

# RESEARCH ARTICLE: FACTORS AFFECTING THE EFFICIENCY OF TRIAGE SYSTEM IN THE EMERGENCY ROOM OF SULU SANITARIUM AND GENERAL HOSPITAL

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**ABSTRACT.** The scope and notable variations in the effectiveness of the triage system in the emergency departments of Sulu Sanitarium and General Hospital were examined in this study. Using a purposive sampling technique, it used a descriptive-quantitative research design with 38 employees at Sulu Sanitarium General Hospital. Frequency, percentage score, weighted mean, standard deviation, t-test for independent samples, one-way ANOVA, and Pearson's test of correlation were used to analyze the data. The results show that: 1) Most of the respondents are female, between the ages of 26 and 35, have served for 1 to 5 years, are on a job order, and have a bachelor's degree. 2) Respondents generally indicated that the triage system's effectiveness at Sulu Sanitarium and General Hospital was moderately impacted; 3) When data are categorized by age, length of service, employment position, and educational attainment, there is typically a notable difference in the degree of efficiency of the triage system at Sulu Sanitarium and General Hospital. However, when data are categorized by gender, no discernible difference is found. 4) The subcategories included under the parameters influencing the effectiveness of the triage system at Sulu Sanitarium and General Hospital have an overall positive significant connection. Additionally, this study appears to confirm Ludwig Von Bertalanffy's Systems Theory from 1940, which emphasizes that the effectiveness of processes like triage depends heavily on how well personnel, resources, protocols, and communication channels cooperate. This fosters an understanding of the value of taking a comprehensive approach to solving issues and improving efficiency in order to support long-term enhancements in operational effectiveness and patient care. Last but not least, this study emphasizes the significance of triage systems in emergency rooms. To improve healthcare services, particularly in emergency rooms, healthcare professionals may take into account standardized triage programs, frequent audits of medical resources and equipment, and active participation of healthcare professionals in various training and development programs.

**KEYWORDS:** *Efficiency, Triage System, Professionals, Emergency Room, Personnel, Protocols*

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## 1. Introduction

The ineffectiveness of triage systems and ERs across the globe is a serious problem that

impacts patient outcomes, treatment quality, and operational management, according to Bijani and Khaleghi. The effectiveness of the triage system is determined by the high patient turnover rates, resource constraints, and congestion problems that emergency rooms have continuously faced in most parts of the world. Triage is the core of emergency care, according to Gorick (2024), who states that it is the process of classifying and ranking patients based on the severity of their medical issues in order to provide prompt and appropriate treatment. However, unexpected patient surges, a shortage of medical staff, and a lack of infrastructure can cause well-designed triage systems to fail (Gorick, 2024). This inefficiency frequently causes delays in evaluation and treatment, which deteriorates the patient's health and, in severe situations, can even result in avoidable deaths.

The triage system in Southeast Asia, particularly the Philippines, is challenged by a lack of resources, high patient demands, and a skilled healthcare personnel. According to Peng et al. (2021), the country has a very high patient-to-doctor ratio, and hospitals are overburdened with emergency care demands. Institutions can empower their staff by offering sufficient support systems, faculty development programs, and a supportive social environment (Carpio et al., 2024). To increase triage effectiveness in high-stress situations, a more thorough investigation is required.

The island province of Sulu, Philippines, has problems beyond ineffective hospital triage procedures because of its high poverty rates and underdeveloped healthcare infrastructure. The province's high poverty rate and underdeveloped healthcare system make the province's health needs extremely complex, according to Kenny et al. (2020). Every day, the Sulu Sanitarium and General Hospital saw a large number of patients with a wide range of illnesses, which overloaded triage systems and caused delays in medical evaluations. These inefficiencies, according to Fernandes et al. (2020), not only affected patient satisfaction but also reduced the standard of treatment given, putting patients in critical need of care at danger.

Inadequate emergency department triage training programs hampered the effectiveness of triage at Sulu Sanitarium and General Hospital. It was appropriate to use demonstration-based assessment (Robert, 2024). The overall effectiveness of the triage system is impacted by the disparities in patient assessments and prioritization caused by the local context's lack of specialist triage capabilities. The medical staff's assessment and prioritization of patients varied due to their uneven training in triage procedures and crisis management, which in turn affected the overall efficiency of patient sorting, according to Yancey et al. (2020). methods to carry out their evaluation procedures that adhere to health regulations, as well as methods to maintain the integrity and quality of these tests in spite of the challenges in the classroom (Chavez, Lamorinas 2023). Seasonal outbreaks, local conflicts, and erratic patient admission timelines all add to the strain on the triage system. The hospital's staff and resources were insufficient at busy periods, which left medical professionals ill-equipped to manage spikes in patient volume. Despite advancements in triage systems around the world, problems remained at facilities with limited resources, such as General Hospital and Sulu Sanitarium. These difficulties are caused by a number of factors, including staffing levels and workload, the availability of medical supplies and equipment, training and proficiency in triage processes, communication and language problems, patient volume, and influx patterns. A thorough analysis of these variables could result in focused actions to enhance the efficacy of triage, enhancing patient outcomes and Sulu's healthcare system.

## **2. Research Questions**

This study investigated the factors influencing the efficiency of the triage system at Sulu Sanitarium and General Hospital. Specifically, it aimed to answer the following questions:

1. What is the demographic profile of the respondents at Sulu Sanitarium and General Hospital in terms of:

- 1.1 Age;
  - 1.2 Gender;
  - 1.3 Length of service;
  - 1.4 Status of employment; and
  - 1.5 Educational attainment?
2. What is the extent of factors affecting the efficiency of triage system in Sulu Sanitarium and General Hospital as perceived by the respondents in terms of:
- 2.1 Staffing levels and workload;
  - 2.2 Availability of medical resources and equipment;
  - 2.3 Training and competency in triage procedures;
  - 2.4 Communication and language barriers; and
  - 2.5 Patient volume and influx patterns?
3. Is there a significant difference in the extent of efficiency of triage system in the emergency room of Sulu Sanitarium and General Hospital when data are grouped according to demographic profile in terms of:
- 3.1 Age;
  - 3.2 Gender;
  - 3.3 Length of service;
  - 3.4 Status of employment; and
  - 3.5 Educational attainment?
4. Is there a significant correlation among the subcategories subsumed under the factors affecting the efficiency of triage system in Sulu Sanitarium and General Hospital?

### **3. Literature**

According to Sunil Adhikari, emergency triage is the process by which patients are categorized based on their condition. It is an essential component of any contemporary emergency department in order to get the appropriate patient to the right place at the right time with the right care provider. In environments with limited resources, it aids in population reduction. Patients' morbidity and death are reduced when unwell patients are identified early and receive appropriate treatment. (Nepal Journal of Emergency Medicine and General Practice). In healthcare settings, triage is a priority classification system used to evaluate patients and estimate the severity of their diseases (Estrada, 1981; Safari et al., 2015). When demand exceeds capacity, it seeks to efficiently manage clinical risk, manage patient flows, and distribute resources (Soler et al., 2010). Five priority levels are commonly used in modern triage systems, which categorize patients according to urgency rather than severity (Soler et al., 2010). Initial evaluation, diagnostic tests, physical examinations, documentation, and referrals are all part of the process (Estrada, 1981). Certification, clinical trials, and instruction are necessary for the implementation of a triage system (Estrada, 1981). According to Safari et al. (2015), efficient triage can lower waiting times, death rates, and expenses while also increasing patient satisfaction and the quality of healthcare. Despite the widespread usage of standardized systems such as the Manchester and Spanish triage systems, their execution varies across countries (Soler et al., 2010; Mejinolli et al., 2020). In pediatric emergency care, triage is especially critical since prompt assessment and treatment are essential (Mejinolli et al., 2020).

