

Factors Affecting Anxiety Amongst Youth: Evidence from Young Lives Longitudinal Study in India

Indian Journal of Human Development
1–13

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DOI: 10.1177/09737030251346755

journals.sagepub.com/home/jhd



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Abstract

Global research has highlighted the pandemic's deleterious effect on the mental health of young people, yet few longitudinal studies focus on anxiety levels in low-resource settings. The Young Lives longitudinal study (2002–2021) captured anxiety levels amongst young people aged 26 in Southern India during different phases of the pandemic. The article examines the prevalence of anxiety (measured by GAD-7) and associated factors (individual and household factors) using a multivariate logistic regression. The results reveal that nearly 15% of 26-year-olds had above minimal level of anxiety at the end of 2020, which decreased to 13% in 2021. Logistic regression analysis reveals that young women and rural youth were significantly more likely to experience anxiety. Factors such as loss of livelihood, food inadequacy and death of earning household members during the pandemic were strongly associated with above minimal level of anxiety. The findings highlight that there is an urgent need for targeted interventions to support young women and rural youth. Increased investment in mental health care, strengthening social and food security systems and integrating mental health into primary care and community-based settings are essential to better protect vulnerable populations in future crises

Keywords

Young adults, anxiety, livelihood, food inadequacy, COVID

Introduction

The World Health Organization (WHO) conceptualises mental health as a 'state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community' (WHO, 2018). In recent years, there has been increasing acknowledgement of the important role mental health plays in achieving global development goals, as illustrated by the inclusion of mental health in the Sustainable Development Goals. The updated Comprehensive Mental Health Action Plan 2013–2030 points out that determinants of mental health and mental disorders include not only individual attributes, such as the ability to manage one's thoughts, emotions, behaviours and interactions with others, but also social,

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cultural, economic, political and environmental factors such as national policies, social protection, living standards, working conditions and community social supports (WHO, 2021a).

Anxiety disorders refer to a group of mental disorders characterised by feelings of anxiety and fear, including generalised anxiety disorder (GAD), panic disorder, phobias, social anxiety disorder, obsessive-compulsive disorder and post-traumatic stress disorder. As with depression, symptoms of anxiety can range from mild to severe.

Global Incidence of Mental Health Issues Related to Anxiety

Anxiety disorders are ranked as the sixth largest contributor to non-fatal health loss globally and appear in the top 10 causes of years of healthy life loss due to disability (YLD) in all WHO regions (WHO, 2017). Anxiety disorders are associated with immense health care costs as well as a high burden of disease and are commonly found amongst adolescents and young people (Cummings et al., 2014). According to large population-based surveys, up to 33.7% of the population is affected by an anxiety disorder during their lifetime (Bandelow & Michaelis, 2015). Based on European studies, the prevalence of anxiety in adolescents and young adults ranges between 5.5%–19% and 14.75%–21.5%, respectively (De Sousa et al., 2018; Moffitt et al., 2010; Ormel et al., 2020). While examining data from 82 countries, Biswas et al. (2020) reported that anxiety prevalence ranges between 7% and 12% with wide geographic and cultural variations. Similarly, a systematic review done by Yang et al. (2021) reported a 50% increase in annual anxiety levels from 1990 to 2019, which varied based on gender, age and country.

Although genetic and biological factors clearly contribute to the development of GAD, a greater percentage of the risk for GAD lies in complex psychological, environmental and social factors (Gregory et al., 2020). Literature in this area also shows that sociodemographic factors, such as female sex, younger age, family dysfunction, educational status, unemployment, marital status, financial distress and lack of support, have been related to anxiety in young populations (Auerbach et al., 2018; Scardera et al., 2020).

