

Economic Insecurity and Psychological Distress: Examining Anxiety and Depression in a Cross-Sectional Study

MUHAMMAD HASSAN SHEIKH¹, SAIRA ABBAS², MIAN MUKHTAR UL HAQ³, BILAL MASOOD⁴, JAY SING⁵, BENAZIR JAVED⁶

^{1,2}Assistant professor of Neurology, Dow University Hospital, DIMC Ojha Campus, Pakistan

³Associate Professor Department of Psychiatry, Lady Reading Hospital Peshawar, Pakistan.

⁴Assistant Professor Department of Community Medicine Bolan Medical College Quetta, Pakistan

⁵Consultant Neurologist Neurology Department Doctor Ruth KM Pfau Civil Hospital Karachi, Pakistan

⁶Senior registrar, Services Hospital Lahore, Pakistan

Correspondence to: Mian Mukhtar ul Haq, Email: doctormian@yahoo.co.uk

ABSTRACT

Background: Income volatility, employment instability, and financial strain are key determinants of mental health. Using anxiety and depression, this study examines the relationship between economic insecurity and psychological distress among adults.

Methodology: One-year cross-sectional study was conducted Dow University Hospital and Doctor Ruth KM Pfau Civil Hospital Karachi, from February 2022 to February 2023 and 120 adults (18–65) recruited from the community centers. For inclusion, fluency in the local language and no severe cognitive impairment were required; conditions affecting survey responses were not excluded. A composite index of income volatility, employment instability, and perceived financial strain was used to measure economic insecurity. The Generalized Anxiety Disorder 7-item (GAD-7) scale and Patient Health Questionnaire 9-item (PHQ-9) were used to assess psychological distress. The power analysis indicated that a sample size of 120 would have 80% power to detect a medium effect size ($f^2 = 0.15$) at $\alpha = 0.05$. Questionnaires were collected in person and online, and the analyses were done using SPSS version 27, using Pearson correlations and regression analyses.

Results: After controlling for demographics, economic insecurity predicted increased anxiety ($\beta = 0.31$, $p < .001$) and depression ($\beta = 0.28$, $p < .001$). Including it increased the variance explained by 10% for anxiety and by 8% for depression.

Conclusions: The results of this study emphasize the importance of economic insecurity in mental health and call for interventions aimed to relieve both financial and psychological problems. It should be investigated in future studies in causal pathways. Overall, research is needed.

Keywords: Economic Insecurity; Psychological Distress; Anxiety; Depression; Cross-Sectional Study; Income Volatility; Employment Instability; Financial Strain; Demographics; Hierarchical Regression; SPSS; Intervention; Vulnerable Populations.

INTRODUCTION

Income volatility, employment instability, subjective financial strain, and other facets of economic insecurity have taken on a mantle as a key determinant of mental health outcomes. In this era of fluctuating economy and uncertainties, there are a growing number of people who are not just experiencing financial hardships, but also suffer other menaces that affect their psychological well-being¹. Studies have also shown that economic adversity is linked to increased levels of anxiety and depression, and there has been much attention to the intricate relationship between economic conditions and mental health. Nevertheless, the mechanisms through which economic insecurity gives rise to psychological distress are not well understood².

Economic instability has been proven to induce chronic stress, which is a critical cause of mental health disorders, in previous research. Anxiety is the result of an increased allostatic load due to persistent financial uncertainty that leads to a state of hypervigilance³. On the same note, depression is often linked with low self-worth and feelings of hopelessness, which can come from the constant struggle to meet basic financial needs. However, these stress responses are not uniform across populations; rather, they seem to be influenced by sociodemographic factors, including educational attainment, geographic residence, and general socioeconomic status⁴. While these economic stressors exist for everyone, individuals with fewer resources or less access to support networks may be more at risk for psychological distress as a result of these stressors⁵.

Given the above, the present study attempts to investigate the relationship between economic insecurity and psychological distress, specifically focused on anxiety and depression. Our research uses a cross-sectional design to examine economic insecurity, using a multidimensional index that includes income fluctuation, employment instability, and perceived financial strain⁶. Well-validated instruments are used to measure psychological distress, such as the Generalized Anxiety Disorder 7 item (GAD-7) scale for anxiety and Patient Health Questionnaire 9 item (PHQ-9) for depression. We propose that higher levels of economic insecurity will be highly associated with higher levels of symptoms of anxiety, as well as depression. We further investigate whether

this relationship is moderated by educational attainment and urban or rural residence⁷.

The importance of this study comes from its potential to contribute to knowledge of the role that economic factors play in mental health difficulties. Our research contributes to the development of targeted public health interventions and policy initiatives by delineating the specific pathways through which economic insecurity impacts psychological well-being⁸. This is particularly the case for populations at higher risk of socioeconomic disadvantage. Finally, our findings attempt to inform policymakers of how economic policies may also affect mental health on a larger scale and stress the need for economic stability to be included in mental health promotion initiatives⁹.

