



JOJAPS

eISSN 2504-8457



Journal Online Jaringan Pengajian Seni Bina (JOJAPS)

Evolution Fence

Saiful Azley Bin Samsudin, Rosminey Bin Ahmad, Hasnira Binti Md Halim & Kamrul Zaman Bin Hussin

Kolej Komuniti Arau, Jalan Tengku Budriah, 02600, Arau, Perlis

Abstract

Evolution Fence is produced and designed as an alternatively high impact to solutions in facing natural disasters for certain issues and this evolution can also be a mind-breaker in the ladder of ways to save the public. Evolution Fence is a potential product to be widely used worldwide, especially in Malaysia because of its easy-to-use and environmentally friendly design by residential owners and thereby becoming initiatives that can be taken by residential owners who are at risk of flooding. Evolution Fence can act as a fan rig for life-saving and property purposes. Meanwhile, Evolution Fence Tsunami is a special product created to save the lives of victims of large wave disasters and tsunamis. The third fence is called Evo Fence Rescue Foam. The idea of this innovation broke out aimed at rescuing fire victims trapped inside the building at an altitude of a 1-3-storey house or building. With the Evo Fence Rescue Foam turned into a fence the location of the public incident can dispel quickly and easily by being placed at the victim's plunge point on the 1-3th floor of the house or building. The foam used will absorb the enthrone from the victim's plunge and thus rescue the victim from drowning of smoke and fire. These high-impact inventions have the potential to be additional initiatives to rescue teams such as fire department, JPAM, armed forces to act on the rescue. Evolution Fence is also known as Evo Fence.

© 2020 Published by JOJAPS Limited.

Key-word: - Fence, Disaster, Tsunami, Flood, Rescue

1. Introduction

Evolution Fence is designed as an alternative to problem solving involving issues especially natural disasters such as flooding, abrupt water by the waterfront of the large tide, tsunami and also as a float fence that can save lives in the event of a drift. Evolution Fence can also be converted into temporary tents for disaster shading places from hot rain victims pending help from security parties. With the current Evolution Fence we will not just view the fence as a separatist boundary but now the evolutionary fence can also be used as a breaker of mind in the laying of ways to save ourselves when the floods hit and increase the water sharply. Immediate and swift action in using an Evolution Fence can at once save the family's life from hovering due to a flood disaster (bright orange color for fan rig purpose makes it easy to see from a long distance).

Evolution Fence has been upgraded and diversified its use. This invention becomes even more special when it comes to featuring portable fence structures can also be applied by countries that often occur natural disasters such as large waves and tsunamis. This "wave-friendly" fence structure is installed on the shoreline that becomes a safety medium when a tsunami occurs. The method of installation, the Evolution Fence pillar is from a simple form viaduct when a powerful wave impact occurs and at once Evolution Fence is stripped from the pillars and drifts alongside the large waves which in turn can help the victims of the tsunami cling on Evolution Fence to save the victim from drowning. The way this Evolution Fence use is very practical is applied to every victim who drifts alongside the waves. This fence made of floating easy material is capable of saving the lives of victims where it is easily seen remotely as Evolution Fence is created with bright orange florescence.

