Fear of Covid-19, Academic Stress, and Mental Health in Gaza Strip: The Mediating Role of Locus of Control and Self-Esteem

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The present study sought to explore the association of fear of Covid-19, academic stress with mental distress, and locus of control and self-esteem as mediating factors in a population of university students living in the Gaza Strip, Palestine. 315 university students, 230 (73%) women and 85 (27%) men, were administered with the Fear of Covid-19 Scale, Academic Stress Scale, Rosenberg Self-Esteem Scale, and Symptom Checklist-10. A series of multiple linear regressions were performed to test the study's hypotheses. A direct effect of fear of Covid-19 on mental health, a direct effect of academic stress on mental health, and a mediating role of locus of control and self-esteem were found. Gender and age differences were also detected, revealing that girls and older students were the most distressed by the pandemic. The research results have highlighted an urgent need to protect Gaza students from the Covid-19 psychological burdens in a context where prohibitive living conditions might have undermined their self-esteem. These findings suggest the importance of implementing psychosocial support programs within academic settings in Gaza, with a focus on reinforcing self-esteem and internal locus of control among students. Tailored mental health interventions, particularly for female and older students, should be prioritized to mitigate the impact of both pandemic-related stressors and chronic adversity. Policymakers, educators, and mental health professionals must collaborate to ensure accessible, gender-sensitive, and culturally appropriate support services that can enhance students' resilience and well-being.

Keywords

Fear of Covid-19 • academic stress • locus of control • self-esteem • mental health

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Introduction

The Covid-19 pandemic has affected people of all ages worldwide, and most countries imposed strict measures as a result of the outbreak (Levy, 2020). Such restrictions required citizens to stay at home, socially isolate, quarantine, maintain social distancing, and minimise group gatherings. These requirements negatively impacted the psychological conditions and well-being of individuals and communities (Ammar et al., 2020).

Research has found that social isolation imposed during the pandemic is associated with several health-related social effects (Bartoszek et al., 2020); mainly, mental health has been significantly compromised in the general population during the two and a half years of the pandemic (Torales et al., 2020). The significant reduction in in-person social contacts, anxiety about the lack of social interactions, and disruption of outdoor activities substantially affected individuals' psychological functioning (Son et al., 2020). Accordingly, a study conducted in China found high levels of depression, anxiety, and stress among the general population (Wang et al., 2020). Similarly, Turkish adults who showed low tolerance for uncertainty had lower overall well-being during the Covid-19 outbreak (Satici et al., 2020). The Covid-19 pandemic established new psychosocial conditions, and various restrictions have taken away individuals' sense of freedom and their ability to control everyday lives, both in the short and long term (Krampe et al., 2021).

Academic activities, performance, and progress were adversely effected by the pandemic; student populations were seen to be highly susceptible to the risk of mental health deterioration during this time (Limniou et al., 2021). The prolonged isolation created by the health crisis led to increased academic stress, feelings of uncertainty, fear of not being able to cope with assignments, difficulty concentrating, reduced motivation to learn, and tendencies to procrastinate study duties (Son et al., 2020; Wang et al., 2020). Research has found a correlation between the spread of Covid-19 and depressive symptoms among students, associated with loneliness, insecurity, or uncertainty, and feelings of powerlessness or hopelessness (Al-Dwaikat, Aldalaykeh, & Rababa, 2020). Moreover, concerns about academic performance were found to be a significant trigger for depressive thoughts (Son et al., 2020).

The effects of the Covid-19 pandemic caused disruption and required significant modifications to university teaching and learning practices. In a study of 874 university students in Bangladesh, 40% of the participants were found to have experienced moderate to severe anxiety, 72% had depressive symptoms, and 53% had moderate to poor mental health status (Faisal et al., 2021). Another study involving 2,349 university students from nine different socioeconomic contexts found that the prevalence of high stress, depression, and generalized anxiety symptoms in the total sample was 61.30%, 40.3%, and 30%, respectively. The authors concluded that mental health issues were "alarming in the student population" during the ongoing pandemic crisis (Ochnik et al., 2021).

Students reported high levels of uncertainty regarding their academic futures, significant stress levels, and difficulty coping with the disruptions and challenges caused by Covid-19 (Clabaugh, Duque, & Fields, 2021). A study of 295 university students from the U.S. reported significant stress levels, and difficulty in coping with the additional pressures Covid-19 placed on academic life; these outcomes were related to higher levels of neuroticism and an external locus of control, making them more vulnerable to academic stress and poor emotional well-being during the pandemic (Clabaugh, Duque, & Fields, 2021).

