

Original Article

The Effects of Floods on the Mental Health of Early Adults in Kerala

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Abstract

Aim: To examine the effects of floods on the mental health of early adults in Kerala. **Method:** This study adopted non-probability sampling and selected 40 respondents, 17 males and 23 females between the age group of 20 to 35 from two districts Ernakulam and Wayanad in Kerala. Three dimensions of mental health namely emotional stability, over-all adjustment and security-insecurity of Mental Health Battery (MHB) constructed by Gupta, A.S. & Singh, A.K. (2000) was used to gather data. The data was analysed with help of differential analysis and relational analysis. **Results:** The results indicate that the overall mental health of the early adults is above average level after the flood and there is no significant difference between the male and the female in terms of adjustment. The correlation coefficient r value indicates that the existence of correlation between emotional stability and mental health at 0.01 level of significance. **Conclusions:** These findings can enhance the scholars and students in understanding the mental health of early adults after the flood and this will be beneficial in the development of various programmes to promote mental health and resilience for the early adults.

Keywords: *Mental Health, Emotional Stability, Over-All Adjustment and Security-Insecurity*

Background:

Natural disasters that human race faces in this world are inevitable and can have profound effects on the mental health of people. Mental health problems during disaster may contribute significantly to morbidity and it is not exceptional to Kerala that faced severe flood on August 2018 which devastated more than 300 people dead. In this context, the researcher felt the need of the study to examine the mental health status of the people after the flood. Hence, this research is warranted. Early adults between the age group of 20 to 35 are typically vibrant, active, health, focused on friendships, romance and career oriented with better mental health. Yet, unprecedented natural hazards such as flood can cause anxiety and depression in them. It is estimated that 40% of all-natural disasters is flood which causes about half of all deaths in this world. Flood can seriously affect the psychological resilience of the strongest people. For the past 10 years, floods in Europe alone have killed more than 1,000 people and over 3.4 million others were affected. However, the greatest potential flood hazard is found in Asia. ^[1] The danger of climate change, altered patterns of precipitation and rise in sea level are the

predicted causes to increase the frequency and intensity of floods in many regions of the world. ^[2]

In this study emotional stability refers to experiencing subjective stability feeling which have positive or negative values for the individual. Over-all adjustment refers to individual's achieving an overall harmonious balance between the demands of various aspects of environment, such as home, health, social, emotional and school on the one hand and cognition on the other. Security insecurity refers to a high or low sense of safety, confidence, freedom from fear, apprehension or anxiety particularly with respect to fulfilling the person's present or future needs.

The change from adolescence to adulthood is a period that undergoes significant psychological and physical development of life of youth. During this time individuals experience sweeping changes in their social and economic roles in the society. ^[3] Hence, disaster like sudden flooding can have great impact on people's mental health and may continue over stretched periods of time. ^[4] Disasters are known to have substantial effect on both physical and mental health of the

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affected population.^[5] The concept of mental health takes a ‘Gestalt’ view of the individual which includes the concepts of personality characteristics and behaviour all in one. Mental health defined by Kornhauser ^[6] includes those behaviours, perceptions and feelings that decide a person’s overall level of personal effectiveness, success, happiness and excellence of functioning as a person.

According to Laskshminarayan & Prabhakaran ^[7] the realistic successful maintenance of belief in one’s self as a worthy and effective human-being depends on the development and retention of goals. Mentally healthy persons are firm and steady in their intentions and are least disturbed by anxieties and stresses on day-to-day life. Distress is an immediate outcome for people affected by flood. Ahern Mike R. et al ^[8] in their review on “the Global Health Impacts of Flooding” report a number of epidemiological studies which examined the impact of flooding on common mental disorders including anxiety, depression, post-traumatic stress disorder (PTSD) and suicide. Du et al., ^[9] also indicates infected wounds, complications of injury, communicable diseases and poor mental health as the effects of flooding. Flooding affects people of all ages and can provoke mental health problems.

