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ANALYSIS OF HOSPITAL EMERGENCY DEPARTMENT PERFORMANCE MEASUREMENT WITH BALANCED SCORECARD

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ABSTRACT
Emergency Department (IGD) is the face of a hospital (RS). Good hospital emergency room services will result in patient satisfaction and the community around the hospital, so that the hospital becomes an option as a health facility. The performance of a hospital emergency room needs to be assessed objectively so that continuous efforts can be made to improve services. Balanced Scorecard (BSC) assessment can be used in service assessment in organizations such as hospitals or parts of organizations such as emergency room hospitals. This study aims to determine the components in emergency room services that play the most role in achieving the performance of emergency room services that support hospital performance. This research method is a scoping review using literature studies using keywords from the Balanced Scorecard AND Hospital AND Emergency with literature search strategies from the databases Ebsco Host, Embase, Scopus, Pubmed, Proquest, and Google Scholar. The results of the study contained 6 (six) appropriate articles after screening using PRISMA 2020 Flow Diagram. BSC either independently or combined with other methods can be used as performance monitoring in the health sector both in hospitals and in one of the units such as the Emergency Installation. There are 4 perspectives, namely: finance, customers, internal business processes and growth learning, where it is found that the education factor of staff training is the most widely intervened approach that results in improving the performance of emergency rooms and hospital finances. Further research suggestion is that further research is needed to assess the other three factors in the Balanced Scorecard that will effectively improve performance in other units of RS.

INTRODUCTION

Installation / Emergency Unit (IGD) is a part of the hospital that provides emergency management for patients who have acute and / or urgent illnesses (Massa, 2018). The emergency room has a function to receive, triage, stabilize, and provide acute and / or urgent health services to patients, including patients who need resuscitation with a certain level of emergency (Massa, 2018). Hospitals are required to provide 24-hour Emergency services. Patients who come to the emergency room have emergency criteria both subjective and objective and hope that they can be treated well soon (Stafseth, Grønbeck, Lien, Randen, & Lerdal, 2016).

The emergency room is the face of a hospital. Patients treated in the emergency room had outpatient outcomes (83.7%), hospitalization (13.6%), transfer to other health facilities 1.8%), death (0.6%), and others (0.4%) (Cowper et al., 2019). Hospital emergency room services generally reach 10-15% of total visits from a hospital, and contribute 34% of the amount of inpatient revenue in the hospital (Qiao, Powell, Witte, & Zelder, 2016). Emergency room services reflect the quality of hospital services. Good emergency room services generate patient satisfaction and will be the choice of the surrounding

community when they need health services (Shale, 2013). Several factors are known to affect the quality of service in the hospital emergency room, namely clinical / professional aspects, resource aspects, aspects of safety, security, and patient comfort, and aspects of patient satisfaction (Beşciu, 2015).

The quality of emergency room services will affect the performance of the hospital, and an objective performance appraisal method is needed so that continuous improvement can be made and patient safety and the objectives of the hospital can be achieved. The following is an assessment of emergency room performance, namely response time (standard < 30 minutes), achievement of emergency room visits >10% of total hospital visits, good patient satisfaction achieved, no sentinel events – patient safety, etc. Many ways can be used to assess performance such as Key Performance Indicator, Balanced Scorecard, Malcolm Baldrige, etc. (1)

Performance measurement with the Balanced Scorecard has 4 main components examined, namely finance, customers, internal business processes, and organizational growth learning. Balanced Scorecard is widely used because in addition to using past data in conducting performance evaluations and can plan future improvements (Hegazy, Hegazy, & Eldeeb, 2022). The Balanced Scorecard can also be used to compare performance between hospitals which is useful for group hospitals, so researchers take performance measurement research with this Balanced Scorecard assessment (Gawankar, Kamble, & Raut, 2015).

The purpose of this literature study aims to find out the benchmarks for measuring the performance of emergency room services, what are the components of the Balanced Scorecard in services in the hospital emergency room which when intervened then most affect performance, and find out whether the Balanced Scorecard can be used for assessment of one or better units for a comprehensive organization, so as to provide an overview with readers and contribute factors that may not have been thought of that can improve service performance, especially in the hospital emergency room.

