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The role of the psychoeducation for family preparedness application on psychological preparedness and functional activities of families post-disaster: A community intervention study

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ABSTRACT

Background: Families residing in disaster-prone areas are at increased risk of psychological and functional disruption during and after disasters. This study aimed to evaluate the effectiveness of the psychoeducation for family preparedness (PEKA) application in improving psychological preparedness and family functional activities among households in disaster-prone communities.

Methods: A quasi-experimental pretest-posttest control group design was conducted with 60 purposively selected families. The intervention group utilized the PEKA application for 4 weeks, a practical and user-friendly tool that comprises six interactive modules covering disaster education, emotional regulation, evacuation planning, communication, daily functionality, and journaling. Validated instruments measured psychological preparedness and functional activity. Data were analyzed using paired t-tests and ANCOVA.

Results: After the intervention, the intervention group showed significant improvements in both psychological preparedness (Mean ± SD: 66.2 ± 7.8 to 81.4 ± 6.9; $p < 0.001$) and functional activities (62.0 ± 6.3 to 75.6 ± 7.1; $p < 0.001$), while the control group did not show significant changes. ANCOVA revealed significant between-group differences for both psychological preparedness (F (1,57) = 18.96; $p < 0.001$; $\eta^2 = 0.248$) and functional activity (F (1,57) = 12.21; $p = 0.001$; $\eta^2 = 0.176$). Application engagement was high, with 85% of participants completing more than 80% of the modules.

Conclusion: The PEKA application was an effective digital intervention that enhances both the psychological preparedness and functional capacity of families in disaster-prone areas. Integrating psychoeducational content with interactive tools and professional support can strengthen family resilience and serve as a scalable model for community-based disaster risk reduction.

Keywords: digital health intervention, disaster preparedness, family resilience, functional activity, psychoeducation.
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INTRODUCTION

Indonesia is one of the countries with the highest levels of natural disaster vulnerability in the world, regularly facing threats from earthquakes, volcanic eruptions, floods, landslides, and tsunamis.[1,2] Data from the National Disaster Management Agency indicate that each year, more than 3,000 disaster events occur, most of which affect rural communities with limited access to health services and disaster education.[3] In this context, the family becomes the central social unit that must be prepared to face, respond to, and recover from the impacts of disasters.[4] Not only physical readiness, but also psychological preparedness is a crucial aspect that determines the resilience and toughness of families amid a crisis.[5-8]

Psychological preparedness refers to the mental, emotional, and behavioral readiness of individuals or families to respond adaptively to emergencies.[9] This concept encompasses the ability to manage stress, make swift decisions, and maintain emotional stability in the face of disasters.[10] Several studies indicate that families with good psychological preparedness tend to take quicker and more effective actions in crises and demonstrate faster recovery processes.[11,12] However, psychological preparedness is often overlooked in disaster mitigation programs, which tend to focus more on logistical and infrastructural aspects.

In response to the growing need for accessible disaster preparedness, the psychoeducation for family preparedness (PEKA) application was developed as a community-based digital intervention to enhance family adaptive capabilities following a disaster. The application contains six core modules, including

psychoeducation on disaster and risk perception, emotional regulation techniques, household evacuation simulation, family communication strategies, reinforcement of daily functional skills, and interactive journaling for self-reflection. These modules are designed to be accessed independently by family members using a smartphone over a period of four weeks.

This aligns with Indonesia's National Action Plan for Disaster Risk Reduction 2020–2024, which emphasizes family-centered disaster preparedness and the integration of digital tools in public health outreach.[1] Despite these national efforts, research on the effectiveness of digital psychoeducation programs targeting both psychological preparedness and functional capacity in disaster-prone communities remains limited. In addition to psychological aspects, family functional activities also become an essential component in disaster management, especially during the evacuation and recovery phases.[13] Families with members who have special needs, such as older people, children, or individuals with disabilities, require specific understanding and skills to maintain mobility, ensure safety, and adapt to the post-disaster environment.[14,15] The role of the health worker in this regard is very strategic, including accompanying families in improving functional capacity and providing education on safe movements, body posture, and efficient evacuation techniques.[16] The integration of psychosocial and functional approaches will result in more comprehensive interventions in family preparedness.[17]