2. Problems Statement

- i. Producing a fence design that can lead towards alternative solving problems the use of fixed fences is seen as a border separation between house lots examples of brick fences, iron concrete and so on in housing now. Where it can help in addressing house price issues, the issue of changing house fences immediately (according to the tastes of residential dwellers). The Evolution Fence can be opened and immediately for storage purposes and thus replace other Evolution Fence s of different designs, colors or patterns.
- ii. Resolving issues of life savings and property from millions of ringgit losses during monsoon seasons such as frequent floods in Malaysia where the Evolution Fence can be opened immediately (two energy people) and turned into a floating or fan rig during flooding as a way to save lives and properties (depending on the floating material used). The Evolution Fence is coloured with a bright orange florence for the purpose of making it easier for rescue personnel to detect in the event of drift.
- iii. Resolving the issue of home residents from the flood trapped where the Evolution Fence erected as a fence can be opened and turned into a floating rig immediately and quickly in saving lives and properties to a safer place before security personnel come to make rescue duties.
- iv. Resolving issues of time and obstacles during house fire, where firefighter rescue personnel are often obstructed by fixed fences in people's lifesaving operations, Evolution Fences can be opened immediately and provide comfortable space for fire rescue duties to make rescue work as well as civilians.
- v. Resolving the issue of home dwellers to escape when trapped with an upper window fire, where the Evolution Fence can be opened immediately by the public to be turned into a soft lap rig for the purpose of victims making explosions from high floors of examples of houses or 2-storey buildings. (depending on the material used).
- vi. Resolving the issue during the natural disaster of large waves and tsunamis and reducing the number of victims who lost lives due to drowning.
- vii. To equating the issue of homeless victims, where the Evolution Fence can be a temporary tent (shelter) for sheltering places pending assistance from the security forces.
- viii. Solving the problem of drowning victims and drifts carrying waves where the orange-coloured Evolution Fence drifted alongside the waves will float and the victim will cling on Evolution Fence.

3. Innovation Objectives

- i. Produces a transferable fence structure that can be used on all residential development systems around the world.
- ii. Varying the various construction structures that are used as a transfer fence, raft or floating platform and effective temporary tent.
- iii. Producing relevant fence construction structures used in technological times and user-friendly concept with low-cost levels compared to wall and iron fences.
- iv. Produce a built structure that uses efficient materials to be re-environment.
- v. Applying the concept of actual abominations in which the transferable fence can be switched when necessary and the construction is low without being protected by an iron wall fence.
- vi. Producing a fence construction structure that has safety characteristics that is the fence can be easily replaced when there are fires and floods and can be excavated easily by the fire department.
- vii. Have the basic food ingredients fittings and cooking equipment for survival before help arrives.

4. Innovation Characteristics

- i. Not flammable and hit by hot heat.
- ii. Easy to float, extreme hardy and weather.
- iii. Lightweight can be in the unsung with an energy of one or two people.
- iv. Has a special space for storage of basic food ingredients and cooking equipment.
- v. Easily installed and reopened immediately because the connectivity used is simple.
- vi. Not easy to fracture because the foam properties used are clay and have a high floating force.
- vii. Prices are not too expensive and manufacturing costs are simple, fittings are easy to find in-store.
- viii. Can be used repeatedly and inexpensive maintenance due to the equipment used is easily available.

5. Operating Method

- i. Evo Fence Portable Fence (floating rig)
 - i.i The Evo Fence can be opened immediately (2 persons) and is used as a floating or shelf rig during flooding as a pathway to save lives and properties (depending on the floating material used). The Evo Fence is coloured with a bright florence orange color for the purpose of making it easier for rescue personnel to detect in the event of a drift.

i.ii The Evo Fence can be opened immediately for storage purposes and thus replace other evolutionary fences of different designs, colors or patterns. Evo Fence has also been installed alongside the "shelter" and placed on one piece of fence that is on the edge of Evo Fence

ii. Evo Fence Tsunami

i.i The Evo Fence Tsunami is installed offshore using the same connectivity as the Evo Fence portable fence yet the Evo Fence Tsunami is installed on a pillar made of simple forms of surfing to make it easier for Evo Fence to strip when beaten waves.

iii. Evo Fence Rescue Foam

iii.i The idea of this innovation broke out aimed at rescuing fire victims trapped inside the building at an altitude of a 1-3-storey house or building. Where the victim is trapped does not know the direction that needs to be directed and takes the final road to sit by the window while waiting for help to arrive or continue to decide from the plunge of rescue from drowning smoke from a fire fire where this action can cause the victim to be seriously injured and if un fortunate can result in the victim passing away.

iii.ii With the Evo Fence Rescue Foam turned into a fence the location of the public incident can dispel quickly and easily by being placed at the victim's plunge point on the 1-3th floor of the house or building. The foam used will absorb the hentronization from the victim's plunge and thus rescue the victim from drowning of smoke and fire. Evo Fence Rescue Foam can be layered according to the desired thickness to avoid any injury.