Balanced Scorecard is commonly used as a standard for performance measurement in health facilities (Panicker & Seshadri, 2013). Balanced Scorecard assessments generally assess the overall performance of hospitals (Davis et al., 2013). This study examines the Balanced Scorecard which specifically assesses the performance of the emergency room as one of the units in the hospital (Abo-Hamad & Arisha, 2013).

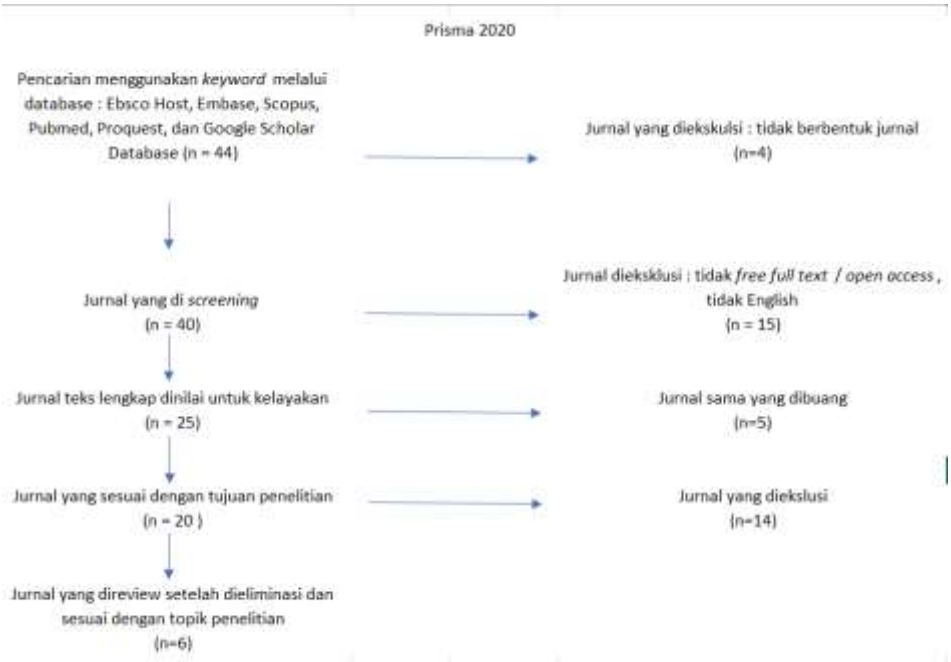
RESEARCH METHODS

This research is a scoping review, which is the study of literature on a particular topic that provides an overview of a particular common focus in the form of field practice – often the basis for continuing to literature review. This literature study uses secondary data from international journals, using keywords and boolean operators to obtain journals that have topic suitability, namely Balanced Scorecard AND Hospital AND Emergency with a literature search strategy with PICOS framework from the databases Ebsco Host, Embase, Scopus, Pubmed, Proquest, and Google Scholar. Based on the results of the literature search, the researchers then combine it with the PICOS framework, which consists of the following inclusion and exclusion criteria:

PICOS Framework	Inclusion Criteria	Exclusion Criteria
Population	Studies focused on performance appraisal in the Emergency Department	Studies that do not focus on performance appraisals in Emergency Installation
Intervention	Performance evaluation studies with *Balanced Scorecard*	Performance evaluation studies are not with *a Balanced Scorecard*
Comparators	The study did not evaluate the performance of the Emergency Department with *Balanced Scorecard*	There isn't any
Outcomes	Studies that state the performance of the Emergency Department is effective using the *Balanced Scorecard*	There isn't any
Study Design and Publication Type	Publish , jurnal free full text / open access	Not published yet
Language	English	In addition to English

From the search process, researchers got 44 articles that match these keywords. The search results that have been obtained are examined for inclusion criteria, namely studies related to performance assessment in the Emergency Department with a Balanced Scorecard, in the form of journals, availability of full text access – open access, literature in English, and duplication, the remaining 6 articles were found based on the overall manuscript and conformity with the eligibility criteria used in the scoping review, as illustrated in Figure 1.

