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Mental Health and Epidemiological Trends in Post-Pandemic Populations: Review

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Abstract

Background: The COVID-19 pandemic has heightened public awareness of mental health issues, particularly post-traumatic stress disorder (PTSD). Previous pandemics have demonstrated significant psychological impacts on populations, leading to increased PTSD prevalence. This study systematically reviews the incidence of PTSD following infectious disease pandemics and identifies associated risk factors.

Methods: A comprehensive search was conducted across multiple databases, including MedLine, Embase, and PsycINFO, to identify studies reporting PTSD prevalence after pandemics such as SARS, H1N1, Ebola, Zika, and COVID-19. Inclusion criteria focused on studies that assessed PTSD and its risk factors among affected populations. Meta-analysis techniques were employed to aggregate data and evaluate prevalence rates.

Results: The meta-analysis revealed a pooled PTSD prevalence of 23% among individuals exposed to infectious disease pandemics, surpassing rates observed after other traumatic events. Notably, frontline healthcare workers exhibited a higher prevalence (31%) compared to the general population (19%). Factors such as confirmed infection, quarantine experience, and demographic characteristics significantly influenced PTSD rates. The study found no substantial differences in PTSD prevalence between genders, indicating equal vulnerability across populations.

Conclusion: This research highlights the substantial public health issue posed by post-pandemic PTSD, particularly among vulnerable groups such as healthcare workers and those under quarantine. Effective mental health interventions and early screening are essential for mitigating the psychological impact of

pandemics. Policymakers should prioritize mental health responses as part of public health strategies in future pandemics to ensure comprehensive recovery and support for affected populations.

Keywords: PTSD, pandemics, mental health, COVID-19, epidemiology.

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1. Introduction

The rapid global proliferation of the coronavirus disease 2019 (COVID-19) epidemic within a few timeframes has once again focused public attention on infectious disease pandemics. Since 2000, the acceleration of urbanization and global travel has led to a rise in the frequency and complexity of infectious disease pandemics, with notable instances including Ebola, severe acute respiratory syndrome (SARS), Middle East respiratory syndrome coronavirus (MERS-CoV), Nipah, influenza A subtype H5N1, and Zika. The SARS pandemic of 2003 was the first worldwide public health emergency of the twenty-first century, subsequently followed by the H5N1 epidemic of 2005–2006 [1]. Subsequently, the World Health Organization has proclaimed an additional five Public Health Emergencies of International Concern: the H1N1 influenza virus pandemic (2009), the comeback of wild poliovirus (2014), the West African Ebola virus epidemic (2014), the Zika virus outbreak (2018), and COVID-19 (2020) [2, 3]. Extensive pandemics may markedly elevate worldwide morbidity and death, leading to profound economic, social, and political upheaval. Furthermore, a significant infectious disease pandemic may have extensive and profound adverse impacts on persons' mental health [5, 6]. A sudden illness epidemic characterized by high infectivity and fast transmission induces dread, anguish, and anxiety among the people [7-9]. Prolonged stress and worry resulting from a pandemic may exacerbate depressive symptoms [10, 11]. Continuous exposure to danger, disease, mortality, catastrophic events, stigma, and prejudice during a pandemic might elicit an acute stress response and perhaps lead to posttraumatic stress responses [5, 12-14].

Posttraumatic stress disorder (PTSD) is a prevalent, severe, and intricate mental condition that arises after exposure to traumatic situations. It is marked by the intrusion and re-experiencing of trauma via flashback-like dissociative responses, attempts to evade trauma-related ideas, emotions, locations, or others, enduring negative cognition and mood, and hyperarousal, including anxiety, sleep disturbances, and irritability. Inadequate recovery from PTSD may result in enduring detrimental impacts on an individual's social functioning, familial relationships, and overall health [15,16].

