A systematic review of mental health of women in fragile and humanitarian settings of the Eastern Mediterranean Region

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Abstract

Background: The increasing emergencies and humanitarian challenges have worsened the mental health condition of women in the Eastern Mediterranean Region.

Aim: To assess the prevalence, determinants and interventions to address mental health among women in fragile and humanitarian settings in the Eastern Mediterranean Region.

Methods: Using the Preferred Reporting Items for Systematic Review and Meta-analysis guidelines, we reviewed 59 peer-reviewed published studies (PubMed, IMEMR) and grey literature (WHO/IRIS) from January 2001 to February 2023, focusing on women’s mental health in the Eastern Mediterranean Region. We then conducted a descriptive analysis of the sociodemographic characteristics.

Results: Among the 59 studies reviewed, only 13 of the 48 peer-reviewed studies focused primarily on women’s mental health, 11 grey literature records mostly presented grouped regional data, 11 of the 25 studies on mental health among migrants were about those taking refuge in high-income countries. The average prevalence of mental disorders from 32 cross-sectional studies on women aged 12–75 years was 49%, average prevalence of anxiety was 68%, post-traumatic stress disorder was 52%, and depression was 43%. Women exhibited higher level depression than men. Age, educational disparities, and limited access to services were important risk factors for mental health disorder. Several promising interventions emerged.

Conclusion: More efforts should be made to provide customized, context-specific solutions to the mental health challenges of women in humanitarian and fragile settings in the Eastern Mediterranean Region, including allocation of more resources to mental health programmes, addressing barriers, enhancing mental health surveillance, and reduction of stigma.

Keywords: Humanitarian, emergency, conflict, mental health, mental disorder, depression, post-traumatic stress, women, Eastern Mediterranean

Introduction

The Eastern Mediterranean Region (EMR) has experienced escalating humanitarian challenges due to unresolved fragile and complex situations for the last few decades. The WHO Regional Office for the Eastern Mediterranean (WHO/EMRO) manages 22 territories spanning from Morocco in the West to Pakistan in the East (1,2). More than half of globally displaced people originate from the EMR and 62 million people in the region have complex health needs (3).

Political instability, ongoing wars, conflicts, environmental changes and dual disease burden of infectious and chronic diseases are some factors driving these humanitarian emergencies (4–6). The consequences of long-term conflicts include trauma-related deaths and disabilities, gender-based violence and a notable increase in mental disorders such as depression, anxiety and post-traumatic stress (7). Poor health indicators within the EMR impede the achievement of the Sustainable Development Goals (SDGs) (8).

SDG3 specifically deals with the health and well-being of all humans. Mental health is a fundamental human right that should be available to all humans regardless of their citizenship (9). The global lifetime prevalence of mental disorders among adults (men and women) is estimated to be between 12 and 48% (10). A 2019 global study of mental health in found that mental disorders constituted 4.9 % of Disability-Adjusted Life-Years (DALYs) (11), with predicted loss to economic output projected at US$ 6 trillion by 2030 (12).

In the EMR, current and lifetime prevalence of mental illnesses is highest for depression, followed by anxiety disorders, post-traumatic stress disorders (PTSD) and substance use disorders (13). Fragile and conflict areas have a higher prevalence of mental health conditions, with minimal financial and infrastructure related prioritisation of mental healthcare (14–16). In Pakistan, mental illnesses contribute to over 4% of the overall disease burden, with a higher prevalence among women. Estimates suggest that approximately 24 million individuals in Pakistan...
require psychiatric support (13,14). However, the resources allocated for mental health screening and treatment are insufficient to meet the increasing demand. According to World Health Organization (WHO) data, Pakistan reports 0.19 psychiatrists per 100,000 people, one of the lowest figures in both WHO/EMRO and globally (17).