Anxiety During the Pandemic

The COVID-19 pandemic thus posed a serious multi-etiological global mental health challenge influencing every aspect of life and disrupting the social fabric. Anxiety disorders have been revealed to be aggravated by stressful events (Tyrer & Baldwin, 2006). In recent times, the COVID-19 pandemic has had a significant impact on the psychological well-being of people around the world. The pandemic also impeded access to mental health services (Gunnell et al., 2020), though these were largely absent in developing countries even pre-pandemic. In the first year of the COVID-19 pandemic, global prevalence of anxiety and depression is reported to have increased by a massive 25%, according to a scientific brief released by the WHO (2022). COVID-19 brought about several fears (e.g., contamination, future, financial instability, xenophobia and agoraphobia) and in turn triggered elements related to anxiety and fear (Coelho et al., 2020).

The GBD 2020 report estimated that the COVID-19 pandemic has led to a 27.6% increase in cases of major depressive disorder and a 25.6% increase in cases of anxiety disorders (AD) worldwide in 2020 (Santomauro et al., 2020). A survey by the Mental Health Foundation in the UK discovered that people with pre-pandemic mental health conditions are almost twice as likely to have panic attacks (Thronicroft, 2020). This was corroborated by a cross-sectional German study which evaluated 15,037 participants from the general population during the beginning of the pandemic and reported rates of depressive and

anxiety symptoms of 14.3% and 19.7%, respectively (Bäuerle et al., 2020). Relatively high rates of symptoms of anxiety (6.33%–50.9%) were also reported in the general population during the COVID-19 pandemic in China, Spain, Italy, Iran, the USA, Turkey, Nepal and Denmark (Xiong et al., 2020). Racine et al. (2021) found that 20.5% of children and adolescents have experienced anxiety during COVID-19 in countries like China, Jordan, the USA, Brazil, Greece, Canada, Italy, Spain and Germany. This figure is double what existed before the pandemic.

While there is a lot of evidence emanating from developed countries regarding mental health consequences of the pandemic, this literature is scarce in low- and middle-income countries (LMICs). Recent evidence from a research article that analysed the level of depression and anxiety using the Young Lives longitudinal data for four study countries (Ethiopia, India, Peru and Vietnam) found that in all countries except Ethiopia, improvements in mental health are potentially associated with the decline in COVID-19 infection/mortality rates. The findings indicate that food security is strongly associated with higher rates of anxiety and depression across all countries, with mental health improvements observed among food-secure households, while food-insecure households saw limited or no improvements, especially in Peru and Vietnam (Porter et al., 2022). It is with this background that the authors examined anxiety levels amongst young people in the two states of Andhra Pradesh and Telangana in India during the pandemic. The specific objectives of this research article are (a) to examine the prevalence of anxiety amongst young adults during various phases of the pandemic, that is, July 2020, when the pandemic was at its height, and later in November/December 2021, when the pandemic was about to end, by select background variables and (b) to explore factors associated with anxiety amongst 26-year-old adults during the aforementioned phases of the pandemic in India and thereby to compare the effects of various socio-economic, policy and shock variables on the prevalence of anxiety.

Pandemic in India

India began a nationwide lockdown in response to the COVID-19 pandemic at the end of March 2020, which lasted for 75 days, until various restrictions were relaxed under Unlock 1.0 on 8 June 2020. As of 4 November 2020, India had recorded over 8.3 million confirmed cases. The pandemic continued to have a disastrous effect on the economy despite measures put in place by the government.

Following the first wave in 2020, India experienced a devastating second wave of COVID-19 cases in April and May 2021, related to the Delta variant. The second wave resulted in a significant increase in both infections and fatalities, often overwhelming India's healthcare systems and having substantial economic and social impacts as new restrictions were imposed.

In contrast to the strict national lockdown in 2020, the government used a decentralised policy to allow the state to administer and control infection during the second and third waves of infections. Despite less severe restrictions, the economic impact was substantial, with the economy contracting by 6.6% and unemployment rising by around 8%–12% in the second quarter of 2021.