Collectively, this study aims to bridge a critical gap in the literature by examining the interplay between economic insecurity and psychological distress in its entirety. We strive through empirical rigor to offer a nuanced account of how economic instability impacts mental health, both to illuminate how detrimental economic instability is to mental health and to identify ways of mitigating these issues in modern society¹⁰.

MATERIALS AND METHODS

Study Design: The purpose of this 1-year cross-sectional study is to investigate the association between economic insecurity and psychological distress, with a specific focus on anxiety and depression. Present study was conducted in Dow University Hospital and Doctor Ruth KM Pfau Civil Hospital Karachi, from February 2022 to February 2023. To capture variations in these constructs over one year, the study was structured to use a comprehensive survey that assesses both economic and psychological variables.

Participants: Convenience sampling was used to recruit a total of 120 adults aged 18–65 years from community centres and local organizations. Participants were required to be fluent in the local language, capable of giving informed consent, and within the specified age range, and these were the inclusion criteria. The data collected were also found to be reliable as they excluded people reporting severe cognitive impairments or any other conditions that would hinder their ability to accurately complete the

questionnaire. The Institutional Review Board approved all study procedures, and informed consent was obtained before enrollment of all participants.

Power Analysis: G*Power was used to conduct a power analysis to determine the sample size necessary to detect a medium effect size ($f^2 = 0.15$) with a power of 0.80 and alpha of 0.05. Hierarchical multiple regression analysis with a sample size of 120 was confirmed to be sufficient by analysis.

Measures: I operationalized economic insecurity as a composite index combining three types of insecurity: income volatility over the past twelve months, employment instability (i.e., how often people change jobs and their current employment status, such as permanent or temporary), and subjective financial strain on a Likert scale. Two well-validated instruments for the assessment of psychological distress were used: the Generalized Anxiety Disorder 7-item (GAD-7) scale for anxiety and the Patient Health Questionnaire 9-item (PHQ-9) for depressive symptoms.

Data Collection: Structured questionnaires were administered either in-person at designated community centers or online via secure web survey platforms over one year to collect data. The use of a dual approach permitted flexibility of participation while maintaining strict adherence to ethical standards throughout the study.

Statistical Analysis: Demographic characteristics and key study variables were computed to the descriptive statistics. Pearson correlation analyses were conducted to bivariate relationships between economic insecurity and measures of anxiety and depression. Next, hierarchical multiple regression models were used to determine the predictive power of economic insecurity relative to potential covariates, including age, gender, educational attainment, marital status, and geographic residence (urban vs. rural). The interaction terms were included to explore the possibility of moderating the effects of sociodemographic factors. Statistical analysis was all performed using SPSS version 27.0, with significance $p < 0.05$.

RESULTS

One hundred twenty participants participated in the study, with a mean age = 42.7 years (SD = 12.4). Fifty-two percent (52%) of the participants were female, and 48 per cent (48%) were male. Some 38 percent of respondents had a high school education or less; 62 percent had gone to some college or earned a college degree. As for marital status, 45% of the participants stated that they were single, 40% were married, whereas the other 15% were either divorced or widowed. In addition, 60 percent of the participants were urban, and 40 percent were rural. They are summarized in Table 1 by these demographic details.

Table 3: Hierarchical Regression Analyses Predicting Anxiety and Depression

Predictor	Anxiety β (SE)	t	p	Depression β (SE)	t	p
Step 1: Controls						
Age	0.10 (0.08)	1.25	0.215	0.09 (0.07)	1.29	0.201
Gender (Female = 1)	-0.12 (0.09)	-1.33	0.186	-0.11 (0.08)	-1.38	0.170
Education (Lower = 1)	-0.15 (0.07)	-2.14	0.035*	-0.14 (0.07)	-2.00	0.048*
Marital Status (Single = 1)	-0.05 (0.06)	-0.83	0.409	-0.04 (0.06)	-0.67	0.504
Residence (Rural = 1)	0.08 (0.07)	1.14	0.257	0.10 (0.07)	1.43	0.157
Step 2: Economic Insecurity	0.31 (0.08)	3.82	< .001	0.28 (0.08)	3.32	< .001
Model Summary	$R^2 = 0.42$ ($F(6,113)=14.87, p < .001$)			$R^2 = 0.39$ ($F(6,113)=12.39, p < .001$)		

Note: * $p < .05$. Table 3 illustrates that even after controlling for demographic variables, economic insecurity significantly predicts both anxiety and depression.