Community mental health nurses and other healthcare workers hold key positions in promoting family health and disaster education.[18] Based on Stuart's theory, nurses are not only tasked with providing post-disaster care but are also responsible for strengthening the adaptive capacity of communities long before a disaster occurs.[19] The family empowerment approach, as conceptualized by Zimmerman (2000), highlights the importance of active family engagement in identifying potential risks, fostering self-efficacy, and enhancing perceived control when responding to adversity.[20,21] This approach aligns closely with principles of mental health promotion and disaster preparedness, where families are not merely passive recipients of aid but are positioned as active agents in managing their well-being.[22,23] Strengthening family capacity requires accessible, relevant, and sustained support systems that bridge knowledge, skills, and psychosocial resilience.[24,25]

Community mental health nurses and other healthcare workers hold key positions in promoting family health. However, traditional face-to-face interventions are often constrained by geographical barriers, time limitations, and limited availability of trained professionals, particularly in disaster-prone or underserved communities.[26] Therefore, scalable and flexible solutions are needed to ensure continuous education and support for families across various settings.[27]

In line with these principles, digital-based interventions such as the PEKA application represent an innovative health technology aimed at strengthening both the psychological preparedness and functional capabilities of families. This is achieved through an integrated model that incorporates the roles of healthcare professionals particularly nurses and healthcare workers as facilitators of education and psychosocial support.[14,28]

Through this community intervention study, the researchers aimed to evaluate the effectiveness of using the PEKA application in enhancing psychological preparedness and functional activities of families in disaster-prone areas. This study was essential as a contribution to the interprofessional approach in family-based disaster mitigation, which involves synergy among healthcare workers. By utilizing digital technology, the PEKA application was expected to reach families widely and become an innovative model in the inclusive and sustainable national preparedness system.[29,30]

METHODS

Research Design and Setting

This study employed a quasi-experimental design with a pretest-posttest control group approach to evaluate the impact of the PEKA application intervention on psychological preparedness and family functional activities. The study was conducted in two disaster-prone villages located in the Magelang Regency area of Central Java. The selection of the location was based on the availability of a minimum internet network and the active involvement of cadres and health workers in the local preparedness program.

The PEKA application was developed in the form of a digital module containing psychoeducational materials, emotion regulation exercises, family evacuation simulations, and household-based functional activities. The intervention was conducted over six sessions within four weeks under the supervision of healthcare professionals who had been trained to use the PEKA platform online.

Participants and sampling

Participants in this study were heads of households or adult family members (aged 18 years or older) residing in disaster-prone areas, have access to smartphones, and were willing to participate in a digital intervention for at least 4 weeks. Inclusion criteria also included families with vulnerable members (children, older people, or persons with disabilities). The exclusion criteria were the inability to follow digital instructions or cognitive impairments that hinder understanding of the material.

A total of 60 families living in disaster-prone areas were recruited using purposive sampling, based on their location in high-risk zones and ownership of a smartphone. Participants were then assigned to an intervention group (n = 30) and a control group (n = 30). To minimize selection bias, the groups were matched based on demographic characteristics and baseline psychological preparedness scores.

Intervention procedure

The intervention consisted of using the PEKA application over 4 weeks that containing six modules: (1) disaster psychoeducation, (2) emotional regulation, (3) evacuation planning, (4) family communication, (5) functional activity reinforcement, and (6) reflective journaling. Each module was designed for independent use, with an average daily usage of 20–30 minutes. Intervention was

provided through the PEKA application, which could be accessed via smartphone. The learning materials included infographics, educational videos, and reflection journals tailored for Indonesian families. During the intervention, participants were allowed to consult with healthcare professionals who served as digital companions.

Facilitator monitoring and adherence

To ensure adherence, participants received weekly follow-ups via WhatsApp, and their engagement with the app was tracked using digital logs. All facilitators were trained with a standard manual, and their performance was monitored weekly by the research team to ensure fidelity of the intervention.

Data collection and blinding

Data were collected at baseline (pretest) and after the 4-week intervention (posttest). To minimize measurement bias, data collectors and assessors were blinded to participant group allocation.

