

The Psychological Toll of War and Forced Displacement in Gaza: A Study on Anxiety, PTSD, and Depression

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Abstract

Background: Armed conflicts severely impact survivors psychologically, with effects tied to the trauma's intensity and widespread displacement. From October 2023 to January 2025, the Gaza Strip faced violent conflict, leading to major displacement and suffering. This study examines anxiety, PTSD, and depression among displaced adults from Gaza Strip.

Methods: This cross-sectional study, conducted in November 2024, surveyed 952 displaced adults using the GAD-7, PCL-5, and PHQ-9 instruments and a convenience sampling method. A PTSD diagnosis required having a PCL-5 score ≥ 23 and fulfilling the DSM-5 criteria. The rates and severity of probable anxiety, PTSD, and depression were reported. Then, using SPSS, logistic regression models identified factors associated with each disorder, while multinomial regression models explored associations with the number of comorbidities.

Results: The majority were unemployed (73.7%). Over half of the participants were displaced in camps (55.6%), while 40.4% lived in shelters. Nearly a fifth (20.3%) had lost a first-degree relative, 12.7% were injured, and 4.8% were detained by the military. Moderate or higher levels of anxiety and depression were reported by 79.3% and 84.5%, respectively. The rate of symptomatic PTSD was 67.8% when defined as meeting the DSM-5 criteria for PTSD and having a PCL-5 score ≥ 23 , and 88.2% based on the latter criterion alone, while subthreshold PTSD was encountered in 18.1%. Also, 63.1% suffered significant symptoms of all three comorbidities. Significant predictors of anxiety included being female and having PTSD or depression. Significant predictors of PTSD included experiencing more frequent migrations, unemployment or working in the private sector, military detention, or having anxiety or depression. Significant predictors of depression included the death of a first-degree relative, military detention, torture, and having anxiety or PTSD. Additionally, having a higher number of migrations was significantly associated with having one, two, or three disorders compared to having “no disorders,” while those experiencing more forms of harm were significantly more likely to have all three disorders.

Conclusions: The study found very high rates of psychiatric disorders among IDPs in Gaza and identified several risk factors contributing to those rates. Interventions must be prioritized to support society's long-term recovery.

Keywords

depression, anxiety, PTSD, mental health, armed conflicts, gaza strip, refugees, psychological interventions

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Introduction

Armed conflicts pose a significant threat to the mental health of affected populations, as traumatic experiences such as loss and injury conspire with socioeconomic stressors like displacement and loss of income.¹ Anxiety, post-traumatic stress disorder (PTSD), and depression are the most identified mental health problems in survivors of armed conflict. Depression is characterized by persistent feelings of sadness, hopelessness, and a

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lack of interest or pleasure in activities, often with changes in sleep, appetite, and cognitive functioning. Anxiety is characterized by persistent and excessive feelings of fear or anxiety that interfere with daily functioning. It often leads to avoidance behaviors and may be accompanied by physical symptoms such as tension and panic attacks. Posttraumatic stress disorder is a mental health condition that can develop after experiencing or witnessing a traumatic event. PTSD in DSM-5 requires exposure to actual or threatened death, serious injury, or sexual violence (Criterion A), followed by symptoms from four clusters: intrusive symptoms (eg, distressing memories or flashbacks); persistent avoidance of trauma-related stimuli; negative alterations in cognitions and mood; and marked arousal/reactivity changes. These symptoms must persist for more than one month and cause clinically significant distress or functional impairment while not being attributable to substance use or other medical conditions (American Psychiatric Association, 2013). The diagnosis emphasizes both the traumatic exposure and the resulting multifaceted psychological and physiological responses that characterize the disorder. There is a significant overlapping of these three psychiatric comorbidities in war survivors, where the prevalence tends to be proportional to the intensity and frequency of trauma.²⁻⁴ Studies from low-income, war-afflicted countries also found that socioeconomic factors such as extreme poverty contributed significantly to mental health issues among war survivors.⁵

Forced displacement due to war or conflict constitutes a major traumatic event under DSM-5 Criterion A for PTSD, given its association with actual or threatened death, serious injury, and severe threats to physical integrity—such as exposure to violence, destruction, perilous escape—resulting in profound biopsychosocial impacts, by disrupting access to healthcare, clean water, and education, severing family ties and support networks, and fostering deep feelings of disempowerment and alienation.^{6,7} Studies and systematic reviews have revealed significantly high prevalence rates of anxiety, PTSD, depression, and other psychiatric disorders among conflict-displaced refugees, even when compared to non-displaced individuals within the same country.⁶⁻¹⁰

