Assessment of Satisfaction in the Reception and Emergency Department of a Health Center

Boubacar Gueye1*, Martial Coly Bop1, NdéyeMarième Diagne2, Cheikh Tacko Diop1, Alioune Badara Tall1, Papa Gallo Sow1, Mountaga Dia1, Abdoul Aziz Ndiaye1, Ousseynou Ka1

1Training and Research Unit for Health and Sustainable Development, Alioune Diop University of Bambeye, Bambey, Senegal
2Dakar Principal Hospital, Dakar, Senegal
3Health and Development Institute, Cheikh Anta Diop University of Dakar, Dakar, Senegal

Email: boubsan2000@yahoo.fr*, martalcoly.bop@uadb.edu.sn, yamaismael@yahoo.fr, cheikhtacko.dio@uadb.edu.sn, aliounebadara.tall@uadb.edu.sn, papagallo.sow@uadb.edu.sn, mountaga.dia@uadb.edu.sn, abdoulaz-iz.ndiaye@uadb.edu.sn, ousseynou.ka@uadb.edu.sn


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Abstract

Introduction The main objective of any healthcare establishment must be to ensure the quality of patient care and customer satisfaction. It is necessary to regularly assess patient satisfaction. The aim of this study was to assess the level of satisfaction of customers aged over 18 years attending the emergency department of the health center. Methodology This was a descriptive and analytical cross-sectional study of patients aged 18 years and over, who attended the Samu Municipal emergency department between 02 and 30 May 2023. The satisfaction index was determined using the adapted 2009 SAPHORA-MCO questionnaire and the Likert satisfaction scale. Results A total of 400 patients were surveyed. The average age was 35 years, with a standard deviation of 14.7. Of those surveyed, 51% were women, 87% were educated, 50% lived in Grand Yoff and 59.5% were unemployed. Satisfaction levels linked to perception of the cost of care (72%), waiting time (64.3%), information given to patients (69.1%) and pain management (74.5%) are fair. On the other hand, the levels of satisfaction linked to administrative procedures (82.5%), staff attitudes towards patients (84%), staff availability (86.4%), patient privacy (89.2%), general atmosphere (87.2%), staff competence (87.3%), and the effectiveness of care (89.4%) were satisfactory. The average waiting time was 38 minutes. However, 32% of patients waited less than 30 minutes and 92% less than an hour. The satisfaction index linked to administration and reception was 72.9% and 79.85%, respectively. The satisfaction index linked to the administration and technical quality of care is equal to 85.8% and 83.7%, respectively. The overall satisfaction index is equal to 80.6%; the level of satisfaction of users of the health structure is satisfactory. Conclusion Patient satisfaction is an essential part of quality care. Patient sa-
tisfaction must be based on effective communication from the healthcare team and the creation of a patient-caregiver relationship.

**Keywords**
Assessment, Satisfaction, Reception Ad Emergency Department, Health Center

### 1. Introduction

Today, customer feedback is an essential part of business management. User satisfaction is often assessed to improve the management of healthcare establishments. It is an indicator of the quality of the healthcare system. Assessing patient satisfaction is recognized as one of the tools for improving the quality of care. According to the WHO, “quality of care is an approach that makes it possible to guarantee each patient diagnostic and therapeutic acts that ensure the best health outcome, in accordance with the current state of medical science, at the best cost for the best result, with the least iatrogenic risk, for the greatest satisfaction in terms of procedures, results and human contacts within the care system” [1].

The main objective of any healthcare establishment must be to provide quality patient care and customer satisfaction. In this context, it is imperative to conduct regular assessments of patient satisfaction with the conditions of their reception and stay [2].

Human satisfaction is a complex concept that is influenced by various factors, such as lifestyle, previous experiences, future experiences, and the values of the individual and society. Understanding the theoretical conceptualization of patient satisfaction is important for identifying methodological issues that may emerge. Yet patient satisfaction is a widely used but rarely clearly defined term [3].

The aim of medical care is not only to improve the patient’s state of health but also to meet their expectations and ensure their satisfaction. Patient satisfaction is of fundamental importance as a measure of the quality of care. It provides information about the ability of healthcare professionals to respond to customer values and expectations, which are areas where the customer is the supreme authority [4].

Patient satisfaction therefore is a component of quality of care. Better information for patients and consideration of their needs are priorities.

It is an indicator for evaluating healthcare initiatives to improve the quality of care. Any assessment of the quality of care should theoretically include a measurement of patient satisfaction, in conjunction with the use of other more objective indicators, such as mortality or morbidity [1].