A multitude of research has examined the frequency of PTSD after pandemics. Nonetheless, there is a dispute over the frequency and patterns of PTSD (e.g., abrupt onset versus delayed start) after infectious illness epidemics. The reported frequency of PTSD in epidemiological research has varied significantly based on the specific epidemic, target group, and assessment procedures used. Prevalence estimates vary from 2.3% to 55.1% [17,18]. 2006 research assessed post-SARS PTSD in SARS survivors, revealing PTSD rates of 46.2% and 38.8% at 3- and 12-months post-discharge, respectively [19]. Jalloh et al. [20] evaluated the psychological effects of the 2014–2016 Ebola epidemics on the general populace in affected nations, revealing that 76.4% exhibited symptoms of PTSD, 27% reached a clinically concerning threshold for PTSD, and 16% qualified for a probable PTSD diagnosis. A recent study conducted in the most severely affected regions of China during the COVID-19 epidemic revealed a prevalence of 7% for posttraumatic stress symptoms [21]. Despite the increasing availability of epidemiological data on PTSD, the worldwide incidence of this condition and its determinants in people after pandemics remain largely uncharted.

The worldwide estimation of PTSD prevalence after the COVID-19 pandemic is essential for the formulation of intervention and treatment strategies. To our knowledge, no systematic study or meta-analysis has documented the aggregated prevalence of PTSD after infectious disease pandemics and associated risk variables. This information would assist in directing public health responses, allocating medical resources, and formulating health policy in preparation for and during global public health crises. This systematic study aimed to provide an accurate assessment of the global incidence of PTSD due to infectious disease pandemics and to examine the influence of demographic features, clinical stage, and other factors on this prevalence.

2. Methods

We conducted a comprehensive search of the MedLine, Embase, PsycINFO, Web of Science, CNKI, WanFang, medRxiv, and bioRxiv databases to identify published studies that reported the prevalence of PTSD following infectious disease pandemics, including SARS, H1N1, poliomyelitis, Ebola, Zika, Nipah, MERS-CoV, H5N1, and COVID-19, along with associated risk factors for PTSD. We further examined reference lists and review articles for supplementary research that may satisfy the inclusion criteria.

3. The Incidence of PTSD After Infectious Disease Outbreaks

Numerous meta-analyses and systematic reviews of PTSD have been performed after natural disasters, including floods and earthquakes, as well as other major traumatic events, such as the World Trade Center tragedy in 2001. The prevalence of PTSD after infectious disease pandemics identified in this research (23%) surpassed the predicted pooled prevalence seen after previous catastrophes, including severe traumatic events (~20%) [22] and floods (~16%) [23]. Our findings suggest that PTSD is prevalent among persons who undergo infectious illness epidemics, perhaps lasting for an extended duration. Confirmed infection cases, frontline healthcare personnel, and confined persons represent susceptible demographics with an elevated risk of developing post-pandemic PTSD. We analyzed and classified various potential risk factors for post-pandemic PTSD, and our findings suggest that early screening, prompt evidence-based interventions, and social support should be implemented to potentially alleviate post-pandemic PTSD and associated psychological issues during COVID-19 and future pandemics.

The Diagnostic and Statistical Manual of Mental Disorders indicates that PTSD has a diverse trajectory. Acute stress disorder may manifest during the first month after a stressful incident, after which only a subset of individuals will go on to develop PTSD [24]. A minority of individuals may acquire delayed PTSD, with the disease manifesting at least six months post-trauma [25]. Recent research indicates that many instances of delayed-onset PTSD are, in fact, manifestations of symptom exacerbation over time due to stressors occurring after the traumatic incident [26]. We conducted a subgroup analysis using 6 months as the delineating time point. The pooled prevalence of PTSD remained consistently high at around 20% both within and beyond 6 months; however, there was an upward trend in post-pandemic PTSD prevalence among patients (≤6 months: 19%; >6 months: 29%). One research used in our meta-analysis indicated that the prevalence of PTSD among SARS survivors over 46 months was around 40% [27]. The factors contributing to this elevated and relatively consistent incidence over four years may include: (1) PTSD is a chronic and widespread mental condition for many people, and (2) the median recovery duration may span several years, particularly for those who have directly encountered trauma [28]. Chronic and persistent PTSD underscores the need for focused attention and ongoing research into appropriate therapies and the underlying processes involved. The subgroup analysis could not be conducted for a duration beyond one year due to the insufficient number of research with adequately extended evaluation durations. Additional longitudinal studies with extended follow-up durations are required.

