

The Importance of Adhering to the Patient Triage Mechanism in Health Sector

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Abstract

The current study aimed to know the application of quality in sorting patients in health facilities, the importance of sorting patients according to their medical condition in health facilities, and the sorting mechanism used for patients in health centers. A questionnaire was conducted via Google Drive and distributed via the social media network (800 people were distributed A questionnaire was conducted on women and men aged 25-55 years in the eastern Province, and responses from 750 people (questionnaire) were obtained via email. It concluded that Patients are sorted according to the importance of the condition and the severity of it.

Keywords: the importance, Adhering, the patient triage, mechanism, health centers

1. Introduction

In medicine, excretion is a practice used when useful protection cannot be provided due to a lack of resources. Ontrack Tech Palm provides patients who are in dire need of immediate care, and who will benefit most from it if it is implemented. This practice is generally seen as giving authority to medical care. They are often required in emergencies in war situations, or at limited time in mass medical situations provided by nearby healthcare facilities. The practice of triage always follows the modern interpretation of the Hippocratic Oath but with more than one concurrent idea of its nature. The best theories and practical scoring systems used in triage come from the handling of acute trauma cases in the emergency room. It is clear that a broken bone will be less serious than an uncontrolled arterial bleed, which can cause death. However, no

current doctrine gives significant importance to mental health, reproductive health (such as miscarriage), chronic medical conditions, geriatrics, or palliative care (including euthanasia).

Triage needs to balance multiple and sometimes contradictory goals simultaneously, most of which are fundamental to individuals: the probability of death, the effectiveness of treatment, the patient's remaining lifespan, and their morality and religion. For this reason, medical dramas often depict triage at its most brutal: dismembered limbs compared to a heart attack would certainly make for a thrilling Aesopian moral drama. In practical Western medicine, this type of triage is extremely rare because resources are abundant, and future demand can be predicted in advance. The term comes from the French verb *trier*, which means to separate, sort, move, or determine ⁽¹⁾. Modern medical triage was invented by Dominique Jean Larrey, a surgeon during the Napoleonic Wars, who treated wounded according to the perceived severity of their injuries and the urgent need for medical care, regardless of their rank or nationality, although the general concept of prioritization by prognosis was set forth in the document *Egyptian* from the seventeenth century BC ⁽²⁾. French doctors made greater use of triage during World War I as they treated battlefield wounded in aid stations behind the front. Those responsible for transporting or subsequently caring for the wounded from the battlefield divide casualties into three categories ⁽³⁾⁽⁴⁾⁽⁵⁾⁽⁶⁾⁽⁷⁾: Those who are likely to survive, regardless of the care they will receive. Those who do are unlikely to survive, regardless of the care they will receive. Those for whom prompt care may make a positive difference in outcome. For many emergency medical services systems, doctors may sometimes apply a similar model. In the early stages of an incident, such as a paramedic or twenty-two or more patients, the practical application requires the use of a more "primitive" model than before. However, once a full response has occurred and several paramedics are available, they will use the model included in each station's service policy and standing orders. As medical technology advances, modern methods of triage have also developed, which are increasingly based on scientific models. Victim classifications as a result of triage scores are often based on specific physiological assessment findings. Some models, such as the START model, may rely on a special algorithm. As triage concepts become more complex, and with the aim of improving patient safety and quality of care, several human decision support tools for triage systems have been designed to standardize and automate the triage process (e.g., e CTAS and NHS 111) in both hospitals and battlefields ⁽⁸⁾. In addition, the recent development of new machine learning methods offers the possibility of learning optimal sorting policies from data, and this may replace or improve expert-designed models ⁽⁹⁾. A triage decision that all agree is appropriate in one setting may be inappropriate in another ⁽¹⁰⁾. Triage is highly dynamic as its behavior as a system changes over time ⁽¹¹⁾. This was another characteristic of a system's engineering problem ⁽¹²⁾. Triage must be performed in a timely fashion to save lives. The triage category of casualty may change based on aberrations in the patient's condition and in available resources ⁽¹³⁾. Domres et al. pointed out that triage is much different during a disaster ⁽¹⁴⁾. As disasters are characterized by a shortage of personnel and material resources, the performance of triage, in those situations, is not identical to the triage used in the Provision of routine emergency medical services in which the availability of life-saving resources, for the most part, are sufficient ⁽¹⁴⁾. The protocol shifting day-to-day triage to combat triage takes effect when the number of patients and severity of injuries exceed the ability of available resources to