Outcomes

Two instruments were used to measure study outcomes. The Family Psychological Preparedness Questionnaire (FPPQ), developed by the research team, consists of 24 items rated on a Likert scale. Psychometric analysis supported its construct validity and demonstrated good test-retest reliability (r = 0.84), indicating its appropriateness for assessing psychological preparedness. The Family Functional Activity Questionnaire (AFK), based on the World Health Organization's (WHO) International Classification of Functioning (ICF), evaluated family capacities in mobilization, evacuation, and self-help. The instrument demonstrated high internal consistency, with a Cronbach's alpha of 0.87.

Data analysis

Data were analysed using IBM SPSS Statistics (Version 26; IBM Corp., Armonk, NY). Descriptive statistics were used for demographic characteristics. Paired t-tests were used to compare within-group pre- and post-test scores. ANCOVA was used to compare post-test scores between the groups while controlling for baseline values. Effect size was calculated using partial eta squared (η^2). Missing data were <5% and handled using pairwise deletion.

Trustworthiness

The validity of the data was maintained through several approaches. The validity of the instrument was obtained through construct validity testing and previous reliability ($\alpha > 0.80$). The data collection process was conducted by a team that had received intensive training, comprising local health cadres, nurses, and community physiotherapists. Additionally, cross-validation is conducted through data triangulation from field observations and activity logs in the application.

The application of the principles of credibility and dependability is ensured through strict monitoring during the intervention process by field supervisors and the use of the PEKA digital log to verify participant involvement. Transferability is maintained by providing a detailed description of the context, population, and program implementation process.

RESULTS

Characteristics

A total of 60 families participated in this study, evenly divided into an intervention group (n = 30) and a control group (n = 30). Both groups completed both pretest and posttest assessments, resulting in a 100% response rate. There were no participant dropouts throughout the 4-week intervention period. Missing data on specific questionnaire items were minimal (<5%) and handled using pairwise deletion to preserve statistical integrity.

Table 1 shows the characteristics of participants in both groups. The majority of respondents were female (68.3%), aged 30 to 40 years, had completed secondary education, and had prior experience with disaster events. Statistical analysis revealed no significant differences in baseline demographics between the intervention and control groups, indicating good comparability between the groups before the intervention.

Effect of PEKA on psychological preparedness

Table 2 shows a statistically significant increase in psychological preparedness scores among the intervention group from pretest to posttest (Mean ± SD: 66.2 ± 7.8 to 81.4 ± 6.9; $p < 0.001$). In contrast, the control group demonstrated only a minimal and non-significant change (65.7 ± 8.1 to 68.1 ± 7.5; $p = 0.114$). This suggests that the PEKA application was effective in enhancing psychological resilience among families at risk of disaster exposure.

Furthermore, the ANCOVA test used to compare posttest scores between groups while controlling for baseline values, indicated a statistically significant difference ($p<0.001$) with a large effect size ($\eta^2 = 0.486$). These results demonstrate that the PEKA application had a substantial and meaningful impact on improving the psychological preparedness of families in the intervention group.

Effect of PEKA on functional activities

Table 3 shows that functional activity scores in the intervention group significantly improved after the intervention period, increasing from 62.0 ± 6.3 to 75.6 ± 7.1 ($p < 0.001$). These improvements indicate enhanced capabilities in daily tasks such as evacuation readiness, family mobilization, and self-help during post-disaster recovery.

Meanwhile, the control group experienced a slight increase in scores from 61.8 ± 6.9 to 64.2 ± 7.4; however, this improvement was not statistically significant ($p = 0.093$). The ANCOVA comparison confirmed a statistically significant difference between the two groups at the posttest ($p = 0.001$), with a moderate to strong effect size ($\eta^2 = 0.359$). These findings suggest that the PEKA application made a meaningful contribution to improving family-level functional preparedness.

User engagement with the PEKA application

Monitoring data from the digital logs showed that 85% of participants in the intervention group completed more than 80% of the PEKA modules during the 4-week intervention. This high engagement rate indicates strong user acceptance and feasibility of the intervention in the target population. Weekly reminders and support through WhatsApp helped maintain consistent participation.