Prior research indicated that the female sex might be a considerable risk factor for the onset of PTSD [29-31]. Furthermore, PTSD endures for a more extended duration in females compared to men [27]. In this meta-analysis, the post-pandemic prevalence of PTSD was not significantly different between females (27%) and men (26%). This may be partly attributed to a greater familial load on males and their heightened worry for family members, potentially compromising their mental health state [32]. Moreover, an increase in hazardous behaviors during epidemics (e.g., attending crowded venues or reduced mask use) and the consequent elevated infection rates may potentially account for the comparable frequency of PTSD across females and men. These results have significant implications for clinical practice and policymakers, indicating that both genders are equally vulnerable to PTSD in the setting of infectious disorders.

Healthcare workers typically endure significant physical and psychological stress due to an increased risk of burnout from excessive workloads and exposure to infections, as well as the anxiety and distress

linked to isolation, inherent fear and frustration during their duties, and feelings of stigma and rejection within their communities due to their hospital employment. This investigation indicates that healthcare personnel had a greater overall prevalence of PTSD and PTSD prevalence within six months post-pandemic (27% and 29%, respectively) compared to the general population (both 19%). The aggregated prevalence of post-pandemic PTSD was 31% in frontline healthcare professionals and 8% in non-frontline healthcare workers. It indicated a significantly heightened stress faced by frontline healthcare personnel, necessitating enhanced preventative care and treatments for their mental health. Frontline nurses need specific consideration. Among 28 research examining post-pandemic PTSD prevalence in healthcare workers, 6 studies specifically targeted frontline nurses and identified a significant prevalence of PTSD, highlighting the higher susceptibility of this cohort to post-pandemic PTSD [33-38]. Unpleasant working conditions, such as prolonged use of personal protective equipment, excessive work intensity over extended periods due to severe pandemic circumstances, insufficient knowledge and specific medications to combat the disease, and the unavoidable psychological trauma resulting from the deaths of infected patients, all contribute to the elevated incidence of PTSD among frontline healthcare workers and nurses.

A notable subset of healthcare personnel deserving emphasis include individuals who operated on the frontline, contracted the virus, and subsequently became patients. Frontline healthcare professionals have a significantly elevated risk of infection exposure and possess a substantial potential for contracting infections. Once they become vectors of the virus without awareness, they will then transfer it to their patients and coworkers via proximate contact. Consequently, frontline healthcare professionals who become patients may experience anxiety, worry, and loneliness akin to other patients, but they may additionally grapple with guilt due to uncertainty over their potential role in exacerbating the situation for further victims [8, 19, 28].

Quarantine is a principal public health strategy used to inhibit the spread of an infectious illness, shown to successfully limit a pandemic epidemic. The psychological effects of quarantine, including emotions of uneasiness, fatigue, sleeplessness, and social estrangement, are extensive, enduring, and significant. Furthermore, data indicates that the length of quarantine is substantially correlated with increased PTSD symptoms [39]. This meta-analysis reveals that the pooled prevalence of post-pandemic PTSD among those who experienced quarantine during the epidemic (15%) was greater than that of those without quarantine experience (5%), but the difference was not statistically significant. Moreover, quarantine was linked to other adverse mental health effects, including anxiety, sadness, and sleeplessness [40,41]. To optimize the advantages of quarantine while mitigating its adverse effects, policymakers should minimize the duration of quarantine, furnish quarantined individuals with essential information, supply adequate resources, alleviate boredom, enhance communication, and ensure that those in quarantine comprehend the rationale and consequences of the measures implemented [42]. Furthermore, digital assistance, including online health monitoring tools and social media platforms, is especially essential at this time [43].