treat them in a timely manner, Page says ⁽¹⁵⁾. Another aspect of prehospital treatment's dynamic nature is that its demands change over its life cycle in each environment or application. Holcomb, Helling, and Hirshberg. described the dynamic nature of triage by restricting medical care until the true number of casualties is known ⁽¹⁶⁾. Without knowing the number of patients, it was difficult for the triage function to appropriately triage patients. The triage functions knowledge of the availability of supplies and equipment affected categorization ⁽¹⁷⁾. Furthermore, based on the mechanism of injury, the number of patients may continue to increase. Once the number of patients is determined and resources mobilized, triage can be conducted to provide appropriate care to each patient ⁽¹⁶⁾. Hogan and Lairet described how triage changes over its life cycle as casualties await transport from the incident: triage is not a static activity. After the initial categorization of patients by the triage officer, patients selected to wait for care are triaged on a continuous basis. Stabilization actions (e.g., oxygen, intravenous lines, and dressings) are carried out on patients awaiting transport or definitive care ⁽¹³⁾. Levitin et al. suggested that triage be designed to deliver ambulatory patients from hospitals after a mass-casualty incident ⁽¹⁸⁾. Safety considerations also demonstrated the dynamic nature of triage ⁽¹⁹⁾. Fryberg identified several events in which initial triage and medical care were precluded by a second-sighted ⁽²⁰⁾. He identified both terrorist and accidental events which attracted first responders to the initial event who were then killed by an additional explosion, collapse, or another event ⁽²⁰⁾. Following the 1983 bombing of the Marine Barracks in Beirut, Lebanon, initial rescue efforts were hampered by hostile sniper fire ⁽²⁰⁾. Fryberg also cited the explosion of a ship in Texas City, Texas in 1947 ⁽²⁰⁾. In this incident, the fire aboard the ship containing ammonium nitrate fertilizer attracted many casual onlookers as well as the city's entire fire department ⁽²⁰⁾. The subsequent explosion of the ammonium nitrate caused 600 deaths ⁽²⁰⁾. Asaeda in *The Day that the START Triage System Came to a STOP: Observations from the World Trade Center Disaster* cited: Emergency medical services systems are not, however, used to dealing with live fire-type combat situations in which civilians and rescuers are actively under the line of fire After the collision of the first and even second aircraft, triage and treatment areas were established and functioning according to protocols. After the collapse of the first World Trade Center tower, however, the entire goal of the mission converted from treatment of patients to preservation of self; not by any official means, but by natural human instinct. The continued threat to personal safety and loss of communications played big roles in the stopping of the start (triage) system. ⁽¹⁹⁾. Movement of the casualties to safety may outweigh performing any emergency care ⁽²¹⁾. Baker summarized the dynamic nature of triage succinctly, triage conducted while under fire from the enemy is different from triage at the scene of a car accident and different again from that performed with a medical team in the emergency department at the hospital ⁽²¹⁾.

2. Material and Methods:

This study started in (in the eastern province in Saudi Arabia), began writing the research and then recording the questionnaire in April 2024, and the study ended. The researcher used the descriptive analytical approach that uses a quantitative or qualitative description of the social phenomenon (The importance of adhering to the patient triage mechanism in health sector) ,this

kind of study is characterized by analysis, reason, objectivity, and reality, as it is concerned with individuals and societies, as it studies the variables and their effects on the health of the individual, society, and consumer, the spread of diseases and their relationship to demographic variables such as age, gender, nationality, and marital status. Status, occupation ⁽²²⁾, And use the excel 2010 Office suite histogram to arrange the results using: Frequency tables Percentages ⁽²³⁾. A questionnaire is a remarkable and helpful tool for collecting a huge amount of data, however, researchers were not able to personally interview participants on the online survey, they only answered the questionnaire electronically, because the questionnaire consisted of eleven questions, and all were closed.