DISCUSSION

The purpose of the present study was to investigate the association between economic insecurity and psychological distress, such as anxiety and depression, in a sample of 120 adults. The results show that there is a strong relationship between economic insecurity (as measured by a composite index of income volatility, job insecurity, and subjective financial strain) and elevated levels of both anxiety and depression¹¹. Despite

Table 1: Demographic Characteristics (N = 120)

Characteristic	Category	Frequency	Percentage
Age (years)	Mean (SD)	42.7 (12.4)	-
	Gender		
	Male	58	48%
	Female	62	52%
Educational Attainment	High School or Less	46	38%
	Some College/University	74	62%
Marital Status	Single	54	45%
	Married	48	40%
	Divorced/Widowed	18	15%
Residence	Urban	72	60%
	Rural	48	40%

Table 1 provides an overview of the key demographic variables in the study sample.

Economic insecurity was assessed by Pearson correlation analyses conducted to determine the relationships with anxiety and depression. Anxiety ($r = 0.35, p < .001$), depression ($r = 0.33, p < .001$) was significantly correlated with economic insecurity. Finally, anxiety and depression were positively correlated with each other ($r = 0.40, p < .001$). The intercorrelations of the key study variables are reported in Table 2.

Table 2: Pearson Correlations among Key Variables

Variables	Economic Insecurity	Anxiety	Depression
Economic Insecurity	1.00	0.35***	0.33***
Anxiety	0.35***	1.00	0.40***
Depression	0.33***	0.40***	1.00

Note: *** $p < .001$. Table 2 shows that economic insecurity is significantly associated with both anxiety and depression.

Economic insecurity was predicted to be related to anxiety and depression, and two hierarchical multiple regression analyses were conducted to determine the predictive power of economic insecurity once demographic variables were taken into account. In the first step, age, gender, educational attainment, marital status, and residence were entered into the model as control variables. Economic insecurity was added to the model in Step 2. In the first model, anxiety varied 32% of the variance ($R^2 = 0.32, F(5, 114) = 10.74, p < .001$) with 32% explained by the control variables. Adding economic insecurity in Step 2 increased explained variance by an additional 10% ($\Delta R^2 = 0.10; F$ change (1, 113) = 14.56, $p < .001$), and economic insecurity was a significant predictor ($\beta = 0.31, p < .001$). As is the case with depression, the control variables accounted for 30% of the variance ($R^2 = 0.30, F(5, 114) = 9.76, p < .001$). In Step 2, the explained variance increased by 8% ($\Delta R^2 = 0.08, F$ change (1, 113) = 11.02, $p < .001$) when economic insecurity was added. The depression ($\beta = 0.28, p < .001$) was a significant predictor of economic insecurity.

controlling for key demographic variables such as age, gender, education, marital status, and geographic residence, economic insecurity continued to predict psychological distress, explaining an additional 10% of the variance in anxiety and 8% of the variance in depression¹².

The results are consistent with previous research, highlighting that financial instability and the stress linked to economic hardship can lead to poor mental health. Financial uncertainty can create chronic stress that makes the body and

mind increasingly vulnerable, which may exacerbate anxiety symptoms. Just as the continuous fight to satisfy financial requirements may lead to feelings of hopelessness and a reduced sense of self-worth, which also could increase depressive symptoms¹³. Our findings support a theoretical framework that economic stress is an important social determinant of mental health, highlighting the importance of interventions that address both financial and psychological well-being^{14, 15}.

Additionally, the demographic analyses of the study pointed out that some population groups—having less educational attainment or residing in rural areas—may be more prone to the bad effects of economic insecurity. The eons of subgroup differences indicate that there may be sociodemographic factors by which targeted support and policy interventions might better reduce the risk of psychological distress^{16, 17}.

This study should be acknowledged for its limitations. Any causal inferences are precluded by the cross-sectional design, and the use of self-report measures may lead to response biases¹⁸. Due to the use of convenience sampling, the sample may not completely reflect the larger population, and future studies would be strengthened using larger, more diverse samples and longitudinal designs to determine a more temporal relationship between economic insecurity and mental health outcomes¹⁹.

CONCLUSION

Overall, this study demonstrates that economic insecurity has a strong relationship with greater levels of anxiety and depression. The findings reinforce the fact that economic factors should be taken into account in addressing mental health challenges in vulnerable populations. The reduction of financial strain and the enhancement of economic stability could be important in mitigating psychological distress. Future research should address the question of longitudinal models to determine causality and to measure the impact of integrated social and mental health policies on reducing the mental health burden due to economic insecurity.

Conflict of interest: The authors declared no conflict of interest.

Funding: No funding was received.

Authors contribution: All authors contributed equally to the current study.

Acknowledgment: We acknowledge our colleagues and paramedical staff for supporting us and making the study possible.