Women and persons in the age range from 25 to 49 are most at risk of mental health disorders; in fact, women are more likely to be affected among all age groups in the region (19). Women are particularly vulnerable to mental disorders or illness due to various factors, including socio-cultural influences, violence, stress, poverty, conflict, migration and social inequality (18,19). Biological and life stage factors also contribute to mental health risks for women, such as hormonal influences and comorbidities such as osteoporosis, dementia or breast cancer (20–23).

Interventions addressing mental health in fragile and conflict settings are scarce, with the majority of research originating from high-income countries (24–27), which are generally not socio-culturally, economically or logistically applicable to our region. Research on women’s mental health and other health interventions in the EMR is insufficient, and there has been minimal investment in cohesive policies aimed at enhancing mental health outcomes for women (28,29).

In this systematic review, we aimed to document the prevailing gap in women’s mental health in fragile and conflict zones within the EMR. The review investigated risk factors and determinants influencing mental well-being and proposes strategies to improve women’s mental health in these settings.

**Methods**

**Study design and search strategy**

This study was conducted in accordance with the Preferred Reporting Elements for Systematic Reviews and Meta-analysis (PRISMA) (30). Our research protocol, including research questions, search strategy, study selection procedure and analytical approach was designed *a priori* and discussed with WHO/EMRO via an internal, unpublished document. We restricted our search to peer-reviewed and grey literature from January 2001 to February 2023. For initial screening of peer-reviewed documents, a systematic search was conducted in 2 electronic databases: PubMed/MEDLINE and Index Medicus. We conducted a manual search of grey literature using the WHO Institutional Repository for Information Sharing (WHO IRIS; https://apps.who.int/iris).

We organized our search terms under 6 categories: “population”, “status”, “situation”, “outcome”, “interventions”, and “region”. Table 1 presents a full list of search terms used under each category. Categorical search terms used for the peer reviewed literature were further adapted for retrieval of grey literature such as “Eastern Mediterranean Region,” “women” and “mental health”.

**Study selection and inclusion criteria**

We included documents published in English language that focused on mental health outcomes across the lifespan of women in the EMR (adolescents, adults and older individuals > 65) using any type of study design (review, cross-sectional, observational, or intervention). Studies on women’s mental health providing information on disease burden, associated risk factors and/or describing interventions used to promote mental well-being were also considered eligible for screening and selection.

Figure 1 illustrates our study selection process. A pair of reviewers was assigned to each set of literature: peer-reviewed and grey. Relevant peer-reviewed citations were imported into Zotero reference management software. After removing duplicates, titles and abstracts were screened based on the inclusion criteria. For grey literature search in the WHO IRIS database, relevant publications that met the inclusion criteria were imported.

