

TABLE TOP SALT TRIAGE IN IMPROVING PREHOSPITAL TRIAGE CAPACITY AND DISASTER VICTIM HANDLING PREPAREDNESS

TABLE TOP SALT TRIAGE DALAM MENINGKATKAN KEMAMPUAN TRIAGE PREHOSPITAL DAN KESIAPSIAGAAN PENANGANAN KORBAN BENCANA

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ABSTRACT

Disasters have broad and complex impacts, both on humans and the surrounding environment. One of the challenges often faced in health management efforts in disaster areas is the lack of skills of nurses and other health workers in disaster victim preparedness and the ability to carry out pre hospital triage which will ultimately hamper health services. The knowledge and skills of nurses in handling disaster victims including conducting triage on victims are still in the sufficient category at 60%. In pre hospital situations, the correctness of officers in making triage decisions in handling victims has a very important role. The research objective was to determine the effect of the SALT triage table top in improving pre hospital triage capabilities and disaster victim handling preparedness. The research design used was a quasi experiment with a pre-post test with a control group. Sampling using purposive sampling technique. The number of respondents obtained was 78 people. The results of the Wilcoxon test showed a value of $p = 0.000$, which means that there is an influence of the SALT triage table top in increasing the ability of pre hospital triage and preparedness for handling disaster victims.

Keywords: disaster; preparedness; pre hospital; table tops; triage

ABSTRAK

Bencana memiliki dampak yang luas dan kompleks, baik terhadap manusia maupun lingkungan sekitarnya. Salah satu tantangan yang sering dihadapi dalam upaya penanggulangan kesehatan di daerah bencana adalah kekurangan ketrampilan perawat dan tenaga kesehatan lainnya dalam kesiapsiagaan penanganan korban bencana maupun kemampuan melakukan triage pre hospital yang akhirnya akan menghambat pelayanan kesehatan. Pengetahuan dan ketrampilan perawat dalam penanganan korban bencana termasuk melakukan triage terhadap korban masih berada pada kategori cukup sebesar 60%. Pada situasi pre hospital, kebenaran petugas dalam membuat keputusan triage dalam penanganan korban memiliki peran yang sangat penting. Tujuan penelitian untuk mengetahui pengaruh table top SALT triage dalam meningkatkan kemampuan triage pre hospital dan kesiapsiagaan penanganan korban bencana. Desain penelitian yang digunakan adalah quasi eksperimen dengan pre-post test with control group. Pengambilan sampel dengan menggunakan teknik purposive sampling. Responden yang didapatkan berjumlah 78 orang. Hasil uji Wilcoxon menunjukkan nilai $p = 0,000$ yang artinya ada pengaruh table top SALT triage dalam meningkatkan kemampuan triage pre hospital dan kesiapsiagaan penanganan korban bencana.

Kata Kunci : bencana; kesiapsiagaan; pre hospital; table top; triage



INTRODUCTION

Disasters have broad and complex impacts, both on humans and the surrounding environment. The impact of a disaster can be in the form of loss of life, material loss, economic loss, damage to infrastructure, social and cultural disturbances, as well as psychological and health impacts for affected individuals and communities. Given the magnitude of the impact of the disaster, countermeasures are needed to prevent or reduce the adverse impact on the lives and health of disaster victims. This effort aims to minimize the number of deaths and illnesses due to disasters that can occur (Usiono et al., 2018). According to Ebrahimi et al (2016), one of the challenges often faced in health management effort in disaster areas is the lack of skills of nurses and other health workers in disaster victim preparedness and the ability to carry out pre hospital triage which will ultimately hamper health services.

Triage is a process that involves selecting and prioritizing patients based on the level of emergency (Addiarto et al., 2018). The patient's prognosis is highly dependent on the triage performed. Through triage, the need for resuscitation, patient care and patients priorities for treatment and therapy can identified (Ebrahimi et al., 2016). There are two types of triage namely intra hospital triage which is carried out within the hospital and pre hospital triage which is carried out outside the hospital or in situation disaster. A situation that is considered a disaster with a mass number of victims requires a fast and effective triage method to optimize victim handling (Bazyar et al., 2019).

Accurate triage decisions are a determining factor in the patient's prognosis. In practice, cases of up triage and down triage sometimes occur due to various factors such as the lack of ability of officers to carry out triage due to the lack of knowledge and skills of triage officers, limited infrastructure needed, complex patient conditions and high workload of officers (Bijani et al., 2020). In the pre hospital situations, the correctness of officers in making triage decisions in handling victims has a very important role. The patient's condition can be fatal if the officer makes a triage

decision that is too low or too high from the actual condition. Therefore, increasing the ability of officers to make triage decisions needs to be a special focus of attention by using appropriate learning techniques and being able to improve critical thinking skills (Lokerman et al., 2022).