Patient satisfaction is therefore one of the qualitative indicators of a hospital’s performance. It can be considered as an “outcome of care” and even an element of health status itself, or as an indicator of the performance of healthcare pro-
grams and staff.

It seemed appropriate to us to conduct such a study in the reception and emergency department of the “Samu Municipal”, especially as no survey of this kind has ever been conducted.

The aim of the study was to assess the level of satisfaction of clients over 18 years of age attending the emergency department of the Samu Municipal in Grand Yoff.

2. Methodology and Study Framework

2.1. Study Setting

The Samu Municipal is in the northern health district of Dakar. It offers all the activities of a health center, including maternity, vaccinations, consultations, medical hospitalization, and laboratory services. The facility is also home to an emergency service that operates 24 hours a day, 7 days a week. The Samu Municipal also houses a call center that provides a permanent listening service for users. It has two (02) medical ambulances equipped with emergency equipment.

The Samu Municipal’s medical team is made up of around twenty specialists (anesthetists, emergency physicians, cardiologists, gynecologists-obstetricians, dermatologists, pediatricians, urologists, and neurologists) and twenty-three general practitioners.

The Samu Municipal is a health center with hospitalization facilities in clean, airy, air-conditioned premises.

It includes a hospital ward, a laboratory for routine medical analyses (hemograms, biochemistry, etc.), an emergency reception service, an imaging department, a maternity ward, a pharmacy and a reception and referral service.

The Emergency Reception Department (ERD), created in May 2016, has 6 hospital beds including, 2 stickers, 4 cardiorespiratory parameter monitors, 2 functional defibrillators, 2 complete emergency trolleys and an independent oxygen circuit. It is run by an emergency doctor, anesthetist, and resuscitator, supported by ten doctors who work eight-hour shifts. The paramedical staff consists of twelve nurses, 8 orderlies and 2 stretcher-bearers. The department is very busy, with around 200 patients seen each week.

2.2. Methodology

- **Type—Population and Study Period**

This is a descriptive and analytical cross-sectional study of patients seen at the Samu Municipal Emergency Reception Department during the period 02 to 30 May 2023.

The study included all patients aged eighteen and over who were admitted to the Samu Municipal’s Emergency Reception Department during the study period.

Any patient who was unavailable (mentally ill, language barriers), or who refused to participate was excluded from the study.

Our population for this study period was approximately 800 patients. The
ERD receives an average of 200 patients per week.

- Sampling—Data Collection
  The sample size was calculated using the SWARTZ formula: \( n = \frac{t^2pq}{i^2} \), with a small deviation \( t = 1.96 \), a risk of error of the first kind \( \alpha = 0.05 \), a theoretical frequency of overall satisfaction \( p = 50\% \), \( q = 1 - p \), and a precision \( i = 0.05 \).
  
  The sample size was 384 patients, rounded to 400.
  
  Systematic sampling was conducted, starting with the determination of the sampling step \( \frac{N}{n} = \frac{800}{400} = 2 \).

  In the event of refusal or unavailability due to a serious condition, the questionnaire was sent to the next survey unit.

- Data Collection Methods and Tools
  We used a 2009 version of the SAPHORA-MCO questionnaire, which we adapted to assess satisfaction in emergency departments.

  The data were collected using the questionnaire, which had previously been evaluated on 40 patients. Corrections were made to the questionnaire after the test.

  Data collection was conducted by trained interviewers, who administered the questionnaire directly to the patient, or failing that, to those accompanying the patient.

  Two types of data were collected:
  - Patient socio-demographic data: age, sex, area of residence, marital status, level of education and occupation;
  - Patient satisfaction data: perception of the cost of care, administrative procedures, waiting time, availability of staff, attitude of medical staff towards the patient, information given to the patient, general cleanliness, patient privacy, general atmosphere, pain management, and results of care.

- Data analysis
  The analysis was conducted using R.4.2.2 software. The univariate analysis was based on a description of the data (mean, frequency, standard deviation, etc.).

- Operational Definitions of Variables
  The satisfaction index was determined from the answers to several questions per area of satisfaction; there were 4 of them: “administration”: perception of the cost of care, administrative procedures, waiting time; “reception”: availability of staff, attitude of medical staff towards the patient, information given to the patient; “physical environment”: general cleanliness, patient privacy, general atmosphere; “technical quality of care”: pain management, and results of care.

  The satisfaction index was calculated using a 5-point Likert scale based on the various elements determining user satisfaction. Satisfaction was assessed at the following levels: “very satisfied” (5 points), “satisfied” (4 points), “neither satisfied nor dissatisfied” (3 points), “not very satisfied” (2 points) and “not satisfied” (1 point).