<table>
<thead>
<tr>
<th>Table 1 Search Terms used for Peer-Reviewed Literature</th>
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<tbody>
<tr>
<td><strong>Population</strong></td>
</tr>
<tr>
<td>Refugee OR displac* OR internally displaced OR evacuee OR migrant OR foreigner OR immigrant OR ethnic minority OR indigenous OR asylum</td>
</tr>
<tr>
<td><strong>Status</strong></td>
</tr>
<tr>
<td>Disaster OR humanitarian crisis OR earthquake OR flood OR drought OR starvation OR famine OR war OR conflict OR fragile</td>
</tr>
<tr>
<td><strong>Outcome</strong></td>
</tr>
<tr>
<td>depress* OR psych* OR disorder* OR behav* OR psychology OR psychotropic drug OR neuro* OR cognitive OR psychotherapy OR social problem OR anxiety OR attention OR emotion* OR neurobehavior* OR mental health OR stress OR alcohol OR abuse OR PTSD</td>
</tr>
<tr>
<td><strong>Interventions</strong></td>
</tr>
<tr>
<td>mental health services OR intervention OR trial OR ACT OR Assertive Community Treatment OR technique* OR cognitive OR self-help OR support* OR programme OR meditation OR CBT OR Cognitive behavioral therapy OR Self-affirmation OR session* OR thinking pattern* OR coping method* OR problem solving OR mindfulness OR breathing OR exercise* OR therapy OR assertiveness OR group* stimulus OR training OR spiritual* OR optimism OR behaviour OR behavior OR psychoeducation OR Construct OR awareness OR parenting</td>
</tr>
<tr>
<td><strong>Region</strong></td>
</tr>
<tr>
<td>EMRO OR WHO-EMRO OR Eastern Mediterranean Region OR Afghanistan OR Bahrain OR Djibouti OR Egypt OR Iran OR Republic of Iran OR Iraq OR Jordan OR Kuwait OR Lebanon OR Libya OR Morocco OR Palestine OR Occupied Palestine Territory OR GAZA OR Oman OR Pakistan OR Qatar OR Somalia OR Sudan OR Syrian Arab Syria Republic OR Tunisia OR United Arab Emirates UAE OR Yemen</td>
</tr>
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Selected publications underwent full-text screening based on eligibility. We used Microsoft Excel to collate the data extracted from the manuscripts. Disagreements regarding article inclusion or exclusion were resolved using consensus by all reviewers for all selected documents. We then extracted the following data from each of the selected documents: study title, citation, country within EMR, document type, study location, study population, prevalence of reported mental health conditions, risk factors and/or determinants, barriers, and facilitators for implementation of interventions or strategies, mental health outcomes of interest and key findings and conclusions. For peer-reviewed studies, study design or type, intervention type and risk of bias were also recorded.

Our team of reviewers identified 841 articles from 2 peer-review database searches (PubMed: 731, IMEMR: 110). After removing 4 duplicates, 837 articles underwent title and abstract screening. Among them, 743 articles were excluded, while 5 could not be accessed, hence only 89 articles underwent full-text review. From the 89 articles, 41 were excluded, resulting in the final inclusion of 48 studies.

Our grey literature search retrieved 1,422 reports. After title screening, 1,071 records were excluded because they did not relate to mental health. Among the 351 remaining records that underwent title and abstract screening, 16 were excluded because they did not specifically focus on women’s mental health. The remaining 335 records were screened against eligibility criteria, leading to exclusion of 304 records. After full-text review, 31 records were included for data extraction. However, 20 of these grey documents could not provide the required
data sets and therefore had to be excluded. Ultimately, 11 grey documents were included for detailed review and synthesis.

Quality assessment
Two of our reviewers used the STROBE (Strengthening The Reporting of Observational studies in Epidemiology) checklist (31) to conduct quality assessments for cross-sectional and cohort studies and the CONSORT (Consolidated Standards of Reporting Trials) statement to assess randomised control trials (32) within the selected peer-reviewed articles for potential bias. Inter-reviewer disagreements were resolved through group discussion and consensus.

Statistical analysis
We conducted a descriptive analysis of the sociodemo- graphic characteristics. Using data from 32 cross-sectional studies, we calculated the total and specific average prevalence of each type of mental disorder. This involved multiplying the available percentage prevalence rates by the corresponding number of participants and then dividing the sum by the total number of participants. (33) We performed these calculations using Microsoft Excel software.

Results
Study characteristics
We included 59 studies (peer-reviewed n=48; grey literature n=11) in the final review and synthesis. We incorporated 32 cross-sectional studies, 5 randomised control trials, 2 quasi-experimental studies, 2 observational cohort studies, 2 reviews and 5 qualitative studies into our synthesis. We included 25 studies on mental health of refugees moving within (n=14) or outside the EMR (n=11). Overall, only 13 of the 48 peer-reviewed publications focused exclusively on mental health of women while 35 included both men and women as study participants.

Figure 2 shows the origins of peer-reviewed studies selected from the EMR (n=37): Afghanistan (n=5), Iraq (n=7), Jordan (n=9), Lebanon (n=5) and Pakistan (n=4). Crisis-affected women in the EMR had low educational attainment, unemployment, financial dependence and lack of social support networks. The study settings for the refugee population within the EMR included camps, community rehabilitation centres or clinics. For refugees residing outside the EMR, the settings were home or health facilities. Female study participants included in our selected peer-reviewed studies ranged from 12 to 75 years of age: (i) 12-18 (n = 14); 18-60 (n = 28); and (iii) 60–75 years (n = 6).