In the context of Gaza, one study explored the psychological impact of the Covid-19 pandemic on university students, revealing that fear of the virus was significantly associated with elevated levels of depression, anxiety, stress, and academic stress. Crucially, mental health was found to mediate the relationship between fear of Covid-19 and academic stress, underscoring the importance of psychological well-being in students' academic performance during

crises (El-Khodary et al., 2022). In parallel, another study translated and validated the *Fear of Covid-19 Scale* (FCV-19S) for use in the Palestinian context. The FCV-19S, an internationally standardized measure of anxiety related to contracting Covid-19, confirmed a one-factor structure and demonstrated strong psychometric properties, including high reliability and validity. The study also identified key factors influencing fear levels, including gender (with females reporting higher fear), educational level (with lower education linked to greater fear), and smoking status (with smokers showing more fear) (Mahamid et al., 2022).

Several factors were found to serve as resources that buffered the effects of stressors or risk factors on mental health during the first year of the pandemic. Higher self-esteem, meaning in life, and self-control have therefore been identified as essential protective and buffering factors (Schnell & Krampe, 2020; Zhao, et al., 2020).

The Role of Locus of Control in Protecting Individuals from Covid-19 Burdens

Locus of control (LoC) is a personality trait that describes the extent to which individuals believe they can control their environment and future, and experience significant events as consequences of their behavior (Rotter, 1966). An internal locus of control refers to the belief that the outcome of events in one's life is contingent upon one's actions, whereas an external locus of control describes the belief that chance and powerful others control one's life. LoC encompasses two aspects: while external LoC refers to the belief that chance and powerful others control one's life, internal LoC describes the belief that the outcome of events in one's life is contingent upon one's actions. (Judge et al., 2002).

Higher internal LoC and lower external LoC have been found to be moderately associated with better mental health, lower situational stress, and lower levels of mental distress, such as depression and anxiety (Schnell & Krampe, 2020). In a sample of 339 participants from the United States, Berg and Lin (2020) examined predictors of the self-rated likelihood of engaging in Covid-19 prevention behaviors. While internal health-related LoC did not show significant associations, external health-related LoC regarding powerful others predicted preventive behaviors. In a sample of 1,723 adults from the USA and five European countries, Sigurvinsdottir et al. (2020) found significant negative correlations of internal LoC and significant positive correlations of external LoC with depression, anxiety, and stress. The results showed that higher external LoC was moderately related to higher depression, anxiety, and stress, while higher internal LoC was slightly related to lower depression and less stress, but not anxiety.

In a sample of 667 participants from India, Alat et al. (2021) investigated the protective role of psychological resources for mental health. Higher internal LoC correlated moderately with higher positive affect, affect balance, and lower negative affect and psychological distress. Krampe et al. (2021) conducted a cross-sectional study among 1,225 Norwegian and 1,527 German-speaking participants and found that the Covid-19 pandemic was easier to bear for individuals who, despite pandemic-related strains, felt they generally influenced their own lives. In contrast, an external locus of control was associated with symptoms of depression and anxiety. The association between Covid-19 stress and general mental distress was robust, with internal locus of control serving as a buffer, while external locus of control exacerbated general mental health issues (Krampe et al., 2021).

A cross-sectional study among 571 Japanese medical students aimed to evaluate the factors associated with psychological distress during enforced home quarantine. The results identified that self-efficacy and self-esteem were influential factors for predicting psychological distress during the current Covid-19 pandemic. A study conducted among 204 Danish students examined how social support was associated with perceived stress and life satisfaction through self-efficacy and self-esteem and assessed the possible adverse psychological effects of the Covid-19

pandemic. The results indicate that social support is negatively linked with perceived stress and is positively associated with life satisfaction through self-efficacy and self-esteem (Guldager et al., 2021).

Moving from the perspectives mentioned above, this study aims to explore the mediating role of personal characteristics—represented by locus of control and self-esteem—between fear of Covid-19 and academic stress in relation to mental health factors in a group of university students living in a conflict-affected area in the Gaza Strip, Palestine. The authors hypothesized that (H1) fear of Covid-19 impacted university students' mental health. Secondly, they expected that (H2) academic stress might impact university students' mental health. Third, (H3), they hypothesized that self-esteem and locus of control act as mediating variables between fear of Covid-19 and academic stress on students' mental health.