6. Innovation Diagram

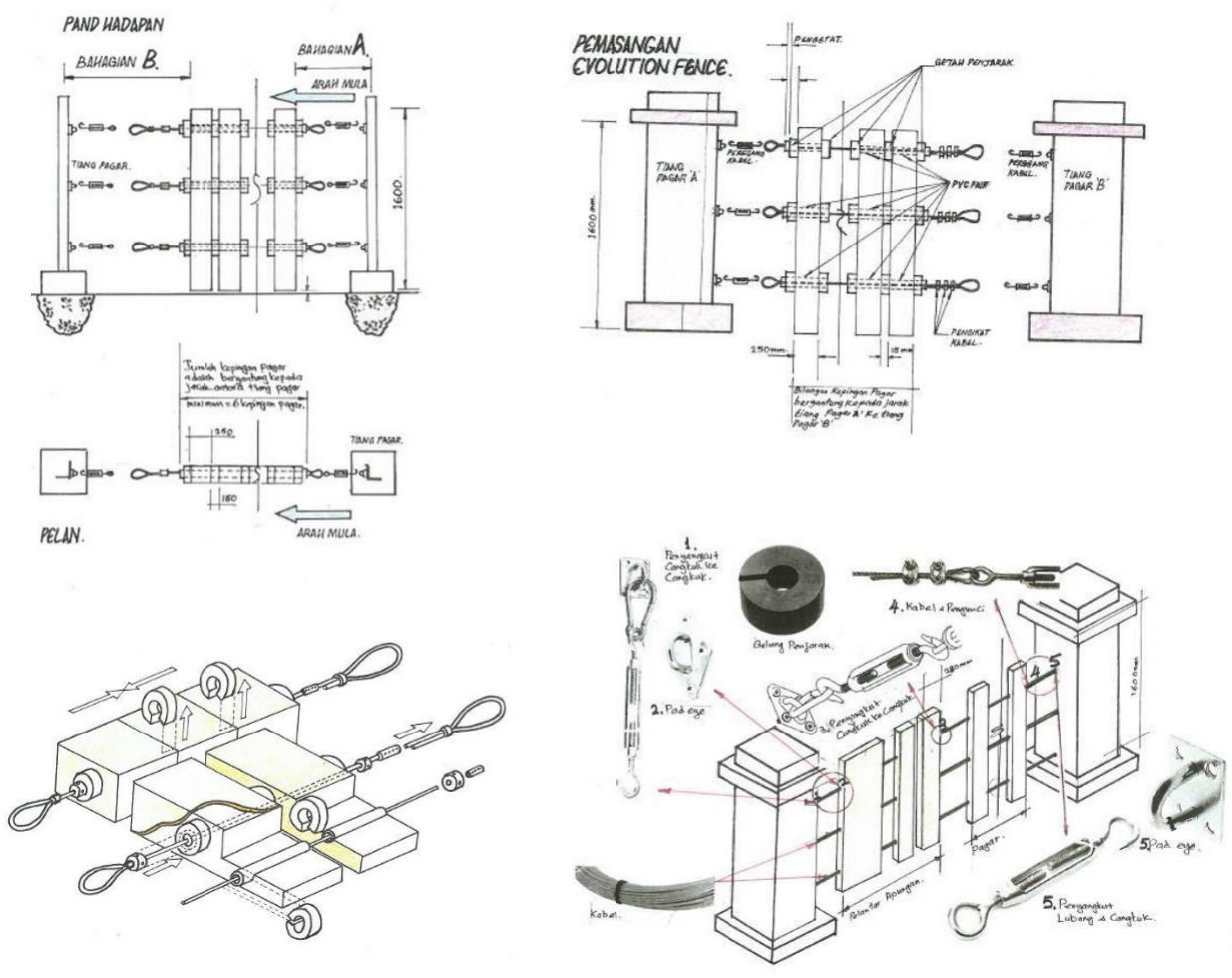


Figure 1 : Diagram Of Evo Fence