Materials and Methods

Study Population

This article draws upon the quantitative panel data collected by Young Lives in India. Young Lives is a longitudinal four-country study coordinated by the Department of International Development, University

of Oxford, UK. The Young Lives longitudinal study focuses on many aspects of inequity and poverty, including education, health and subjective well-being, by following 3,000 children in undivided Andhra Pradesh since 2002 (now bifurcated into the states of Andhra Pradesh and Telangana). Two cohorts of children aged 8 years old and 1 year old in 2002 have been studied, and the longitudinal survey has conducted six rounds of field survey, collecting information related to index children/young adults, households and communities in 2002, 2005, 2009, 2013, 2016 and five telephonic surveys in 2020–2021 conducted during the COVID-19 pandemic, with the most recent Round 7 conducted in 2023. For the present study, we have utilised Young Lives Telephonic Survey—Call 1 (June–July 2020), Call 2 (August–October 2020), Call 3 (November–December 2020) and Call 5 (October–December 2021) with the sample of the longitudinal study related to the older cohort ‘OC’, who was born in 1994–1995. The initial sample size for older cohort (OC) children in round 1 was 1,008, which was reduced to 864 young adults by 2020 when the Telephone Survey Round 6 consisting of five telephonic interviews (call 1–5) was conducted. Ethical approval for the study was obtained from the University of Oxford, UK (UK, Ref No: CUREC 1A/ ODID CIA-20-034, 15 March 2020) as well as the CESS Ethics Committee, Hyderabad, India.

Measures

Questionnaire Structure

The structured questionnaire(s) used in the Young Lives Telephone Survey during the pandemic includes sections related to (a) COVID-19: behaviours and risk perceptions; (b) socio-economic status; (c) recent life history and economic changes; (d) food security, prices and health; (e) current education; (f) time use; (g) employment and earnings; (h) subjective well-being; (i) mental health and (j) access to government benefits. The article draws information from sections related to life history including familial shocks, demographics, socio-economic status, education, food security, employment, access to government benefits as well as mental health collected through the telephone survey calls 1, 2, 3 and 5.

Dependent Variables

The Generalised Anxiety Disorder Assessment (GAD-7) tool was used to assess the level of anxiety amongst the older cohort youth. The GAD-7 consists of seven questions based in part on the DSM-IV criteria for GAD and reflects the frequency of symptoms during the preceding two-week period. GAD-7 is a useful tool for screening for generalised anxiety disorder, assessing the severity of anxiety symptoms over the past two weeks. Each item is scored from 0 (not at all) to 3 (nearly every day), with a total score ranging from 0 to 21. Higher scores indicate more severe anxiety symptoms. To calculate the GAD-7 scores, values of 0, 1, 2 and 3 are assigned to the frequency of symptoms reported (‘not at all’, ‘several days’, ‘more than half the days’ and ‘nearly every day’) and a total score was computed. Based on the total scores obtained, the prevalence of anxiety¹ has been categorised into four levels: minimal (0–4), mild (5–9), moderate (10–14) and severe (15–21). Furthermore, overall anxiety level has been categorised into binary form, that is, minimal level, that is, 0–4, and above minimal levels, that is, 5–21, of anxiety that includes mild, moderate and severe anxiety and considered throughout the article as the prevalence of anxiety.

Independent Variables

The following independent variables were considered in the multivariate logistic regression analysis for exploring the factors associated with anxiety:

1. Gender: male and female
2. Location: rural and urban
3. Caste²: Scheduled caste (SC), scheduled tribe (ST), backward class (BC) and OC
4. Educational qualification: The highest level of educational qualification achieved by age 26 was obtained from Telephone Survey-Call 2 data (2020) and further categorised into elementary, secondary, higher secondary, graduation and postgraduation levels.
5. Households affected by job loss during the pandemic: Young Lives Telephone Survey-Call 2 and 5 collected information on different economic shocks, that is, events that negatively affected the household economy since the COVID-19 outbreak. Information on job loss was one such factor which negatively affected the household during the pandemic. The responses are used in the analysis as binary variables, that is, yes and no.
6. Access to ration card: The Telephone Survey-1 collected information related to whether households had received any Government support during the pandemic in the form of ration cards. The responses were categorised into binary variables, that is, yes and no.
7. Households affected by insufficient food: Young Lives Telephonic Survey-2 and 5 collected information on households that ran out of food because of lack of money or limited resources. The variable of insufficient food was drawn from the question 'was there a time when your household ran out of food because of a lack of money or other resources?' and used as a binary independent variable (yes and no) in the analysis.
8. Access to healthy food: During Telephonic Survey-2, a question was asked, 'Was there a time when you or others in your household were unable to eat healthy food?' This variable was used as a proxy for a healthy diet at age 26 and categorised into binary form, that is, yes/no.
9. Death of earning member: Similar to job loss, households affected by the death of an earning member was also considered as one of the shocks that negatively affected families during the pandemic. The question has been asked during Telephone Survey-Call 2 and 5. The responses are categorised into yes and no.

