

# Mictoph: Factors Affecting Elderly Patient Satisfaction with Emergency Department Services: A Systematic Review

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## Abstract

**Background:** With the increasing elderly population, high-quality emergency department (ED) services are essential as the first point of emergency care, affecting elderly patients' satisfaction and health outcomes. The aim of this systematic review is to identify and analyze various factors that affect elderly patient satisfaction with ED services.

**Methods:** This study follows the PRISMA 2020 standards, reviewing literatures published in English from 2014 to 2024. Editorials, reviews from the same journal, and submissions without a DOI were excluded. Literature sources included PubMed, SagePub, SpringerLink, and Google Scholar.

**Results:** Initially, 360 articles were obtained from online databases (PubMed, SagePub, SpringerLink, and Google Scholar), then eight relevant papers were selected after three rounds of screening for full-text analysis.

**Conclusion:** Elderly satisfaction with ED services is influenced by demographic factors, service quality, environment, psychological factors, and patient involvement in decision-making. Effective communication, reduced wait times, and a senior-friendly environment are essential for improving the experience and health outcomes of elderly patients in the ED.

**Keywords:** Service Satisfaction, Elderly, Emergency Department.

## Introduction

The number of elderly populations has increased significantly in recent decades. The aging population has become a global issue, including in Indonesia, where the proportion of elderly people continues to increase. With the rising number of elderly individuals, the need for quality healthcare services, particularly in the Emergency Department (ED), becomes increasingly important. The ED serves as the gateway for emergency medical care and is often the first-place elderly individuals receive treatment when facing critical or urgent conditions. The quality of ED services greatly influences patient satisfaction, which in turn can affect the health outcomes of elderly patients [1-3].

Patient satisfaction is a crucial aspect of healthcare, including in the ED. Research shows that patient satisfaction is not only related to health outcomes but also to medication adherence and future healthcare utilization [4, 5]. In the context of the elderly, who often have complex and multifactorial medical conditions, understanding the factors that affect their satisfaction with ED services is essential. By improving patient satisfaction, it is hoped that the overall quality of care and health outcomes can also improve [6-8].

Various factors influence elderly satisfaction with ED services, including demographic, service-related, environmental, psychological factors, and patient involvement in decision-making.

Demographic factors such as age, gender, and socioeconomic status can affect the elderly's perception and experience of the services they receive. Additionally, service factors such as communication quality with medical staff, wait times, and attention to patients' physical needs also contribute to perceived satisfaction levels [9-11].

The ED environment, including cleanliness, comfort, and facilities available, plays an important role in shaping the experience of elderly patients. A clean and comfortable environment can reduce anxiety and enhance patient satisfaction. Furthermore, psychological factors such as anxiety levels, patient expectations, and previous experiences visiting the ED significantly impact elderly satisfaction. Patient involvement in decision-making about their care is also an important aspect that can increase satisfaction, as it makes patients feel valued and empowered [12-14].

As the number of elderly patients visiting the ED increases, it is essential to understand and analyze the factors that influence their satisfaction. There is a need for a systematic review of these factors to provide better insights to healthcare providers in designing more effective and responsive service strategies for the elderly. Consequently, the findings of this review are expected to guide the development of policies and best practices in ED services [15-17].

The purpose of this systematic review is to identify and analyze the various factors that affect elderly satisfaction with ED services. By collecting and analyzing data from existing studies, this review aims to provide useful recommendations to improve ED service quality and enhance the satisfaction and health outcomes of elderly patients.

Method

Protocol

The authors closely followed the guidelines set forth in the Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) 2020 to ensure that this study meets all established standards. This methodological approach was chosen to ensure the accuracy and reliability of the conclusions drawn from the research findings.

Eligibility Criteria

This systematic study aims to identify and analyze the various factors affecting elderly satisfaction with ED services based on literature published in the last ten years. The study conducts a comprehensive analysis of data from existing literature with the

hope of providing in-depth insights and enhancing patient management strategies. The primary goal of this study is to highlight the collective significance of the key points identified.

The inclusion criteria for this study are:

- 1. Articles must be written in English
- 2. Articles must be published between 2019 and 2024.

The exclusion criteria include:

- 1. Editorials
- 2. Articles without a DOI
- 3. Previously published review articles
- 4. Duplicate entries in journals.

Search Strategy

Keywords used in this study include service satisfaction, elderly, emergency department. Boolean MeSH keywords input into the database for this research were as follows: ("satisfaction"[All Fields] AND "service"[All Fields] AND "elderly"[All Fields] AND ("emergency"[All Fields] AND "department"[All Fields])) AND ((y\_10[Filter])).