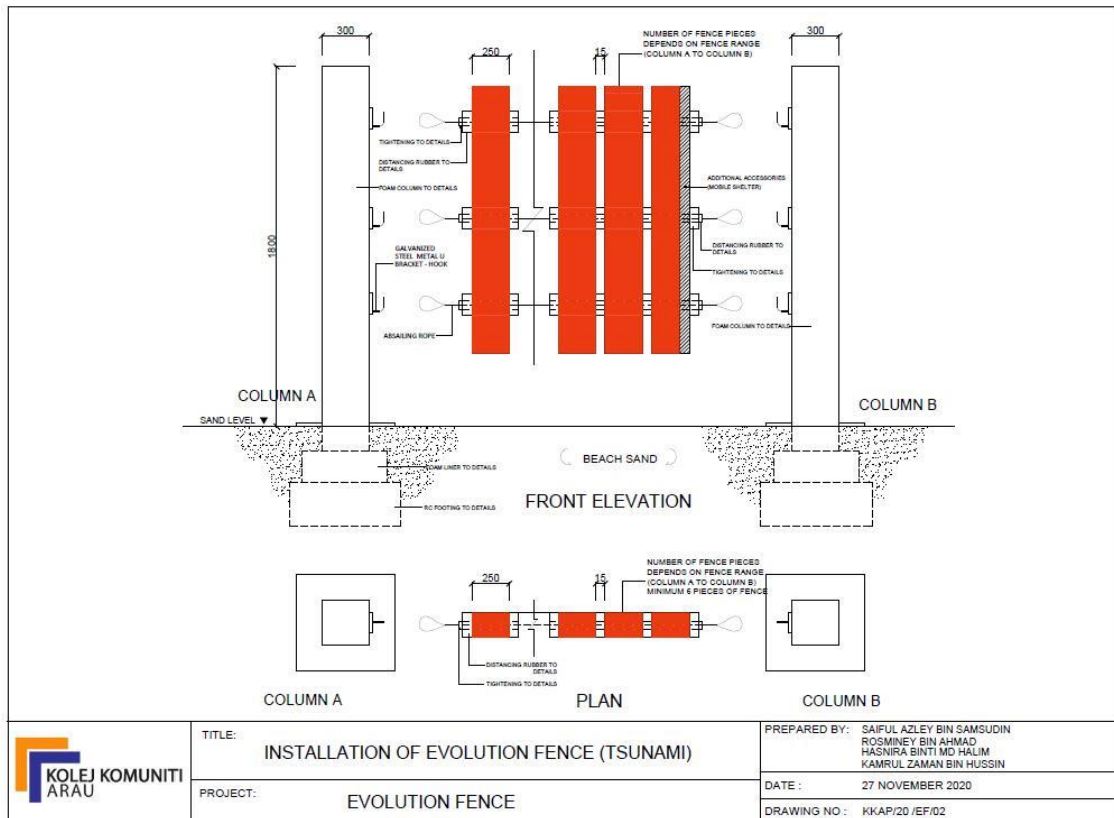


Figure 4 : Installation Of Evolution Fence (Tsunami)