Table 1. Characteristics of 30 study participants

Variable	Intervention group	Control group	*P*-value
	Mean±SD or n (%)	Mean±SD or n (%)	
Gender, female	21 (70%)	20 (66.7%)	0.78
Age, years	35.8 ± 11.3	35.1 ± 12.1	0.85
Secondary education	22 (73.3%)	21 (70%)	0.77
Prior disaster experience	30 (100%)	30 (100%)	-
Vulnerable household member	26 (86.7%)	25 (83.3%)	0.68

N, number of subjects; SD, standard deviation

Table 2. Effect of psychoeducation for family preparedness (PEKA) application on psychological preparedness

Group	Pretest	Posttest	Within-group	ANCOVA between-group	
	Mean ± SD	Mean ± SD	*P*-value	η^2	*P*-value
Intervention	66.2 ± 7.8	81.4 ± 6.9	<0.001	0.486	<0.001
Control	65.7 ± 8.1	68.1 ± 7.5	0.114		

η^2, partial eta squared
SD, standard deviation

Table 3. Effect of psychoeducation for family preparedness (PEKA) application on functional activity scores

Group	Pretest	Posttest	Within-group	ANCOVA between-group	
	Mean ± SD	Mean ± SD	*P*-value	η^2	*P*-value
Intervention	62.0 ± 6.3	75.6 ± 7.1	<0.001	0.359	0.001
Control	61.8 ± 6.9	64.2 ± 7.4	0.093		

η^2, partial eta squared
SD, standard deviation

Among the six available modules, the video-based psychoeducation and interactive reflection journal were accessed most frequently. Feedback from participants highlighted that these components were both easy to understand and directly applicable to real-life situations, suggesting that multimedia and reflective formats were key drivers of engagement.

Integrated effect of PEKA on psychological and functional outcomes

The findings demonstrated that the PEKA application generated interrelated improvements in both psychological and functional domains. Strengthening psychological components, such as emotional regulation, risk perception, and cognitive readiness, helped families respond more effectively in practical domains, including evacuation and post-disaster self-care. These results reflect the interplay between mental preparedness and adaptive behaviour.

Moreover, the module design specifically, the pairing of journaling exercises with scenario simulations allowed participants to internalize mental preparation into action-oriented behaviour. This suggests that the PEKA intervention works not only by improving knowledge but also by supporting the translation of psychological readiness into daily functional capacity, especially in low-resource and disaster-prone communities.

DISCUSSION

The results of this study indicate that the majority of respondents were women of productive age and with secondary education, which reflects the typical profile of primary caregivers in disaster-prone communities in Indonesia. This demographic profile has been shown to influence engagement in preparedness efforts, as women are often more responsive to risk communication and more proactive in managing household-level disaster responses.[31] The dominant role of women may also contribute to the success of interventions such as PEKA, which rely on consistent participation and proactive behaviour.[32,33]

Most respondents had previously experienced disasters such as volcanic eruptions and floods, suggesting high exposure to recurrent risk.[12] However, disaster experience alone does not always lead to effective preparedness behaviours, especially in terms of psychological readiness.[34,35] The presence of vulnerable individuals such as children, elderly persons, or those with disabilities further underscores the importance of targeted interventions to support family-level mental and functional preparedness.[15]

The PEKA intervention led to a significant increase in psychological preparedness. This supports previous findings that digital psychoeducation can effectively build emotional readiness and cognitive control in disaster contexts.[28] The PEKA modules improved three core aspects of psychological preparedness: risk perception, emotional regulation, and decision-making readiness.[9]

In addition, participants in the intervention group showed significant improvements in functional activities. This suggests that strengthening psychological preparedness may simultaneously empower families to act effectively in practical domains such as evacuation planning, role coordination, and physical mobilization. The observed

interaction between mental and functional preparedness reflects the value of integrating psychological and behavioral strategies in a single digital platform.[36]

The involvement of community mental health nurses and other health professionals was crucial in maintaining participant motivation and ensuring effective use of the application. Community nurses served as facilitators for emotional validation and self-efficacy, while physiotherapists provided adaptive mobilization skills for families with physical limitations.[37,38] Meanwhile, other healthcare workers contribute to the readiness of family functional activities, including evacuation simulations, safe mobilization techniques, and posture adaptation in emergency conditions, especially for family members with physical limitations. This interprofessional collaboration aligns with disaster mental health nursing principles and the WHO framework on integrated community resilience.[29]