Prior research indicates that yearly income is a significant component associated with mental illnesses, with those possessing lower income levels exhibiting a higher propensity for depression, anxiety, sleeplessness, suicidal thoughts, and suicide attempts [41,44]. Our research revealed no substantial disparity in post-pandemic PTSD prevalence across high-income areas (24.6%) and low- to middle-income regions (21.2%). This may be partly attributed to a deficiency of research in low- to middle-income regions (e.g., Ebola). Furthermore, most research from high-income regions was based on SARS experiences in Taiwan and Hong Kong, which undermines the representativeness and generalizability of these findings. These data underscore that post-pandemic PTSD is a significant issue across all geographies and demographics. Therefore, more research in various global regions using official clinical diagnoses instead of self-report questionnaires is advocated to provide more precise data on the prevalence and risk factors of post-pandemic PTSD.

Numerous research indicates that age is a significant demographic element associated with an increased risk of post-pandemic PTSD; nevertheless, our study revealed conflicting findings across various studies about which age group is more susceptible to PTSD. Our analysis indicates that individuals with

children, those who are married, widowed, or divorced, employees in business units, and those experiencing economic hardships owing to infections are at elevated risk for developing PTSD [45-50]. It posits that the living circumstances, responsibilities, or sources of stress at a certain age are the primary factors contributing to people's PTSD during the epidemic. A notable risk factor is the perceived stigmatization or prejudice resulting from the epidemic [45]. Infected individuals serve as both vectors of infection and victims of social stigma associated with the condition. Healthcare professionals may potentially face societal stigmatization because of their direct engagement with infected patients. Numerous studies have established a strong correlation between stigmatization and psychiatric morbidities [41,51,52], highlighting the urgent necessity to improve awareness and education regarding the detrimental effects of stigmatization to mitigate social stigmatization and its consequences, as well as to implement psychological interventions for individuals experiencing stigmatization.

This work is significant due to its use of a contemporary meta-analytic approach, the incorporation of key large-scale pandemics from the twenty-first century, and the utilization of a rather substantial sample to assess the aggregated post-pandemic prevalence of PTSD. The subgroup analyses effectively revealed many risk variables for post-pandemic PTSD, including infection survivors, females, frontline medical and nursing personnel, and those with quarantine experience during pandemic outbreaks. We also discovered that PTSD symptoms persisted for an extended duration. The data indicate that the prevalence of PTSD among infected survivors, frontline medical personnel, and confined patients is significant and widespread. Moreover, 61% of the eligible papers in our meta-analysis focused on COVID-19, indicating the significant global interest directed towards this severe pandemic. This research aimed to elucidate the prevalence and risk variables pertinent to the knowledge of post-pandemic PTSD development. Effective monitoring, prompt therapies, social support, and sustained follow-up are essential to alleviate post-pandemic PTSD and associated psychiatric issues, especially in high-risk groups. A substantial population investigation from the USA highlighted that possessing a mental disease during the prior 12 months constituted a risk factor for getting COVID-19 [53]. Our research suggests that while COVID-19 persists, prioritizing mental health might serve as a crucial public health approach for mitigating viral transmission and fostering social and economic advancement [54].

This research has many possible drawbacks. The quantity of research doing longitudinal evaluations was limited, and the duration of these investigations was brief. Secondly, despite our comprehensive search for all significant large-scale pandemics since 2000, we discovered and evaluated only 6 out of 77 eligible papers that examined the prevalence of PTSD in pandemics (Ebola, MERS, and H1N1) excluding SARS and COVID-19. Third, we noted significant variability in the estimations of PTSD prevalence across the studies. The reasons for this heterogeneity may be partially attributed to geographical dispersion, variability across populations, measurement discrepancies, and inter-study variances in demographic characteristics; nonetheless, the residual unexplained heterogeneity remained considerable ($I2 > 50\%$). Nonetheless, considering the many circumstances and public reactions to trauma during each pandemic, clinical variability may be expected, since the frequency of PTSD after a pandemic may not represent a distinct clinically significant phenomenon. Ultimately, there was an inadequacy of data to enable subgroup comparisons stratified by other characteristics presumably correlated with PTSD, including age and comorbidities.