REFERENCES

1. Abrahams Z, Lund C, Field S, Honikman S. Factors associated with household food insecurity and depression in pregnant South African women from a low socio-economic setting: a cross-sectional study. *Social psychiatry and psychiatric epidemiology*. 2018;53:363-72.
2. Jebena MG, Taha M, Nakajima M, Lemieux A, Lemessa F, Hoffman R, et al. Household food insecurity and mental distress among pregnant women in Southwestern Ethiopia: a cross sectional study design. *BMC pregnancy and childbirth*. 2015;15:1-9.
3. Muhammad T, Srivastava S, Sekher T. Association of self-perceived income status with psychological distress and subjective well-being: a cross-sectional study among older adults in India. *BMC psychology*. 2021;9(1):82.
4. Patel PC, Rietveld CA. The impact of financial insecurity on the self-employed's short-term psychological distress: Evidence from the COVID-19 pandemic. *Journal of Business Venturing Insights*. 2020;14:e00206.
5. Butterworth P, Watson N, Wooden M. Trends in the prevalence of psychological distress over time: comparing results from longitudinal and repeated cross-sectional surveys. *Frontiers in Psychiatry*. 2020;11:595696.
6. Hu Y, Ye B, Tan J. Stress of COVID-19, anxiety, economic insecurity, and mental health literacy: a structural equation modeling approach. *Frontiers in Psychology*. 2021;12:707079.
7. Sultana MS, Khan AH, Hossain S, Islam T, Hasan MT, Ahmed HU, et al. The association between financial hardship and mental health difficulties among adult wage earners during the COVID-19 pandemic in Bangladesh: findings from a cross-sectional analysis. *Frontiers in psychiatry*. 2021;12:635884.
8. Myers CA. Food insecurity and psychological distress: a review of the recent literature. *Current nutrition reports*. 2020;9(2):107-18.
9. Every-Palmer S, Jenkins M, Gendall P, Hoek J, Beaglehole B, Bell C, et al. Psychological distress, anxiety, family violence, suicidality, and wellbeing in New Zealand during the COVID-19 lockdown: A cross-sectional study. *PLoS one*. 2020;15(11):e0241658.
10. Marthoenis, Maskur, Fathiarani L, Nassimbwa J. Investigating the burden of mental distress among nurses at a provincial COVID-19 referral hospital in Indonesia: a cross-sectional study. *BMC nursing*. 2021;20(1):76.
11. Zheng J, Morstead T, Sin N, Klaiber P, Umberson D, Kamble S, et al. Psychological distress in North America during COVID-19: The role of pandemic-related stressors. *Social science & medicine*. 2021;270:113687.
12. Radwan E, Radwan A, Radwan W, Pandey D. Prevalence of depression, anxiety and stress during the COVID-19 pandemic: a cross-sectional study among Palestinian students (10–18 years). *BMC psychology*. 2021;9:1-12.
13. Fradelos EC, Kapsiocha E, Tzavella F, Kastanidou S, Tsaras K, Papagiannis D, et al. Factors associated with psychological distress in university students and the relation to emotional intelligent and spirituality: A cross-sectional study. *Materia socio-medica*. 2019;31(4):262.
14. Tran TTT, Nguyen NB, Luong MA, Bui THA, Phan TD, Tran VO, et al. Stress, anxiety and depression in clinical nurses in Vietnam: a cross-sectional survey and cluster analysis. *International journal of mental health systems*. 2019;13:1-11.
15. Kecojevic A, Basch CH, Sullivan M, Davi NK. The impact of the COVID-19 epidemic on mental health of undergraduate students in New Jersey, cross-sectional study. *PLoS one*. 2020;15(9):e0239696.
16. James C, Tynan R, Roach D, Leigh L, Oldmeadow C, Rahman M, et al. Correlates of psychological distress among workers in the mining industry in remote Australia: Evidence from a multi-site cross-sectional survey. *PLoS One*. 2018;13(12):e0209377.
17. Firew T, Sano ED, Lee JW, Flores S, Lang K, Salman K, et al. Protecting the front line: a cross-sectional survey analysis of the occupational factors contributing to healthcare workers' infection and psychological distress during the COVID-19 pandemic in the USA. *BMJ open*. 2020;10(10):e042752.
18. Logie CH, Okumu M, Mwima S, Hakiza R, Chemutai D, Kyambadde P. Contextual factors associated with depression among urban refugee and displaced youth in Kampala, Uganda: findings from a cross-sectional study. *Conflict and Health*. 2020;14:1-13.
19. Smallwood N, Karimi L, Bismark M, Putland M, Johnson D, Dharmage SC, et al. High levels of psychosocial distress among Australian frontline healthcare workers during the COVID-19 pandemic: a cross-sectional survey. *General psychiatry*. 2021;34(5):e100577.