Disaster Preparedness among Staff Nurses
Ms. Gawade Sonal S.
M. Sc. Nursing (Community Health Nursing),
PGDDM.
Sonalgawade09@gmail.com

Introduction
India has been traditionally vulnerable to natural disasters on account of its unique geoclimatic conditions. Floods, droughts, cyclones, earthquakes and landslides are regular phenomena. India also witnessed a hitherto new natural calamity in the form of Indian Ocean Tsunami in 2004. Last few decades have witnessed an increased frequency in disasters causing tremendous human casualties, in terms of loss of life and disability in addition to huge economic losses. Although these may not be totally preventable but their impact can be minimized by effective planning. Equally important are the “peripheral emergencies” like road, rail and air accidents, fire, drowning and stampedes in mass gathering, industrial accidents, explosions and terrorist attacks that have an inherent potential to convert into a mass casualty incident (MCI). The loss of life and disability are compounded by the lack of adequate medical preparedness both qualitatively and quantitatively across the country. Therefore the study was undertaken to explore the knowledge of Nursing staff regarding preparedness disasters.

Background
This paper investigates the preparedness for earthquakes and tsunami of residents living along the Andaman coast in Phang Nga province, Thailand. A survey of 557 households located in the areas that received tsunami warnings following the Indian Ocean earthquakes on 11 April 2012 was conducted. The fieldwork was carried out during the period of numerous aftershocks which put residents in the region on high alert thus allowing the survey to capture individuals’ emergency responses to natural hazards that might occur. The respondents were asked what emergency preparedness measures they have done following the 11 April earthquakes. Using the partial proportional odds model, the paper investigates determinants of personal disaster preparedness measured as the number of preparedness actions being taken. Controlling for village effects, we find that formal education – measured at the individual, household and community levels – has positive relationships with preparedness actions. Being affected by the 2004 tsunami increases emergency preparedness but for the group without such disaster experience, education of household members is found to be positively related with taking preparedness actions. This study suggests that formal education can increase disaster preparedness and consequently play a role in reducing vulnerability to natural hazards.

In this paper we investigate how well residents of the Andaman coast in Phang Nga province, Thailand, are prepared for earthquakes and tsunami. It is hypothesized that formal education can promote disaster preparedness because education enhances individual cognitive and learning skills, as well as access to information. A survey was conducted of 557 households in the areas that received tsunami warnings following the Indian
Ocean earthquakes on 11 April 2012. Interviews were carried out during the period of numerous aftershocks, which put residents in the region on high alert. The respondents were asked what emergency preparedness measures they had taken following the 11 April earthquakes. Using the partial proportional odds model, the paper investigates determinants of personal disaster preparedness measured as the number of preparedness actions taken. Controlling for village effects, we find that formal education, measured at the individual, household, and community levels, has a positive relationship with taking preparedness measures. For the survey group without past disaster experience, the education level of household members is positively related to disaster preparedness. The findings also show that disaster-related training is most effective for individuals with high educational attainment. Furthermore, living in a community with a higher proportion of women who have at least a secondary education increases the likelihood of disaster preparedness. In conclusion, we found that formal education can increase disaster preparedness and reduce vulnerability to natural hazards.

Operations research is the scientific study of operations for the purpose of better decision making and management. Disasters are defined as events whose consequences exceed the capability of civil protection and public health systems to provide necessary responses in a timely manner. Public health science is applied to the design of operations of public health services and therefore operations research principles and techniques can be applied in public health. Disaster response quantitative methods such as operations research addressing public health are important tools for planning effective responses to disasters. Models address a variety of decision makers (e.g. first responders, public health officials), geographic settings, strategies modelled (e.g. dispensing, supply chain network design, prevention or mitigation of disaster effects, treatment) and outcomes evaluated (costs, morbidity, mortality, logistical outcomes) and use a range of modelling methodologies. Regarding natural disasters the modelling approaches have been rather limited. Response logistics related to public health impact of disasters have been modelled more intensively since decisions about procurement, transport, stockpiling, and maintenance of needed supplies but also mass vaccination, prophylaxis, and treatment are essential in the emergency management. Major issues at all levels of disaster response decision making, including long-range strategic planning, tactical response planning, and real-time operational support are still unresolved and operations research can provide useful techniques for decision management.

### Problem statement

A study to assess the effectiveness of self instructional module on knowledge regarding disaster preparedness among staff nurses in selected hospitals of Mumbai city.

### Objective of study

1. To assess the knowledge of staff nurses in relation to disaster preparedness before and after the administration of the self instructional module.

2. To evaluate the effectiveness of self instructional module on the knowledge of staff nurses in relation to disaster preparedness.

3. To find out the relationship of effectiveness of self instructional module in relation to disaster preparedness with selected demographic attributes (e.g. Age, Gender, Religion, Years of experiences, Educational Qualification)

### Hypothesis

**Null hypothesis:** Ho

1. There will be no significant difference in the knowledge score of staff nurses after the administration of self instructional module.
2. Self instructional module will not help to improve knowledge of staff nurses in relation to disaster preparedness.

Research hypothesis: H1
1. There will be significant difference in the knowledge score of staff nurses after the administration of self instructional module.
2. Information booklet will help to improve knowledge of staff nurses in relation to disaster preparedness.

Research methodology
Evaluative quantitative approach was considered as an appropriate research approaches for the present study. The conceptual framework for this study was General system theory model, focuses three concepts input, process and output. The research design selected for the present study was pre-experimental one group pretest post test design. Simple random sampling technique was used to select the samples. The sample comprised of 30 staff nurses of selected hospitals. The data for the present study was collected by constructing the Knowledge Structured Questionnaire and Self Instructional Module. The content validity of the tool and Self Instructional Module was done by experts in the field of nursing. Reliability of tool was tested by using test-retest method (0.9).

Findings of the study
The result of the study reveals that pre test mean knowledge score was 10.38 is less than the post test mean knowledge score 23.08 after the administration of Self Instructional Module. The paired‘t’ test value was 21.525 which is statistically significant at 0.05 level in all aspects under study.

<table>
<thead>
<tr>
<th>Area wise distribution</th>
<th>MEAN KNOWLEDGE SCORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td>Post-test</td>
</tr>
<tr>
<td>Preparedness</td>
<td></td>
</tr>
<tr>
<td>Mitigation</td>
<td></td>
</tr>
<tr>
<td>Response</td>
<td></td>
</tr>
<tr>
<td>Recovery</td>
<td></td>
</tr>
<tr>
<td>Evaluation</td>
<td></td>
</tr>
</tbody>
</table>

There were significant association of pre test knowledge levels score of Age, Educational status, Job status, Position, Year of clinical experience and Year of experience in casuality and ICU of the staff nurses with their selected Socio demographic variables.

Conclusion
The Self instrucational Module was significantly effective in improving the knowledge of the staff nurses.

References
1. Tener Goodwin Veenema, Disaster nursing and Emergency preparedness For chemical, biological, and Radiological terrorism And other hazards, Third edition, springer publication, page 40-45.
4. . K. park, Preventive and Social Medicine, 21st edition : Bhanot Publication.