The Gaza Strip has been under Israeli military occupation since 1967 and has been subjected to a strict blockade since 2006. It represents an area marked by de-development, chronic conflict, and poverty. Over the past two decades, it has faced repeated military campaigns that have resulted in thousands of deaths and injuries, leaving basic infrastructure and healthcare services trapped in a perpetual cycle of destruction and inadequacy.^{11,12} Since October 2023, the Gaza Strip has been the epicenter of one of the decade's most notorious and violent wars, representing the latest conflict between the occupied Palestinians and Israel. By November 2024, when this study was conducted, the war had claimed the lives of more than 43000 Palestinians and wounded over 100000 others. It has also caused immense humanitarian suffering, exacerbating the impacts of the nearly two decades of military blockade.¹³⁻¹⁵ The scale and ferocity of the war

have had regional and global consequences and led several countries, as well as human rights and United Nations organizations, to categorize it as genocide.^{16,17}

Forced displacement has been a substantial source of suffering during the Gaza war.¹⁸ A military evacuation order in October 2023 forced the population of the two northern governorates to the southern areas of the Strip. Subsequently, a military corridor dissected the Gaza Strip into two completely isolated cantons, between which the movement and relocation of internally displaced persons (IDPs) was not permitted.¹⁹ The northern canton consisted of the Northern and Gaza Governorates, and the southern of the Middle, Khan Younis, and Rafah Governorates. In November 2024, approximately 1.9 million, ie, nearly 90% of the Gaza Strip's population, were displaced.²⁰

A recent survey provided an insight into the psychological toll the war has exacted on Palestinians living in the Gaza Strip.¹⁹ In a sample of 339 young adults aged between 18 and 24 years, 93.81%, 79.36%, and 81.71% reported symptoms of moderate or higher depression, anxiety, and stress, respectively, and 63.40% suffered symptoms of PTSD.¹⁹ Those numbers were higher than most previous reports from Palestine prior to the current war and from other regions as well.^{9,10,21-25} Furthermore, the Gaza Strip's population has already been struggling with a mental health crisis even before the wake of the current war, with high rates of anxiety, PTSD, and depression and insufficient access to mental health services.^{26,27}

Literature is rich with evidence demonstrating the impact of forced displacement and armed conflict on psychiatric disorders.²⁸ However, except for one study on young adult university students,¹⁹ there are no studies yet exploring the mental well-being of other Gazan population groups during the 2023–2025 war. Additionally, due to the particularly violent and lengthy nature of this war, it is important to document the psychological impacts on the different strata of the community and at different phases of the war. To bridge this gap, the present study aimed to investigate the prevalence of anxiety, PTSD, and depression among adult IDPs in the Gaza Strip and explore the factors predicting these mental health disorders.

Methods

Study Design and Setting

This descriptive, cross-sectional study surveyed the prevalence of probable anxiety, PTSD, and depression among IDPs aged 18 years and older who lived in the southern canton of the Gaza Strip during the war. The study excluded people who were younger than 18, who could not read and write, and who had a known psychiatric condition or dementia. The study settings comprised 15 displacement centers: one school and five displacement camps from the Middle Governorate and six schools and three camps from the Khan Younis

Governorate. The geographical distribution of the camps and schools covered the densely populated areas in the southern canton in November 2024. Data collection took place between November 1 and November 20, 2024.

Participants

In November 2024, an estimated 1.9 million IDPs lived in the Gaza Strip.^{20,29} The majority lived in the southern part of the Strip, having been displaced by military evacuation orders and the ensuing ground invasion of Gaza City and the Northern Governorate in the first weeks of the war. At the time of data collection, Rafah Governorate was evacuated due to the ground invasion that has been ongoing since May 2024. Therefore, the vast majority of the population in the southern canton was condensed to the Middle and Khan Younis Governorates. Most lived in either displacement camps or sought shelter at schools and other public structures. Displacement camps consisted of tents or makeshift structures built from wood and tarpaulin, while families displaced to schools lived in shared classrooms. Living conditions in the camps and schools were comparable and marked by poor conditions, overcrowding, and lack of services.^{29,30}

Sample Size and Sampling

Using the Raosoft, Inc. online calculator, with a 5% margin of error and a 99% confidence interval, the minimally required sample size was calculated as 664 participants. Our study included 952 IDPs. Due to logistical and safety constraints in the conflict zone, a convenience sampling method was utilized. The questionnaire was printed for participants to fill out directly. Senior medical students collected data after explaining the study's design and goals to potential participants in each study setting and obtaining their consent.

