

ABSTRACT

Indonesia is archipelago country which is placed between four tectonic plates juncture of: Asia, Australia, Indian Ocean, and Pacific Ocean. UN-ISDR's (United Nation Office for Disaster Risk Reduction) data shows that Indonesia has high disaster risk based on its geographical area. The victims need effective and efficient evacuation to reduce the death possibility in critical situation, as known as Emergency Medical Service (EMS). According to Disaster Department of Indonesia or Badan Nasional Penanggulangan Bencana (BNPB) policy No. 13 Year 2010 about searching procedure, help, and evacuation, there are many rescue tools which have to be provided in immobilization process, such as: stretcher. There are few types of stretcher nowadays. Every type has different function in usability according to the evacuation condition which creates advantages and deficiencies for each of types. In Indonesia, there are 5 commonly types of stretcher which are used for evacuation process, such as: spinal stretcher, basket stretcher, scoop stretcher, folding stretcher, and scout stretcher.

There are four stretchers to be evaluated, such as: folding stretcher, scoop stretcher, basket stretcher, and scout stretcher. The data collected in this study consisted of primary and secondary data. The primary data are the ergonomics evaluations checklist and the consumer needs questionnaires. The secondary data is Indonesian anthropometric data from antropometriindonesia.org. The data is processed in accordance with the design requirements of the stretcher. Questionnaire data were analyzed to determine the engineering and design characteristics using Quality Function Deployment (QFD).

Evaluation results on the folding, basket, scoop, and scout stretchers find the advantages and disadvantages of each stretcher. Those results were then used as recommendations for stretcher improvement used for evacuation. This research has redesigned a scoop stretcher accordance with ergonomics principles.

Keywords : Emergency Medical Service (EMS), Ergonomics Evaluation Checklist, Stretcher, Quality Function Deployment (QFD).