  Calculation method: for each question, the points obtained per level of the Li-
kert scale are totaled (number of responses multiplied by the score for the level) and divided by the maximum number of points possible per question. This index is expressed as a percentage.

The overall satisfaction index is calculated in the same way but based on the answers to all the questions.

Using this method, we obtain an average satisfaction percentage for each question. The critical threshold is a satisfaction index of 80%, at which point we can say that we have a satisfactory level of satisfaction.

The satisfaction index (SI) was interpreted as follows:
- $SI < 50\%$: unacceptable satisfaction level;
- $SI [50\% \text{ and } 65\% [: unsatisfactory satisfaction level;
- $SI [65\% \text{ and } 80\% [: \text{ fair satisfaction level};
- $SI [80\% \text{ and } 90\% [: \text{ satisfactory satisfaction level};
- $SI \geq 90\%$: excellent satisfaction level.

**Ethical Considerations**

Health authorities authorized the study after reviewing the protocol. Participation in the study was free and voluntary, with informed consent from the respondent. No harm or benefit was derived from participation or non-participation in the study. Data were collected anonymously and confidentially. The results of the study were forwarded to the local health authorities.

### 3. Results

A total of 400 patients were recruited and completed the questionnaire, giving a response rate of 100%.

#### 3.1. Socio-Demographic Data

The table below shows the distribution of respondents according to socio-demographic characteristics.

The average age is 35 years, with a standard deviation of 14.73. (Table 1). Fifty-one (51%) percent of patients were female and 87% were educated. Half the patients lived in *Grand Yoff*, in the area covered by the health facility. It should be noted that 59.5% of patients do not engage in any economic activity (Table 1).

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age (years)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[30 - 39]</td>
<td>101</td>
<td>25.3</td>
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<tr>
<td>[40 - 50]</td>
<td>61</td>
<td>15.3</td>
</tr>
<tr>
<td>[50 - 60]</td>
<td>32</td>
<td>8</td>
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<tr>
<td>≥ 60</td>
<td>11</td>
<td>2.7</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Sex</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>196</td>
<td>49</td>
</tr>
<tr>
<td>Female</td>
<td>204</td>
<td>51</td>
</tr>
</tbody>
</table>

*Table 1.* Distribution of patients surveyed by socio-demographic and economic characteristics (n = 400).
Table 2. Distribution of respondents according to satisfaction levels and areas of satisfaction.

<table>
<thead>
<tr>
<th>Satisfaction area</th>
<th>Very satisfied</th>
<th>Satisfied</th>
<th>Neither satisfied</th>
<th>Little satisfied</th>
<th>Not satisfied</th>
<th>SI (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Administration</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Perceived cost of care</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>administrative procedures</td>
<td>85</td>
<td>136</td>
<td>125</td>
<td>33</td>
<td>31</td>
<td>72</td>
</tr>
<tr>
<td>waiting time</td>
<td>165</td>
<td>130</td>
<td>98</td>
<td>5</td>
<td>2</td>
<td>82.5</td>
</tr>
<tr>
<td><strong>Reception</strong></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
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<tr>
<td>Staff attitudes towards patients</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information given to patients</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>staff availability</td>
<td>167</td>
<td>153</td>
<td>75</td>
<td>4</td>
<td>1</td>
<td>84</td>
</tr>
<tr>
<td><strong>Physical environment</strong></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>General cleanliness</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Patient privacy</td>
<td>199</td>
<td>187</td>
<td>14</td>
<td>0</td>
<td>0</td>
<td>89.2</td>
</tr>
<tr>
<td>General atmosphere</td>
<td>170</td>
<td>204</td>
<td>26</td>
<td>0</td>
<td>0</td>
<td>87.2</td>
</tr>
<tr>
<td><strong>Technical quality of care</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competence of staff</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pain management</td>
<td>179</td>
<td>193</td>
<td>25</td>
<td>2</td>
<td>1</td>
<td>87.3</td>
</tr>
<tr>
<td>Effectiveness of care</td>
<td>110</td>
<td>122</td>
<td>132</td>
<td>20</td>
<td>16</td>
<td>74.5</td>
</tr>
<tr>
<td>SI: Satisfaction index</td>
<td>205</td>
<td>181</td>
<td>12</td>
<td>1</td>
<td>1</td>
<td>89.4S</td>
</tr>
</tbody>
</table>

3.2. Patient Satisfaction Data

Table 2 below shows the distribution of respondents according to satisfaction levels and areas of satisfaction.