Methods

Context

The study was conducted in the Gaza Strip, a region that has long been affected by political instability, economic hardships, and restricted access to essential services (Veronese et al., 2021a,b). These ongoing challenges have had significant effects on the mental health and well-being of the population. When the Covid-19 pandemic began, it exacerbated these pre-existing vulnerabilities, leading to more profound psychological distress for many residents. The situation in Gaza was further complicated by a strict lockdown, curfews, and social isolation measures imposed to curb the spread of the virus. Universities shifted to remote learning, and many students faced not only the fear of contracting the virus but also academic disruptions, financial insecurity, and the loss of social support networks (Abuahabib et al., 2020). The combination of these factors created a particularly challenging environment for students, making them more susceptible to mental health challenges. Given this context, the impact of Covid-19 on university students' mental health in Gaza was particularly acute, with the pandemic amplifying existing stresses related to academic performance, uncertainty, and fear for the future.

Participants and Procedures

The sample consisted of 315 university students living in the Gaza Strip; 230 (73%) were women and 85 (27%) were men. The inclusion criteria were being Palestinian and a Gaza resident, attending undergraduate or graduate university courses, and being enrolled in a university in Gaza. Participants had to be between 18 and 30 years old and capable of understanding written Arabic. The exclusion criteria included not being currently enrolled in a university, being under 18 years of age, or having cognitive impairments that could prevent the understanding or completion of the questionnaire. A non-probability accidental sampling technique was used.

As a result of the Covid-19 pandemic, access to students became more complex; therefore, data were collected by sending the questionnaires to the students through online forms. The questionnaires, in a Google document, were distributed online via social media and apps (Telegram and WhatsApp). Before moving to the questionnaires section, the participants were informed about the study's objectives, given an orientation about the instruments' information, and told that their participation was voluntary. They were assured that their data would remain anonymous and confidential. They were then directed to the second section, which contained the questionnaires' items, if they decided to participate in the study. Contact information for

each data collector was provided in case anything was unclear for participants. The data were collected from January to April 2021.

The study was approved by the Palestinian Health Research Council/Helsinki Committee for Ethical Approval (approval no: PHRC/HC/826/21).

Instruments

Demographic Variables

Demographic variables include age, gender (male or female), level of study (first year, second year, third year, fourth year, fifth year, or sixth year), and academic performance (pass, good, very good, excellent).

Fear of Covid-19

In this study, the researchers used the Arabic version of the scale by Abbady et al. (2021). The original version of the scale consists of 36 items and assesses Covid-19 stress and anxiety symptoms (Mahamid et al., 2022). The participants responded on a five-point Likert scale that ranged from 0 (not at all) to 4 (extremely). In the current study, the researchers used the 15-item version of the scale. The internal consistency of the items was .974.

Rosenberg Self-Esteem Scale (Rosenberg, 1965)

The Rosenberg Self-Esteem Scale (RSES) is a 10-item scale that measures global self-worth by measuring positive and negative feelings about oneself. The scale is generally considered a unidimensional measure, assessing a single underlying construct of global self-esteem (Rosenberg, 1965).

All items were answered using a four-point Likert scale ranging from 0 (strongly disagree) to 3 (strongly agree). In this study, the scale's internal consistency was .789.

The Academic Stress Scale

The Academic Stress Scale consists of 14 items from the Inventory of University Students' Perceptions regarding the Sources of Caused Stress (IUSPRS) (Alkaddomy & Khalil, 2011). It indicates how students perceive academic stress as part of their overall psychological stress. Each item was scored on a 6-point Likert scale from 1 (never) to 5 (always). In this study, the internal consistency of the Academic Stress Scale was .818.

Symptoms Checklist-10 (SCL-10)

The Symptoms Checklist-10 (SCL-10) is a shortened version of the original 25-item Symptom Checklist (SCL-25) developed by Hesbacher et al (1980) that is designed to measure anxiety and depression in extensive health surveys. The inventory has demonstrated good psychometric properties in previous studies and was highly correlated (r = 0.97) with the SCL-25 (Strand et al., 2003). On a scale ranging from 1 to 4, students were asked to rate how bothered or distressed they were in the past 14 days by each of the ten symptoms, four of which address anxiety and six address depression.