Tools and Procedures

Data was collected using a self-administered questionnaire divided into two sections. The first collected sociodemographic data, including age, sex, number of family members, governorate of residence before the war, current governorate, education, job, average monthly income during the preceding three months (reported as multiples of 800 NIS “220 USD”, which was the basic salary distributed to government employees during the war), and current accommodation (tent/shelter/with relatives). Additionally, we investigated seven potential traumatizing experiences of the war, including experiences such as injuries, military detention, torture, house damage, the death of a first-degree relative in the hostilities, loss of income sources, and the number of forced migrations.

The second section comprised the General Anxiety Disorder-7 (GAD-7), Posttraumatic Stress Disorder Checklist for the DSM-5 (PCL-5), and the Patient Health Questionnaire-9 (PHQ-9) scales, which screen for probable

anxiety, PTSD, and depression, respectively. We used the Arabic versions of the GAD-7 and PHQ-9, translated and validated by Pfizer Inc., for the GAD-7 and the PHQ-9, while we used the version translated and validated by Ibrahim et al for the PCL-5.^{31–33}

The GAD-7 is a reliable tool used to screen for the prevalence and severity of anxiety symptoms per the DSM-IV-TR in the past two weeks.³⁴ It comprises seven questions scored between 0 (not at all) and 3 (nearly every day) on a Likert scale. The total score ranges between 0 and 21, with cutoff scores of 5, 10, and 15 signifying minimal, mild, moderate, and severe anxiety symptoms, respectively.³⁴ We used a cutoff of 8 to distinguish between individuals with anxiety and those without. This cutoff demonstrates high specificity and sensitivity (84% and 83%, respectively).³⁵

The PCL-5 comprises 20 questions based on the four DSM-5 PTSD symptomatic clusters: reexperiencing, avoidance, negative alterations in cognition and mood, and hyperarousal.³⁶ It is self-reported and, using a five-point Likert scale (0–4) and a maximum score of 80, assessed the severity of 20 PTSD symptoms over the past month in relation to the worst event experienced during the current war. The cutoff score used in the validated Arabic version was 23 or higher, derived from a cohort of Kurdish and Syrian refugees.³³ For the purpose of the present study, individuals screened positive for PTSD if the participant scored ≥ 23 on the PCL-5 and also reported the minimally required DSM-5 symptoms. This meant endorsing at least one item with moderate or higher severity from DSM-5 criterion B “re-experiencing” (questions 1–5), one item from criterion C “avoidance” (questions 6–7), two items from criterion D “negative alterations in cognition and mood” (questions 8–14), and two items from criterion E “hyperarousal” (questions 15–20).¹⁹ Subthreshold PTSD was diagnosed in participants who endorsed moderate or higher symptoms in any three of the four DSM-5 clusters (B–E).³⁷

The Patient Health Questionnaire-9 (PHQ-9) is a self-administered tool that employs nine standard questions to screen for depressive symptoms in the past two weeks. The questions represent the criterion symptoms for DSM-IV major depression and are scored on a Likert scale ranging from 0 (not at all) to 3 (nearly every day). The total score ranges between 0 and 27, with 5, 10, 15, and 20 cutoffs representing mild, moderate, moderately severe, and severe depressive symptoms, respectively.³⁸ A cutoff score of 10 was used to screen for individuals with depression. This cutoff has a sensitivity of 85% and a specificity of 89%.³⁹ The PHQ-9 score has demonstrated reliability as a screening tool across varying settings in different regions, including in IDPs and veterans.^{40–42}

Ethical Considerations

Ethical approval was obtained from the Institutional Review Board (IRB) at the Islamic University of Gaza (IUG). The

research was conducted per the Declaration of Helsinki. Participants gave written informed consent, emphasizing confidentiality and voluntary participation. No identifying information was collected.

Statistical Analysis

Descriptive statistics, including frequencies and percentages, were calculated for categorical variables to provide an overview of the sample characteristics, and means and standard deviations were calculated for continuous variables. Logistic regression models were applied to examine the relationships between sociodemographic characteristics and war-related exposures with mental health outcomes, specifically anxiety, PTSD, and depression. Multinomial regression models were used to explore comorbidities within the sample, with “no disorder” as the reference category and the three disorders as the

highest category. Both bivariate and binomial regression analyses were conducted to inform the construction of these models, with detailed results available in the Supplemental material. We tested for the independence of variables, multicollinearity, and the adequacy of the sample size. No violations were found in any of these tests, and the models met the necessary criteria for valid results. Moreover, we used Cronbach’s alpha to measure the reliability of the scales. All statistical analyses were performed using STATA 17, while figures were generated using R Studio and Prism GraphPad.