Mental health prevalence and impact on women’s lives
A majority of the selected studies focused on anxiety, PTSD, and depression as the primary outcomes of interest. Perinatal mental health disorders ranged from 16% to 36%, while postpartum depression was 56% (34). Studies addressed suicide (34–36), psychosis (34,37), substance abuse (36, 38–40) and stress-related syndromes (36, 41–43). Some studies explored perceived social rejection (44) and lower social functioning among women (45), as well as somatic symptoms and reduced health and psychological well-being (35,38,42,46). Mental disorders resulted in higher DALYs among women in the region than men. (5) Community-based studies in the EMR consistently indicate higher rates of common mental disorders among women (34). The total average prevalence of mental disorders among women, calculated from 32 cross-sectional studies, was 49.27%. Specifically, the average prevalence of anxiety was 68.00%, PTSD was 52.06%, and depression was 43.37%.

Risk factors associated with mental health conditions in the EMR
From our synthesis, we categorized risk factors associated with mental health conditions among women in the EMR into a 3-part socio-ecological framework: (i) intrapersonal; (ii) interpersonal and (iii) systemic factors (47).

(i) Intrapersonal risk such as age, disability, physical injuries, limited access to primary healthcare, literacy, economic independence, vulnerability, personal resilience, self-confidence and access to social support were salient intrapersonal risk factors for women’s mental health in the EMR (38,48–53). Women’s mental health and marital life were negatively affected by stigma related to seeking therapy, stress, deprivation, religious or spiritual beliefs, ongoing conflicts and humanitarian crises, leading to increases in symptoms such as despair and lack of emotional well-being (36,41,49,54–59). Women older than 40 years showed higher severity of mental illnesses like depression and PTSD, than women younger than 40 years (53,60). Irrespective of this trend, unmarried women younger than 40 years also reported feeling negative emotions like ‘fear’, ‘frustration’, and ‘anger’ (55).

(ii) Interpersonal: Psychiatric and neurotic symptoms, especially PTSD (57), were associated with physical abuse by a spouse (36,61,62), marital disharmony (56), loss of social networks (33,35,36), and separation from family members (54,63).

(iii) Systemic: Gender-based violence (including physical, sexual and emotional abuse), financial insecurity, limited autonomy, birth spacing, poverty, poor living conditions in refugee camps and discrimination faced by refugees were associated with very poor mental health outcomes (35,36,38,61,64). Migration and displacement increased mental distress for women in the region due to complex trauma, deficient social support and acculturation stress (58).

Mental health interventions
Our selected literature on interventions (n=7) focused on mental health conditions, coping abilities and post-traumatic growth of the individuals. However, few interventions addressed women’s mental health needs
specifically. The interventions reported included self-care-based life-skills training, group problem management plus (gPM+), the profound stress attunement (PSA) framework, community mental health worker (CMHW) facilitated psychoeducation and trauma-informed support, cognitive-processing therapy (CPT) and brief narrative exposure therapy (NET). These interventions demonstrated small to moderate effectiveness in improving depression, anxiety and PTSD.

In the grey literature, we found more interventions specific to women’s mental health in the EMR. For example, perinatal mental health was noted as a national priority policy in 10 EMR countries (56). Countries in the region acknowledged the varying roles of public, private, and joint ventures in providing maternal mental health services, with country income ranking not determining the different sectors’ capacity to deliver services. Psychiatrists served as the primary providers of maternal mental health services in 82% of the 11 EMR countries surveyed (56). Only a few countries have specific provisions for women within their health systems, such as earmarked beds, specialized mental health facilities and psychosocial support (5,58). There were numerous paternal and maternal health promotion programmes (37). Community health worker (CHW) programmes for maternal mental health were operational in 13 countries (5). Mental health interventions administered by non-specialist CHWs, like the Thinking Healthy Program for managing perinatal depression, have proven effective and scalable (5,34).