For anxiety, these symptoms were: "Suddenly scared for no reason," "Nervousness or shakiness inside," "Faintness, dizziness, or weakness," and "Feeling tense or keyed up." The depression subset consisted of the items "Blaming yourself for things," "Difficulty falling asleep, staying asleep," "Feeling blue," "Feeling of worthlessness," "Feeling everything is an effort," and "Feeling hopeless about the future."

Statistical Analysis

The researchers employed t-test to examine the relationship between continuous and categorical variables. They also used a one-way ANOVA to detect gender and age differences within the sample. Pearson correlation coefficient analysis was used to examine the associations between fear of Covid-19, self-esteem, locus of control, academic stress, and SCL-10. Finally, hierarchical regression was used to investigate the prediction of worry about Covid-19, self-esteem, locus of control, and academic stress on mental health via SCL-10.

Results

Participants' ages were less than 20 years old (27%), 20 to 25 (61.6%), and 25+ (11.4%). Of the participants, 73% were female and 27% were male (see Table 1).

Table 1. Frequency of Demographic Variables.

	N	%	
Age			
Less than 20	85	27	
20–25	194	61.6	
More than 25	36	11.4	
Gender			
Male	85	27	
Female	230	73	
Level of study			
1st year	71	22.5	
2 nd year	78	24.8	
3 rd year	56	17.8	
4 th year	101	32.1	
5 th year	6	1.9	
6 th year	3	1	
Academic performance			
Pass	2	.6	
Good	89	28.3	
Very good	156	49.5	
Excellent	68	21.6	

Differences in Fear of Covid-19, Self-Esteem, Locus of Control, SCL-10, Academic Stress According to Age and Gender

One-way ANOVA indicated that the effect of age was significant with regard to stress of Covid-19 (F(2,312) = 9.29, p < .001); locus of control (F(2,312) = 6.81, p = .001); academic stress (F(2,312) = 5.69, p = .001), and SCL-10 (F(2,312) = 3.32, p = .03). Least Significant Difference (LSD) post hoc tests revealed that students over 25 years of age showed more worry of Covid-19 than those 20 years old or younger. Moreover, LSD post hoc tests showed that students over 25 years old showed more locus of control than those aged 20–25 years (p < .001) and those aged less than 20 years (p = .01). Furthermore, LSD post hoc tests revealed that students aged 20–25 years showed more academic stress than those older than 25 (p = .002). Finally, LSD post hoc tests showed that students aged 20–25 years showed higher scores at SCL-10 than those over 25 years old (p = .01). In contrast, age was not significant to self-esteem (p > .05).

There was also a significant effect of gender regarding fear of Covid-19 (t(313) = -3.06, p = .002; SCL-10, t(313) = -3.32, p = .001). Female students showed more worry about Covid-19 and higher scores of mental distress on the SCL-10 than their male counterparts. However, gender was not significant in terms of self-esteem, locus of control, or academic stress (p > .05) (see Table 2).

Pearson correlation indicates that fear of Covid-19 has a significant positive correlation with academic stress (p < 0.001) and SCL-10 (p < 0.001). Moreover, self-esteem has a significant negative correlation with locus of control (p < 0.001), academic stress (p < 0.001) and SCL-10 (p < 0.001). Similarly, locus of control has a significant positive correlation with academic stress (p < 0.001) and SCL-10 (p < 0.001) (see Table 3).

Predictors of SCL-10

Fear of Covid-19, self-esteem, locus of control, and academic stress were first entered alone into a series of simple univariate linear regression models to investigate predictors of SCL-10. Variables that showed a significant prediction of SCL-10 were fear of Covid-19 (F(1, 313) = 39.53, p < .001; self-esteem, F(1, 313) = 71.72, p = .000); locus of control (F(1, 313) = 10.61, p = .001); and academic stress (F(1, 313) = 41.21, p < .001). Next, a regression model was created

Table 2. Differences in Worry of Covid-19, Self-Esteem, Locus of Control, SCL-10, Academic Stress According to Age and Gender.