Results

Sociodemographic Characteristics

Of the study’s 952 participants, most were female (62%), unemployed (73.7%), and were displaced from the Gaza Governorate (42.3%). The mean age was 32.82 (12.45) years. Table 1 illustrates the sociodemographic characteristics of study participants, and Table 2 breaks down the assessed forms of harm they suffered due to the war.

Table 1. Descriptive Statistics of the Study Population.

Item	Frequency	Percent
Age[^]	32.82 ± 12.45	
Family Size (n)^{^*}	5.79 ± 2.7	
Sex		
Female	590	62%
Male	362	38%
Residence Prior to War (Governorate)		
North Gaza	163	17.1%
Gaza	403	42.3%
Middle Area	68	7.1%
Khan Younis	171	18%
Rafah	147	15.4%
Current Residence		
Middle Area	397	41.8%
Khan Younis	552	58.2%
Education		
Primary Schooling	89	9.3%
Technical-professional Training	302	31.7%
Secondary Schooling	147	15.4%
Undergraduate Degree	370	38.9%
Postgraduate studies	44	4.6%
Occupation (during the war)		
Governmental Employee	113	11.9%
Private Sector	51	5.4%
Freelance	86	9%
Unemployed	702	73.7%
Current Shelter		
Relative’s House	38	4%
Displacement Camp	529	55.6%
Displacement Center (Schools)	385	40.4%
Average Monthly Income (NIS)		
<800	736	77.4%
800–1600	137	14.4%
>1600	78	8.2%

[^]Mean ± Standard Deviation.

^{*}Includes the participant’s spouse, children, and parents if they shared the same living space.

Prevalence, Scale Reliability, and Severity of Psychiatric Comorbidities

The internal consistency of the scales was assessed using Cronbach’s alpha. The PCL scale exhibited excellent reliability ($\alpha = 0.9286$), while the PHQ scale and GAD scale both demonstrated good reliability ($\alpha = 0.8379$ & $\alpha = 0.8405$, respectively), indicating that all three measures had acceptable to excellent internal consistency.

The median (IQR) GAD-7, PCL-5, and PHQ-9 scores were 14 (10-17), 43 (32-55), and 15 (12-20), respectively. Table 3 illustrates the prevalence and severity of anxiety, PTSD, sub-threshold PTSD, and depression. A visual representation of the distribution of the PCL-5 score can be found in the supplement.

In terms of psychiatric comorbidity, 63.1% suffered significant symptoms of all three screened comorbidities, while only 6.8% did not suffer from any mental health disorder.

Table 2. Assessed Forms of Harm Suffered by Participants.

Item	Frequency	Percent
Migration number [^]	5.17 ± 3.09	
Forms of harm [^]	1.44 ± 1.13	
Death of a First-Degree Relative	193	20.3%
House Destruction	601	63.1%
Personal Injuries	121	12.7%
Military Detention	46	4.8%
Tortured	42	4.4%
Loss of Income Source Due to War	368	38.7%

[^]Mean ± Standard Deviation.

Table 3. Prevalence and Severity of Anxiety, PTSD, and Depression (n = 952).

Disorder	Frequency	Percent
Anxiety		
Minimal (<5)	44	4.6%
Mild (5–9)	153	16.1%
Moderate (10–14)	311	32.7%
Severe (≥15)	444	46.6%
PTSD		
DSM-5 criteria	646	67.9%
PCL-5 ≥ 23	840	88.2%
Fulfills DSM-5 and PCL-5 ≥ 23	645	67.8%
PCL-5 ≥ 33	724	76.0%
Subthreshold PTSD	173	18.1%
Depression Severity		
Minimal (<5)	35	3.7%
Mild (5–9)	113	11.9%
Moderate (10–14)	274	28.8%
Moderately Severe (15–19)	282	29.7%
Severe (≥20)	247	26%
Comorbidities		
None	65	6.8%
One Disorder	84	8.8%
Two Disorders	202	21.2%
Three Disorders	600	63.1%

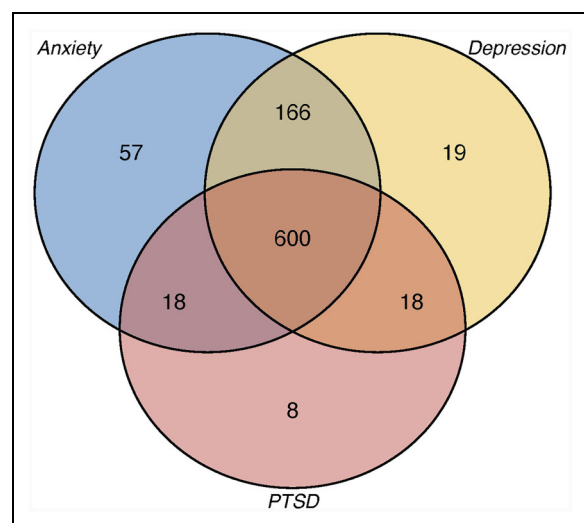
**Figure 1.** Overlapping of psychiatric disorders (moderate or higher anxiety, moderate or higher depression, and PTSD fulfilling DSM-5 criteria + PCL-5 score ≥23) among participants (n).