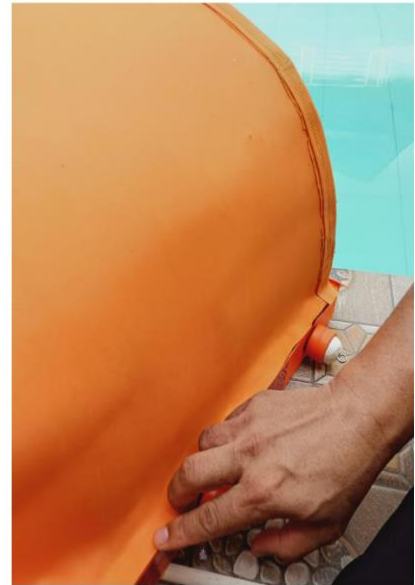
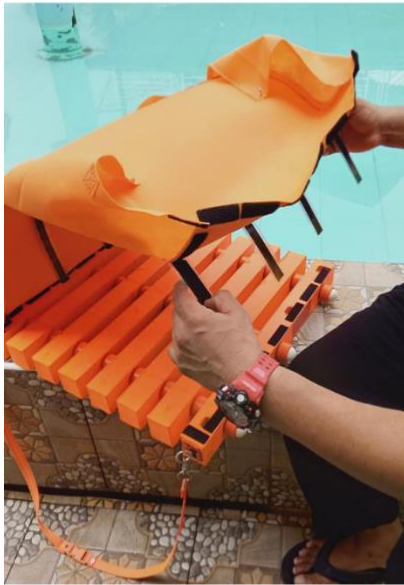
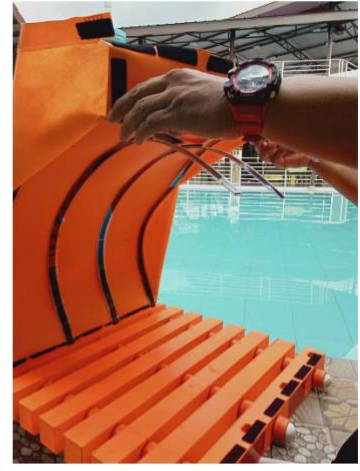
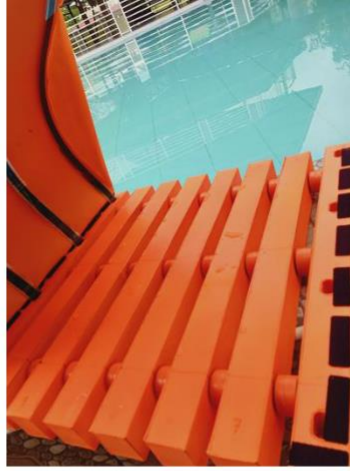


Figure 5 : Model Evo Fence Portable Fence (floating rig)