Figure 1 Prism Flow Diagram 2020



RESULTS AND DISCUSSION

This scoping review succeeded in obtaining 6 (six) included articles describing the implementation of BSC in the hospital emergency room (Sørup, Jacobsen, & Forberg, 2013). The article comes from research conducted in the country of Iran (Poustchi et al., 2018). Ireland, Taiwan, and Indonesia, with the type of government hospitals, and foundations. In general, it can be concluded that the study conducted was motivated by the lack of maximum performance in the hospital emergency room, which is assessed from the lack of achievement of length of stay (LOS) and the accumulation of patients in the hospital emergency room (Mogues, Yu, Fan, & McBride, 2012). The

studies aim to find ways to solve the problem and contribute suggestions to policymakers at the hospital (Pines et al., 2016). The BSC component of the intervention that is stated to be meaningful is staff education and training, in the form of simulations or interventions (McIsaac, Hernandez, Kirk, & Curran, 2016). The table below shows details of the six included articles (Ab Hamid, Sami, & Sidek, 2017).

The quality of hospital services is very important in realizing a healthy and long-lived hospital (Vanholder et al., 2017). Good hospital service quality will be manifested in high hospital performance (Fei, Lu, & Feng, 2020). The performance of hospitals that are institutions that provide products in the form of health services regarding patient satisfaction as recipients of services (Sharma, 2017). Hospital performance is influenced by the performance of each unit in the hospital. To evaluate performance, of course, a method is needed that can measure performance by comparing current achievements with previous achievements, so that by knowing the condition of performance, we can revise irrelevant policies so that future achievements will be better.

The Balanced Scorecard (BSC) approach is a strategic planning of management that is widely used in various fields around the world, aiming to align business activities with the organization's vision and strategy, improve internal and external communication, and monitor organizational performance against strategic objectives. BSC uses the financial performance measurement framework and strategic non-financial performance to financial metrics so that it is expected to get a more holistic view of the organization's performance. Four BSC points of view, namely the financial perspective (financial view, such as revenue growth, costs, margins, cash flow, net operating income), the customer perspective (the organization's efforts to satisfy its customers), the internal business perspective (creating and delivering customer value propositions), and the learning and growth perspective (the intangible assets of an organization that refer to the internal skills and capabilities required to support processes internal that creates the results of labor)

The level of patient satisfaction in hospitals is rated as an important indicator of hospital efficiency assessment and an important indicator of the quality of emergency care. Patient satisfaction can be interpreted as the recipient's response to the services provided, which reflects his overall understanding of the quality of services provided. The emergency room is considered an important unit in the hospital, where the increase in satisfaction in the emergency room affects the community's attitude towards the hospital. (3)

Factors affecting the performance of the hospital emergency room

Performance components used as measurements in the ER for example: the number of patients treated in one hour, the length of stay of patients in the ER, refusal of medical treatment, the incidence of moving from the ER because they feel they have not received treatment, patient complaints, information from the ER officer interview, completeness of the daily emergency room report, emergency room patient satisfaction survey, sentinel events, misdiagnosis events, the incidence of patients coming back to the ER with the same complaints – readmision. The performance of the emergency room can also be assessed using measurements: accuracy in service, accuracy of service, courtesy and hospitality in providing services, responsibility, completeness, and ease of obtaining services. Punctuality of service is the speed of the first contact of service, waiting time for hospitalization or waiting time for referral, while response time is the process of waiting for the first service to patients in the department, emergency or emergency department who come to the emergency room. Service accuracy is a way of serving, assisting, preparing, solving the needs, needs of a person or group of people. Politeness and friendliness of officers are the attitudes and behaviors of officers in providing services to the community / patients in a polite and friendly manner as well as mutual respect and respect. Responsibility is clarity of authority and responsibility in the implementation and completion of services by following up as soon as possible on patient complaints, for example the service process where when the patient enters the emergency room, the officer immediately checks the identity and matches with medical records to avoid the risk of misactions that can threaten patient safety. Completeness is related to existing, complete and adequate facilities and infrastructure that can support services in hospitals. The ease of getting services is access that is not complicated with a clear flow of services, does not differentiate services based on patient status. (16)