Figure 1 demonstrates the overlapping of psychiatric comorbidities among participants.

Predictors of Anxiety, PTSD, and Depression

Multivariate logistic regression found that females (OR: 1.91, p-value: 0.0185) and those with PTSD (OR: 3.60, p-value <0.001) or depression (OR: 13.22, p-value <0.001) were

significantly more likely to have moderate or higher symptoms of anxiety. On the other hand, an increased number of migrations (OR: 1.08, p-value = 0.006), unemployment (OR: 1.81, p-value = 0.0249), working in the private sector (OR: 3.11, p-value, 0.015), military detention (OR: 4.61, p-value = 0.046), and having anxiety (OR: 3.50, p-value < 0.001) or depression (OR: 10.40, p-value < 0.001) significantly predicted PTSD. Significant predictors of depression were the death of a close relative (OR: 2.27, p-value = 0.0161), military detention (OR: 0.103, p-value = 0.024), torture (OR: 52.65, p-value = 0.0041), and having anxiety (OR: 13.66, p-value < 0.001) or PTSD (OR: 10.72, p-value < 0.001) (Table 4). Multinomial regression found a significant association between the number of migrations and having one, two, or three disorders compared to “no disorders” (respectively, OR: 1.16, p-value = 0.0376; OR: 1.61, p-value = 0.0208; OR: 1.22, p-value = 0.0011) Also, an increased number of the total forms of harm (OR: 1.356, p-value = 0.0267) reported was significantly associated with having three disorders (Table 5).

Discussion

The present study offers a critical examination of the mental health impact on IDPs in the Gaza Strip in the context of the ongoing war and forced displacement, with findings underscoring the widespread prevalence of anxiety, PTSD, and depression. The high co-occurrence of these three mental health issues is particularly noteworthy, with 63% of participants displaying significant indicators of all three. Furthermore, the prevalence of PTSD is strikingly high, affecting nearly 68% of participants based on DSM-5 criteria and 88% when using the PCL-5 cutoff.

While high rates of anxiety, PTSD, and depression have been consistently observed among IDPs in war settings, the prevalence recorded in this study surpasses previous estimates from Palestine^{19,21,22} and other war-affected regions. A study in Northwest Ethiopia utilizing the PCL-5 with a cutoff ≥ 33, PHQ-9 with a cutoff ≥ 10, and the anxiety subscale of the DASS-21 instrument found a PTSD prevalence of 40.8% among war survivors. Furthermore, two out of three participants with PTSD also exhibited probable depression and anxiety, in contrast to one in three participants without PTSD.⁴³ Another recent study on depression among IDPs in two camps in northwestern Ethiopia, utilizing the PHQ-9 instrument with a cutoff score of ≥ 10, found a prevalence rate of 62.2%.⁴⁴ A study on displaced Iraqis and Syrians using the PCL-5 reported PTSD rates of 43% and 67.6%, respectively, according to the DSM-V and a cutoff value ≥ 23.⁴⁵ Additionally, another study found that the prevalence of PTSD among Yazidi, Christian, and Muslim asylum seekers in Iraqi Kurdistan was 48.7% determined using a PCL-5 ≥ 33, while depressive symptoms ranged from 56% to 68%, assessed using the PHQ-9.⁴⁶ Studies from other conflict settings further illustrate the heavy psychological burden of displacement. In

Table 4. Multivariate Logistic Regression Models for each Mental Health Disorder.