4. Conclusions

In summary, the overall incidence of PTSD among persons after infectious disease pandemics surpassed twenty percent, with the greatest rates seen among healthcare personnel, followed by infected patients and the general populace. Our research demonstrates that post-pandemic PTSD is a substantial public health issue after infectious disease pandemics, such as COVID-19. Policymakers worldwide must prioritize PTSD because of its significant impact on the population, irrespective of sex, gender, geographic location, or financial level. A public health plan that incorporates a mental health response is essential, particularly in the context of post-pandemic and long-term recovery phases. Comprehensive and extensive early detection and interventions must be executed, particularly for vulnerable populations such as infected

survivors, frontline medical and nursing personnel, and individuals with quarantine experiences, to enhance long-term post-pandemic mental health and recovery. Additional longitudinal studies with extended follow-up periods post-COVID-19 are required.

References

1. Bedford J, Farrar J, Ihekweazu C, Kang G, Koopmans M, Nkengasong J. A new twenty-first-century science for effective epidemic response. Nature. 2019;575:130–6.
2. Giesecke J. The truth about PHEICs. Lancet. 2019. https://doi.org/10.1016/s0140-6736(19)31566-1.
3. Lupia T, Scabini S, Mornese Pinna S, Di Perri G, De Rosa FG, Corcione S. 2019 novel coronavirus (2019-nCoV) outbreak: a new challenge. J Glob Antimicrob Resist. 2020;21:22–7.
4. Madhav N, Oppenheim B, Gallivan M, Mulembakani P, Rubin E, Wolfe N. Pandemics: risks, impacts, and mitigation. Washington, DC: The International Bank for Reconstruction and Development/The World Bank; 2017. https://doi.org/10.1596/978-1-4648-0527-1/pt5.ch17.
5. Terhakopian A, Benedek DM. Hospital disaster preparedness: mental and behavioral health interventions for infectious disease outbreaks and bioterrorism incidents. Am J Disaster Med. 2007;2:43–50.
6. Fasina OF, Jonah GE, Pam V, Milaneschi Y, Gostoli S, Rafanelli C. Psychosocial effects associated with highly pathogenic avian influenza (H5N1) in Nigeria. Vet Ital. 2010;46:459–65.
7. Bonanno GA, Ho SAY, Chan JCK, Kwong RSY, Cheung CKY, Wong CPY, et al. Psychological resilience and dysfunction among hospitalized survivors of the SARS epidemic in Hong Kong: a latent class approach. Health Psychol. 2008;27:659–67.
8. Chong MY, Wang WC, Hsieh WC, Lee CY, Chiu NM, Yeh WC, et al. Psychological impact of severe acute respiratory syndrome on health workers in a tertiary hospital. Br J Psychiatry. 2004;185:127–33.
9. Sim M. Psychological trauma of Middle East Respiratory Syndrome victims and bereaved families. Epidemiol Health. 2016;38:e2016054.
10. Elizarrarás-Rivas J, Vargas-Mendoza JE, Mayoral-García M, Matadamas-Zarate C, Elizarrarás-Cruz A, Taylor M, et al. Psychological response of family members of patients hospitalized for influenza A/H1N1 in Oaxaca, Mexico. BMC Psychiatry. 2010;10:104.
11. Keita MM, Taverne B, Sy Savane S, March L, Doukoure M, Sow MS, et al. Depressive symptoms among survivors of Ebola virus disease in Conakry (Guinea): preliminary results of the PostEboGui cohort. BMC Psychiatry. 2017;17:127.
12. Wilson DJ. Psychological trauma and its treatment in the polio epidemics. Bull Hist Med. 2008;82:848–77.
13. Rabelo I, Lee V, Fallah MP, Massaquoi M, Evlampidou I, Crestani R, et al. Psychological distress among Ebola survivors discharged from an Ebola treatment unit in Monrovia, Liberia—a qualitative study. Front Public Health. 2016;4:142.
14. Jakovljevic M, Bjedov S, Jaksic N, Jakovljevic I. COVID-19 pandemia and public and global mental health from the perspective of global health security. Psychiatr Danub. 2020;32:6–14.
15. Shalev A, Liberzon I, Marmar C. Post-traumatic stress disorder. N Engl J Med. 2017;376:2459–69.
16. Kirkpatrick HA, Heller GM. Post-traumatic stress disorder: theory and treatment update. Int J Psychiatry Med. 2014;47:337–46.
17. Zhang KR, Xu Y, Yang H, Liu Z, Wang Y, Li S, et al. Investigation by comparison on the posttraumatic stress response among SARS patients, hospital staff, and the public exposed to SARS. Chin J Behav Med Sci. 2006;15:358–60.
18. Tian YJ, Zhang YL, Qian ZL. Investigation on the emotional status of villagers in a rural area of Hangzhou after the implementation of closure measures during the prevention and control of 2019-nCoV infection. Health Res. 2020;40:16–8+21.
19. Gao H, Hui W, Lan X. A follow-up study of post-traumatic stress disorder of SARS patients after discharge. Chinese J Rehabilitation Med. 2006;21:1003–4+1026.
20. Jalloh MF, Li W, Bunnell RE, Ethier KA, O'Leary A, Hageman KM, et al. Impact of Ebola experiences and risk perceptions on mental health in Sierra Leone, July 2015. BMJ Glob Health. 2018;3:e000471.