A table of summary statistics (percentage and sample) is given in Table 1 for the above-mentioned independent variables used in the multivariate logistic regression analysis.

Statistical Analysis

The descriptive univariate statistics were used to summarise the demographic and household characteristics of the study population across different survey rounds of the telephonic survey.

Following the descriptive analysis, a binary logistic regression model was used to explore the factors associated with anxiety levels amongst young adults. The dependent variable used in the logit model was in binary form, that is, minimal anxiety = 0 and above the minimal level of anxiety = 1. For ease of interpretation, the results from the binary logistic regression model are presented in the form of an odds ratio where coefficients in logistic regression are given in terms of the log odds.

The following three outcomes can be possible from the odds ratio.

- Odds ratio = 1 no difference from the reference category
- Odds ratio > 1 more likely to have anxiety than the reference category
- Odds ratio < 1 less likely to have anxiety than reference category

Results

Descriptive Statistics

Table 1 provides an overview of the demographic and household characteristics of the older cohort during different telephone calls conducted during the pandemic. The gender distribution remains nearly balanced, with 48.0% male and 52.0% female. A substantial proportion (78.4%) of the respondents were located in rural areas, with a smaller proportion living in urban locations (21.6%). In terms of caste, the largest group is from the BC (45.7%), followed by SC (22.0%), OC (20.5%) and ST (11.8%).

Table 1. Descriptive Statistics.

	Round 6		
	Call 1	Call 2	Call 5
Gender			
Male	48.0	—	—
Female	52.0	—	—
Location			
Rural	78.4	—	—
Urban	21.6	—	—
Caste			
SC	22.0	—	—
ST	11.8	—	—
BC	45.7	—	—
Other	20.5	—	—
Education			
Primary	25.7	—	—
Secondary	15.1	—	—
Higher secondary	13.1	—	—
Graduation	37.1	—	—
Post-graduation	8.9	—	—
Households affected by job loss during pandemic			
Yes	—	41.4	20.33
No	—	58.6	79.7
Access to ration card			
Yes	86.2	—	—
No	13.8	—	—
Households affected by insufficient food			
Yes	—	3.4	1.3
No	—	96.6	98.9
Access to healthy food			
Yes	—	63.3	—
No	—	36.7	—
Death of earning family member			
Yes	—	16.1	12.7
No	—	83.9	87.3

Source: Young Lives Round 1 (2002), Young Lives Telephonic Surveys 1 and 2 (August–December 2020).

Regarding the highest level of education reached, the highest percentage of respondents had completed graduation (37.1%), followed by primary education (25.7%), secondary education (15.1%), higher secondary education (13.1%) and postgraduation (8.9%).

Regarding households affected by job loss during the pandemic, Table 1 highlights that 41.4% of households reported job loss in call 2; however, by call 5, the figure had decreased to 20.3%.³ A substantial majority (86.2%) of households had access to ration cards. The proportion of households running out of food due to lack of resources was relatively low, with only 3.4% in call 2 and an even smaller percentage (1.2%) in call 5. Despite fewer households facing food shortages, a larger proportion (63.3%) of households reported difficulties in accessing healthy food. Additionally, 16.1% of households were affected by the death of an income-earning member during the pandemic, which showed a decline to 12.7% in call 5.