**Barriers for women’s mental health interventions in the EMR**

Challenges in providing maternal, child and adolescent mental health services included lack of awareness, resources and research output. There was a lack of epidemiological data and political commitment to address these issues. Transportation and financial challenges further hindered service delivery (34,38,56). Stigma and discrimination at institutional, community and individual levels created unspoken barriers for women in accessing mental health care (34). Residence also impacted access to mental health. Rural areas lacked services, while urban areas had better access (50). The high cost of mental health care and the significant treatment gap among women in the EMR is a concern (5,38,50).

**Risk of bias in the peer-reviewed literature**

We found that the selected randomized control trials generally abided by the CONSORT 2010 checklist whereas the cross-sectional and cohort studies met most of the STROBE criteria, with a few shortcomings. Even though the randomized control trials provided sufficient information on ‘recruitment and follow-up’, they did not report well on generalisability such as external validity and applicability of trial findings.

**Discussion**

Global estimates suggest that 1 in every 5 individuals residing in a conflict zone experiences mental health conditions such as depression, anxiety, PTSD, bipolar disorder or schizophrenia (14). Prolonged conflicts and vulnerabilities, including population dislocation, weak
social networks, livelihood destruction and human rights abuses, have plagued the EMR for decades (65). These protracted crises disproportionately affect vulnerable populations such as female migrants and refugees.

Firstly, we found that anxiety, PTSD and depression was the most prevalent mental health disorders among women in our region, all of which are generally understood to be associated with trauma related to war, complex trauma related to repeated long-term gender-based violence or political unrest and warfare; and or sexual or physical violence.

Secondly, our review used the synthesised data to categorise risk factors for mental health outcomes into 3 distinct categories: (i) intrapersonal; (ii) interpersonal and (iii) systemic. At the intrapersonal level, advancing age, ethnic minority status, reproductive health issues, educational disparities, perceptions of feeling unsafe due to conflicts and adjustments in the host country for migrants were considered important contributors to mental health. Interpersonal risk factors included limited social support, living in camps and exposure to violence. At the systemic level, studies reported limited healthcare access, prohibitive costs, gender discrimination and low-quality mental health services. Political and social conflicts emerged as major barriers to sound mental health. Direct exposure to traumatic experiences such as combat or warfare that resulted in infrastructure destruction (loss of homes, schools hospitals and religious facilities) and limited healthcare access (bombed/sabotaged/inaccessible), worsened mental health outcomes in Afghanistan, Iraq and Syrian Arab Republic (5,16).

Aligned with our findings on mental health, another multisite study indicated that women, especially those with advancing age, were more likely to be negatively affected by violence and turmoil than men (14). Cultural and background variations can exacerbate intrapersonal, interpersonal, and systemic risks, aggravating already poor mental health outcomes, especially in settings where discrimination worsens the effects of systemic risks.

Women from marginalised ethnic groups were more vulnerable to genocide, gender-based violence, discrimination, declining social support, low self-esteem, and suicidal thoughts. Health care provision is often extremely limited or non-existent due to the destruction of medical facilities in conflict-affected communities, making it difficult for women to seek any form of care. Studies among ethnic minority women in Europe support our findings (66–69). Interventions targeted PTSD, anxiety, and depression among populations facing adversity and humanitarian crises. Similar interventions, including short-duration task-shifting psychoeducational interventions, trauma-informed support by CMHWs, gPM+, and NET, have shown efficacy among other refugee populations (70–75).