The effectiveness of PEKA can be explained through Pender's Health Promotion Model, which emphasizes perceived benefits, interpersonal influence, and readiness to act in shaping health behaviours.[39] The PEKA application provides external stimuli in the form of information and adaptive skills, while also strengthening the intrinsic motivation of families to prepare themselves for emergencies. In addition, Zimmerman's empowerment theory is reflected in the app's journaling and consultation features, which enhance perceived control and family agency in disaster situations.[20]

The integration of the WHO ICF into the assessment of family functional activity allowed for a comprehensive view of resilience.[40] By evaluating family mobilization, evacuation ability, and daily roles, the PEKA intervention extended beyond psychological aspects to address practical capacity for survival and recovery.[6,41] This study contributes to the growing body of evidence supporting digital, community-based interventions in disaster risk reduction. The PEKA application could be replicated in other disaster-prone areas, particularly in Southeast Asia, where family-based preparedness remains a policy priority.[34,42,43]

Nonetheless, this study has several limitations. First, purposive sampling and the requirement for smartphone ownership may limit generalizability to digitally excluded populations. Second, self-selection bias is possible, as participants may have had higher motivation at baseline. Third, the relatively short follow-up period did not allow for the evaluation of long-term behaviour change.

Despite these limitations, the findings provide strong preliminary evidence that digital interventions such as the PEKA application supported by health professionals can significantly improve psychological preparedness and functional capacity among families at risk of disasters. Future research should explore the long-term effects, scalability and integration of this approach within formal disaster education and public health systems.

CONCLUSION

This study provides preliminary evidence that the PEKA application is an effective digital intervention for enhancing both psychological preparedness and functional capacity among families residing in disaster-prone areas. Families who used PEKA demonstrated significant improvements in emotional regulation, risk perception, and readiness for action, which translated into more effective evacuation planning, role coordination, and mobilization at home.

The integration of psychological and behavioural modules, combined with support from health professionals, proved feasible and acceptable in a community setting. These findings underscore the significance of digital tools in enhancing family resilience and suggest that community-based interventions, such as PEKA, can serve as scalable models for disaster risk reduction programs in Indonesia and similar contexts. Future research is needed to examine long-term outcomes, broader applicability across different regions, and integration of PEKA into formal public health and disaster education systems.

CONFLICT OF INTEREST

None declared.

FUNDING

The study received no funding.

AUTHOR CONTRIBUTIONS

RTA designed the study, collected and analyzed the data, and drafted the initial manuscript; MF and MY assisted with data collection and analysis; EL and S participated in manuscript revisions.

ETHICAL CONSIDERATION

This study was conducted after obtaining approval from the Health Research Ethics Committee (KEPK) of the Faculty of Health Sciences, Universitas Muhammadiyah Magelang (No.124/KEPK-FIKES/II.3.AU/F/2023). Participants of this study agreed to participate by checking the checkbox provided at the beginning of the survey form. The survey was anonymous, and no personal identity information was collected. Participants who responded to the checkbox and survey form were included in the analysis.

REFERENCES

1. BNPB. Data bencana Indonesia [Internet]. 2023. Available from: https://bnpb.go.id/buku/buku-data-bencana-indonesia-tahun-2023
2. UNDRR. Global natural disaster assessment report 2019. UN Annu Rep [Internet]. 2020;(October):1–45. Available from: https://www.preventionweb.net/files/73363_2019globalnaturaldisasterassessment.pdf
3. BNPB. Kejadian bencana per provinsi tahun 2023 [Internet]. 2023. Available from: https://gis.bnpb.go.id/
4. Gumelar G, Akbar Z, Suryaratri RD, Erchanis H, Wahyuni LD. The effect of family resilience towards household disaster preparedness in Coastal Coast District of Sumur, Banten. InIOP Conference Series: Earth and Environmental Science 2020 Mar 1 (Vol. 448, No. 1, p. 012085). IOP Publishing.
5. Paton D. Disaster preparedness: a social-cognitive perspective. Disaster Prevention and Management: An International Journal. 2003 Aug 1;12(3):210-6.
6. Dartanto T. Natural disasters, mitigation and household welfare in Indonesia: Evidence from a large-scale longitudinal survey. Cogent Economics & Finance. 2022 Dec 31;10(1):2037250.
7. Astuti RT, Fanani M, Yusuf M, Lestari E. The effect of psychoeducation on family. 2024;190–5.