Trend in Prevalence of Anxiety

As mentioned in the methodology section, a composite measure of anxiety has been computed based (including mild/moderate/severe anxiety) on the above-mentioned GAD-7 items to understand factors causing anxiety amongst young adults during the pandemic.

Table 2 reveals the prevalence of overall anxiety amongst 26-year-old adults during various phases of the pandemic. Findings show that 14.9% of 26-year-olds had some form of anxiety during call 2 (August–October 2020), and 85.1% of youth showed minimal symptoms of anxiety during the peak of the pandemic, which is not a cause of concern. However, above minimal level of anxiety reduced to 13% by December 2021, which was towards the end of the second wave of the pandemic.

Factors Affecting Anxiety

Table 3 reveals results from multivariate binary logistic regression analysis in terms of odds ratio to show the likelihood of anxiety associated with select variables. The finding shows that in call 2 (when the pandemic was at its peak), females were 2.7 times more likely to experience anxiety compared to their male counterparts. However, by call 5, this likelihood has decreased, and the association was not statistically significant. Urban adults were 44% significantly less likely to be anxious compared to rural adults in call 2 (2020), but this difference is not significant in call 5 (2021). Although not statistically significant, BC adults were found to be 1.3 times more likely to be anxious compared to SC adults.

Table 2. Level of Anxiety.

Category	GAD-7 Anxiety Scores		
	Call 2 (August–October 2020)	Call 3 (November 2020)	Call 5 (October–December 2021)
Minimal	85.1	88.1	87.0
Mild	11.9	10.4	10.7
Moderate	2.7	1.3	1.6
Severe	0.4	0.2	0.7
Above minimal level of anxiety	14.9	11.9	13.0

Source: Young Lives Round 1 (2002), Young Lives Telephonic Surveys 1 and 2 (August–December 2020).

Table 3. Odds Ratio Showing Likelihood of Anxiety Level.

Variables	Call 2 (August–October 2020)		Call 5 (October–December 2021)	
	Odds Ratio	Confidence Interval	Odds Ratio	Confidence Interval
Gender				
Male(Ref)				
Female	2.679***	1.689–4.250	1.232	0.769–1.971
Location				
Rural(Ref)				
Urban	0.441**	0.231–0.843	0.882	0.477–1.628
Caste				
SC(Ref)				
ST	0.754	0.362–1.569	0.374	0.142–0.989
BC	1.305	0.774–2.202	1.354	0.778–2.356
Other	0.742	0.347–1.587	0.842	0.383–1.847
Educational level by age 26				
Below secondary ^(Ref)				
Secondary	0.765	0.394–1.485	1.041	0.517–2.094
Higher secondary	1.006	0.530–1.907	1.516	0.774–2.969
Graduation	1.127	0.650–1.952	0.922	0.491–1.732
Postgraduation	0.21**	0.046–0.953	0.734	0.246–2.188
Household affected by job loss during the pandemic				
No(Ref)				
Yes	1.657**	1.071–2.565	2.31***	1.389–3.841
Access to ration card				
No(Ref)				
Yes	0.797	0.410–1.549	0.748	0.384–1.454
Households affected by insufficient food				
No(Ref)				
Yes	8.989***	3.747–21.567	43.072***	4.701–394.590
Access to healthy food				
No(Ref)				
Yes	0.370***	0.235–0.583	0.302***	0.183–0.497
Death of earning family member				
No(Ref)				
Yes	3.877***	2.396–6.273	5.767***	3.425–9.709
Constant	0.121	0.047–0.311	0.151	0.058–0.394

Source: Young Lives Round 1 (2002), Young Lives Telephonic Surveys 1 and 2 (August–December 2020).

Notes: Dependent variable: Prevalence of anxiety: '0': minimal level; '1': above minimal level. ^(Ref)Reference category. Significance level: *** $p < .01$, ** $p < .05$, * $p < .1$.