Figure 6 : Model Evo Fence Tsunami

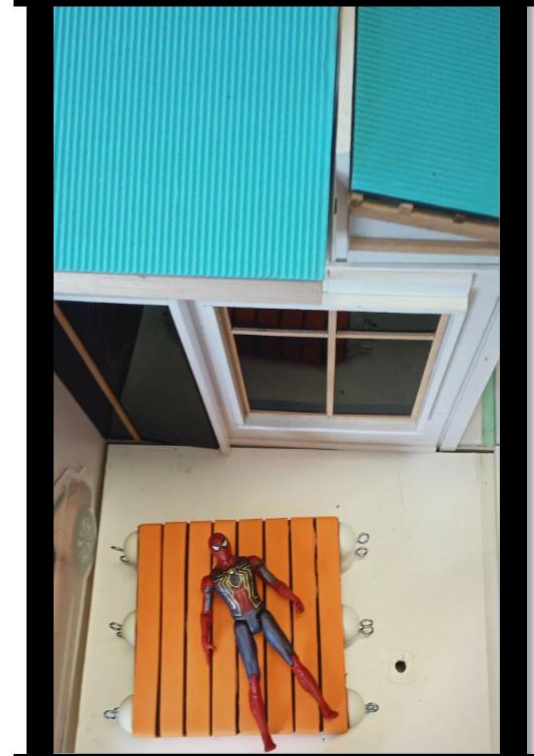
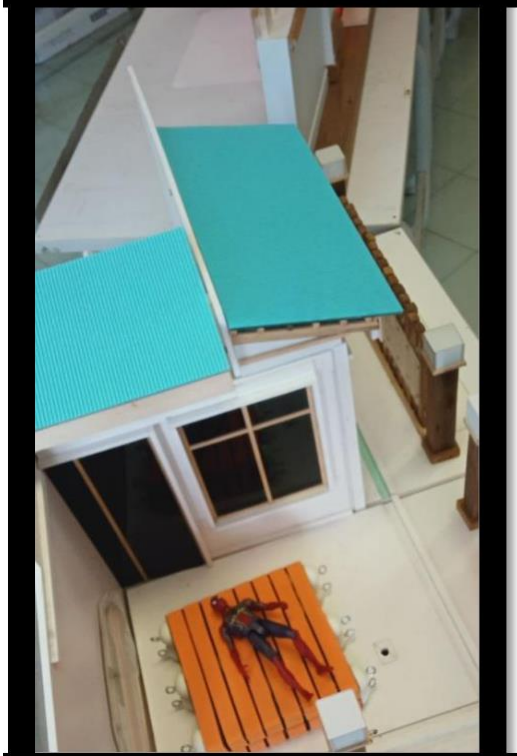
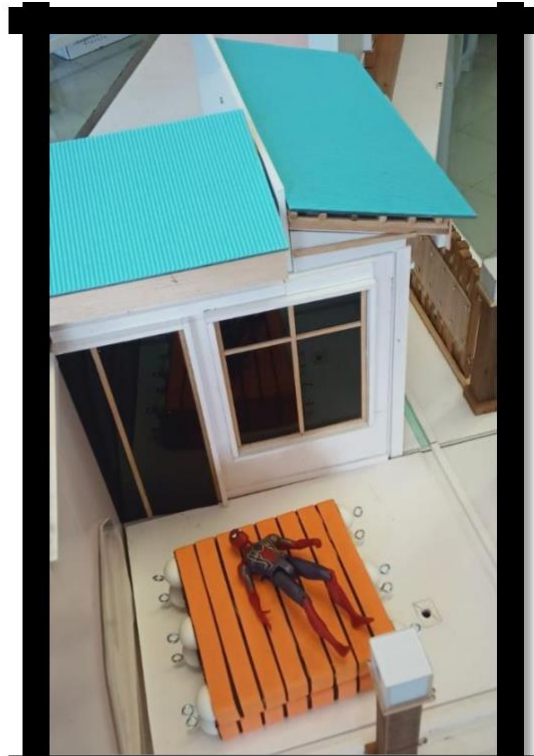


Figure 7 : Model Evo Fence Resque Form

7. Impact of Innovation

- i. Cost : More suitable and cost-effective applied such as light foam, easily floating, fire resistant and hardy compared to recommendations with the building of bricks and concrete materials. Connectivity equipment is easily available and cheap.
- ii. Time : The time required to install is simple and fast, where only two employees are required and also conceptualized 'DIY' do it yourself.
- iii. Safety : Safety is guaranteed in the event of a flood where Evolution Fence can be used as a floating rig. (Floating materials used) Similarly, fire brigade can continue to open the Evolution Fence quickly in order to save the lives of the occupants and even residential properties.
- iv. Safety : Safety assured when the tsunami natural disaster occurred, a large wave would crash offshore, while the coastline-placed Evo Fence would drift offshore. The drifting victim will cling on Evo Fence. Subsequently, the victim will survive the large wave current.
- v. Emotions : Helps to reduce the stress of feeling in places that often occur water rises or floods as Evolution Fence erected as fences can be turned into a racquet floating rig and also as a temporary tent as a shelter pending assistance.
- vi. Emotions : Helping to alleviate fears where when the victims of the tsunami were already clinging to Evolution Fence, the victims would feel safe while waiting for help to arrive.
- vii. Health : Helps to avoid falling risks (fractures) if forced to climb a brick fence or otherwise for the purpose of recusing themselves from fire or natural disasters.
- viii. Health : The victim will not get serious injuries because the substance used is soft and safe.