According to Almutairi et al. (2022), emergency rooms (ERs) are essential parts of healthcare systems because they offer prompt treatment for acute illnesses and injuries. They use a triage method, giving patients who are seriously ill or at risk of worsening priority (Ferreira et al., 2008). According to one study, cardiac arrest accounts for 53% of deaths but only 5% of

admissions, making altered consciousness, respiratory failure, and tachycardia common grounds for emergency room admission (Ferreira et al., 2008). The federal requirement to serve all patients and the lack of primary care providers are two reasons why ER overcrowding has become a common problem (Barish et al., 2012). It's interesting to note that the majority of ER patients have chronic or minor problems that might be handled in less complex facilities rather than actual emergencies (Leitzell, 1981). With different agencies putting remedial measures in place to address crowding, the efficiency of ER administration is now regarded as a gauge of overall hospital success (Barish et al., 2012). Overcrowding in emergency rooms (ERs) has become a major issue in hospitals all throughout the US. One can name two primary causes. First, the only specialty in the "House of Medicine" with a federal requirement to treat patients who seek treatment is emergency medicine. Second, there is a shortage of primary care physicians, which forces ill patients to seek treatment in emergency rooms. Crowding was once thought of as a "ER problem," but it is now more accurately described as a "hospital problem," involving elements outside the ER. As a result of this insight, numerous regulatory bodies have begun corrective actions, some of which have proven successful. The absence of ER overcrowding is now regarded as a gauge of a hospital's or system's effectiveness.

Staffing in emergency departments (EDs) is a complicated matter that has a big impact on both staff welfare and patient treatment. There are drawbacks to the workload models used to forecast the amount of physician coverage that is required, and they could not fully represent actual demands (Dubinsky, 2012). Different shifts have different nurse-to-patient ratios; morning shifts typically have a ratio of 1:15, which may compromise the quality of treatment and lead to burnout (Lyneham et al., 2008). Research indicates that longer ED care times, lower patient satisfaction, and higher percentages of patients leaving without being seen are all linked to decreased nurse staffing levels (Recio-Saucedo et al., 2015). Using senior staff, synchronizing peak staffing to peak patient periods, and customizing profiles to meet specific hospital needs are all examples of effective staffing techniques (Schofield & Callander, 2009). Nevertheless, there is still a dearth of solid data regarding how staffing affects direct patient outcomes, as well as not enough economic evaluations to guide staffing choices (Recio-Saucedo et al., 2015).

Triage competency and training are essential components of an efficient emergency department (ED) that can accurately and quickly address patients' needs. According to Hamdi and Thobaity (2023), triage is the process of classifying patients according to the severity of their diseases in order to provide priority to those who require immediate care. In high-stress situations where speed is of the essence, this procedure can greatly enhance patient outcomes when executed properly. Specialized training is crucial for medical personnel, especially nurses and physicians who conduct triage. In situations where there are a lot of patients or mass casualty incidents, it guarantees that they have the abilities needed to make prompt, well-informed judgments. Training programs that focus on triage procedures equip healthcare workers with both the theoretical knowledge and practical skills required to assess patient conditions effectively.

In emergency care, efficient coordination and communication are essential to guaranteeing the provision of precise and prompt medical interventions. In an emergency situation, where time is frequently of the essence, the triage team, medical professionals, and other hospital departments must communicate clearly and succinctly in order to promptly transmit vital patient information (Andreassen, Borjch, & Sydnese, 2020). They employed open communication with others and complied with health protocols as adaptation techniques (Chavez, 2023). Patient outcomes may suffer as a result of delays, incorrect diagnoses, or unsuitable therapy brought on by a lack of communication. Therefore, from the time a patient arrives at the emergency room until

the point of discharge or transfer, healthcare professionals need to be able to communicate effectively under pressure and make sure that all pertinent patient information is accurately conveyed to the right people (Zhang, Sarcevic, & Joy, 2022).

The utilization of established procedures and systems is one of the fundamental components of communication in emergency care. With regard to patient evaluations, treatment plans, and potential problems, these procedures guarantee that all employees are in agreement. Standardized reporting formats and checklists, for example, can help ensure that important information is not missed (Wong, Hawkins, & Langness, 2020). Learning is strengthened by this kind of structured communication since it lowers the possibility of mistakes, guarantees that no detail is overlooked, and helps people remember and assimilate knowledge related to emotional reactions (Entong, 2024). This is especially crucial during crises when a patient's condition may quickly worsen. Apart from these official approaches, healthcare workers must receive training on how to use electronic health records (EHR) efficiently, which enables smooth information exchange and real-time patient progress monitoring. When used effectively, electronic health record (EHR) systems facilitate communication and can help prevent treatment plan duplications or disagreements.

The effectiveness of triage procedures and the general operation of the medical facility are directly impacted by the number of patients in an emergency room. Emergency rooms are frequently overloaded with patients during periods of high patient volume, such as during epidemics, natural catastrophes, or the holidays (Kevin & Ryan, 2024). Unthinkable effects and changes were brought about by the health crisis for both companies and the workforce (Chavez, Gregorio, Araneta, & Bihag, 2023). Healthcare providers may find it difficult to properly prioritize patients according to the severity of their ailments as a result of this influx, which could cause delays in triage. In these situations, it gets harder to handle the burden, which increases the likelihood of medical errors, lengthens patient wait times, and stresses out healthcare professionals. Triage decisions may become hurried or inaccurate as the patient load increases, which could have an impact on patient outcomes and treatment quality.

A high patient volume has a major influence on the hospital's overall resource allocation in addition to the triage procedure itself. Typically, emergency rooms have a fixed number of beds, personnel, and diagnostic equipment that must be shared by an increasing number of patients. Resources are overburdened at times of high patient demand, which can cause delays in procedures, therapies, and diagnostic testing (Mostafa & El-Atawi, 2024). Bottlenecks at different phases of patient care may result from this lack of resources, slowing down the system as a whole and making the triage process more difficult. The difficulties brought on by a large patient influx might be exacerbated by healthcare professionals having to manage several patients at once, which may result in misunderstandings or insufficient evaluations.

#### **4. Methodology**

The current chapter outlines the methodology employed in the research. It covers the research design, study participants, sampling method, and research tools. Additionally, it discusses the statistical techniques that will be utilized in data analysis.

##### *Research Design*

The study systematically investigated the factors affecting the efficiency of the triage system in the emergency room at Sulu Sanitarium and General Hospital using a descriptive-quantitative research approach. The descriptive aspect provided an in-depth account of triage operations and identified key elements influencing efficiency, such as staffing levels, resource availability, and training. The quantitative aspect measured the extent of these factors and provided

objective data for analysis. The descriptive-quantitative approach allowed for representative data collection from a large number of respondents, allowing for comparisons between different groups.