Variable	Anxiety			PTSD			Depression		
	OR	p	95% CI	OR	p	95% CI	OR	p	95% CI
Age	1.0058	0.5744	(0.99, 1.03)	1.0117	0.0959	(1, 1.03)	0.9965	0.7189	(0.98, 1.02)
Number of Migrations	1	0.9999	(0.91, 1.09)	1.0849	0.006	(1.02, 1.15)	1.0429	0.3514	(0.95, 1.14)
Sex									
Female	ref	ref	ref	ref	ref	ref	ref	ref	ref
Male	0.5237	0.0185	(0.31, 0.9)	1.0001	0.9997	(0.7, 1.42)	1.1178	0.6705	(0.67, 1.87)
Occupation									
Governmental Employee	ref	ref	ref	ref	ref	ref	ref	ref	ref
Private Sector	1.3326	0.677	(0.35, 5.15)	3.1137	0.015	(1.25, 7.78)	0.5063	0.2434	(0.16, 1.59)
Freelance	0.7916	0.6603	(0.28, 2.24)	1.3062	0.4518	(0.65, 2.62)	2.1134	0.1837	(0.7, 6.37)
Unemployed	0.8255	0.6232	(0.38, 1.77)	1.8118	0.0249	(1.08, 3.05)	1.0175	0.9632	(0.49, 2.13)
Death of Close Relative									
No	ref	ref	ref	ref	ref	ref	ref	ref	ref
Yes	0.5715	0.0756	(0.31, 1.06)	1.1468	0.5145	(0.76, 1.73)	2.2726	0.0161	(1.16, 4.43)
House Destruction									
No	ref	ref	ref	ref	ref	ref	ref	ref	ref
Yes	1.2288	0.4152	(0.75, 2.02)	1.3624	0.0628	(0.98, 1.89)	0.963	0.8736	(0.61, 1.53)
Personal Injuries									
No	ref	ref	ref	ref	ref	ref	ref	ref	ref
Yes	1.1602	0.7185	(0.52, 2.6)	0.85	0.5354	(0.51, 1.42)	0.9764	0.9513	(0.45, 2.1)
Military detention									
No	ref	ref	ref	ref	ref	ref	ref	ref	ref
Yes	1.2401	0.8074	(0.22, 6.99)	4.6058	0.0458	(1.03, 20.62)	0.103	0.024	(0.01, 0.74)
Tortured									
No	ref	ref	ref	ref	ref	ref	ref	ref	ref
Yes	0.2488	0.15	(0.04, 1.65)	0.7519	0.7275	(0.15, 3.74)	52.651	0.0041	(3.52, 787.48)
Loss of Income									
No	ref	ref	ref	ref	ref	ref	ref	ref	ref
Yes	1.4161	0.2022	(0.83, 2.42)	1.1717	0.3575	(0.84, 1.64)	0.8504	0.5177	(0.52, 1.39)
Anxiety									
No or mild anxiety	-	-	-	ref	ref	ref	ref	ref	ref
Moderate anxiety or higher	-	-	-	3.4909	<0.001	(1.97, 6.17)	13.6572	<0.001	(7.88, 23.68)
PTSD									
No PTSD	ref	ref	ref	-	-	-	ref	ref	ref
PTSD	3.5982	<0.001	(2.04, 6.35)	-	-	-	10.7215	<0.001	(6.45, 17.83)
Depression									
No or mild depression	ref	ref	ref	ref	ref	ref	-	-	-
Moderate depression or higher	13.2202	<0.001	(7.68, 22.76)	10.3978	<0.001	(6.3, 17.17)	-	-	-

OR: Odds Ratio; P: p-value; CI: Confidence Interval; Ref: reference value.

Juba, South Sudan, 41.8% of displaced individuals meet the criteria for PTSD as assessed by the Harvard Trauma Questionnaire, while 50% fulfill the criteria for depression based on the Hopkins Symptom Checklist-25.²³ Additionally, using the PCL-C and HSCL-25 scales, 53.4%, 80.7%, and 80.3% of displaced persons in Nepal reported experiencing PTSD, anxiety, and depression, respectively.²⁴ The use of different scales and cutoff values limits the ability to compare anxiety and depression rates. However, regarding PTSD, and considering that many of these studies applied a single cutoff-based criterion of PCL-5 ≥ 33 or ≥ 23 , the reported rates are lower than the 88.2% and 76.0% prevalence rates observed in our study using the same cutoff scores,

respectively, and are similar to the rate reported among displaced Syrians using the dual criteria employed in our study.⁴⁵ This emphasizes the exceptional severity of psychological distress among Gaza's displaced population and aligns with the unprecedented scale of destruction they have experienced.

Several factors likely contribute to this heightened burden of psychiatric comorbidities in Gaza. Unlike many other IDP populations that may eventually find stability or refuge in host communities, displaced Gazans remain trapped in an active war zone, with no opportunity for resettlement, safety, or recovery. Repeated displacements, continuous exposure to aerial bombardment, and the destruction of entire neighborhoods have created an environment in which trauma is both

Table 5. Multinomial Analyses for Comorbidity (PTSD, Depression, and Anxiety) with “no Disorder” as the Reference Outcome Category.

