


Music as a Non-Pharmacological Therapy used in Disaster Mental Health and Psychosocial Support: An Idea for Disaster Medicine in Indonesia

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Abbreviation:

PTSD: posttraumatic syndrome disorder

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Dear Editor,

Indonesia is the largest archipelagic country in the world, located on the equator.^{1,2} As one of the countries in this range, Indonesia is very vulnerable to natural disasters,^{3,4} one of which is an earthquake.^{5–8} In the last few months, Indonesia has experienced earthquakes in several locations, which resulted in severe enough damage that many people needed help.^{9,10} In addition to food assistance, medical medicines, and emergency shelter required by disaster victims, psychological assistance through mental health and psychosocial maintenance activities from volunteers is also urgently needed. Many of the victims of natural disasters experience posttraumatic syndrome disorder (PTSD),^{11,12} especially in children.¹³ So, in this case, it is necessary to be careful in choosing a concrete intervention to help them.

Based on existing research results, music is proven to have a reasonably positive effect on disaster victims.^{14,15} Music can increase happiness, maintain mental health, and improve psychological well-being in disaster situations.¹⁶ Furthermore, it is said that music is a medium that is free from cultural bias, ethnicity, religion, age, gender, race, and any political interests.¹⁷ So, this is applied in the context of disaster in Indonesia. In that case, this is very appropriate because, in this country, diversity in many ways can trigger sensitivity within the community itself.

Furthermore, a theory explains that music can produce the dopamine hormone, which can make you feel happier and improve your psychological well-being,¹⁸ where these positive feelings can indirectly increase good immunity.¹⁹ Apart from that, music has been widely applied to people who experience PTSD,²⁰ especially to victims of natural disasters.²¹

The explanation above proves that music can be a non-pharmacological therapy used in disaster mental health and psychosocial support. So, it is hoped that volunteers and mental health professionals can consider using this music to maintain mental health and improve the welfare of victims of natural disasters. Furthermore, through this article, future researchers can be interested in implementing this type of intervention to investigate its effectiveness and efficacy in the cultural context of Indonesia. In addition, it is also hoped that future researchers can try one of the new theories that have been combined with music, namely “rapid psychotherapy” with single-session music therapy.²² They can follow simple guidelines that already exist to prove that in the context of disaster, this treatment can be used as an alternative disaster medicine idea that is very suitable for the culture in Indonesia.

Implications

The findings in this article have significant consequences for volunteers and mental health professionals to consistently apply them in disaster emergency response situations. By leveraging this idea, policymakers can include it in disaster emergency response guidelines, making it easier to implement.

Future Research Directions

This idea can serve as a guide for more sophisticated future research. Therefore, it is essential to carry out further research to determine the most effective procedure for solving this problem.

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References

- Syafei AD, Irawandani TD, Boedisantoso R, Assomadi AF, Slamet A, Hermana J. The influence of environmental conditions (vegetation, temperature, equator, and elevation) on tropospheric nitrogen dioxide in urban areas in Indonesia. *IOP Conference Series: Earth and Environmental Science*. 2019;303(1):012034.
- Situmorang DDB. Indonesia finally returns to 'Bhinneka Tunggal Ika': no more hate but solidarity in COVID-19 crisis. *J Public Health*. 2022;44(4):e610–e611.
- Kusumastuti RD, Husodo ZA, Suardi L, Danarsari DN. Developing a resilience index towards natural disasters in Indonesia. *Int J Disaster Risk Red*. 2014;10:327–340.
- Silbert M, Useche M. *Repeated Natural Disasters and Poverty in Island Nations: A Decade of Evidence from Indonesia*. Florida, USA: University of Florida Department of Economics; 2012. https://bear.warrington.ufl.edu/centers/purc/docs/papers/1202_Silbert_Repeated_Natural_Disasters.pdf. Accessed December 21, 2022.
- Satake K, Nishimura Y, Putra PS, et al. Tsunami source of the 2010 Mentawai, Indonesia earthquake inferred from tsunami field survey and waveform modeling. *Pure and Applied Geophysics*. 2013;170(9):1567–1582.
- Kerle N. Satellite-based damage mapping following the 2006 Indonesia earthquake—how accurate was it? *Int J Applied Earth Observ Geoinfo*. 2010;12(6):466–476.
- Jena R, Pradhan B, Beydoun G, Alamri AM, Sofyan H. Earthquake hazard and risk assessment using machine learning approaches at Palu, Indonesia. *Science of the Total Environment*. 2020;749:141582.
- Pribadi KS, Rildova DK. Learning from recent Indonesian earthquakes: an overview to improve structural performance. Paper presented at 14th World Conference on Earthquake Engineering; 2008; Beijing, China.
- Bhwana PG. Death Toll from Cianjur Earthquake Rises to 321, Says BNPB. <https://en.tempo.co/read/1661790/death-toll-from-cianjur-earthquake-rises-to-321-says-bnpb>. Accessed December 21, 2022.
- Arkyasa M, Muthiariny DE. Earthquake Jolts Jakarta and Its Surrounding Regions. <https://en.tempo.co/read/1659274/earthquake-jolts-jakarta-and-its-surrounding-regions>. Accessed December 21, 2022.
- North CS, Kawasaki A, Spitznagel EL, Hong BA. The course of PTSD, major depression, substance abuse, and somatization after a natural disaster. *J Nervous Mental Disease*. 2004;192(12):823–829.
- McFarlane AC, Papay P. Multiple diagnoses in posttraumatic stress disorder in the victims of a natural disaster. *J Nervous Mental Disease*. 1992;180(8):498–504.
- Le Roux IH, Cobham VE. Psychological interventions for children experiencing PTSD after exposure to a natural disaster: a scoping review. *Clin Child Family Psychol Rev*. 2021;1–34.
- Vavasour K. *More than a Band Aid: How the use of Popular Music Helped a City Recover after Disaster*. Master thesis. New Zealand; University of Canterbury; 2016. <https://doi.org/10.26021/4383>.
- Ha KM. Integrating music into natural disaster recovery. *J Arts Manage Law Society*. 2022;1–14.
- Situmorang DDB. Providing comfort through music to people amidst the COVID-19 pandemic as a humanitarian disaster. *J Pastoral Care Counseling*. 2021;75(4):239–240.
- Birkenshaw-Fleming L. *Music for All*. Toronto, Canada: Gordon V. Thompson Music; 1993.
- Gebauer L, Kringelbach ML, Vuust P. Ever-changing cycles of musical pleasure: the role of dopamine and anticipation. *Psychomusical Music Mind Brain*. 2012;22(2):152–167.
- Núñez MJ, Mañá P, Liñares D, et al. Music, immunity, and cancer. *Life Sciences*. 2002;71(9):1047–1057.
- Landis-Shack N, Heinz AJ, Bonn-Miller MO. Music therapy for posttraumatic stress in adults: a theoretical review. *Psychomusical Music Mind Brain*. 2017;27(4):334.
- Hugelius K. *Disaster Response for Recovery: Survivors Experiences, and the use of Disaster Radio to Promote Health after Natural Disasters*. Doctoral dissertation. Örebro, Sweden: Örebro University; 2017. <https://www.diva-portal.org/smash/record.jsf?pid=diva2%3A974975&dsid=7783>.
- Situmorang DDB. "When the first session may be the last!": a case report of the implementation of "rapid tele-psychotherapy" with single-session music therapy in the COVID-19 outbreak. *Palliative Supportive Care*. 2022;20(2):290–295.