#### *Respondents of the Study*

The study's participants were census de jure, or those who were listed as being at work at the time of the census enumeration and who are counted according to their regular place of residence (de jure population). Those that work directly in the triage process at Sulu Sanitarium and General Hospital are either men or women between the ages of 23 and 50. These participants actively participated in the first assessment, classification, and priority of patients upon arrival at the emergency department. They included four nursing attendants, sixteen emergency room physicians, and eighteen staff nurses. whether on a job order or as a regular employee, lacking a bachelor's degree in nursing, having earned a master's or doctoral degree, and how long they have been in their current positions. 38 participants in all were selected for this study, specifically from the Sulu Sanitary and General Hospital's emergency room.

#### *Research Instrument*

The research study utilized a modified survey questionnaire adapted from the study entitled “Factors that affect nurses’ triage decisions in the emergency department” by Gorick H (2022) as a means of gathering the data. The data gathered were composed of two (2) parts. Part 1; consisted of demographic information of the respondents in terms of age, gender, length of service, status of employment and educational attainment. Part 2 of the instrument consists of 5 factors affecting the efficiency of the triage system which has 10 items each with a total of 50 which were answered by the respondents using the five-point likert’s scale. The respondents used the five - point Likert’s Scale in this part to express how much they agree with the assertions by responding to a 50-item Likert questionnaire. The following categories were: 1 (strongly disagree), 2 (disagree), 3 (neutral), 4 (agree), and 5 (strongly agree).

#### *Data Gathering Procedure*

The research framework was reviewed and correlated with existing studies before data gathering procedures began. The questionnaire was assessed for validity and reliability, and formal approval was obtained from the adviser and dean of graduate studies. Permission was obtained from the chief of Sulu Sanitarium and General Hospital, and informed consent was obtained from respondents. The study involved a sample of 38 emergency room staff aged 23-50 years and above, with the researcher providing a comprehensive explanation of data usage and providing contact information for any inquiries or concerns.

#### *Data Analysis*

The study analyzed the socio-demographic profile of respondents in the Emergency room of Sulu Sanitarium and General Hospital, focusing on factors affecting triage system efficiency. Factors such as workload, medical resources, training, communication barriers, and patient volume were analyzed using weighted mean calculations and standard deviation. Independent sample t-tests and ANOVA were used to examine the impact of demographic factors on efficiency. Pearson correlation was calculated to identify significant relationships between factors and their effects on triage system efficiency.

### **5. Results**

*Question 1. 1. What is the demographic profile of the respondents at Sulu Sanitarium and General Hospital in terms of: age; gender; length of service; status of employment; and educational attainment?*

#### *1.1 On Age*

Table 1.1 shows the demographic profile of respondents at Sulu Sanitarium and General Hospital in terms of age. It can be gleaned from this table that, out of 38 respondents, 10.5% aged between 23-25 years old, 68.4% aged between 26-35 years old, and 21.1% aged between 36-55 years old. This implies that the majority of the respondents ranged between 26-35 years old.

Table 1.1 Demographic profiles of the respondents at Sulu Sanitarium and General Hospital in terms of age

Age	Number of Respondents	Percent	Cumulative percent
23-25 years old	4	10.5%	10.5%
26-35 years old	26	68.4%	78.9%
36-55 years old	8	21.1%	100%
<b>Total</b>	<b>38</b>	<b>100%</b>	

1.2 On Gender Table 1.2 shows the demographic profile of respondents at Sulu Sanitarium and General Hospital in terms of gender. It can be gleaned from this table that, out of 38 respondents, 28.9% are male and 71.1% are female. This implies that the majority of respondents are female.

Table 1.2 Demographic profiles of the respondents at Sulu Sanitarium and General Hospital in terms of gender

Gender	Number of Respondents	Percent	Cumulative percent
Male	11	28.9%	28.9%
Female	27	71.1%	100%
<b>Total</b>	<b>38</b>	<b>100%</b>	

1.3 On Length of Service

Table 1.3 shows the demographic profile of respondents at Sulu Sanitarium and General Hospital in terms of length of service. It can be gleaned from this table that, out of 38 respondents, 15.8% served for less than 1 year, 68.4% served for 1-5 years, and 15.8% served for 6-10 years. This implies that the majority of the respondents are novices at Sulu Sanitarium and General Hospital.

Table 1.3 Demographic profiles of the respondents at Sulu Sanitarium and General Hospital in terms of length of service

Length of Service	Number of Respondents	Percent	Cumulative percent
Less than 1 year	6	15.8%	15.8%
1-5 years	26	68.4%	84.2%
6-10 years	6	15.8%	100%
<b>Total</b>	<b>38</b>	<b>100%</b>	

1.4 On Status of Employment

Table 1.4 shows the demographic profile of respondents at Sulu Sanitarium and General Hospital in terms of status of employment. It can be gleaned from this table that, out of 38 respondents, 44.7% are regular employees while 55.3% are job orders. This implies that half of the respondents are job orders employed at Sulu Sanitarium and General Hospital.

Table 1.4 Demographic profiles of the respondents at Sulu Sanitarium and General Hospital in terms of status of employment

Status of Employment	Number of Respondents	Percent	Cumulative percent
Regular	17	44.7%	44.7%
Job Order	21	55.3%	100%
<b>Total</b>	<b>38</b>	<b>100%</b>	

1.5 On Educational Attainment

Table 1.5 shows the demographic profile of respondents at Sulu Sanitarium and General Hospital in terms of educational attainment. It can be gleaned from this table that, out of 38 respondents, 52.6% are bachelor's degree holders, 5.3% are master's degree holders, and 42.1%

are with a Doctor of Medicine. This implies that half of the respondents are bachelor’s degree holders aligned to their respective workplace.

Table 1.5 Demographic profiles of the respondents at Sulu Sanitarium and General Hospital in terms of educational attainment

Educational Attainment	Number of Respondent	Percent	Cumulative percent
Bachelor’s degree	20	52.6%	52.6%
Master’s degree	2	5.3%	57.9%
Doctorate degree	0	0%	57.9%
Doctor of Medicine	16	42.1%	100%
<b>Total</b>	<b>38</b>	<b>100%</b>	

*Question 2. What is the extent of factors affecting the efficiency of triage system in Sulu Sanitarium and General Hospital as perceived by the respondents in terms of: staffing levels and workload, availability of medical resources and equipment, training and competency in triage procedures, communication and language barriers, and patient volume and influx patterns?*

### 2.1 In terms of Staffing Levels and Workload

Table 2.1 reflects the extent of factors affecting the efficiency of the triage system in Sulu Sanitarium and General Hospital as perceived by the respondents in terms of staffing levels and workload. It can be gleaned from this table that, generally, the respondents obtained a composite mean score of 3.942 with a standard deviation of .42275, which is rated as “moderately affecting efficiency” in the staffing levels and workload category. This indicates that staffing levels and workload moderately affect the efficiency of the triage system in Sulu Sanitarium and General Hospital.

More specifically, the following statement garnered the mean score which is rated as “moderately affecting efficiency,” and states, “I am often required to manage multiple patients at the same time due to high staffing demand”, “My workload frequently impacts my ability to provide efficient triage services”, “The workload in the emergency room often affects the accuracy of my triage decisions”, “I find it challenging to manage triage duties efficiently because of understaffing during peak hours”, “My performance in triaging patients is compromised when there is a high volume of patients and limited staff”, and “I feel overwhelmed with the workload, which affects my efficiency in handling triage cases”.