Households affected by job loss during the pandemic were 1.7 times more likely to experience anxiety in call 2, that is, in 2020 compared to those who did not experience any job loss. This likelihood increased even further in call 5 or 2021, towards the end of the second wave of the pandemic where they were 2.3 times more likely to be anxious. Additionally, households that ran out of food due to lack of resources were 9 times more likely to experience anxiety in call 2, and this figure alarmingly increased to 43 times more likely to have anxiety within households with inadequate food in 2021 or call 5. This highlights that even though a smaller percentage of the sample experienced food inadequacy, those households were significantly more likely to experience increased anxiety, especially as the pandemic was waning.

Adults who had access to healthy food were 37% less likely to experience anxiety in call 2 compared to those without access to healthy food and this effect slightly decreased to 30% in call 5. Although not statistically significant, the odds ratio for access to a ration card from the government reveals that adults from households with a ration card were 79% less likely to experience anxiety in call 2 and 74% less likely in call 5, suggesting consistent, though non-significant protective effect of government social benefits. Lastly, households affected by the death of an earning member were 3.9 times more likely to experience significant levels of anxiety in call 2, and this likelihood increased further to 5.8 times in call 5, showing lasting negative effects associated with familial shocks such as the death of earning family member.

Discussion

ADs are ranked as the sixth largest contributor to non-fatal health loss globally and are associated with immense healthcare costs and a high burden of disease. Recently, the COVID-19 pandemic formed a serious multi-etiological global mental health challenge to trigger elements related to anxiety. This study highlighted the substantial mental health burden experienced by youth in Andhra Pradesh and Telangana during the pandemic, focusing on the prevalence of anxiety and the factors associated with it.

Nearly 15% of 26-year-olds in our sample experienced some form of anxiety in 2020, and even though this declined to 13% in 2021, anxiety continued to affect the cohort over time. The findings indicate that young women were significantly more likely to experience anxiety, which aligns with global evidence suggesting that women are more prone to ADs (WHO, 2022). The higher prevalence of anxiety among women can be attributed to several factors, including increased caregiving responsibilities, gender-based violence and societal expectations that may exacerbate stress and mental health burdens (Kuehner, 2017; WHO, 2022). These stressors place women at greater risk of experiencing anxiety compared to men. Additionally, individuals from rural areas exhibited above minimal levels of anxiety during the first wave of the pandemic, underscoring the mental health challenges faced by those in less urbanised settings where access to healthcare systems is often limited. These findings emphasise the need for targeted interventions in rural areas where mental health resources are typically scarce.

Furthermore, the study highlights the strong relationship between economically vulnerable households and mental health. Anxiety was notably more prevalent among individuals who experienced economic shocks, such as job loss during the pandemic, food inadequacy and difficulties accessing healthy food. These findings are consistent with previous studies (Fang et al., 2021; Kunzler et al., 2021), which have shown that socio-economic stressors significantly impact mental health, particularly in LMICs. Households affected by job loss or food shortages were significantly more likely to report anxiety, with those facing food inadequacy being 43 times more likely to experience anxiety. This indicates that those who faced food inadequacy had alarmingly higher odds of suffering from anxiety, which underscores the profound mental health risks associated with economic hardships.

Education also emerged as a significant protective factor, with individuals with postgraduate education being less likely to experience anxiety compared to those with lower levels of education. However, this protective effect was not as pronounced by the end of the second wave of the pandemic, suggesting that the pressures to return to work even amongst the most qualified may diminish the role of education in buffering against mental health challenges.

Policy Implication

Critical to Integrate Mental Health into Primary Care and Community-based Settings

The Comprehensive Mental Health Action Plan 2013–2020, which was adopted by the 66th World Health Assembly in May 2013 to help countries achieve Sustainable Development Goal (SDG) target 3.4 and promote mental health and well-being, was extended at the 72nd World Health Assembly to 2030 to align with the 2030 Agenda for Sustainable Development 3. However, the latest Mental Health Atlas, 2021, released by WHO (2021b) shows that only 25% of member states have a system in place for the integration of mental health into primary care as well as community-based settings. Furthermore, a WHO report based on 130 countries also showed that mental health services were diminished and downgraded during the pandemic. In 40% of countries, community mental health services had been cut, in two-thirds, daycare was reduced, and the overall picture was that in 93% of countries, some components of the mental health service had been taken away (WHO, 2020). This needs urgent policy action, particularly in LMICs such as India, where the most economically and socially disadvantaged populations are not likely to be able to reach tertiary care centres.