The satisfaction index for the different areas of satisfaction ranged from 64.3% (waiting time) to 89.4% (effectiveness of care).

Satisfaction levels related to the perception of the cost of care (72%), waiting time (64.3%), information given to patients (69.1%) and pain management (74.5%) were fair.
On the other hand, satisfaction levels linked to administrative procedures (82.5%), staff attitudes towards patients (84%), staff availability (86.4%), patient privacy (89.2%), general atmosphere (87.2%), staff competence (87.3%), and effectiveness of care (89.4%) were satisfactory.

Waiting times ranged from 5 minutes to 102 minutes. However, 32% of patients waited less than 30 minutes and 92% less than an hour. The average waiting time was 38 minutes.

The satisfaction index for administration and reception was 72.9% and 79.85% respectively; satisfaction levels for administration and reception were therefore fair.

On the other hand, satisfaction levels with the physical environment and the technical quality of care were satisfactory. The satisfaction index for the administration physical environment and the technical quality of care are equal to 85.8% and 83.7%, respectively.

The overall satisfaction index is equal to 80.6%, so the level of satisfaction of users of the health facility is satisfactory.

**Figure 1.** Distribution of patients according to waiting time.

**Figure 2.** Patient satisfaction index by satisfaction areas.
4. Discussions

4.1. Limitations

The study has a number of limitations. First, some respondents had difficulty distinguishing between levels of satisfaction (very satisfied, satisfied, neither satisfied nor dissatisfied, not very satisfied and not satisfied). The second limitation is linked to the fact that the survey took place in a medical environment. In the interests of desirability, patients may provide answers that are likely to please the interviewers, which may introduce a bias. The results of this survey cannot be generalized to other facilities; they are strictly specific to the context of the health facility.

4.2. Socio-Demographic Profile of Patients

The distribution of patients by sex is superimposed on that of the general population (men 49.74%), according to the latest Senegalese population projection report [5]. The resident population of Senegal in 2023 will be 18,032,473, including 8,900,614 women (49.4%) and 9,131,859 men (50.6%).

It is noted that 74% of the patients surveyed were in the [18 - 40] age group, and 48.7% in the [18 - 30] age group. The patients attending the health center were therefore relatively young. These same results have been found in emergency departments in studies in Africa [6] [7] [8]. These results can be explained by the age structure of our population, which is young.

The health facility is located in the Grand Yoff district, which explains why 50% of patients come from this locality.

It was noted that 87% of patients were educated. Only 13% of patients had no education, and 18.5% had a high level of education (university). Figure 1 and Figure 2 can be explained by the fact that in Dakar, the capital of Senegal, the level of education is higher than in other regions, due to the higher and more diversified educational offer.

4.3. Patients Satisfaction

ERD is the showcase of the SAMU Municipal. It is the interface between users and the health structure itself. It is one of the services most concerned with the evaluation of care including patient satisfaction in hospitals [6] [9] [10] [11].

With a satisfaction index of 72.9%, the level of satisfaction linked with the general administration of the hospital was fair. This low level is explained by two factors. The first factor is the low satisfaction level linked with waiting time (64.3%). In fact, 60% of patients waited between 30 minutes and 1 hour. The long waiting time for patients is explained by the over-frequentation of the health facility, which is located in a densely populated area. This is also justified by the facility's excellent reputation. Long waiting times are a factor in dissatisfaction. This has been corroborated by several studies, which have shown that patient waiting time is a major factor in user dissatisfaction [12] [13] [14]. Moreover, in a competitive environment, waiting time is perceived as a decisive criterion in the choice of healthcare facilities to use. It is in fact difficult to make
better use of health care services if users are not satisfied with the time they spend between the moment a patient enters the waiting room and the moment they actually leave the hospital” [15].

However, in healthcare facilities, waiting times vary according to the seriousness of the patient’s condition. In general, emergencies are given priority over all other cases. On the other hand, patients whose state of health is not worrying are consulted in the order in which they arrive. This longer waiting time can be explained by the increase in the number of patients received, while the number of doctors and consultation rooms has remained the same. We must acknowledge the efforts of Dakar City Council, which has recruited many doctors (specialists and generalists) to meet the high demand for care. The second factor is the satisfaction level related (72%) to the cost of services. In fact, only 55.25% of patients were satisfied with the cost of services. Given the prevailing poverty and the low level of economic activity among the patients surveyed (59.5%), it is not surprising that patients find the cost of services fairly high.