And the recognised immediate health effects of flooding or drowning, injury, acute asthma, skin rashes and clusters, outbreaks of gastroenteritis and respiratory infections. ^[4] For the past two decades more than 400 million people on average have been directly exposed to floods. From 1987 to 1997, 44% of all flood disasters in this world worldwide happened in Asia affecting 228,000 lives and Vietnam is one of the most disaster-prone countries in the world. ^[4]

The concept of psychological first aid for use in civilian aid was initially described by Raphael. The main goal was to relieve immediate distress and to minimize the development of pathological sequel. ^[10] Later it was developed for individuals who are exposed to highly traumatic events which have been used in the field of crisis management and disaster mental health for many years. ^[11] According to National Mental Health Survey of India (2015-16) ^[12] conducted by NIMHANS estimates nearly 15% of Indian adults (those above 18 years) are in need of active interventions for one or more mental health issues. The overall prevalence of any mental disorders in Kerala is 11.36%. It includes schizophrenia and other psychotic disorders, depressive disorders, bipolar affective disorder, neurotic and stress related disorders and alcohol and

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other substance use. And the common mental disorders such as neurotic disorders, stress disorders and depression constitute a major chunk of mental health problems in Kerala. [13]

The long-term effects of flooding on health may perhaps be even more important than other illnesses or injuries because the psychological problems may continue for long after the water has receded.^[14] Hence, the managing flood with the aim of safety and wellbeing of people and their environment the government authorities in the flood prone areas apply various approaches in relations to this, the largest disaster of flood and land slide after 1924 experienced by Kerala was on 10th August 2018 due to extreme rainfall and almost full reservoirs resulted in a significant release of water in a short-span of time. On 10th August, 22 dams were opened by the Kerala government which displaced over a million people, damaged over 50,000 houses hundreds of deaths throughout the region.

Methods

Ethical Approval: The study entitled “The Effects of Floods on the Mental Health of Early Adults in Kerala” was carried out under the supervision of Prof. K.C. Kapoor and

And it is severely affected 13 of the 14 districts in Kerala. So the mental health of the people must have been affected severely. Hence, the investigator made an attempt to investigate the mental health status of the people after the flood.

The current study explores the overall mental health of the early adults after the flood to identify the significant difference between male and female in their adjustment of the early adults after the flood. This study also tries to identify the significant difference between male and female in their security-insecurity scores of the early adults after the flood and to find out the significant difference among emotional stability, adjustment and security-insecurity scores of mental health of the early adults after the flood. The study assumes that there will be no significant difference between male and female in their adjustment of the mean scores of security-insecurity, emotional stability, adjustment and security-insecurity.

approved by ethics committee of Assam Don Bosco University.

Population: The population of the present study is the early adults of Ernakulam and

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Wayanad districts in Kerala.

Sampling: This study adopted convenience sampling technique (nonprobability sampling) and survey method to collect the data from a sample of 40 early adults between the age group of 20 to 35. The researcher had approached the early adults in and around Don Bosco College Sulthan Bathery, Wayanad and Don Bosco Vaduthala in Ernakulam and those who were willing to participate in the study, informed verbally about the interests and aims of the research, and were also given an information sheet explaining the nature of the study and recruited after obtaining written informed consent.

Tools: The standardized tool developed and validated by Gupta, A.S. & Singh, A.K. (2000) ⁽¹⁵⁾ was administered in English. To avoid ethical issues, before and after conduct of the study, necessary precautions were taken by the researcher with the help of the expert in the field of research. Maximum efforts were taken by the researcher to conduct the study in tune with the professional ethics of research such as fair data collection, selection of appropriate tool, statically analysis with the help of the expert, proper acknowledgement to the resources used for this study. Hence, this study is free from plagiarism and original and innovative study.

Results

Hypothesis 1: There will be no significant difference between male and female in their adjustment.

Sl. No.	Variable	Sub Variable	N	Mean	df	t value	P value
1	Adjustment	Male	17	24.94	38	1.900	.07
		Female	23	22.43			

Table 1: Difference between male and female in their adjustment scores.

From the above Table 1 it is found that the t value in adjustment 1.90 with df 38 is lower than the table value 1.96 at 0.05 level of significance. It indicates that there is no

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significant difference between the male and the female in terms of adjustment. Hence the null hypothesis is accepted.

Hence, gender is not an important variable to influence the aspect of adjustment in mental health. However, the mean score (22.43) of female in adjustment is slightly lower than that of male (24.94). Therefore, overall young women experienced low mental health than

young men due to flood. The results of the study indicate that flooding affects people and provoke mental health problems. And this result is supported by another study conducted by Stanke, et al. ⁽⁴⁾ on “The Effects of Flooding on Mental Health” which also points out that flooding affects people and their mental health.