Target Young Women and Increase Investment in Mental Health Care

Given that there is evidence globally (WHO, 2022) as well as from the analysis in this article that young women are more likely to be more severely impacted by anxiety, it is important that services are specially designed to provide social support and treatment to young women in community settings. The Mental Health Atlas (WHO, 2021b) showed that in 2020, governments worldwide spent on average just over 2% of their health budgets on mental health and many low-income countries reported having fewer than 1 mental health worker per 100,000 people. This calls for an urgent increase in investment in mental health services and personnel, particularly in low-resource settings.

Strengthen Social and Food Security

Poor and socially disadvantaged families have been observed in the analysis to be particularly vulnerable to increased anxiety during this pandemic associated with various significant factors such as being female, job loss, food inadequacy, lack of access to healthy food and death of an income-earning member in the household during the pandemic. This has also found resonance with other studies (Fang et al., 2021; Kunzler et al., 2021; Ma et al., 2021; Porter et al., 2022; Racine et al., 2021), and it is important for policymakers to strengthen social security, including food direct subsidies to poor families, especially families with children.

Strengthen Information Systems, Evidence and Research for Mental Health

There is a need for rigorously designed longitudinal cohort and time series studies to understand the impact of COVID-19 and other crisis events on mental health, particularly sampling specific vulnerable groups. Cross-sectional studies, on the other hand, are limited since they do not have any baseline comparison data. As mentioned earlier, the scarcity of literature from LMICs must be addressed and

more cohort studies undertaken to understand the immediate, medium and long-term impact on the mental health of young adults, which can in turn inform policies and programmes.

Mental health of youth, especially across LMICs, needs urgent policy attention to ensure that most disadvantaged and poorest youth are provided targeted interventions to overcome and deal with high levels of anxiety seen during the pandemic and that the SDGs are realised.

Conclusion

The study highlights the profound impact of the COVID-19 pandemic on the mental health of young adults in India, with anxiety levels disproportionately affecting women, rural populations, adults with below secondary education and those experiencing job loss, food inadequacy and death of an earning household member. The findings underscore the need for urgent and comprehensive policy interventions, including the integration of mental health services into primary care, targeted support for young women, strengthening social and food security systems, particularly for families who have lost an earning member, and increased investment in mental health infrastructure. By addressing these key factors, policymakers can help mitigate the mental health challenges exacerbated by shocks such as the pandemic and improve the well-being of vulnerable populations, particularly in LMICs.

Data Availability Statement

The datasets used and analysed during the current study are publicly available and can be accessed from <https://www.younglives.org.uk/>

Declaration of Conflicting Interest Statement

The authors declare no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

Ethical Approval and Consent to Participate

Ethical approval for the study was obtained from the University of Oxford, UK (UK, Ref No: CUREC 1A/ ODID CIA-20-034, March 15, 2020) as well as the CESS Ethics Committee, Hyderabad, India. Respondents gave written consent before starting interviews during rounds 1–5 and during the telephone survey (round 6) verbal consent was taken and recorded.

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Notes



1. Anxiety levels have been constructed according to Spitzer et al. (2006).
2. Caste in India is divided into four official categories. Scheduled tribes, scheduled castes and backward classes are recognised in the Constitution of India as historically disadvantaged, while other castes are more privileged, and socially and educationally advantaged castes.

3. In call 2, the reference period has been taken since the beginning of 2020, marking the onset of the first wave of the COVID-19 pandemic. In contrast, in call 5, the reference period is set from the beginning of 2021, which corresponds to start of the second wave of the pandemic.

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