8. Retna AT, Purborini N, Margono M, Amin MK. Analisis bibliometrik penelitian tentang pengaruh bencana terhadap kesehatan mental. Borobudur Nursing Review. 2025 Jun 10;5(1):51-63.
9. Paton D. Disaster risk reduction: Psychological perspectives on preparedness. Australian journal of psychology. 2019 Dec 1;71(4):327-41.
10. Sunandar K, Suheti T, Rohyadi Y, Sasmita A, Zaini D. The family preparedness for landslide disaster. Journal of Geoscience and Environment Protection. 2023 Jul 10;11(7):56-66.
11. Said NB, Molassiotis A, Chiang VC. Psychological preparedness for disasters among nurses with disaster field experience: An international online survey. International journal of disaster risk reduction. 2020 Jun 1;46:101533.
12. Wu YL, Lin TW, Lam J, Wang SS, Lo HH. Resilience, coping strategies, and disaster experience: a path analysis of preparedness and avoidance in Taiwan. BMC public health. 2025 Jan 17;25(1):200.
13. Blackman D, Prayag G, Nakanishi H, Chaffer J, Freyens B. Wellbeing in disaster recovery: Understanding where systems get stuck. International journal of disaster risk reduction. 2023 Sep 1;95:103839.
14. Roudini J, Khankeh HR, Witruk E. Disaster mental health preparedness in the community: A systematic review study. Health psychology open. 2017 Jun;4(1):2055102917711307.
15. Thapa S, Toyoda Y, Laosee O, Janmaimool P, Buadit T, Noisangiam N, Rattanapan C. Factors associated with household flood preparedness in Songkhla old town Thailand. Progress in Disaster Science. 2025 May 27:100441.
16. Saurabh K, Ranjan S. Preparedness, perceived impact and concerns of health care workers in a teaching hospital during coronavirus disease 2019 (COVID-19). Journal of family medicine and primary care. 2020 Aug 1;9(8):4247-51.
17. Righi E, Lauriola P, Ghinoi A, Giovannetti E, Soldati M. Disaster risk reduction and interdisciplinary education and training. Progress in Disaster Science. 2021 Apr 1;10:100165.
18. Guo Y, Qin W, Wang Z, Yang F. Factors influencing social distancing to prevent the community spread of COVID-19 among Chinese adults. Preventive Medicine. 2021 Feb 1;143:106385.
19. Stuart GW. Principles and practice of psychiatric nursing-e-book: principles and practice of psychiatric nursing-e-book. Elsevier Health Sciences; 2012 Jul 23.
20. Zimmerman MA. Empowerment theory: Psychological, organizational and community levels of analysis. InHandbook of community psychology 2000 (pp. 43-63). Boston, MA: Springer US.
21. Iswanti DI, Nursalam N, Fitryasari R, Mendrofa FA, Kandar K. Family empowerment strategies for relapse prevention in individuals with Schizophrenia: a scoping review. Journal of Psychosocial Nursing and Mental Health Services. 2024 May 1;62(5):19-27.
22. C. Fong V, Iarocci G. Child and family outcomes following pandemics: a systematic review and recommendations on COVID-19 policies. Journal of pediatric psychology. 2020 Nov;45(10):1124-43.
23. Shah SH, Noor S, Butt AS, Halepoto H. Twitter research synthesis for health promotion: A bibliometric analysis. Iranian Journal of Public Health. 2021 Nov;50(11):2283.
24. Wakhid A, Hamid AY. Family resilience minimizes post-traumatic stress disorder: A systematic review. Enfermería Clínica. 2020 Mar 1;30:1-5.
25. Stevens GJ, Sharma A, Skeoch K. Help-seeking attitudes and behaviours among humanitarian aid workers. Journal of International Humanitarian Action. 2022 Dec;7(1):16.
26. Naslund JA, Aschbrenner KA, Marsch LA, Bartels SJ. The future of mental health care: peer-to-peer support and social media. Epidemiology and psychiatric sciences. 2016 Apr;25(2):113-22.
27. Bonvicini L, Pingani I, Venturelli F, Patrignani N, Bassi MC, Broccoli S, Ferrari F, Gallelli T, Panza C, Vicentini M, Rossi PG. Effectiveness of mobile health interventions targeting parents to prevent and treat childhood Obesity: Systematic review. Preventive Medicine Reports. 2022 Oct 1;29:101940.