Table 2.1 Factors affecting the efficiency of triage system in Sulu Sanitarium and General Hospital as perceived by the respondents in terms of staffing levels and workload

No	Staffing Levels and Workload	Mean	S.D.	Description
1	I feel that the current staffing levels are adequate to manage the patient load in the emergency room.	2.76	.998	Affects Efficiency
2	I am often required to manage multiple patients at the same time due to high staffing demand.	4.32	.904	Moderately Affecting Efficiency
3	My workload frequently impacts my ability to provide efficient triage services.	4.03	.677	Moderately Affecting Efficiency
4	I believe that more staff members are needed to improve the triage process.	4.63	.675	Highly Affecting Efficiency
5	The workload in the emergency room often affects the accuracy of my triage decisions.	4.26	.860	Moderately Affecting Efficiency
6	I find it challenging to manage triage duties efficiently because of understaffing during peak hours.	4.13	.704	Moderately Affecting Efficiency
7	The current number of staff members is sufficient for ensuring the timely processing of all emergency cases.	2.92	1.171	Affects Efficiency

8	My performance in triaging patients is compromised when there is a high volume of patients and limited staff.	4.11	.764	Moderately Affecting Efficiency
9	I feel overwhelmed with the workload, which affects my efficiency in handling triage cases.	3.87	.906	Moderately Affecting Efficiency
10	I believe that increasing staffing levels would improve the overall efficiency of the triage process.	2.76	.998	Affects Efficiency
<b>Weighted Mean</b>		<b>3.942</b>	<b>.42275</b>	<b>Moderately Affecting Efficiency</b>

Legend: (5) 4.50 – 5.00=Highly Affecting Efficiency; (4) 3.50 – 4.49=Moderately Affecting Efficiency; (3) 2.50 – 3.49= Affects Efficiency; (2)1.50 – 2.49=Low Affecting Efficiency; (1)1.00 – 1.49=Very Low Affecting Efficiency

### 2.2 In terms of Availability of Medical Resources and Equipment

Table 2.2 reflects the extent of factors affecting the efficiency of the triage system in Sulu Sanitarium and General Hospital as perceived by the respondents in terms of availability of medical resources and equipment. It can be gleaned from this table that, generally, the respondents obtained a composite mean score of 3.778 with a standard deviation of .46856, which is rated as “moderately affecting efficiency” in the availability of medical resources and equipment category. This indicates that availability of medical resources and equipment moderately affects the efficiency of the triage system in Sulu Sanitarium and General Hospital.

More specifically, statement number nine garnered the highest mean of 4.37 with a standard deviation of .633 which is rated as “moderately affecting efficiency”, and states, “I believe the provision of more medical resources would improve the triage process”.

Table 2.2 Factors affecting the efficiency of triage system in Sulu Sanitarium and General Hospital as perceived by the respondents in terms of availability of medical resources and equipment

No	Availability of Medical Resources and Equipment	Mean	S.D.	Description
1	I have adequate access to medical equipment when conducting triage assessments.	3.55	.860	Moderately Affecting Efficiency
2	The lack of medical resources negatively affects my ability to perform efficient triage.	3.74	.921	Moderately Affecting Efficiency
3	I often face delays in triage procedures due to unavailability of necessary medical equipment.	3.50	.688	Moderately Affecting Efficiency
4	The availability of medical resources significantly impacts the efficiency of triage procedures.	4.18	.652	Moderately Affecting Efficiency
5	I feel confident in the resources available to support my triage decisions.	3.37	.786	Affecting Efficiency
6	Limited access to medical equipment often leads to delays in providing necessary care to patients.	4.13	.704	Moderately Affecting Efficiency
7	The hospital’s emergency room is well-equipped for triage and patient assessment.	3.58	.758	Moderately Affecting Efficiency
8	Inadequate resources sometimes result in my inability to quickly triage critical patients.	3.50	1.033	Moderately Affecting Efficiency
9	I believe the provision of more medical resources would improve the triage process.	4.37	.633	Moderately Affecting Efficiency
10	I often encounter challenges in obtaining medical resources that affect my triage performance.	3.87	.844	Moderately Affecting Efficiency
<b>Weighted Mean</b>		<b>3.778</b>	<b>.46856</b>	<b>Moderately Affecting Efficiency</b>

Legend: (5) 4.50 – 5.00=Highly Affecting Efficiency; (4) 3.50 – 4.49=Moderately Affecting Efficiency; (3) 2.50 – 3.49= Affects Efficiency; (2)1.50 – 2.49=Low Affecting Efficiency; (1)1.00 – 1.49=Very Low Affecting Efficiency

### 2.3 In terms of Training and Competency in Triage Procedures

Table 2.3 reflects the extent of factors affecting the efficiency of the triage system in Sulu Sanitarium and General Hospital as perceived by the respondents in terms of training and competency in triage procedures. It can be gleaned from this table that, generally, the respondents obtained a composite mean score of 4.305 with a standard deviation of .46087, which is rated as “moderately affecting efficiency” in the training and competency in triage procedures category. This indicates that training and competency in triage procedures moderately affect the efficiency of the triage system in Sulu Sanitarium and General Hospital.

More specifically, the following statement garnered the highest mean score which is rated as “highly affecting efficiency”, and states, “I believe continuous professional development is necessary to maintain competency in triage”, “The hospital should provide more opportunities for ongoing training to ensure triage efficiency”, and “I feel my competency in triage procedures is critical to ensuring the efficiency of the emergency room”.

Table 2.3 Factors affecting the efficiency of triage system in Sulu Sanitarium and General Hospital as perceived by the respondents in terms training and competency in triage procedures

No	Training and Competency in Triage Procedures	Mean	S.D.	Description
1	I feel well-trained to handle triage situations and make accurate assessments.	4.00	.615	Moderately Affecting Efficiency
2	The training I received adequately prepared me for my role in triage procedures.	4.05	.517	Moderately Affecting Efficiency
3	I believe additional training on triage procedures would enhance my ability to perform efficiently.	4.29	.611	Moderately Affecting Efficiency
4	I regularly update my skills to ensure competency in triage procedures.	4.05	.804	Moderately Affecting Efficiency
5	The quality of training provided impacts my performance in triage situations.	4.24	.590	Moderately Affecting Efficiency
6	I am confident in my ability to prioritize patients based on their condition due to my training.	4.32	.739	Moderately Affecting Efficiency
7	I am confident in my ability to prioritize patients based on their condition due to my training.	4.37	.852	Moderately Affecting Efficiency
8	I believe continuous professional development is necessary to maintain competency in triage.	4.55	.686	Highly Affecting Efficiency
9	The hospital should provide more opportunities for ongoing training to ensure triage efficiency.	4.68	.525	Highly Affecting Efficiency
10	I feel my competency in triage procedures is critical to ensuring the efficiency of the emergency room.	4.50	.647	Highly Affecting Efficiency
<b>Weighted Mean</b>		<b>4.305</b>	<b>.46087</b>	<b>Moderately Affecting Efficiency</b>

Legend: (5) 4.50 – 5.00=Highly Affecting Efficiency; (4) 3.50 – 4.49=Moderately Affecting Efficiency; (3) 2.50 – 3.49= Affects Efficiency; (2)1.50 – 2.49=Low Affecting Efficiency; (1)1.00 – 1.49=Very Low Affecting Efficiency

#### 2.4 In terms of Communication and Coordination in Emergency Care

Table 2.4 reflects the extent of factors affecting the efficiency of the triage system in Sulu Sanitarium and General Hospital as perceived by the respondents in terms of communication and coordination in emergency care. It can be gleaned from this table that, generally, the respondents obtained a composite mean score of 4.186 with a standard deviation of .43444, which is rated as “moderately affecting efficiency” in the communication and coordination in emergency care category. This indicates that communication and coordination in emergency care moderately affects the efficiency of the triage system in Sulu Sanitarium and General Hospital.