Hypothesis 2: There will be no significant difference between male and female in their security-insecurity. Table 2: Difference between male and female in their security -insecurity scores.

Sl. No.	Variable	Sub Variable	N	Mean	df	t value	p
1	Security-insecurity	Male	17	8.29	38	.305	0.061
		Female	23	8.09			

Table 2: Difference between male and female in their security -insecurity scores.

From the above table 2, it is found that the t value in Security-insecurity (1.90) is lower than the table value 1.96 at 0.05 level of significance. It indicates that there is no significant difference between the male and

the female in terms of Security-insecurity. Hence the null hypothesis is accepted. Hence, it is found that gender is also not an important variable to influence the aspect of security and insecurity in mental health.

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Hypothesis 3: There will be no significant relationship among emotional stability, adjustment and security-insecurity scores of mental health of the early adults.

Variables		Emotional	Adjustment	Security	Mental Health
Emotional Stability	Pearson Correlation	1	.284	-.130	.615**
	Sig. (2-tailed)		.076	.424	.000
	N	40	40	40	40
Adjustment	Pearson Correlation		1	-.044	.848**
	Sig. (2-tailed)			.785	.000
	N		40	40	40
Security	Pearson Correlation			1	.270
	Sig. (2-tailed)				.092
	N			40	40
**. Correlation is significant at the 0.01 level (2-tailed).					

Table 3: Correlation among emotional stability, adjustment and security-insecurity

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The above table 3 depicts the correlation among the different components of mental health such as emotional stability, adjustment and security-insecurity. The correlation coefficient r value 0.615 with $p = 0.000$ also reveals that the existence of correlation between emotional stability and mental health at 0.01 level of significance. It is inferred that

Discussion

The present research highlights the mental health of the flood victims. Flood can have great effects on people's health, relationships and welfare can be extensive. However, often, it is possible to prevent flooding by using flood prevention measures. Interpretations of the psychosocial impacts of flood events points out that they can have significant effects on people's wellbeing, relationships, emotional stability, adjustment and security-insecurity and mental health. Flooding can pose substantial social and welfare problems that may continue over extended periods of time as people try to recover their lives, property and relationships. Flooding can challenge the psychosocial resilience of the

there is a good agreement between mental health and emotional stability. Further the coefficient value 0.848 with $p = 0.000$ reveals the correlations between adjustment and mental health. It is also inferred that a good agreement between adjustment and mental health.

hardest of people who are affected. This paper summarises the emotional stability, adjustment and security-insecurity status of the respondents and the results points out that the overall mental health of the early adults is above average level after the flood. And there is a positive correlation between emotional stability and mental health as well as adjustment and mental health. Hence, these findings can boost the scholars and students in understanding the mental health of early adults after the flood and this will be beneficial in the development of several programmes to promote mental health and resilience for the early adults.

Contribution of the study to stake holders

The following are the original contribution of the present study.

1. It adds knowledge to the field of mental health research.
2. It paves the way for the further researchers in this filed.

Conclusion

Flooding is now the most recurrent type of natural and major disaster. People who live in flood prone areas are always at risk of flooding. This study has made an empirical attempt to examine the popular indices of mental health in relation to emotional stability, over-all adjustment and security-insecurity of early adults after the flood. The findings of the reviews indicate that non-specific community-based interventions such as scheduling the daily activities, avoiding displacement, fostering the family have major role in fostering the healing process of mental health problems. ^[16] The review shows that

3. The study explored mental health with three different aspects such as emotional stability, adjustment and security-insecurity.
4. This study gives insights to early adults suggested areas such as emotional stability and adjustment to improve the mental health.

often people's psychosocial needs are met through their close relationships with their families and friends are in need of special mental health care. ^[4] Findings of the study reveal the agreement between the emotional stability and mental health as well as adjustment and mental health. Therefore, to improve the mental health it is recommended to concentrate on the emotional stability and adjustment aspect. Hence, further research is needed on the longitudinal effects of flooding on people's mental health and especially the effects of flooding on the mental health of early adults.

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