Variable	One Disorder versus No Disorder			Two Disorders versus No Disorder			Three Disorders versus No Disorder		
	OR	p	95% CI	OR	p	95% CI	OR	p	95% CI
Age	0.9931	0.6538	(0.96, 1.02)	0.9968	0.8029	(0.97, 1.02)	1.0071	0.5528	(0.98, 1.03)
Number of Migrations	1.1624	0.0376	(1.01, 1.34)	1.1615	0.0208	(1.02, 1.32)	1.2234	0.0011	(1.08, 1.38)
Forms of Harm	0.98	0.908	(0.7, 1.38)	1.1153	0.461	(0.83, 1.49)	1.356	0.0267	(1.04, 1.78)
Sex									
Female	ref	ref	ref	ref	ref	ref	ref	ref	ref
Male	0.8897	0.7484	(0.44, 1.82)	0.8681	0.6522	(0.47, 1.61)	0.7174	0.2531	(0.41, 1.27)
Education									
Primary Schooling	ref	ref	ref	ref	ref	ref	ref	ref	ref
Technical-prof Training	4.5914	0.0972	(0.76, 27.81)	0.779	0.6737	(0.24, 2.49)	1.9223	0.251	(0.63, 5.87)
Secondary Schooling	3.2845	0.2051	(0.52, 20.67)	0.4152	0.1522	(0.12, 1.38)	0.8816	0.828	(0.28, 2.75)
Undergraduate Degree	3.671	0.1428	(0.64, 20.9)	0.4824	0.1869	(0.16, 1.42)	0.7616	0.6084	(0.27, 2.16)
Postgraduate studies	1.4827	0.7517	(0.13, 17.01)	0.3741	0.2322	(0.07, 1.88)	0.6702	0.6021	(0.15, 3.02)
Occupation									
Governmental Employee	ref	ref	ref	ref	ref	ref	ref	ref	ref
Private Sector	1.7084	0.5974	(0.23, 12.46)	2.4447	0.2919	(0.46, 12.89)	3.3446	0.1322	(0.69, 16.11)
Freelance	1.5109	0.5863	(0.34, 6.68)	1.6875	0.4122	(0.48, 5.89)	1.9182	0.2746	(0.6, 6.17)
Unemployed	1.3888	0.5409	(0.48, 3.98)	1.103	0.8266	(0.46, 2.65)	1.4644	0.3546	(0.65, 3.28)

OR: Odds Ratio; P: p value; CI: Confidence Interval; Ref: reference value.

pervasive and ongoing. Additionally, while economic hardship is a common aspect among war-displaced populations, Gaza's prolonged blockade and total infrastructural collapse have left the population with even fewer economic coping mechanisms, thereby exacerbating the psychological toll.

As the war continued to grind on, the population remained exposed to continuous stress and potential trauma with no prospect of respite or recovery. Under such conditions, PTSD symptoms such as hyperarousal and avoidance may no longer be mere remnants of past traumatic experiences but rather adaptive mechanisms necessary for survival.⁴⁷ This perspective challenges the conventional conceptualization of PTSD, which assumes that trauma is a discrete event followed by a post-trauma phase. In contexts of protracted conflict, the very notion of “post-traumatic” becomes problematic, as the trauma is ongoing and cumulative. Longitudinal research on Palestinian populations has highlighted the persistence of trauma-related symptoms across decades, prompting some scholars to propose alternative diagnostic frameworks, such as Chronic Traumatic Stress Disorder (CTSD).⁴⁸

The diagnostic limitations of PTSD in such settings have been recognized in the ICD-11, which now distinguishes between PTSD and Complex PTSD (CPTSD).⁴⁹ CPTSD encompasses the core symptoms of PTSD along with additional disturbances in self-organization, including affective dysregulation, a pervasive sense of worthlessness, and profound difficulties in forming and maintaining interpersonal relationships.⁴⁹ These symptoms suggest that war-related psychological distress may not only be limited to PTSD but could also contribute to long-term personality alterations. Indeed,

severe and prolonged trauma has been previously associated with an increased risk of personality disorders, particularly among individuals who have experienced chronic exposure to violence.^{50,51} The implications of this are particularly concerning for Gaza's displaced population, where nearly the entire community has endured multiple forced migrations, loss of family members, and the destruction of their homes, all while remaining under the constant threat of renewed violence.

In this study, several sociodemographic and war-related factors emerged as significant predictors of psychiatric disorders. The findings highlight the disproportionate psychological burden borne by displaced women, a pattern that has been consistently reported in war-affected populations.^{23,44,52} Women reported significantly higher levels of anxiety and medical staff burnout, respectively, in two recent studies from the Gaza Strip during the war.^{19,53} Moreover, the impact of forced displacement was reflected in the significant associations between the number of migrations and the severity of psychiatric comorbidities. Each additional displacement increased the risk of PTSD, a finding that aligns with previous research documenting cumulative trauma as a key determinant of persistent post-traumatic stress symptoms.⁸ Economic precarity also emerged as a critical factor in mental health outcomes, with unemployment and private-sector employment acting as predictors of PTSD. The war's destruction of economic infrastructure and the consequent loss of livelihood opportunities have left a substantial portion of the population in extreme financial insecurity, exacerbating psychological distress. A correlation between poor income and psychiatric comorbidity has been established in previous studies from the

Gaza Strip^{54,55} and other areas.^{46,56} Financial instability restricts access to healthcare and basic needs, prolonging the stress response and reinforcing a sense of powerlessness.