Balanced Score Card Components that affect Hospital IGD Performance

Patient was chosen as the primary perspective with patient satisfaction as the measure. The efficiency of the process in the emergency room has an impact on the level of patient satisfaction. The perspective of internal business processes is to improve IGD performance in terms of layout efficiency, productivity, and resource utilization. Layout efficiency measures the average daily distance traveled by doctors and nurses, while emergency room productivity is measured in five indicators: patient-to-doctor ratio, patient-to-nurse ratio, percentage of patients hospitalized, percentage of emergency room patients becoming hospitalized patients, and percentage of patients leaving the emergency room without treatment. Resource utilization is measured for two types of resources: emergency room staff and emergency room assets such as main trolleys, outpatient care units, and resuscitation rooms. The patient cycle is measured through three dimensions: average patient cycle time, average patient wait time, and average patient service (processing) time. Total patient cycle time is measured across different stages of the patient journey in the ER such as registration, triage, treatment, and diagnostics, including length of stay for treated and discharged patients. The Learning and Growth perspective assessed staff development (the effect of staff training to perform more than one task so that they can be dynamically allocated in the emergency room) and the level of staff satisfaction. The perspective of internal business processes in the emergency room is staff utilization, patient to doctor ratio, and patient to nurse ratio.

BSC in the emergency room is carried out by educational efforts to train emergency room personnel to cause satisfaction and attachment of emergency room officers with the hospital and improve performance in service, seen an increase in service time speed, an increase in patient satisfaction (patient waiting time in the emergency room is reduced), and a decrease in patient complaints and leads to an increase in hospital finances. Performance measurement using BSC has an impact on improving the performance of hospital employees. Factors required in the successful implementation of BSC are top management commitment and leadership, participation of employees and middle managers, good performance culture, training and education, simple delivery, easy to use and understand, clarity of vision, strategy and results, relationship of BSC with incentives and system-based resources.

One study using the BSC point of view was assessed in five views, namely finance, social responsibility, growth and learning, clients, and internal processes. Learning and growth perspectives: reform of the education system based on the country's health map as well as innovation and technology in health have had a significant impact on improving hospital emergency services. Social responsibility perspective: system establishment and participation in engagement in health reform plans including insurance and health services across countries also improve performance effectiveness. Internal business process perspective: eliminating interference chains in service lines, especially emergencies, and developing standard protocols impact service effectiveness. Financial perspective: monitoring the supply, distribution and consumption of pharmaceutical and medical equipment and supplies, financing plans from the public budget and donations have a significant impact on future improvement plans. The perspective of the service recipients: patient satisfaction, public health growth and disease management, and creating a transparency platform have the weight of impact on the effectiveness of future improvement plans. (3)

IGD performance assessment from customer perspective can be assessed through customer satisfaction consisting of several indicators, namely; ease of reaching emergency room, doctor service satisfaction, nurse service satisfaction, waiting time for hospitalization, and calculation of customer visit growth. Financial performance can be assessed by the growth rate of IGD income, the growth rate of IGD expenditure, the comparison of the realization and plan of IGD income and the comparison of IGD income and expenditure. The assessment of emergency room performance from the perspective of internal business processes can be assessed by the ability to handle life saving for children and adults, emergency service opening hours, certified emergency service providers, availability of disaster management teams, doctor response time in the emergency department, death of patients in the emergency room (<24 hours) and the absence of casein who are required to pay a down payment. IGD performance assessment from the perspective of learning and growth can be assessed by employee satisfaction with salary, promotion, co-workers, superiors, and satisfaction with their own work, employee retention, employee absenteeism rate, employee productivity. (7)

The Effectiveness of Using a Balanced Score Card on the Performance of Hospital IGD

From the explanation above, all components of BSC can be the basis for making decisions to improve the performance of hospital emergency rooms. The BSC component of the intervention that is stated to be meaningful is staff education and training in the form of simulations or interventions.

CONCLUSION

Balanced Scorecard with its four perspectives is either used as monitoring performance or service performance in the health sector, both for one hospital or one unit. Balanced Scorecard assessment combined with other methods is considered better, it is possible to adapt to local needs. There are 4 perspectives of the Balanced Scorecard, namely: finance, customers, internal business processes and learning and growth, where interventions in the perspective of education and training are most widely selected and declared proven to improve staff quality and loyalty and result in improved hospital emergency room performance. It takes commitment support from the highest management stakeholders in realizing good service performance in an organization. The limitations of this study are the small number of journals according to the inclusion criteria, namely: journal-shaped articles, free fulltext – open access, and have topic suitability, namely performance evaluation in the hospital emergency room using a Balanced Scorecard. Further research suggestion is that further research is needed to assess the other three factors in the Balanced Scorecard that effectively improve performance in other units of RS.

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