According to Aghabarary et al (2023), the majority of nurses in Iran do not have the ability to handle disaster victims and do not have experience in disaster emergency response. This is in line with the research of Bijani & Khaleghi (2019), which shows the results that level of knowledge and skills of nurses in handling disaster victims including conducting triage on victims is still in the sufficient category at 60%. From the results of a preliminary study on undergraduate of nursing students Institut Ilmu Kesehatan Bhakti Wiyata Kediri, it was found that 68% of students had less ability to carry out pre hospital triage and help disaster victims. This is because students have never been given a simulation in handling disaster victims.

Providing training to nursing students from an early age is an important step to increase student knowledge, especially in handling emergencies. To achieve this goal, an appropriate simulation method is needed. The simulation method that can be used for emergency learning is table top. Table top is a simulation that involves the use of maps or images with evaluation path scenarios as media, and involves the active role of all participants in solving problems related to handling emergency patients according to standard operating procedures (Addiarto et al., 2018).

Table top SALT triage is a form of simulation that is used to test the preparedness of elements involved in disaster management. This simulation involves participants facing and coping with certain disaster scenarios and then analyzing their reactions to the situation (McGlynn et al., 2020). Based on study by Silvestri et al (2017), it was found that SALT triage is not a difficult method of conducting triage. Therefore, in dealing with mass casualty incidents, an effective approach is needed to deal with victims through appropriate triage methods at pre hospital locations, and one method that can be used is to teach the SALT triage method to students. Based on the background

above, the researcher wants to examine the influence of the SALT triage table top in improving pre hospital triage capabilities and disaster victim handling preparedness.

METHOD

The research design used was a quasi experiment with a pre-post test with a control group. Sampling using purposive sampling technique. The sample in this study were undergraduate nursing students at the Institut Ilmu Kesehatan Bhakti Wiyata Kediri, a total of 78 students.

Data collection used a questionnaire to measure the level of ability to do triage (15

question items) and a questionnaire to measure preparedness in handling disaster victims (10 question items). The questionnaire has been tested for validity and reliability tests with the results of $r \text{ count} > r \text{ table} = 0.44$ and the results of the reliability test are values of 0.78. Analysis to prove the influence of table top SALT triage in improving pre hospital triage capabilities and preparedness for handling disaster victims used the Wilcoxon test. This research has through research ethical clearance issued by the Research Ethics Commission Institut Ilmu Kesehatan Bhakti Wiyata Kediri with number : 166/FIK/EP/II/2023.

RESULTS

Table 1 shows that the majority respondents in the intervention group and control group were female, namely 56.4% (intervention group) and 58.9% (control group)

Table 1 Characteristics of respondents based on gender (n=78)

Gender	Intervention Group		Control Group	
	f	%	f	%
Male	17	43,6	16	41,1
Female	22	56,4	23	58,9
Total	39	100	39	100

Based on Table 2, it can be seen that before being given the table top SALT triage, the majority of respondents had less ability to perform pre hospital triage in both the intervention group (79.5%) and the control group (69.2%). After being given the table top SALT triage there was an increase in triage ability, namely the majority of respondents had good triage skills in the intervention group (74.4%) and the control group (53.8%). From the Wilcoxon test, the results obtained were p values < 0.005 in both the intervention and control groups, which means that there was an influence of the SALT triage table top on increasing pre hospital triage abilities.

Table 2. Capability of prehospital triage (n=78)

Variable	Group	Frequency			Total
		Good Ability	Enough Ability	Less Ability	
Pre-test	Intervention	0 (0%)	8 (20.5%)	31 (79.5%)	39
	Control	0 (0%)	12 (30.8%)	27 (69.2%)	39
Post test	Intervention	29 (74.4%)	10 (25.6%)	0 (0%)	39
	Control	21 (53.8%)	18 (46.2%)	0 (0%)	39
				Asymp. sig (2-tailed)	
Intervention post test – pre test intervention				0.000	
Post test control – pre test control				0.002	

Based on Table 3, it can be seen that before being given the table top SALT triage, the majority of respondents had less ability in disaster victim preparedness, both in the intervention group (87.1%) and the control group (82%). After being given the top SALT triage table, there was an increase in preparedness for handling disaster victims, namely the majority of respondents were ready to be on standby in the intervention group (79.5%) and the control group (56.4%). From the Wilcoxon test, the results obtained were a p value <0.005 in both the intervention group and the control group, which means that there was an effect of the SALT triage table top on increasing disaster management preparedness.

Table 3. Preparedness handling disaster victims (n=78)

Preparedness handling disaster victims	Group	Frequency			Total
		Ready standby	Enough Ready standby	Not quite ready standby	
Pre-test	Intervention	0 (0%)	5 (12.9%)	34 (87.1%)	39
	Control	0 (0%)	7 (18%)	32 (82%)	39
Post test	Intervention	31 (79.5%)	8 (20.5%)	0 (0%)	39
	Control	22 (56.4%)	17 (43.6%)	0 (0%)	39
				Asymp. sig (2-tailed)	
Intervention post test – pre test intervention				0.001	
Post test control – pre test control				0.003	

DISCUSSION

Based on the results of the study, it was found that before being given table top SALT triage in the intervention group, 31 respondents (79.5%) had insufficient pre hospital triage abilities and 8 respondents (20.5%) had sufficient pre hospital triage abilities. While on preparedness for handling disaster victims, it was found that 34 (87.1%) respondents were less prepared to be alert and 5 (12.9%) respondents were quite alert.