	Worry of Covid-19	Self-esteem	Locus of control	SCL-10	Academic stress
	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)
Age					
Less than 20	51.32 (14.09)	19.94 (3.98)	11.35 (2.84)	27.12 (6.51)	42.31 (8.88)
20–25	51.59 (14.44)	19.42 (4.58)	11.92 (3.21)	27.74 (6.80)	44.36 (8.68)
More than 25	40.41 (16.07)	20.25 (4.17)	9.86 (3.33)	24.55 (7.58)	39.25 (9.62)
Gender					
Male	46.07 (15.30)	19.92 (3.66)	11.10 (3.27)	25.12 (7.40)	43.01 (9.27)
Female	51.79 (14.51)	19.55 (4.62)	11.69 (3.15)	27.98 (6.51)	43.30 (8.88)

Table 3. Pearson Correlation Amongst Worry of Covid-19, Self-Esteem, Locus of Control, Academic Stress, and SCL-10.

		1	2	3	4	5
1.	Fear of Covid-19	_				
2.	Self-esteem	087	_			
3.	Locus of control	.100	160**	_		
4.	Academic stress	.284**	299**	.170**	_	
5.	SCL-10	.347**	432**	.181**	.341**	_

^{**} Correlation is significant at the 0.01 level (2-tailed).

Table 4. Linear Regression: Prediction of SCL-10 From Fear of Covid-19, Self-Esteem, Locus of Control, and Academic Stress (N = 315).

Predictors	Univariate	Multivariate	
	B [95% CI]	B [95% CI]	
Worry of Covid-19	1.08 [.747, 1.42]***	.815 [.492, 1.13]***	
Self-esteem	677 [834,520]***	528 [683,373]***	
Locus of control	.390 [.154, .626]**	.253 [.045, .460]*	
Academic stress	.261 [.181, .341]***	.108 [.029, .187]**	
\mathbb{R}^2		.547	
Adjusted R ²		.290	

^{*} p < 0.05.

with the fear of Covid-19, self-esteem, locus of control, and academic stress. This indicated that a high level of worry about Covid-19, locus of control, and academic stress significantly predicted a higher score on the SCL-10. However, a high level of self-esteem predicted a lower level on the SCL-10 (see Table 4).

Discussion

This research sought to explore the relationship between fear of Covid-19, academic stress via locus of control and self-esteem, and the consequences on mental distress in a population of university students living in the Gaza Strip, Palestine.

First, the fear of Covid-19 was shown to be associated with self-esteem and locus of control. The more students worried about the pandemic, the more they showed an external locus of control, and their self-esteem was impaired. Consequently, mental health was undermined among those insecure and fearful during the Covid-19 outbreak (Radwan et al., 2020). Fear acted on students' self-esteem and increased academic stress and mental distress occurred when the locus

^{*} Correlation is significant at the 0.05 level (2-tailed).

^{**} p < 0.01.

^{***} *p* < 0.001.

of control was external. Ultimately, the more students were insecure due to the pandemic, the more they risked being undermined in their self-esteem and augmented stress related to the academic life that might have undermined their mental well-being (Clabaugh, Duque, & Fields 2021; Yang et al., 2021). In Gaza, education plays a crucial role in fostering youths' mental well-being and satisfaction (Veronese et al., 2015). The consequences of Covid-19 on students' academic life could have diminished a sense of efficacy and mastery that reduced students' psychological resources and, together with academic stress, increased mental distress. During the outbreak, the more students who were unable to mobilize internal resources and possessed an external locus of control, the more they felt overwhelmed by their academic duties, as they were already unsupported by protective self-esteem, and developing psychological symptoms (Ayhan & Seki Öz, Sagone & Indiana, 2021; Radwan et al., 2021). On the contrary, self-esteem was a possible protective factor for academic stress when supported by an internal locus of control (Helmbrecht & Ayars, 2021; Srivastava & Kapoor, 2021). Internal locus of control could allow students to monitor and master their resources more efficiently, making them more capable of interpreting their state of mind and emotions that, in turn, could affect their mental well-being. Inversely, students with an external locus of control could have attributed academic stress to their incompetence in dealing with fear of Covid-19 fear and so have less confidence in selfregulating the feeling of distress in their life (Radwan & Radwan, 2020).