More specifically, the following statement garnered the highest mean score which is rated as “highly affecting efficiency”, and states, “I feel that the lack of communication support tools impacts my ability to triage efficiently”, “I believe that improved communication tools would enhance triage efficiency”, “Communication challenges significantly affect my ability to prioritize cases accurately”, “Clear communication with patients and colleagues is essential to ensuring triage efficiency”, and “The presence of language barriers creates confusion and delays in triage assessments”.

Table 2.4 Factors affecting the efficiency of triage system in Sulu Sanitarium and General Hospital as perceived by the respondents in terms communication and coordination in emergency care

No	Communication and Coordination in Emergency Care	Mean	S.D.	Description
1	I am able to communicate effectively with patients during the triage process.	4.05	.517	Moderately Affecting Efficiency
2	Language barriers often hinder my ability to assess patients properly during triage.	4.18	.766	Moderately Affecting Efficiency
3	I believe that improved communication tools would enhance triage efficiency.	4.34	.966	Moderately Affecting Efficiency
4	I often rely on translators to communicate with patients, which slows down the triage process.	3.39	1.128	Affecting Efficiency
5	Clear communication with patients and colleagues is essential to ensuring triage efficiency.	4.45	.795	Moderately Affecting Efficiency
6	The presence of language barriers creates confusion and delays in triage assessments.	4.47	.647	Moderately Affecting Efficiency
7	I feel that the lack of communication support tools impacts my ability to triage efficiently.	4.32	.775	Moderately Affecting Efficiency
8	Communication challenges significantly affect my ability to prioritize cases accurately.	4.37	.751	Moderately Affecting Efficiency
9	I believe better language training or translation services would improve triage efficiency.	4.11	.649	Moderately Affecting Efficiency
10	I believe better language training or translation services would improve triage efficiency.	4.18	.692	Moderately Affecting Efficiency
<b>Weighted Mean</b>		<b>4.186</b>	<b>.43444</b>	<b>Moderately Affecting Efficiency</b>

Legend: (5) 4.50 – 5.00=Highly Affecting Efficiency; (4) 3.50 – 4.49=Moderately Affecting Efficiency; (3) 2.50 – 3.49= Affects Efficiency; (2)1.50 – 2.49=Low Affecting Efficiency; (1)1.00 – 1.49=Very Low Affecting Efficiency

### 2.5 In terms of Patient Volume and Influx Patterns

Table 2.5 reflects the extent of factors affecting the efficiency of the triage system in Sulu Sanitarium and General Hospital as perceived by the respondents in terms of patient volume and influx patterns. It can be gleaned from this table that, generally, the respondents obtained a composite mean score of 4.205 with a standard deviation of .45438, which is rated as “moderately affecting efficiency” in the patient volume and influx patterns category. This indicates that patient volume and influx patterns moderately affect the efficiency of the triage system in Sulu Sanitarium and General Hospital.

More specifically, the following statement garnered the highest mean score which is rated as “highly affecting efficiency”, and states, “I feel that better planning for patient volume and influx patterns would reduce delays in triage”, “The influx of patients during emergencies impacts the resources available for triage”, “Managing patient volume is a key factor affecting the efficiency of the triage process”, “The volume of patients during peak hours often leads to delays in the triage process”, and “High patient influx patterns make it challenging to provide timely care during triage”

Table 2.5 Factors affecting the efficiency of triage system in Sulu Sanitarium and General Hospital as perceived by the respondents in terms patient volume and influx patterns

No	Patient Volume and Influx Patterns	Mean	S.D.	Description
1	The volume of patients during peak hours often leads to delays in the triage process.	4.34	.708	Moderately Affecting Efficiency
2	High patient influx patterns make it challenging to provide timely care during triage.	4.39	.679	Moderately Affecting Efficiency
3	I often find it difficult to manage a large number of patients in the emergency room during busy periods.	4.16	.855	Moderately Affecting Efficiency
4	The hospital's triage system struggles to accommodate sudden influxes of patients.	4.13	.665	Moderately Affecting Efficiency
5	The high volume of patients often affects the quality and speed of my triage decisions.	4.11	.606	Moderately Affecting Efficiency
6	I believe that triage efficiency would improve if patient volume were more evenly distributed throughout the day.	4.18	.457	Moderately Affecting Efficiency
7	The influx of patients during emergencies impacts the resources available for triage.	4.21	.528	Moderately Affecting Efficiency
8	I often experience pressure due to the large number of patients that need to be triaged quickly.	4.08	.587	Moderately Affecting Efficiency
9	Managing patient volume is a key factor affecting the efficiency of the triage process.	4.24	.542	Moderately Affecting Efficiency
10	I feel that better planning for patient volume and influx patterns would reduce delays in triage.	4.21	.622	Moderately Affecting Efficiency
<b>Weighted Mean</b>		<b>4.205</b>	<b>.45438</b>	<b>Moderately Affecting Efficiency</b>

Legend: (5) 4.50 – 5.00=Highly Affecting Efficiency; (4) 3.50 – 4.49=Moderately Affecting Efficiency; (3) 2.50 – 3.49= Affects Efficiency; (2)1.50 – 2.49=Low Affecting Efficiency; (1)1.00 – 1.49=Very Low Affecting Efficiency

*Question 3. Is there a significant difference in the extent of efficiency of the triage system in the emergency room of Sulu Sanitarium and General Hospital when data are grouped according to demographic profile in terms of: age, gender, length of service, status of employment, and educational attainment?*

### 3.1 Efficiency of triage system in the emergency room in terms of age

Table 3.1 shows the difference in the extent of efficiency of the triage system in the emergency room of Sulu Sanitarium and General Hospital in terms of age. It can be gleaned from this table that, generally, the presented ANOVA data shows no statistically significant differences across age groups for availability of medical resources and equipment ( $F=0.402$ ,  $p=.672$ ), training and competency in triage procedures ( $F=0.290$ ,  $p=.750$ ), communication and language barriers ( $F=2.231$ ,  $p=.122$ ), and patient volume and influx patterns ( $F=1.663$ ,  $p=.204$ ), or a significant difference across age groups for staffing levels and workload ( $F=3.532$ ,  $p=.040$ ), this finding implies complex dynamics that challenge simplistic interpretations and understanding the phenomenon.

Therefore, the hypothesis, which states that “There is no significant difference in the extent of efficiency of the triage system at Sulu Sanitarium and General Hospital when data are grouped according to the demographic profile of respondents’ age” is rejected.