After being given the table top SALT triage by watching a video simulation method, it was found that the respondents' pre hospital triage abilities increased, namely 29 (74.4%) respondents had good pre hospital triage abilities and 10 (25.6%) respondents had sufficient pre hospital triage abilities. Respondents also experienced increased skills in disaster victim preparedness, namely 31 (79.5%) respondents were ready to handle disaster victims and 8 (20.5%) respondents were quite alert in handling disaster victims.

According to Setiawan Lakibu et al (2019), there are around 38.5% of nurses who do not have an adequate understanding of triage. This is reinforced by Magnusson et al (2020), that the majority of nurses on duty in the emergency room have less triage knowledge of 69%, while 27% have moderate knowledge and only 4% have good knowledge. The low knowledge of nurses about triage can be influenced by several factors that can reduce the quality of triage implementation. Several factors affect the ability to perform triage including performance factors, patient factors and workforce factors ((Setiawan Lakibu et al., 2019). Another study by Cetin et al (2020), stated that the factors that influence the implementation of triage can be grouped into 3 (three). The first is personal factors that involve the knowledge and abilities of nurses, the second is patient factors and the third is workload factors that affect the implementation of triage. These various factors are one of the aspects that can affect the quality of decision making related to triage by officers. Therefore it can be

concluded that the ability to perform triage by officers is influenced by internal factors and external factors.

Preparedness is a step taken to anticipate the possibility of a disaster when the early signs of a disaster have been detected. The purpose of self-preparedness is to anticipate the threat of disaster and reduce the number of fatalities, injured victims and damage to infrastructure (Arinaldi, 2015). Part of preparedness measures includes preparing disaster mitigation, maintaining resources and training disaster management personnel. Preparedness is a very important aspect and must be instilled at every level of society. According to Zainatunnisa & Satria (2018), that in the concept of disaster management that has developed, increasing preparedness is a very important aspect in proactive efforts to reduce disaster risk before it occurs. The key factors in preparedness are knowledge and attitudes. By providing health education, knowledge can be increased resulting in better attitudes. This is in line with research ((Dien et al., 2015), that there is an effect of health education on preparedness in dealing with earthquake disasters in SMP students in Tomohon City.

Based on table 2, it shows that there are differences in triage abilities and preparedness for handling disaster victims before and after being given the SALT triage table top in the intervention group and strengthened by the Wilcoxon test results with a p value of 0.000 which means there is an influence of the SALT triage table top in improving triage abilities and handling preparedness disaster victims. Providing a table top SALT triage using the method of watching a simulation video is more significant in improving triage skills compared to the face-to-face simulation method ((Amandus et al., 2020).

The results of this study are in accordance with ((McGlynn et al., 2020), that the table top SALT triage provided can increase the accuracy of tagging and the duration of triage in pediatric trauma patients in the scenario. Accurate and time efficient assessment results in conducting triage

show that respondents have the ability to carry out triage quickly and accurately. In research by Naser & Saleem (2018), a quality disaster management training program has a significant influence on disaster management preparedness. In line with the research of Balut et al (2022), increasing the knowledge of health workers about disaster preparedness planning can enable health workers to collaborate in determining disaster preparedness strategies. With an increase in disaster preparedness, there will be an increase in emergency response according to the role and situation.

According to Addiarto et al (2018), table top is a simulation that involves the use of maps or images with evaluation path scenarios as media, and involves the active role of all participants in solving problems related to handling emergency patients according to standard operating procedures. Table top SALT triage is a form of simulation that is used to test the preparedness of elements involved in disaster management. This simulation involves participants facing and coping with certain disaster scenarios and then analyzing their reactions to the situation (McGlynn et al., 2020). The ability to perform SALT triage in a disaster situation is an important skill to be mastered by the disaster preparedness team, including nursing students.

CONCLUSION

The majority of pre hospital triage abilities before being given the table top SALT triage were in the less category (79.5%). While the ability to handle disaster victims before being given the SALT triage table top, the majority were in the less alert category (87.1%). After being given the table top SALT triage, there was an increase in pre hospital triage ability where the majority of respondents had good pre hospital triage abilities (74.4%) and there was an increase in the ability to handle disaster victims where the majority of respondents (79.5%) were in the alert category. Based on the Wilcoxon test results, the p value <0.005 means that there is an influence of the SALT triage table top in

improving pre hospital triage skills and the ability to handle disaster victims.

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