28. Mesmar S, Talhouk R, Akik C, Olivier P, Elhajj IH, Elbassuoni S, Armoush S, Kalot J, Balaam M, Germani A, Ghattas H. The impact of digital technology on health of populations affected by humanitarian crises: Recent innovations and current gaps. Journal of public health policy. 2016 Nov;37(Suppl 2):167-200.
29. Bolan S, Padhye LP, Jasemizad T, Govarthanan M, Karmegam N, Wijesekara H, Amarasiri D, Hou D, Zhou P, Biswal BK, Balasubramanian R. Impacts of climate change on the fate of contaminants through extreme weather events. Science of The Total Environment. 2024 Jan 20;909:168388.
30. Ames RL, Loebach JE. Applying trauma-informed design principles to therapeutic residential care facilities to reduce retraumatization and promote resiliency among youth in care. Journal of child & adolescent trauma. 2023 Dec;16(4):805-17.
31. Drolet J, Dominelli L, Alston M, Ersing R, Mathbor G, Wu H. Women rebuilding lives post-disaster: Innovative community practices for building resilience and promoting sustainable development. Gender & Development. 2015 Sep 2;23(3):433-48.
32. Azad MJ, Pritchard B. The importance of women's roles in adaptive capacity and resilience to flooding in rural Bangladesh. International journal of disaster risk reduction. 2023 May 1;90:103660.
33. Abdalla S, Ramadan E, Al Mamari W. Enhancing gender-responsive resilience: The critical role of women in disaster risk reduction in Oman. Progress in Disaster Science. 2024 Dec 1;24:100376.
34. Phraknoi N, Sutanto J, Hu Y, Goh YS, Lee CE. Older people's needs in urban disaster response: A systematic literature review. International journal of disaster risk reduction. 2023 Oct 1;96:103809.
35. Mynarska M, Riederer B, Jaschinski I, Krivanek D, Neyer G, Oláh L. Vulnerability of families with children: Major risks, future challenges and policy recommendations. Families and Societies Project, Working Paper. 2015;49.
36. Pfefferbaum B, Jacobs AK, Griffin N, Houston JB. Children's disaster reactions: the influence of exposure and personal characteristics. Current psychiatry reports. 2015 Jul;17(7):56.
37. Stuart GW. Principles and practice of psychiatric nursing-e-book: principles and practice of psychiatric nursing-e-book. Elsevier Health Sciences; 2012 Jul 23.
38. Labrague LJ, Hammad K, Gloe DS, McEnroe-Petitte DM, Fronda DC, Obeidat AA, Leocadio MC, Cayaban AR, Mirafuentes EC. Disaster preparedness among nurses: a systematic review of literature. International nursing review. 2018 Mar;65(1):41-53.
39. Pender NJ, Murdaugh CL, Parsons MA. Health promotion in nursing practice.
40. Susato SI. Development of a method for analysing victims of the Great East Japan Earthquake using the International Classification of Functioning, Disability and Health (ICF): part I proposal for the disaster ICF. Cogent Public Health. 2024 Dec 31;11(1):2326242.
41. Qiu D, Lv B, Cui Y, Zhan Z. The role of response efficacy and self-efficacy in disaster preparedness actions for vulnerable households. Natural Hazards and Earth System Sciences. 2023 Dec 14;23(12):3789-803.
42. Jalil MH, Alsous MM, Hammad EA, Mousa R, Saleh MM, Hammour KA. Perceived public stress among Jordanians during the COVID-19 outbreak. Disaster medicine and public health preparedness. 2022 Feb;16(1):240-4.
43. Serlachius A, Schache K, Boggiss A, Lim D, Wallace-Boyd K, Brenton-Peters J, Buttenshaw E, Chadd S, Cavadino A, Cao N, Morunga E. Coping skills mobile app to support the emotional well-being of young people during the COVID-19 pandemic: protocol for a mixed methods study. JMIR Research Protocols. 2020 Oct 8;9(10):e23716.