Data Collection

The authors evaluated the studies by reviewing abstracts and titles to determine their eligibility, selecting relevant studies based on established inclusion criteria and the research objectives. Consistent patterns observed across studies yielded robust conclusions. The articles selected needed to meet the eligibility criteria of being written in English and available in full-text form.

This systematic review only included literatures which met all predetermined inclusion criteria and was directly relevant to the topic of this study. Studies which did not meet these criteria were systematically excluded, and their findings were not considered. Further analysis included details revealed during the research process, such as title, authors, publication date, location, study methodology, and parameters used.

Quality Assessment and Data Synthesis

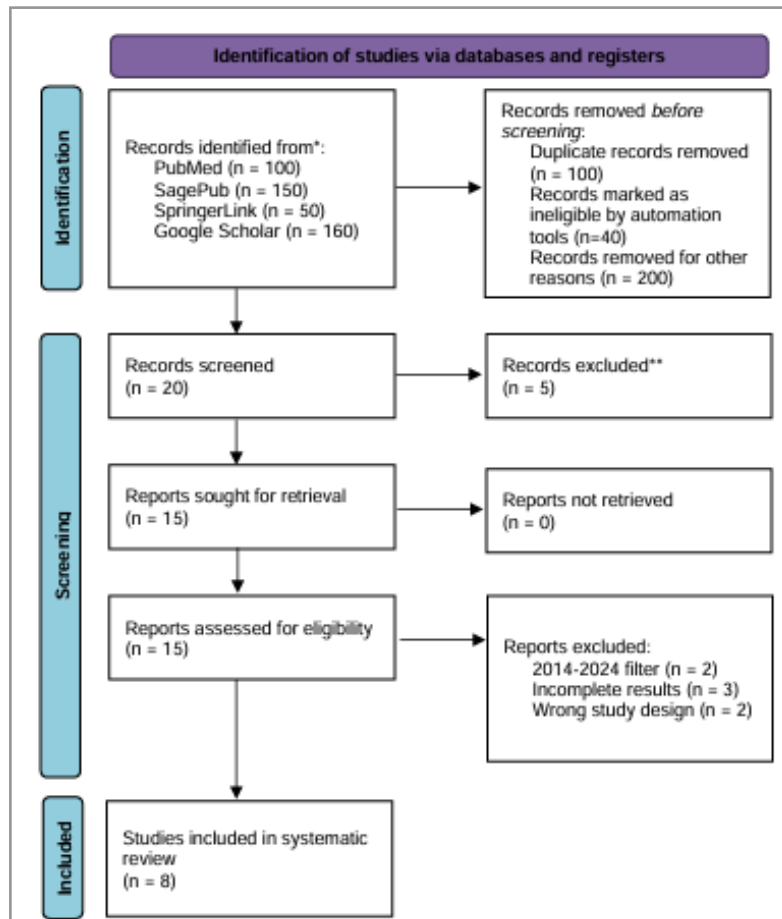
Each author independently evaluated the studies found in the titles and abstracts of publications to determine which articles were eligible for further evaluation. The next stage involved assessing all articles which met the specified inclusion criteria for inclusion in the review. Decisions on article inclusion in this review were based on findings obtained during the evaluation process.

Table 1: Article Search Strategy

Database	Search Strategy	Hits
Pubmed	("satisfaction"[All Fields] AND "service"[All Fields] AND "elderly"[All Fields] AND ("emergency"[All Fields] AND "department"[All Fields] AND ((y_10[Filter]))	100
Science Direct	((service satisfaction) AND (elderly)) AND (emergency department)	150
SagePub	((service satisfaction) AND (elderly)) AND (emergency department)	50
Google Scholar	((service satisfaction) AND (elderly)) AND (emergency department)	160

**Table 2: JBI Critical appraisal of Study**

Parameter	Haringan (2024)	Lajali (2023)	Nawangwulan (2023)	Shankar (2014)	Hogan (2014)	McCabe (2015)	Kennelly (2014)	O'Shaughnessy (2024)
1. Time Sequence Bias								
Is it clear in this study what is the "cause" and what is the "effect" (i.e., is there no confusion about which variable comes first)?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2. Selection and Allocation Bias								
Is there a control group present?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3. Confounding Bias								
Do the participants involved in the comparison have similar characteristics?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4. Intervention/Exposure Bias								
Did the participants involved in the comparison receive similar care/treatment, aside from the exposure or intervention that is the focus of the study?	No	No	No	No	No	No	No	No
5. Assessment, Detection, and Outcome Measurement Bias								
Were outcomes measured multiple times, both before and after the intervention/exposure?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Were the outcomes of the participants in the comparison measured in the same way?	No	No	No	No	No	No	No	No
Were the outcomes measured reliably?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6. Participant Retention Bias								
Was follow-up conducted completely, and if not, were differences in follow-up between groups adequately explained and analyzed?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7. Statistical Conclusion Validity								
Was the statistical analysis used appropriate?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes



**Figure 1:** Article Search Flow (PRISMA 2020)

## Result and Discussion

The initial number of articles obtained from online databases (PubMed, SagePub, SpringerLink, and Google Scholar) were

360 articles. After three stages of screening, eight articles directly related to this systematic review were selected for further assessment through full-text reading and analysis.

**Table 1:** presents the selected literature included in this analysis

No.	Author	Country	Method	Sample	Result
1.	Haringan, et al. [18].	Indonesia	Descriptive analysis	42 subjects	This study shows that the highest number of respondents were the age categories of Early Elderly (46-55 years) and Seniors (>65 years), each with 9 people, while the lowest number of age category was Late Elderly (56-65 years) with 3 people (7.1%). Of the 42 respondents, the majority were female, with 26 people (61.9%), and 16 were male (38.1%). The majority of respondents' education level was high school, with 32 respondents (76.2%), while the lowest was a master's degree, with only 1 respondent (2.4%). The most common occupation was housewife, with 18 respondents (42.9%), while the occupations with the fewest respondents were farmer, security guard, and entrepreneur, each with 1 person (2.4%). Further analysis found a significant relationship between waiting time and patient satisfaction in the ED. Additionally, there was a significant association between length of stay (LOS) and patient satisfaction in the ED, indicating that better management of waiting time and LOS leads to higher patient satisfaction.
2.	Lajali, et al. [19]	Indonesia	Descriptive analysis	42 subjects	The study shows that subjects in the early elderly age category (46-55 years) tend to be satisfied even when the waiting time does not meet standards. This suggests that the early elderly group has a relatively high satisfaction level with the service, even when wait times are less than optimal.

3.	Nawangwulan, et al. [20].	Indonesia	Descriptive analysis	95 subjects	The majority of respondents in this study were in the early elderly age group (46-55 years). In this age group, there were frequent complaints about response times. Early elderly individuals tend to experience increased anxiety and stress, especially if they themselves or someone close to them is sick and needs hospital care.
4.	Shankar, et al. [21].	Multicenter	Descriptive analysis	4000 subjects	Factors affecting elderly satisfaction with ED services include patient education, communication barriers, waiting time, physical needs in the ED, and general elderly care needs. Key findings indicate that ED staff should: (1) take a leading role in meeting the medical and social needs of elderly patients; (2) communicate routinely; (3) reduce communication barriers; (4) monitor patients during long waits; (5) address any physical discomfort experienced by patients; and (6) meet elderly care needs, including care transitions and caregiver involvement when necessary.
5.	Hogan, et al. [22].	USA	Descriptive analysis	36 Hospitals	Seventy percent of geriatric EDs are connected to the main ED and have 1 to 10 beds specifically for elderly patients. Infrastructure changes are made, such as modifications to beds (96%), lighting (90%), floors (83%), visual aids (73%), and noise management (70%). Seventy-seven percent of the staff work alongside the general ED, 80% of staff receive specialized geriatric training, and 67% of geriatric EDs have a special discharge planning process for elderly patients, with 90% follow-up through return calls. It was concluded that there is considerable variation in the components of geriatric EDs in the U.S., and external validation is recommended to standardize the quality and type of services expected from geriatric EDs.
6.	McCabe, et al. [23].	Ireland	Descriptive analysis	100 subjects	Elderly satisfaction with ED services is influenced by the complexity of health conditions, the prevalence of delirium or dementia, and high medication usage. Guidelines from the American Geriatric Society and the American College of Physicians aim to improve care for elderly patients in the ED by setting best practices for staff, equipment, and procedures. The ED functions as a bridge between inpatient care and the community, enabling proper treatment and management to prevent unnecessary readmissions and hospital stays. Therefore, it is important for EDs to create an elderly-friendly environment and implement strategies to effectively address
7.	Kennelly, et al. [24].	Ireland	Retrospective cohort	550 subjects	Elderly satisfaction with ED services is influenced by waiting time and the level of comorbidities. Of 550 patients, 40.5% spent $\leq 6$ hours in the ED, but only 22.4% of patients over 81 years old did not have musculoskeletal issues. Of these, 63.5% were admitted after their ED visit. The Charlson Comorbidity Index (CCI) is a significant predictor of in-hospital mortality and readmissions to the ED. The highest mortality rate (17.5%) occurred in patients over 77 years old who were brought in by ambulance.
8.	O'Shaughnessy, et al. [25].	Ireland	Prospective cohort	133 subjects	Elderly satisfaction with ED services is also influenced by age, gender, and the outcome of the initial visit. In this study, 133 participants with an average age of 82.43 years (71.4% female) showed that 21.8% were admitted after the ED visit, with significant functional decline upon discharge from the hospital. The incidence of return visits to the ED within 30 days and 180 days was 10.5% and 24.8%, respectively. Patients discharged from the ED had a lower risk of health problems within 30 and 180 days and a better quality of life.