21. Liu N, Zhang F, Wei C, Jia Y, Shang Z, Sun L, et al. Prevalence and predictors of PTSS during COVID-19 outbreak in China hardest-hit areas: gender differences matter. Psychiatry Res. 2020;287:112921.
22. Utzon-Frank N, Breinegaard N, Bertelsen M, Borritz M, Eller NH, Nordentoft M, et al. Occurrence of delayed-onset post-traumatic stress disorder: a systematic review and meta-analysis of prospective studies. Scand J Work Environ Health. 2014;40:215–29.
23. Chen L, Liu A. The incidence of posttraumatic stress disorder after floods: a meta-analysis. Disaster Med Public Health Prep. 2015;9:329–33.
24. Bryant RA, Friedman MJ, Spiegel D, Ursano R, Strain J. A review of acute stress disorder in DSM-5. Depress Anxiety. 2011;28:802–17.
25. Santiago PN, Ursano RJ, Gray CL, Pynoos RS, Spiegel D, Lewis-Fernandez R, et al. A systematic review of PTSD prevalence and trajectories in DSM-5 defined trauma exposed populations: intentional and non-intentional traumatic events. PLoS ONE. 2013;8:e59236.
26. Galatzer-Levy IR, Huang SH, Bonanno GA. Trajectories of resilience and dysfunction following potential trauma: a review and statistical evaluation. Clin Psychol Rev. 2018;63:41–55.
27. Hong X, Currier GW, Zhao X, Jiang Y, Zhou W, Wei J. Posttraumatic stress disorder in convalescent severe acute respiratory syndrome patients: a 4-year follow-up study. Gen Hosp Psychiatry. 2009;31:546–54.
28. Bisson JI, Cosgrove S, Lewis C, Robert NP. Post-traumatic stress disorder. BMJ. 2015;351:h6161.
29. Mak IW, Chu CM, Pan PC, Yiu MG, Ho SC, Chan VL. Risk factors for chronic post-traumatic stress disorder (PTSD) in SARS survivors. Gen Hosp Psychiatry. 2010;32:590–8.
30. Xu J, Zheng Y, Wang M, Zhao J, Zhan Q, Fu M, et al. Predictors of symptoms of posttraumatic stress in Chinese university students during the 2009 H1N1 influenza pandemic. Med Sci Monit. 2011;17:Ph60–4.
31. Lee YK, Lee HS, Cho A, Yoon JW, Jeon HJ, Noh JW, et al. Posttraumatic stress disorder of hemodialysis patients with MERS-CoV exposure. Nephrol Dial Transplant. 2017;32:iii699–700.
32. Song X, Fu W, Liu X, Luo Z, Wang R, Zhou N, et al. Mental health status of medical staff in emergency departments during the coronavirus disease 2019 epidemic in China. Brain Behav Immun. 2020;88:60–5.
33. Leng M, Wei L, Shi X, Cao G, Wei Y, Xu H, et al. Mental distress and influencing factors in nurses caring for patients with COVID-19. Nurs Crit Care. 2020.
34. Chen CS, Wu HY, Yang PC, Yen CF. Psychological distress of nurses in Taiwan who worked during the outbreak of SARS. Psychiatr Serv. 2005;56:76–9.
35. Nie A, Su X, Zhang S, Guan W, Li J. Psychological impact of COVID-19 outbreak on frontline nurses: a cross-sectional survey study. J Clin Nurs. 2020.
36. Shahrour G, Dardas LA. Acute stress disorder, coping self-efficacy, and subsequent psychological distress among nurses amid COVID-19. J Nurs Manag. 2020.
37. Su T, Yin J, Su Y, Tsai S, Lien T, Yang C, et al. Prevalence of psychiatric morbidity and psychological adaptation of the nurses in a structured SARS caring unit during outbreak: a prospective and periodic assessment study in Taiwan. J Psychiatr Res. 2007;41:119–30.
38. Wang YX, Guo HT, Du XW, Song W, Lu C, Hao WN. Factors associated with post-traumatic stress disorder of nurses exposed to corona virus disease 2019 in China. Medicine. 2020;99:e20965.
39. Styra R, Hawryluck L, Mc Geer A, Dimas M, Sheen J, Giacobbe P, Dattani N, Lorello G, Rac VE, Francis T, Wu PE. Surviving SARS and living through COVID-19: Healthcare worker mental health outcomes and insights for coping. PLoS One. 2021 Nov 10;16(11):e0258893.
40. Rossi R, Socci V, Talevi D, Mensi S, Niolu C, Pacitti F, et al. COVID-19 pandemic and lockdown measures impact on mental health among the general population in Italy. An N=18147 web-based survey. medRxiv. 2020.
41. Shi L, Lu Z-A, Que J-Y, Huang X-L, Liu L, Ran M-S, et al. Prevalence of and risk factors associated with mental health symptoms among the general population in china during the coronavirus disease 2019 pandemic. JAMA Netw Open. 2020;3:e2014053.
42. Brooks SK, Webster RK, Smith LE, Woodland L, Wessely S, Greenberg N, et al. The psychological impact of quarantine and how to reduce it: rapid review of the evidence. Lancet. 2020;395:912–20.