Table 3.1 Differences in the extent of efficiency of triage system in the emergency room as perceived by the respondents in terms of age

SOURCES OF VARIATION		Sum of Squares	df	Mean Square	F	Sig.	Description
Staffing levels and workload	Between Groups	1.110	2	.555	3.532	.040*	Significant
	Within Groups	5.502	35	.157			
	Total	6.613	37				
Availability of medical resources and equipment	Between Groups	.182	2	.091	.402	.672	Not Significant
	Within Groups	7.941	35	.227			
	Total	8.123	37				
Training and competency in triage procedures	Between Groups	.128	2	.064	.290	.750	Not Significant
	Within Groups	7.731	35	.221			
	Total	7.859	37				
Communication and language barriers	Between Groups	.790	2	.395	2.231	.122	Not Significant
	Within Groups	6.194	35	.177			
	Total	6.983	37				
Patient volume and influx patterns	Between Groups	.663	2	.331	1.663	.204	Not Significant
	Within Groups	6.976	35	.199			
	Total	7.639	37				

\*Significance at alpha 0.05

### 3.2 Efficiency of triage system in the emergency room in terms of gender

Table 3.2 shows the difference in the extent of efficiency of the triage system in the emergency room of Sulu Sanitarium and General Hospital in terms of gender. It can be gleaned from this table that, generally, the overall mean differences and t-values obtained under this category indicate no significant difference. While the presented data shows no statistically significant differences across gender groups for staffing levels and workload ( $t=1.224$ ,  $p=.229$ ), availability of medical resources and equipment ( $t=0.706$ ,  $p=.521$ ), training and competency in triage procedures ( $t=0.648$ ,  $p=.750$ ), communication and language barriers ( $t=1.196$ ,  $p=.239$ ), and patient volume and influx patterns ( $t=1.222$ ,  $p=.230$ ), this finding implies complex dynamics that challenge simplistic interpretations and understanding the phenomenon.

Therefore, the hypothesis, which states that “There is no significant difference in the extent of efficiency of the triage system at Sulu Sanitarium and General Hospital when data are grouped according to the demographic profile of respondents’ gender” is accepted.

Table 3.2 Differences in the extent of efficiency of triage system in the emergency room as perceived by the respondents in terms of gender

VARIABLES	Grouping Gender	Mean	S. D.	Mean Difference	t	Sig.	Description
Staffing levels and workload	Male	4.0727	.45846	4.0727	1.224	.229	Not Significant
	Female	3.8889	.40415				
Availability of medical resources and equipment	Male	3.8636	.49045	3.8636	.706	.485	Not Significant
	Female	3.7444	.46437				
Training and competency in triage procedures	Male	4.3818	.44004	4.3818	.648	.521	Not Significant
	Female	4.2741	.47361				
Communication and language barriers	Male	4.3182	.34876	4.3182	1.196	.239	Not Significant
	Female	4.1333	.45993				
Patient volume and influx patterns	Male	4.3455	.47405	4.3455	1.222	.230	Not Significant
	Female	4.1481	.44235				

Significance at alpha 0.05

### 3.3 Efficiency of triage system in the emergency room in terms of length of service

Table 3.3 shows the difference in the extent of efficiency of the triage system in the emergency room of Sulu Sanitarium and General Hospital in terms of length of service. It can be gleaned from this table that, generally, the presented ANOVA data shows no statistically significant differences across length of service groups for staffing levels and workload ( $F=.587$ ,  $p=.561$ ), availability of medical resources and equipment ( $F=0.659$ ,  $p=.523$ ), and patient volume and influx patterns ( $F=2.492$ ,  $p=.097$ ). However, a statistically significant difference across length of service groups is revealed on training and competency in triage procedures ( $F=5.020$ ,  $p=.012$ ), and communication and language barriers ( $F=3.709$ ,  $p=.035$ ).

Therefore, the hypothesis, which states that “There is no significant difference in the extent of efficiency of the triage system at Sulu Sanitarium and General Hospital when data are grouped according to the demographic profile of respondents’ length of service” is rejected.

Table 3.3 Differences in the extent of efficiency of triage system in the emergency room as perceived by the respondents in terms of length of service

SOURCES OF VARIATION		Sum of Squares	df	Mean Square	F	Sig.	Description
Staffing levels and workload	Between Groups	.215	2	.107	.587	.561	Not Significant
	Within Groups	6.398	35	.183			
	Total	6.613	37				
Availability of medical resources and equipment	Between Groups	.295	2	.147	.659	.523	Not Significant
	Within Groups	7.828	35	.224			
	Total	8.123	37				
Training and competency in triage procedures	Between Groups	1.752	2	.876	5.020	.012*	Significant
	Within Groups	6.107	35	.174			
	Total	7.859	37				
Communication and language barriers	Between Groups	1.221	2	.611	3.709	.035*	Significant
	Within Groups	5.762	35	.165			
	Total	6.983	37				
Patient volume and influx patterns	Between Groups	.952	2	.476	2.492	.097	Not Significant
	Within Groups	6.687	35	.191			
	Total	7.639	37				

\*Significance at alpha 0.05

### 3.4 Efficiency of triage system in the emergency room in terms of status of employment

Table 3.4 shows the difference in the extent of efficiency of the triage system in the emergency room of Sulu Sanitarium and General Hospital in terms of status of employment. It can be gleaned from this table that, generally, the overall mean differences and t-values obtained under this category indicate no significant difference. While the presented data shows no statistically significant differences across status of employment groups for staffing levels and workload ( $t=.064$ ,  $p=.949$ ), availability of medical resources and equipment ( $t=-.933$ ,  $p=.357$ ), and patient volume and influx patterns ( $t=1.313$ ,  $p=.198$ ). However, a significant difference was found in the groups for training and competency in triage procedures ( $t=2.417$ ,  $p=.021$ ), and communication and language barriers ( $t=2.142$ ,  $p=.039$ ),

Therefore, the hypothesis, which states that “There is no significant difference in the extent of efficiency of the triage system at Sulu Sanitarium and General Hospital when data are grouped according to the demographic profile of respondents’ status of employment” is rejected.

Table 3.4 Differences in the extent of efficiency of triage system in the emergency room as perceived by the respondents in terms of status of employment

VARIABLES	Grouping Status of Employment	Mean	S. D.	Mean Difference	t	Sig .	Description
Staffing levels and workload	Regular	3.9471	.34662	.00896	.064	.94	Not Significant
	Job Order	3.9381	.48423				
Availability of medical resources and equipment	Regular	3.7000	.57337	-.14286	-.933	.357	Not Significant
	Job Order	3.8429	.36547				
Training and competency in triage procedures	Regular	4.4941	.31319	.34174	2.417	.021*	Significant
	Job Order	4.1524	.50953				
Communication and language barriers	Regular	4.3471	.43749	.28992	2.142	.039*	Significant
	Job Order	4.0571	.39569				
Patient volume and influx patterns	Regular	4.3118	.30798	.19272	1.313	.198	Not Significant
	Job Order	4.1190	.53723				

Significance at alpha 0.05

### 3.5 Efficiency of triage system in the emergency room in terms of educational attainment

Table 3.5 shows the difference in the extent of efficiency of the triage system in the emergency room of Sulu Sanitarium and General Hospital in terms of educational attainment. It can be gleaned from this table that, generally, the presented ANOVA data shows no statistically significant differences across educational attainment groups for staffing levels and workload (F=1.790, p=.182), and patient volume and influx patterns (F=1.903, p=.164). However, a statistically significant difference across educational attainment groups are revealed on availability of medical resources and equipment (F=4.352, p=.021), training and competency in triage procedures (F=3.123, p=.056), and communication and language barriers (F=3.359, p=.046).

Therefore, the hypothesis, which states that “There is no significant difference in the extent of efficiency of the triage system at Sulu Sanitarium and General Hospital when data are grouped according to the demographic profile of respondents’ educational attainment” is rejected.