3. Results and dissection:

The rate of approval to participate in the research questionnaire was 100%, and the age of the participants was as follows: from the age of 16-25 years: 0%, from the age of 26-35 years: 33.3%, from the age of 36 years-45 years: 33.3%, and from the age of 46 years-55 years: 33.3%. The gender of the participants in the research questionnaire was as follows: the percentage of males was 66.7%, and the percentage of females was 33.3%. Their nationality is all 100% Saudi, and their professions are mostly 100% Saudi government, their educational status was: university and their percentage reached 41.7%, government employees 8.3%, and diploma holders 50%, while the rest 0%. When moving to the questions of the research questionnaire, they were as follows: The first question: Do the procedures for sorting patients apply to everyone based on the same medical and health standards? Yes 100%. As for the second question: What are the colors used to sort patients? Red-yellow-orange-green-blue? The answer was yes 83.3%, and no 16.7%. The third question: Who among the types of patients infected during triage are those who need urgent care - are able to wait - deceased? The answer was yes 83.3%, and no 16.7%. The fourth question: Who is included in the triage departments for the injured? Respiratory injuries - severe bleeding - shock? Yes 100%. The fifth question: Is there really an urgent need for a patient triage mechanism for the health facility? The answer is yes 100%. The sixth question: Who is included in the procedures for sorting the injured? Estimate the extent of the accident - develop a plan - start talking to the injured - urgent or non-urgent - or deceased - treat the urgently injured first - document the results of the triage. The answer was 100% yes. The seventh question: Does the patient sorting mechanism depend on brigades in providing medical services? Most answers were 100% yes. The eighth question: Does the patient triage mechanism depend on serving critically ill patients? The answer is yes 100%. The ninth question: does the sorting mechanism depend on the expected waiting time for patients in the health facility? The answers were yes 91.7% and no 8.3%. As for the tenth question: why was a patient sorting mechanism established despite wasting the time of a patient who is not a priority for treatment? Yes, 75%, and no, 25%. The last question is: Are patients sorted based on their nationalities for treatment? The answer was 0% yes, and 100% no. (table.no.1)(figure N0.1)

Table.no.1:percentage of males and females

males	females
66.7%	33.3%

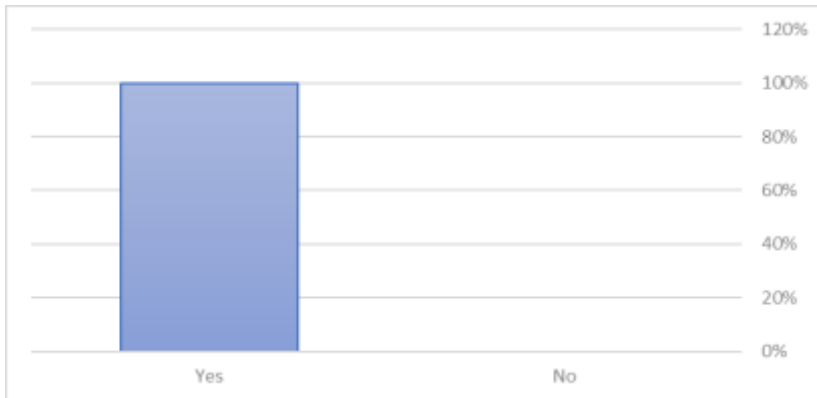


Figure No.1: Participants' opinions on the importance of triaging patients in health facilities

4. Conclusion:

Patient triage procedures apply to everyone according to the same 100% medical standards. Among the types of patients injured during triage are those who need urgent care - 83.3% are able to wait, and there is a truly urgent need for a patient triage mechanism in the health facility 100%, and the patient triage mechanism depends on the brigades in providing medical services 100%. The patient sorting mechanism serves critically ill patients, 100%. The sorting mechanism depends on the expected waiting time for patients in the health facility, 91.7%, as the patient sorting mechanism was put in place despite wasting the time of a patient who is not a priority for treatment, 75%.

Acknowledgment:

To start with, I would like to Praise God and thank and the researchers who made the project come to light.