8. Proposed Improvement

To date, Evolution Fence portable fences made floating rigs have been upgraded to Evolution Fence tsunami where the design is specially designed to cope with anxious situations during the tsunami disaster. The tsunami Evolution Fence is installed offshore using the same connectivity as the Evolution Fence portable fence yet the Evolution Fence tsunami is installed on a pillar made of simple forms of surfing to make it easier for Stripped Evolution Fence when beaten waves. Evolution Fence has also been installed alongside the headset, and placed on one piece of fence that is on the edge of Evolution Fence.

Evolution Fence will be upgraded to Evolution Fence design which becomes a safety medium for victims trapped in high places. The proposed design is a continuation of the Evolution Fence portable fence. Fences designed from soft and safe substances can prevent victims from developing serious injuries while jumping from high spots. This Evolution Fence can be used on anxious situations while waiting for rescue personnel to come.

9. Conclusion

Evolution Fence is a potential product to be widely used worldwide, especially in Malaysia because of its easy-to-use and environmentally friendly design by residential owners and thereby becoming initiatives that can be taken by residential owners who are at risk of flooding. Evolution Fence can act as a fly rig for life -saving purposes and properties from losses of thousands of dollars.

Meanwhile, Evolution Fence Tsunami is a special product created to save the lives of victims of large wave disasters and tsunamis. The function of "wave-friendly" use is highly relevant installed onshore. The method of installation, the Evolution Fence pillar is from a simple form viaduct when a powerful wave impact occurs and at once Evolution Fence is stripped from the pillars and drifts alongside the large waves which in turn can help the victims of the tsunami cling on Evolution Fence to save the victim from drowning. This high-impact invention could also be an additional initiative to rescue teams such as fire, JPAM, armed forces to act victim rescue faster with the availability of Evolution Fence without obstacles.

10. References

- Allison, P. D. (2001). Missing data. Thousand Oaks, CA: Sage.
- Brewin, C. R., Rose, S., Andrews, B., Green, J., Tata, P., McEvedy, C., . . . Foa, E. B. (2002). Brief screening instrument for posttraumatic stress disorder. *The British Journal of Psychiatry*, 181, 158–162.