43. Caetano R, Silva AB, Guedes A, Paiva CCN, Ribeiro GDR, Santos DL, et al. Challenges and opportunities for telehealth during the COVID-19 pandemic: ideas on spaces and initiatives in the Brazilian context. Cad Saude Publica. 2020;36:e00088920.
44. Rajkumar RP. The association between nation-level social and economic indices and suicide rates: A pilot study. Frontiers in Sociology. 2023 Mar 31;8:1123284.
45. Feng Z, Liu X, Chen Z. Characteristics of mental health problems among general public during the COVID-19 epidemic. J Southwest Univ Social Sci Ed. 2020;46:109–15.
46. Wei Y, Meng XD, Ni YX. The investigation of anxiety and PTSD of populations in community and factors analysis during the pandemic of COVID-19. Pract J Clin Med. 2020;17:267–70.
47. Xu CY, Huang DM, Wang WJ, Wu P, Guo M, Qiu HL. Investigation and analysis of psychological state with in the ordinary people, the medical staff with different medical positions and different regions in Hainan Province under the novel corona-virus pneumonia epidemic. Chin J Health Psychol. 2020;28:1356–61.
48. Jiang H-J, Nan J, Lv Z-Y, Yang J. Psychological impacts of the COVID-19 epidemic on Chinese people: exposure, post-traumatic stress symptom, and emotion regulation. Asian Pac J Trop Med. 2020;13:252–9.
49. García-Fernández L, Romero-Ferreiro V, López-Roldán PD, Padilla S, Rodriguez-Jimenez R. Mental health in elderly spanish people in times of COVID-19 outbreak. Am J Geriatr Psychiatry. 2020.
50. Zhang Y, Zhuang LY, Yang W. Investigating PTSD symptoms among secondary school students during the new canopy epidemic-A case study of Shude Middle School in Chengdu, China. Educ Sci Forum. 2020;17:45–8.
51. Ames-Guerrero R. Knowledge, attitudes, and perception susceptibility towards the COVID-19 pandemic in Latin American region. Medical Research Archives. 2022 Apr 29;10(4).
52. Park HY, Park WB, Lee SH, Kim JL, Lee JJ, Lee H, et al. Posttraumatic stress disorder and depression of survivors 12 months after the outbreak of Middle East respiratory syndrome in South Korea. BMC Public Health. 2020;20:605.
53. Taquet M, Luciano S, Geddes JR, Harrison PJ. Bidirectional associations between COVID-19 and psychiatric disorder: retrospective cohort studies of 62 354 COVID-19 cases in the USA. Lancet Psychiatry. 2020.
54. Sun YK, Bao YP, Ravindran A, Sun Y, Shi J, Lu L. Mental health challenges raised by rapid socioeconomic transformations in China: lessons learned and prevention strategies. Heart Mind. 2020;4:59–66.