Table 3.5 Differences in the extent of efficiency of triage system in the emergency room as perceived by the respondents in terms of educational attainment

SOURCES OF VARIATION	Sum of Squares	df	Mean Square	F	Sig.	Description
Staffing levels and workload	Between Groups	.614	.307	1.790	.182	Not Significant
	Within Groups	5.999	35	.171		

		Total	6.613	37			
Availability of medical resources and equipment	Between Groups	1.618	2	.809	4.352	.021*	Significant
	Within Groups	6.505	35	.186			
	Total	8.123	37				
Training and competency in triage procedures	Between Groups	1.190	2	.595	3.123	.056*	Significant
	Within Groups	6.669	35	.191			
	Total	7.859	37				
Communication and language barriers	Between Groups	1.125	2	.562	3.359	.046*	Significant
	Within Groups	5.859	35	.167			
	Total	6.983	37				
Patient volume and influx patterns	Between Groups	.749	2	.375	1.903	.164	Not Significant
	Within Groups	6.890	35	.197			
	Total	7.639	37				

\*Significance at alpha 0.05

*Question 4. 4. Is there a significant correlation among the subcategories subsumed under the factors affecting the efficiency of triage system in Sulu Sanitarium and General Hospital?*

*4.1 Correlation among the subcategories subsumed under the factors affecting the efficiency of triage system*

Table 4.1 shows the correlation among the subcategories subsumed under the factors affecting the efficiency of triage system in Sulu Sanitarium and General Hospital. It can be gleaned from this table that, there is a highly positive and significantly correlated between communication and language barriers and patient volume and influx patterns ( $r=.685$ ;  $sig=.000$ ), and training and competency in triage procedures and patient volume and influx patterns ( $r=.521$ ;  $sig=.001$ ). Moreover, there is a moderately positive and significantly correlated between training and competency in triage procedures and communication and language barriers ( $r=.482$ ;  $sig=.002$ ), staffing levels and workload and communication and language barriers ( $r=.450$ ;  $sig=.005$ ), staffing levels and workload and training and competency in triage procedures ( $r=.383$ ;  $sig=.018$ ), and staffing levels and workload and patient volume and influx patterns ( $r=.372$ ;  $sig=.022$ ).

Therefore, the hypothesis which states that: “There is no significant correlation among the subcategories subsumed under the factors affecting the efficiency of triage system in Sulu Sanitarium and General Hospital,” is hereby rejected.

Table 4.1 Correlation among the subcategories subsumed under the factors affecting the efficiency of triage system

Variables	Staffing levels and workload	Pearson <i>r</i>	Sig.	N	Description
Availability of medical resources and equipment		.282	.087	38	No Correlation
Training and competency in triage procedures		.383*	.018	38	Moderate

Communication and language barriers	.450**	.005	38	Moderate
Patient volume and influx patterns	.372	.022	38	Moderate
Availability of medical resources and equipment				
Training and competency in triage procedures	.158	.343	38	No Correlation
Communication and language barriers	-.108	.520	38	No Correlation
Patient volume and influx patterns	.230	.164	38	No Correlation
Training and competency in triage procedures				
Communication and language barriers	.482**	.002	38	Moderate
Patient volume and influx patterns	.521**	.001	38	High
Communication and language barriers				
Patient volume and influx patterns	.685**	.000	38	High

Legend: \*\* Correlation Coefficient is significant at alpha .01; \*Correlation Coefficient is significant at alpha .05  
Correlation Coefficient Scales Adopted from Hopkins, Will (2002): 0.0-0.1=Nearly Zero; 0.1-0.30=Low; 0.3-0.5 0=Moderate; 0.5-0.7-0=High; 0.7-0.9= Very High; 0.9-1=Nearly Perfect

## 6. Discussion

*Question 2. What is the extent of factors affecting the efficiency of triage system in Sulu Sanitarium and General Hospital as perceived by the respondents in terms of: staffing levels and workload, availability of medical resources and equipment, training and competency in triage procedures, communication and language barriers, and patient volume and influx patterns?*

### 2.1 In terms of Staffing Levels and Workload

Saucedo Recio et al. (2015) proposed a correlation between lower nurse staffing levels and longer ED care waits, worse patient satisfaction, and higher chances of patients leaving without being seen. As for Lyneham et al. (2008) found that nurse-to-patient ratios fluctuate by shift, with morning shifts averaging 1:15. This could negatively impact the quality of care and lead to burnout. Schofield and Callander (2009) stressed that effective staffing techniques include using senior personnel, aligning peak staffing to peak patient hours, and customizing profiles to meet hospital needs.

### 2.2 In terms of Availability of Medical Resources and Equipment

Desalign Dinaol et al. (2023) found that a large number of healthcare facilities are devoid of sophisticated and necessary medical equipment, and that some of the equipment that is there is broken. In the meanwhile, misuse, bad infrastructure, and insufficient training are some of the issues causing poor availability. In order to address this, a number of investigations were carried out, including one by Beniacoub et al. (2023) that proved the viability and utility of such a strategy in low-resource settings by showing that it decreased maintenance backlogs and enhanced equipment functionality by up to 8%.

### 2.3 In terms of Training and Competency in Triage Procedures

According to Moon & Cho's (2024) study, training in this field guarantees that medical personnel are able to manage patients' emotional states, which may influence how they cooperate or report their symptoms, in addition to evaluating their physical condition. application of tactics

that take into account the study's demographics and learning characteristics (Garil, 2024). To guarantee that all patients, regardless of their background, are triaged fairly and accurately, training in cultural sensitivity and language barrier-breaking is also required. This idea has been reaffirmed in the study by Hwang & Shin (2023), which shows that consistent training and evaluation are critical to sustaining a high level of competency in triage procedures. Emergency medicine is a dynamic field, and medical knowledge evolves rapidly.

#### *2.4 In terms of Communication and Coordination in Emergency Care*

Miscommunication can lead to delays, incorrect diagnoses, or inappropriate treatment, all of which can have a detrimental effect on patient outcomes, as noted by Zang, Sarcevic, and Joy (2022). Therefore, from the time a patient arrives at the emergency room to the point of discharge or transfer, healthcare workers need to be able to communicate effectively under pressure and make sure that all pertinent patient information is appropriately conveyed to the right people. Furthermore, the adoption of standardized protocols and systems is one of the fundamental components of communication in emergency care, according to Wong, Hawkins, and Langness (2020). When it comes to patient assessments, treatment plans, and potential consequences, these procedures guarantee that all staff members are in agreement. Lecky, Reynolds, Otesile, and Hollis (2020), on the other hand, emphasized that the emergency department (ED) requires collaboration across different teams as much as communication. Triage nurses, doctors, specialists, radiologists, and lab technicians are among the many medical experts from various specialties who typically assist with the patient's treatment in emergency situations.

#### *2.5 In terms of Patient Volume and Influx Patterns*

According to Kevin & Ryan (2024), the number of patients in an emergency room has a direct impact on how well triage systems work and how well the hospital runs as a whole. Emergency rooms are frequently overloaded with patients during periods of high patient volume, such as during epidemics, natural catastrophes, or the holidays. Additionally, Mostafa & El-Atawi (2024) emphasized that a high patient volume has a substantial impact on the hospital's total resource allocation in addition to the triage process itself. Typically, emergency rooms have a fixed number of beds, personnel, and diagnostic equipment that must be shared by an increasing number of patients. Resources are overextended at times of high patient demand, which can cause delays in surgeries, therapies, and diagnostic testing. Jones (2023), meanwhile, emphasized that certain hospitals regularly see spikes in patient flow as a result of trends like accidents that occur during rush hour or seasonal illnesses like the flu. In other situations, like in the wake of a major casualty event or a natural disaster, the influx could happen abruptly and without notice.

