16 respondents-16%). These variations in age groups underscore the importance of understanding how economic impacts vary across different life stages, as younger individuals tend to experience more volatility, while older individuals may have more established economic positions but also higher responsibilities.

Another study with a larger sample size of which 53% were women and the average age of respondents was 38; around two-thirds of the workforce in their sample lost employment during the lockdown.[6] From their comparison of unemployment in rural and urban areas, 90% of the respondents reported loss of employment in urban areas.

Income distribution within the study revealed that the majority of respondents earned between ₹21,000 and ₹30,000, with a significant portion (26%) earning between ₹10,000 and ₹20,000, illustrating income disparity. The pandemic also impacted education, as 78% of respondents had family members attending classes, with most attending offline classes.

However, 58% were able to provide educational gadgets, while 20% could not, underscoring the digital divide. Interestingly, 60% reported that family members performed in classes similarly to pre-pandemic levels, indicating resilience in education despite the challenges posed by the pandemic.

There was considerable heterogeneity in the COVID shock, with the likelihood of employment loss being higher among those initially working in the informal sector than those in formal jobs. Informal workers were also more vulnerable than the self-employed. It was reported that India's unemployment rate rose from 8.8% in March to 24.3% in May 2020 amidst the COVID-19 crisis. The lockdown of the COVID-19 crisis, thus, witnessed daily wagers and poorer sections of society be the most affected.[7] The rate of unemployment in urban India stands higher at 14.73 percent as against 10.63 percent in urban areas more people are involved in the secondary and tertiary sectors as compared to rural areas where people are involved in agriculture and allied activities.[8]

A significant portion (42%) of the respondents reported job losses due to the pandemic, particularly among daily wage workers who were disproportionately affected by lockdown restrictions. In contrast, private job holders, representing 62% of the respondents, faced fewer layoffs but still encountered difficulties. The occupational distribution showed that semi-professional workers (35 respondents) and professional/technical workers (28 respondents) made up the largest groups, highlighting the presence of higher-skilled workers in the study. Despite this, 25% of respondents experienced financial declines, particularly daily wage workers with less stable income, while 39% saw no significant financial changes, and 36% reported improvements.

In terms of basic needs, only 18% of respondents faced difficulties meeting essential requirements post-pandemic, despite widespread global financial hardships. However, gaps in government and NGO assistance were evident, with 72% of respondents not receiving aid. Transportation challenges were widely reported (65%), while 46% of respondents adopted healthier habits post-lockdown.

Social factors and mental health were also significantly impacted. Only 36% reported maintaining connections with their families as they did pre-pandemic, with 50% citing the rise of social media as a key reason for diminished interactions, followed by job pressures (34 respondents) and mental health struggles (23 respondents). The prevalence of uncontrollable compulsive hand-washing behaviours (68%) suggests heightened anxiety and fear, which are common psychological responses to the pandemic.

The DASS-21 scale revealed high levels of psychological stress, with 24% experiencing moderate stress and 10% severe stress. Depression and anxiety were also common, with 30% reporting mild depression and 22% moderate. This indicates that while some respondents demonstrated resilience, many continued to grapple with mental health challenges long after the lockdowns were lifted.

A study of the effect of lockdown on the mental health of daily wage workers also showed that nearly half of those who took part in the study tested positive for both anxiety and sadness which is similar to the current study.[9] Approximately three-quarters of the participants tested positive for at least one psychiatric illness.

Prior cross-sectional study shows most women (73%) and men (66%) experienced a symptom of panic disorder, followed by symptoms of depression and a symptom of generalized anxiety disorder only during the COVID-19 pandemic. Sixty-five percent of women and 54% of men reported feeling sad, empty, or depressed only during the pandemic. Most of the sample reported an onset of mental health symptoms only during the COVID-19 pandemic. They found some associations in their study that, financial hardship was associated with poor mental health symptoms among women whereas job loss was associated with poor mental health symptoms among men.[10]

There are some other studies conducted outside India align with these findings that job loss and financial hardship were associated with poor mental health during the COVID-19 pandemic and recessions.

Limitations

This study has some limitations like, it relies on self-reported data, which may introduce response bias as participants might underreport or over report certain aspects, particularly mental health and financial hardship.

CONCLUSION

The COVID-19 pandemic has significantly affected the economic, social, and mental health aspects of daily wage workers and private job workers. The study reveals that a substantial proportion of individuals faced job loss, increased anxiety about future employment, and changes in lifestyle to cope with the pandemic's challenges. Low socioeconomic status was particularly associated with higher levels of post-pandemic stress.

These findings underscore the need for effective social support systems, enhanced healthcare services, and accessible mental health interventions to help this vulnerable population recover from the long-lasting impacts of the pandemic.

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