We identified a lack of data on women’s mental health in the national epidemiological surveys. This information gap creates potential barriers to establishing effective mental health services. Stigma and discrimination at institutional, community and individual levels further hinder access to available mental healthcare (76). Healthcare professionals in the region lack formal curriculum-based training and fragmented mental health services impede access to appropriate care. Mental health resource distribution is inequitable, with urban areas having higher bed densities and more psychiatrists, whereas mental illnesses were more prevalent in rural areas. Though not emphasised in our review, the economic burden of mental illnesses in low- and middle-income countries is substantial (78). In Pakistan, the financial cost of mental illness and associated healthcare is estimated to be as high as 37% of total economic burden (79).

Maternal mental health emerged as a priority for mental health intervention in the national policies of 10 EMR countries, including those affected by conflict (56). However, the majority of non-specialist maternal mental health workers require additional training. For example, Pakistan recently introduced a new task-shifting mental health literacy curriculum for female community health workers who already deliver local maternal, newborn and child health services (79).

Our results showed that the CHW programmes focusing on maternal health in 13 EMR countries – Afghanistan, Egypt, Islamic Republic of Iran, Jordan, Kuwait, Morocco, Oman, Pakistan, State of Palestine, Sudan, Syrian Arab Republic, Tunisia, and Yemen – also delivered mental health care services to women and children (5). For example, the Thinking Healthy Program is an evidence-based cognitive-behavioural therapy delivered through frontline workers and non-specialists to reduce perinatal depression (34). Similarly, the government-supported Lady Health Worker Program (LHW-P) in Pakistan, which recruits and trains local women, who have the trust of their community in offering preventive maternal and child services at community doorsteps, can be considered a sustainable and successful model for integrating mental health into primary health care. We therefore suggest, supported by evidence (80), that mental health delivery by local non-specialist health workers could be considered as a best practice for reducing barriers and providing effective maternal mental health interventions in resource-constrained settings.

This systematic review has certain limitations. There is a possibility of missing relevant studies from other databases (like EMBASE and Scopus) due to the choice of language, time constraints for selection and screening, under-reporting of women’s mental health disorders and discrimination and cultural stigmatisation of women’s mental health. Our prevalence estimates are primarily derived from pre-pandemic studies, therefore, the actual burden of mental illness in the aftermath of COVID-19 may be higher. Comparisons of women’s mental health among migrant or refugee populations residing within and outside the EMR are challenging due to scanty
literature on such topics. For future studies, a meta-analysis rather than systematic review is recommended for calculating pooled prevalence of mental disorders in the region.

**Conclusion**

Our review underscores the imperative to expand women’s mental health services, address barriers and allocate more resources to mental health programmes. We suggest interventions such as enhancing mental health surveillance, facilitating community programmes to help reduce cultural and social stigma and programmes to train non-specialist and specialist healthworkers in mental health outreach for women living in fragile and conflict zones.

**Funding:** This project was funded by an WHO grant.

**Competing interests:** None declared.
الصحة النفسية: بين المهاجرين تناولت النساء اللائي جاءن إلى بلادن مرتفعة الدخل، وفي دراسة مقطوعة على النساء اللائي تراوحت أعمارهن بين 12 و75 عامًا، كان متوسط انتشار الاضطرابات النفسية 49/4، ومتوسط انتشار القلق 68/4، واضطرابات الكرب الثاني للإصابة 52/4، والاكتئاب 43/4. وكانت مستويات الاكتئاب لدى النساء أعلى منها لدى الرجال. كما أن العمر، وتفاوت المستوى التعليمي، ومحدودية إتاحة الخدمات كانت من عوامل الخطير المهمة المودية إلى اضطرابات الصحة النفسية. كما ظهرت عدة تدخلات واعدة: الاستنتاجات: ينبغي بذل مزيد من الجهود لوصف حلول مصممة خصيصًا ومحددة السياق لتحديات الصحة النفسية التي تواجه النساء في الأوضاع الإنسانية والاجتماعية. (منها تخصيص مزيد من الموارد لبرامج الصحة النفسية، والتصدي للعقبات، وتعزيز ترصد الصحة النفسية، والأخذ في الاعتبار العوامل المحيطة).

References