However, the satisfaction index for administrative procedures was satisfactory (82.5%). This good level of satisfaction is very probably due to the good organization, which is managed by an appropriate computer system (queue management, billing, dispatching, etc.), the establishment of a good patient flow and appropriate signage.

Satisfaction levels for the components relating to attitude towards patients and staff availability were satisfactory, with a satisfaction index of 84% and 86% respectively. The fair level of satisfaction linked with reception is due to the low level of satisfaction with the information given to patients (69.1%). It has to be said that, despite all the efforts made to train healthcare staff in patients’ right to information, it is regrettable to note that these poor practices persist. Other studies conducted in other healthcare facilities in the country confirm this [15] [16]. These findings are also found in other African countries [8] [11] [14] [17].

Patient satisfaction linked with the physical environment was satisfactory, with a satisfaction index of 85.8%. Most patients were satisfied with the general cleanliness of the ward, the respect for their privacy and the general atmosphere. These are principal factors in patient satisfaction. They also influence satisfaction with waiting times [9] [18]. Similarly, the discomfort of the waiting room, its architecture, and its cleanliness influence patient judgment [19] [20].

Satisfaction linked with the technical quality of care was satisfactory, with a satisfaction index of 83.7%. The components relating to the competence of staff and the effectiveness of care had satisfactory levels of satisfaction, with a satisfaction index of 87.3% and 89.4% respectively. These satisfactory levels can be explained by the quality of the emergency department staff; there are many specialists (emergency physicians, cardiologists, neurologists, dermatologists, etc.) working permanently in the department. On the other hand, the 3rd component, pain management, received a fair level of satisfaction (SI: 74.5%). These findings were confirmed in a study conducted in Cameroon in 2016 at the Yaoundé Central Hospital [21]. This reflects the lack of training of healthcare providers, who
do not adequately manage patients’ pain. In fact, pain has a major influence on the satisfaction rate; rapid pain relief as soon as the patient arrives at the emergency department before medical or surgical treatment improves patient satisfaction [22]. Pain management therefore influences the satisfaction index. Pain relief on arrival at the emergency department, before medical treatment, improves patient satisfaction [22]. Deschanel G has shown that giving a painkiller when the patient arrives significantly modifies the perception of waiting time [23]. Useful information on pain management also improves patient satisfaction [24].

The overall satisfaction index is equal to 80.6%, which means that the level of satisfaction among users of the healthcare facility is satisfactory.

The satisfaction index varies in healthcare facilities in Africa and throughout the world. A satisfaction index of 49.2% was found in the emergency department of the Centre Hospitalier de Yopougon in Abidjan in 2007, 80.2% in the emergency department of Chambéry in France in 2011 and 54.62% in the hospital in Zinder in 2015 [7] [8] [23]. We also found a satisfaction index of 72.97% in Mali in the emergency department of the Hôpital Mère-Enfant Le Luxembourg in Bamako in 2019 [17].

These highly variable satisfaction rates depend firstly on the method of calculation, which can be very different (satisfaction rate, satisfaction index), but also on factors specific to the healthcare structures that influence the level of satisfaction (staff, equipment, organization, etc.).

This satisfactory index (80.6%) crowns the efforts of the municipal authorities of the city of Dakar, who are responsible for managing this health facility. The city’s challenge was to meet the emergency care needs of the Senegalese capital, by setting up a modern facility equipped with modern equipment and staffed by highly qualified specialists. However, more needs to be done to improve reception, particularly in terms of patient information.

5. Conclusion

Patient satisfaction is a key factor in the quality of care. The indicator for assessing the performance of a healthcare facility is not just its technical facilities, but also its ability to satisfy the needs and expectations of users. Patient satisfaction must be based on effective communication from the healthcare team and the creation of a patient-caregiver bond. With a satisfaction index of 80.6%, the level of satisfaction in the emergency department is satisfactory. This level of satisfaction could be improved by taking the following recommendations into account:

- Increase the capacity of the emergency department and recruit additional staff to reduce waiting times;
- Build the capacity of healthcare staff in the area of patient pain management by providing them with training;
- Improving communication between patients and carers by training staff and developing the use of effective communication media (signs, posters,
notices, loudspeaker announcements, etc.);

- Reduce the cost of services while ensuring financial equilibrium in the management of the health structure.

**Conflicts of Interest**

The authors declare no conflicts of interest regarding the publication of this paper.

**References**


les patients admis aux urgences: Etude de corrélation avec le degré de satisfaction. Thèse de doctorat de medicine, Université Henri Poincaré, Faculté de Médecine, Nancy. https://hal.univ-lorraine.fr/hal-01738942