Elderly patient satisfaction with Emergency Department (ED) services is influenced by various interrelated factors. Demographic factors, such as age, gender, and socioeconomic status, play a key role in shaping elderly patients' perceptions of the services they receive. A study by Haringan et al. found that most elderly respondents were in the early age category (46-55 years),

with a female majority. This finding suggests that demographic characteristics can influence how elderly patients perceive and evaluate the services provided in the ED [18].

Service factors, including the quality of communication with medical staff, wait times, and attention to patient needs, serve a



significant impact on elderly satisfaction. In a descriptive analysis by Lajali et al., although wait times did not meet standards, early elderly respondents still felt satisfied. This indicates that other factors, such as the quality of interaction with medical staff, may have a greater influence on their satisfaction than wait times alone [19].

Additionally, Haringan et al. found a significant association between wait time and patient satisfaction, as well as length of stay in the ED and satisfaction levels. This indicates that improving time management and service efficiency in the ED can contribute to elderly patient satisfaction. With effective management, long wait times can be minimized, leading to a more positive patient experience [18].

The ED environment, including cleanliness, comfort, and facilities, is also an essential element that can impact elderly satisfaction. A study by Hogan et al. emphasized the need for infrastructure modifications in the ED to enhance patient experience, such as improved lighting, noise control, and provision of visual aids. A senior-friendly environment can help reduce anxiety and stress, which tend to increase during wait times [22].

Psychologically, levels of anxiety, patient expectations, and prior experiences significantly influence their perceptions of ED services. A study by Nawangwulan et al. found that anxiety increases in early elderly individuals when they or someone close to them is ill. Negative past experiences can also create negative expectations for ED services, which in turn can affect satisfaction levels [20].

Patient involvement in decision-making and the information provided also contribute to elderly satisfaction. Ensuring that patients are engaged in their care process can enhance their perception of the services. Shankar et al. stressed the importance of good communication and patient monitoring during wait times to reduce anxiety and increase overall satisfaction [21].

One key finding in the study by Kennelly et al. is that wait times and comorbidity levels are significant predictors of elderly satisfaction in the ED. This study shows that patients experiencing longer wait times tend to have lower satisfaction levels, especially those with complex health conditions. This highlights the importance of efficiency in healthcare services for elderly patients with higher medical needs [24].

Guidelines from the American Geriatric Society and the American College of Physicians emphasize that elderly-focused care should be implemented in ED practice. McCabe et al. noted that these guidelines aim to improve elderly patient care by establishing best practices related to staffing, equipment, and procedures. The ED serves as a link between inpatient care and the community, facilitating proper treatment and management to prevent unnecessary repeat visits [23].

Overall, elderly satisfaction with ED services is influenced by various interrelated factors. Improved communication, reduced wait times, and the creation of a supportive, senior-friendly environment are crucial steps to enhance satisfaction and health outcomes for elderly patients in the ED. Adopting a holistic ap-

proach to healthcare services will help meet the needs of elderly patients and improve their ED experience [25].

By understanding the factors which affect elderly satisfaction with ED services, healthcare providers can develop more effective policies and practices to serve this population.

Given the unique challenges faced by the elderly, it is essential to continually improve service quality to meet their needs and expectations [25].

## Conclusion

Elderly satisfaction with ED services is influenced by demographic, service, environmental, psychological factors, and patient involvement in decision-making. Good communication, reduced wait times, and the creation of a senior-friendly environment are essential to enhancing the experience and health outcomes of elderly patients in the ED.

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