WORKS CITED

Merriam-Webster Online Dictionary". Archived from the original on 16-04-2022. Accessed on 05-12-2008.
 Joost J. van Middendorp, Gonzalo M. Sanchez, Alwyn L. Burridge, "The Edwin Smith papyrus: a clinical reappraisal of the oldest known document on spinal injuries", European Spine Journal 19:11:1815-1823 (November 2010)

- Luiz, Thomas (2010). *Medizinische Gefahrenabwehr: Katastrophenmedizin und Krisenmanagement im Bevölkerungsschutz* (in German). Elsevier, Urban&FischerVerlag. p. 56. ISBN:978-3-437-24590-9. Archived from the original on 01/05/2022. Retrieved 29-01-2022.
- Cueni, Claude (27 Nov 2020). "Triage in Zeiten der Corona-Pandemie – Claude Cueni". *Blick* (in Swiss High German). Kirche und Leben. Archived from the original on 01/05/2022. Retrieved 29-01-2022.
- P.N. Skandalakis, P. Latinas, J.E. Skandalakis, P. Mirilas, "" To afford the wounded speedy assistance": Dominique Jean Larrey and Napoleon", *World Journal of Surgery* 30:8:1392-9 (August 2006)
- Iserson KV, Moskop JC (March 2007). "Triage in medicine, part I: Concept, history, and types". *Annals of Emergency Medicine*. C. 49 p. 3: 275–81. DOI: 10.1016/j.annemergmed.2006.05.019. PMID:17141139.
- Chipman M, Hackley BE, Spencer TS (February 1980). "Triage of mass casualties: concepts for coping with mixed battlefield injuries". *Mil Med*. C. 145 p. 2: 99–100. DOI:10.1093/milmed/145.2.99. PMID:6768037. Digital tools and virtual care in emergency services". Archived from the original on January 18, 2021. A bot will complete this citation soon. Click here to jump the queue arXiv:2003.12828.
- Baker, M. S., (2007). "Creating Order from Chaos: Part I: Triage, Initial Care, and Tactical Considerations in Mass Casualty and Disaster Response," *Military Medicine*, 172(3), 232-6.
- Bostick, N. A., Subbarao, I., Burkle, F. M., Jr, (2008), "Disaster Triage Systems for Large-Scale Catastrophic Events," *Disaster Medicine and Public Health Preparedness*, S35-S39.
- The Institute for Systems Research. The James School of Systems Engineering. The University of Maryland. (2005), "What is Systems Engineering?" <http://www.isr.umd.edu/ISR/about/define.html>. Assessed on February 11, 2008
- Hogan, D.E., and Lairet, J.R., (2002). *Disaster Medicine*. Lippincott, Williams, and Wilkins, p. 12.
- Domres, B., Koch, M., Manger, A., (2001), "Ethics and Triage." *Prehospital Disaster Medicine*, 16(1), 53-58.
- Elliott, T., (2002), "Triage during Wartime," *Homeland Protection Professional*, 22-23.
- Holcomb, J.B., Helling, T. S., and Hirshberg, A., (2001), "Military, Civilian, and Rural Application of Damage Control Philosophy," *Military Medicine*, 166(6), 4903.
- Dixon, M., (1986), "Medical Response: Organization and Preparation," *Journal of American Academy Occupational Health Nursing*, 34(12), 580-584.
- Levitin, H. W., Siegelson, H. J., Dickins, S., (2003), "Decontamination of Mass Casualties - Re-Evaluating Existing Dogma," *Prehospital Disaster Medicine*, 18(3),200-207.
- Asaeda, G., (2002), "The Day that the START Triage System Came to a STOP: Observations from the World Trade Center Disaster," *Academic Emergency Medicine*, 9(3), 255-6.
- Frykberg, E. R., (2002), "Medical Management of Disasters and Mass Casualties from Terrorist Bombings: How can we Cope?" *Journal of Trauma*, 53(2), 201-212.
- Baker, M. S., (2007). "Creating Order from Chaos: Part I: Triage, Initial Care, and Tactical Considerations in Mass Casualty and Disaster Response," *Military Medicine*, 172(3), 232-6.
- Alserahy, Hassan Awad, et al (2008), *The thinking and scientific research*, Scientific Publishing Center, King Abdul-Aziz University in Jeddah, the first edition
- Al Zoghbi, Muhammad and AlTalvah, Abas (2000), *Statistical system understanding and analysis of statistical data*, first edition, Jordon- Amman.