Particularly concerning is the strong association between military detention, torture, and the likelihood of developing PTSD and depression. Detention and torture have been well-documented as severe psychological stressors, often resulting in long-term psychiatric sequelae, including PTSD, depressive disorders, and persistent cognitive disturbances.⁵⁷ The Gaza war has been marked by reports of mass detentions and allegations of mistreatment, adding another dimension of trauma to an already vulnerable population.¹⁹ The elevated prevalence of psychiatric disorders among those subjected to these experiences in our study underscores the urgent need for targeted mental health interventions for survivors of such extreme violence.

The structural devastation in Gaza has further exacerbated the mental health crisis by limiting access to essential psychological and medical services. The destruction of healthcare infrastructure and the ongoing blockade have significantly restricted access to professional psychiatric care, reinforcing the persistence and severity of untreated mental health conditions.^{18,26} Given these constraints, alternative community-based mental health support mechanisms must be explored to mitigate the long-term psychological impact of the war and displacement.

Limitations and Future Research Directions

While this study offers valuable insights into the mental health crisis suffered by Gaza's displaced population, several limitations should be acknowledged. The reliance on a convenience sampling method, although dictated by logistical and safety constraints, limits the generalizability of findings beyond the surveyed areas. Additionally, although standardized screening tools were utilized, the study did not incorporate clinical interview-based diagnoses, which is the gold standard diagnostic tool. This may have led to either an overestimation or an underestimation of mental health disorders. Furthermore, considering the protracted nature of the conflict and the ongoing humanitarian crisis, more longitudinal research is necessary to track the long-term mental health trajectories of the displaced population and to inform evidence-based strategies for alleviating the psychiatric consequences of war. Furthermore, given the diagnostic challenges of PTSD in prolonged conflict settings, future research should investigate alternative frameworks, such as CTSD and CPTSD, which could offer a more accurate representation of the enduring psychological burden on affected populations. Lastly, although the vast majority of the Gaza Strip's population has been displaced due to hostilities, a similar study involving non-displaced residents could complement this study's insights into the mental health crisis in Gaza. Despite these limitations, the findings provide a crucial snapshot of the profound psychological distress experienced by

Gaza's IDPs, highlighting the urgent need for targeted mental health interventions and broader humanitarian efforts to address the long-term impacts of war and displacement on civilian populations.

Conclusion

The results of this study highlight an unprecedented mental health crisis among displaced individuals in Gaza, with exceptionally high rates of psychiatric comorbidities driven by recurrent displacement, loss of livelihood, and extreme violence. These findings call for an urgent and coordinated response from international humanitarian organizations, local stakeholders, and mental health professionals. To effectively address the psychological suffering of the affected population, we recommend the implementation of scalable and culturally sensitive mental health interventions. These include community-based mental health and psychosocial support (MHPSS) programs, the training of non-specialist health workers through frameworks such as the WHO's mhGAP, and the use of digital mental health platforms to expand access in hard-to-reach areas. Trauma-informed care models should also be integrated across health and social service systems. While challenges such as damaged infrastructure and resource constraints remain, these strategies are feasible through collaboration with local NGOs, the use of existing community networks, and leveraging mobile technologies. Prioritizing these approaches is essential to support long-term mental health recovery in Gaza and other war-affected regions.

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Statements and Declarations

Ethics Approval and Consent to Participate

Ethical approval was obtained from the Institutional Review Board (IRB) at the Islamic University of Gaza (IUG). The research was conducted in accordance with the Declaration of Helsinki. Written informed consent was obtained from all participants, emphasizing confidentiality and voluntary participation, and no identifying information was collected. Clinical trial number: not applicable.

Consent for Publication

Not applicable.

Authors' Contributions

BA and AA conceptualized the study. BA, ME, AA, and LAD contributed to the literature review, study design, and tool development. AAD, EA, HAD, HAS, DAH, RR, REH, MH, and WK collected the

data. BA and ME analyzed the data. BA, ME, AA and LD led the writing of the study manuscript. All authors contributed to the manuscript revision and have approved the final version.

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Availability of Data and Materials

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