- Dekkers, A. M. M., Olff, M., & N ring, G. W. (2010). Identifying persons at risk for PTSD after trauma with TSQ in the Netherlands. *Community Mental Health Journal*, 46, 20–25. 10.1007/s10597-009-9195-6
- den Ouden, D.-J., van der Velden, P. G., Grievink, L., Morren, M., Dirkzwager, A. J. E., & Yzermans, C. J. (2007). Use of mental health services among disaster survivors: Predisposing factors. *BMC Public Health*, 7, 173. 10.1186/1471-2458-7-173
- Fujisawa, D., Miyashita, M., Nakajima, S., Ito, M., Kato, M., & Kim, Y. (2010). Prevalence and determinants of complicated grief in general population. *Journal of Affective Disorders*, 127, 352–358. 10.1016/j.jad.2010.06.008
- Goto, T., & Wilson, J. P. (2003). A review of the history of stress studies in Japan: From traumatic neurosis to PTSD. *Trauma, Violence and Abuse*, 4, 195–209. 10.1177/1524838003004003001
- Goto, T., Wilson, J. P., Kahana, B., & Slane, S. (2002). PTSD, depression and help-seeking patterns following the Miyake Island volcanic eruption. *International Journal of Emergency Mental Health*, 4, 157–171.
- Gulliver, A., Griffiths, K. M., & Christensen, H. (2010). Perceived barriers and facilitators to mental health help-seeking in young people: A systematic review. *BMC Psychiatry*, 10, 113. 10.1186/1471-244X-10-113
- Irmansyah, I., Dharmono, S., Maramis, A., & Minas, H. (2010). Determinants of psychological morbidity in survivors of the earthquake and tsunami in Aceh and Nias. *International Journal of Mental Health Systems*, 4, 8. 10.1186/1752-4458-4-8
- Kim, Y. (2011). Great East Japan Earthquake and early mental-health-care response. *Psychiatry and Clinical Neurosciences*, 65, 539–548. 10.1111/j.1440-1819.2011.02270.x
- Kristensen, P., Weisaeth, L., & Heir, T. (2009). Psychiatric disorders among disaster bereaved: An interview study of individuals directly or not directly exposed to the 2004 tsunami. *Depression and Anxiety*, 26, 1127–1133. 10.1002/da.20625
- Larrance, R., & Anastario, M. (2007). Health status among internally displaced persons in Louisiana and Mississippi travel trailer parks. *Annals of Emergency Medicine: An International Journal*, 49, 590–601. 10.1016/j.annemergmed.2006.12.004
- Niitsu, T., Takaoka, K., Uemura, S., Kono, A., Saito, A., Kawakami, N., . . . Shimizu, E. (2014). The psychological impact of a dual-disaster caused by earthquakes and radioactive contamination in Ichinoseki after the Great East Japan Earthquake. *BMC Research Notes*, 7, 307. 10.1186/1756-0500-7-307
- Ranjan, S., & Saraswat, N. (2005). Tsunami in the cultural frame. *Australian and New Zealand Journal of Psychiatry*, 39, 840. 10.1080/j.1440-1614.2005.01688_1.x
- Reifels, L., Pietrantonio, L., Prati, G., Kim, Y., Kilpatrick, D. G., Dyb, G., . . . O'Donnell, M. (2013). Lessons learned about psychosocial responses to disaster and mass trauma: An international perspective. *European Journal of Psychotraumatology*. Advance online publication. 10.3402/ejpt.v4i0.22897
- Souza, R., Bernatsky, S., Reyes, R., & de Jong, K. (2007). Mental health status of vulnerable tsunami affected community: A survey in Aceh Province, Indonesia. *Journal of Traumatic Stress*, 20, 253–269. 10.1002/jts.20207
- Steinert, C., Hofmann, M., Leichsenring, F., & Kruse, J. (2015). The course of PTSD in naturalistic long-term studies: High variability of outcomes. A systematic review. *Nordic Journal of Psychiatry*, 69, 483–496. 10.3109/08039488.2015.1005023
- Suzuki, Y., Fukasawa, M., & Kim, Y. (2012). Development of a self-reported questionnaire and study of an inventory for screening PTSD. Tokyo, Japan: Report of the Health and Labour Sciences Research Grant. Retrieved from <http://www.ncnp.go.jp/nimh/seijin/pg34.html>
- Todahl, J. L., Walters, E., Bharwadi, D., & Dube, S. R. (2014). Trauma healing: A mixed methods study of personal and community-based healing. *Journal of Aggression, Maltreatment and Trauma*, 23, 611–632. 10.1080/10926771.2014.920453
- Vandenbroucke, J. P., von Elm, E., Altman, D. G., G tzsche, P. C., Mulrow, C. D., Pocock, S. J., . . . Egger, M. (2007). Strengthening the Reporting of Observational Studies in Epidemiology (STROBE): Explanation and elaboration. *PLoS Medicine*, 4, e297. 10.1371/journal.pmed.0040297
- Waxman, H. M. (1986). Community mental health care for the elderly—A look at the obstacles. *Public Health Reports*, 101, 294–300.
- Zeldow, P. B., & Greenberg, R. P. (1980). Who goes where: Sex-role differences in psychological and medical help seeking. *Journal of Personality Assessment*, 44, 433–435. 10.1207/s15327752jpa4404_16