الصحة النفسية والاتجاهات الوبائية في السكان بعد الجائحة: مراجعة

الملخص

الخلفية :أدت جائحة كوفيد-19 إلى زيادة الوعي العام بقضايا الصحة النفسية، وخاصة اضطراب ما بعد الصدمة .(PTSD) وقد أظهرت الأوبئة السابقة تأثيرات نفسية كبيرة على السكان، مما أدى إلى زيادة انتشار اضطراب ما بعد الصدمة. تهدف هذه الدراسة إلى مراجعة منهجية لانتشار اضطراب ما بعد الصدمة بعد الأوبئة المعدية وتحديد عوامل الخطر المرتبطة به.

الطرق :تم إجراء بحث شامل عبر قواعد بيانات متعددة، بما في ذلك MedLine و EmbaseوPsycINFO، لتحديد الدراسات التي أبلغت عن انتشار اضطراب ما بعد الصدمة بعد أوبئة مثل السارس، وإنفلونزاH1N1 ، وإيبولا، وزيكا، وكوفيد-19. ركزت معايير الاشتمال على الدراسات التي قيّمت اضطراب ما بعد الصدمة وعوامل الخطر المرتبطة به بين السكان المتأثرين. تم استخدام تقنيات التحليل التلوي لتجميع البيانات وتقييم معدلات الانتشار.

النتائج :أظهر التحليل التلوي انتشارًا مجمعًا لاضطراب ما بعد الصدمة بنسبة 23% بين الأفراد المتأثرين بالأوبئة المعدية، متجاوزًا المعدلات الملاحظة بعد أحداث صادمة أخرى. لوحظ انتشار أعلى بشكل ملحوظ بين العاملين في مجال الرعاية الصحية في الخطوط الأمامية (31%) مقارنة بالسكان العامين (19%). أثرت عوامل مثل الإصابة المؤكدة، وخبرات الحجر الصحي، والخصائص الديموغرافية بشكل كبير على معدلات اضطراب ما بعد الصدمة. لم تجد الدراسة اختلافات كبيرة في انتشار اضطراب ما بعد الصدمة بين الجنسين، مما يشير إلى وجود نفس مستوى القابلية للإصابة بين الجميع.

الاستنتاج :تؤكد هذه الدراسة على أن اضطراب ما بعد الصدمة يمثل مشكلة كبيرة للصحة العامة بعد الجائحة، خاصة بين الفئات الضعيفة مثل العاملين في الرعاية الصحية والموجودين في الحجر الصحي. تعد التدخلات الفعّالة للصحة النفسية والفحوصات المبكرة ضرورية للتخفيف من التأثير النفسي للأوبئة. يجب على صانعي السياسات إعطاء الأولوية لاستجابات الصحة النفسية كجزء من استراتيجيات الصحة العامة في الأوبئة المستقبلية لضمان تعافي ودعم شامل للسكان المتأثرين.

الكلمات المفتاحية :اضطراب ما بعد الصدمة، الأوبئة، الصحة النفسية، كوفيد-19، علم الأوبئة.