*Question 3. Is there a significant difference in the extent of efficiency of the triage system in the emergency room of Sulu Sanitarium and General Hospital when data are grouped according to demographic profile in terms of: age, gender, length of service, status of employment, and educational attainment?*

#### *3.1 Efficiency of triage system in the emergency room in terms of age*

The degree of triage system efficiency at Sulu Sanitarium and General Hospital differs significantly. According to this, respondents aged 26 to 35 are expected to perceive the level of efficiency of the ER's triage system under staffing levels and workload category more clearly than any other group. This result is consistent with the Nakamura et al. study. (2012) that because it might cause delays, age-related undertriage trends are a major worry for emergency rooms. Notably, Febriyanti, E., Odja, N., and Ina Lea, A. (2022) proposed that because they have more clinical expertise and judgment, nurses 30 years of age and older may be better at triage. Thus, in

order to execute emergency department optimization, developing triage systems that account for both patient and provider age-related factors may be highly considered.

### *3.2 Efficiency of triage system in the emergency room in terms of gender*

The level of triage system efficiency at Sulu Sanitarium and General Hospital does not differ much. The study of Ebrahimi et al. is supported by the non-significant finding. (2019), implying that good, gender-neutral decision-making procedures could result from contemporary triage training programs. In the meantime, Madsen et al. Women were more likely to receive non-critical triage, according to a 2014 study on the impact of age and gender demographic complexity on triage efficiency. They also emphasized how the efficacy of triage systems in acute care situations is strengthened by gender-neutral adherence to critical care procedures.

### *3.3 Efficiency of triage system in the emergency room in terms of length of service*

The degree of triage system efficiency at Sulu Sanitarium and General Hospital differs significantly. Under training and proficiency in triage processes and communication and language obstacles categories, no other set of respondents is expected to perceive the level of efficiency of the ER triage system more accurately than children aged 6 to 10. According to Oh & Jung (2024), seasoned medical practitioners most likely gain and enhance their clinical reasoning abilities by interaction with a variety of patients and acquired experience. They also acknowledged that lowering triage mistake rates has been demonstrated by the use of continuous quality measures, such as frequent triage audits and reviews.

### *3.4 Efficiency of triage system in the emergency room in terms of status of employment*

The degree of triage system efficiency at Sulu Sanitarium and General Hospital differs significantly. There are notable differences between regular and work order groups in how well the triage system in the ER is perceived in terms of training, triage procedure proficiency, and communication and language hurdles. Pontisidis and associates. (2024) acknowledged that ordinary employees might have greater access to training opportunities and professional growth in triage protocols compared to job order staff. They even underlined how a triage education program can result in quantifiable gains in nurse performance in terms of triage accuracy, knowledge, and abilities.

### *3.5 Efficiency of triage system in the emergency room in terms of educational attainment*

The level of efficiency of the triage system at Sulu Sanitarium and General Hospital differs significantly. The Bachelor's degree holder group is expected to have the best perception of the effectiveness of the emergency room triage system under the category of medical resource and equipment availability, while the Master's degree holder group is expected to have the best perception of the effectiveness of the emergency room triage system under the category of training and competency in triage procedures. This result supports the idea that triage procedures were significantly impacted by the optimization and management of medically constrained supplies, equipment, and resources (Wolf et al. as of 2024. To provide consistently high-quality emergency care, defined triage competencies have been crucial. Rahmati and associates. (2013) found that appropriate triage training improves emergency department qualitative indices while also improving nurses' knowledge and abilities.

*Question 4. Is there a significant correlation among the subcategories subsumed under the factors affecting the efficiency of triage system in Sulu Sanitarium and General Hospital?*

### *4.1 Correlation among the subcategories subsumed under the factors affecting the efficiency of triage system*

demonstrates the relationship between the subcategories that fall under the parameters influencing Sulu Sanitarium and General Hospital's triage system's effectiveness. This table shows

that training and competency in triage procedures and patient volume and influx patterns ( $r=.521$ ;  $\text{sig}=.001$ ) are highly positively and significantly correlated, as are communication and language barriers and patient volume and influx patterns ( $r=.685$ ;  $\text{sig}=.000$ ). Additionally, staffing levels and workload and communication and language barriers ( $r=.450$ ;  $\text{sig}=.005$ ), as well as training and proficiency in triage procedures and communication and language obstacles ( $r=.482$ ;  $\text{sig}=.002$ ), are moderately positively and significantly connected. Staffing levels and workload and patient volume and influx patterns ( $r=.372$ ;  $\text{sig}=.022$ ), as well as staffing levels and workload and training and competency in triage processes ( $r=.383$ ;  $\text{sig}=.018$ ). These noteworthy results corroborate Kip's (2021) research, which found that proper staffing is linked to improved patient outcomes, fewer readmissions and hospital admissions, and lower levels of burnout and absenteeism among medical staff. Technical evaluation abilities and communication tactics that prioritized preserving productivity during times of high volume, on the other hand, indicated importance in the connections of the worth of thorough triage education programs.

## **7. Conclusion**

In terms of age, gender, duration of service, work status, and educational attainment, the respondents at Sulu Sanitarium and General Hospital are adequately represented. The effectiveness of the triage system in terms of staffing levels and workload, the availability of medical resources and equipment, training and competency in triage procedures, communication and language barriers, patient volume, and influx patterns, on average, have a moderate impact on respondents at Sulu Sanitarium and General Hospital. This study discovered that, when data were categorized by age, length of service, work status, and educational level, there was a substantial variation in the degree of efficiency of the triage system at Sulu Sanitarium and General Hospital. However, when data are categorized by gender, no discernible difference is found. The study's overall noteworthy results highlight the perceived value and significance of the triage system in hospital operations. This is consistent with Ludwig Von Bertalanffy's Systems Theory from 1940, which holds that any entity, including an organization, is made up of interconnected pieces that cooperate to achieve a common objective (Becvar et al., 2023). Because each component of a system interacts and influences every other component, the system's ability to work effectively depends on the cooperation of all of its components. When applied to the health industry, Systems Theory highlights that the effectiveness of procedures like triage is largely dependent on how well staff, resources, procedures, and communication channels collaborate (Guy-Evans, 2020). Timely patient prioritization and treatment are expected to be expected for high-quality health care delivery if the triage system in a hospital setting performs properly and cohesively at every level, particularly in the emergency room. As a result, there is a greater understanding of the value of taking a comprehensive approach to solving issues and addressing efficiency, which fosters long-term gains in operational effectiveness and patient care. This study emphasizes the overall positive significant association among the subcategories that fall under the parameters influencing the effectiveness of the triage system at Sulu Sanitarium and General Hospital because of the strong relationship. These noteworthy results corroborate Kip's (2021) research, which found that proper staffing is linked to improved patient outcomes, fewer readmissions and hospital admissions, and lower levels of burnout and absenteeism among medical staff. Technical evaluation abilities and communication tactics that prioritized efficiency during periods of high volume, on the other hand, indicated importance in the connections between the worth of thorough triage instruction programs.

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