Moreover, the precarious living conditions that characterize the students' lives in Gaza could have exacerbated a sense of powerlessness and suffering during the pandemic (Veronese et al., 2021). Older students and women showed more significant risks to their mental well-being than their counterparts, developing more fear and a sense of impotence in the wake of the pandemic. Culturally, women are more deprived than men regarding social life (Fitzgerald et al., 2021). The multiple restrictions for the outbreak containment could have exacerbated conditions affecting self-esteem and lack of control over their lives, increasing female students' sense of unsettlement and stress (Veronese et al., 2021). On the contrary, Gaza men are culturally more socially oriented to self-confidence and self-esteem. Such a cultural disposition could have helped male students feel less stressed by the consequences related to Covid-19 (Ahmed & Alansari, 2004).

Finally, the authors acknowledge several caveats in the present study that must be addressed and discussed. First, the sample is unbalanced in terms of gender. This gender disproportion is noteworthy, as it may reflect the gender distribution within specific faculties, such as education, psychology, and nursing, from which the participants were drawn in Gaza. Further investigation is required to fully understand the underlying reasons for this imbalance. This discrepancy also offers an opportunity to explore potential cultural, societal, or educational factors that may contribute to the gender imbalance, such as gender roles, access to education, and socio-political dynamics within the Gaza context. This bias could have altered outputs to favor the male sub-sample, and to overemphasize the vulnerability of female students in Gaza. However, the literature confirms a greater vulnerability of young women during the pandemic in Gaza, and globally, due to gender gaps (AlKhaldi, Obaid, & Alnajjar, 2021; van Daalen et al., 2020). Future research might better understand quantitatively and qualitatively the gender gaps in Gaza during and after the Covid-19 outbreak.

Information about the consequences of the pandemic and their intersection with conditions of chronic violence and poverty should have been addressed more promptly. One of the risks of the research is to have underestimated those factors and the aggravating role of the virus, normalizing severe political and potentially traumatic conditions that characterize the region (Ghandour et al., 2020). In the future, it seems essential to add instruments to the survey that are capable of detecting quantitatively the association between political and military violence and Covid-19 burdens.

Gaza students face difficulties and environmental constraints that can put their mental functioning at risk during their academic lives in routine times. The global crisis resulting from the pandemic exacerbated the risk of developing mental burdens in students with fewer personal resources and competence. Future research must investigate those risk and protective factors that can protect a young and vital group in the Gaza society, and the potential role they will play in the future of Palestine.

Conclusion

Tailor-made psychosocial interventions are urgent in the context of Gaza, which is characterized by a paucity of services and infrastructures that guarantee mental well-being among the civil population (Diab et al., 2022). Covid-19 and the mental health crises in Gaza revealed a more severe and urgent human rights crisis in the region (Helbich & Jabr, 2021; Moss & Majadle, 2020). Students' worry about COVID, academic stress, and a sense of losing control over their lives might have exposed students to mental health burdens as a result of undermined self-esteem and an external locus of control regulating their states of mind. Thus, providing academic counseling and support to young students, especially girls living in a patriarchal society, must be a priority in the national and international agenda on mental health (Mortensen, 2018). Mental health providers, academics, and policymakers should jointly act to ease the suffering of Palestinian students, reinforcing their self-esteem, resources, and survival skills to face the global challenges of a post-Covid-19 world in a context deprived of liberty and self-determination.

The findings from this study emphasize the necessity of implementing culturally and contextually grounded clinical interventions. Tailored support systems, including regular mental health screenings, trauma-informed care, and group-based psychoeducational programs, could significantly improve the psychological resilience of university students. Special attention should be given to gender-sensitive strategies, ensuring that female students have access to safe and empowering support networks.

Universities in Gaza should incorporate mental health education and counseling units within their academic infrastructure. Online and in-person services must be made more accessible despite infrastructural limitations, particularly during emergencies such as pandemics. Clinicians working in the area must be equipped with tools that acknowledge the intersection of political violence, structural oppression, and everyday psychological distress.

On a policy level, mental health initiatives should be embedded within broader frameworks of educational and social development. Collaborations between academic institutions, NGOs, and public health bodies are essential to sustain interventions and monitor their impact. In conclusion, this study contributes evidence to inform targeted psychosocial responses and advocates for integrating mental health into the broader discourse on justice, equity, and human rights in Gaza.

Availability of Data

Material data are available on request to the authors for confidentiality reasons.

Ethics Approval

The research has been approved by the Institutional review board at the Ministry of Health in Gaza.

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