

Research Article

Evaluation of Waiting Times for Patients at the Surgical Emergency Reception Service of the Regional Hospital Center (RHC) of Maradi

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Abstract

Introduction

The study of patient management times is one of the essential parameters for evaluating the quality of care in the emergency department. The aim of this work is

to assess the time taken to take charge of patients admitted to the medical emergency rooms of the RHC of Maradi.

Methodology

This was a prospective three-month study including

all patients admitted to the surgical emergency department of the Maradi RHC and who participated in the survey.

Results

A total of 328 patients were included in our study out of 439 admissions. The mean age of the patients was 25.2 years with extremes ranging from 1 day to 87 years. The sex ratio was 1.8. The majority of patients were referred from other health structures in the region. Abdominal pain was the most frequent reason for consultation with a rate of 70.12% followed by road accidents with a frequency of 11.58%. The average time for a patient to be in contact with a health worker was 2.41 minutes and extremes ranged from 0 to 15 minutes. The doctor's wait was 10.42 min. extremes ranged from 0 to 480 min. Patients were seen by a doctor within the first 15 minutes (74.7%). At the same time, 205 patients were being treated. An average recovery time of 13.2 minutes was found. The results of the additional examinations prescribed by the doctors were obtained within 167 minutes. The length of stay in the emergency room was 5 days on average with extremes ranging from 6 hours to 15 days.

Conclusion

This study demonstrated satisfactory waiting period. However, improving the technical platform and sufficient staff would make it possible to shorten it and thus improve the care of our patients.

Keywords: Waiting time; ERS; RHC Maradi; Niger

1. Introduction

Emergency is any acute medical circumstance which, by its sudden onset or rapid progression, induces or suggests a risk to the life or to the physical integrity of the patient if treatment is not undertaken promptly [1]. The emergency reception services (ERS), "showcases" of the hospital, are required to provide quality reception because they require medical skills, but also social and psychological skills [2]. Patients are now expressing more systematically their demand to be not only well cared for, but to be in satisfactory conditions: in emergencies, this demand is reflected in particular in the refusal to wait. The quality of the material and psychological conditions is therefore essential. There are several stages in the management of a patient who is admitted to the emergency room. These different stages in the execution of this care will have an impact on the wait and the care of the patient. Thus, the period of treatment can be defined by "the time elapsed between its entry and the management of its pathology" [2]. The management of emergency pathologies must be rapid, at best immediate, because patients are very often in serious condition and their vital prognosis can be engaged at any time. The time elapsed between the patient's admission and the times of care as well as the quality of care administered are factors that influence the prognosis. The times vary depending on the organization of emergency systems in each region of the world and the nature of the patient's pathology. The study of patient management times is one of the essential parameters for evaluating the quality of care in the emergency department. This parameter makes it possible to identify the causes of the lengths of

long stays and consequently to put forward solutions to improve patient care [3]. The emergency services of the RHC of Maradi are no exception to this phenomenon of overload at the emergency level. This provincial nature of this center has meant that no study evaluating the waiting time of patients in the emergency room has been carried out. The objective of this work is to assess the time taken to take charge of patients admitted to the medical emergencies of the RHC of Maradi.

2. Patient and Method

This was a prospective and descriptive study running from April 1, 2021 to June 30, 2021, lasting three months. This study involved all patients admitted to the surgical emergency department of the RHC of Maradi during the study period. Service personnel were also included. Were excluded from the study patients coming from inpatient departments for decompensation of their condition; patients admitted by misdiagnosis; patients admitted but whose file is missing the survey form; patients who have not given their consent. The variables studied were the number and qualification of staff; sociodemographic data (age, sex, origin); clinical data: reason for consultation, type of admission, means of transport, general condition, history, the delay in patient admission; the time taken to take charge; The waiting period for medical treatment; the time taken for treatment; the waiting period for the results of additional examinations; Stay in the emergency department; the results of the patients. The admission period corresponds to the time that elapsed between the patient's arrival at the emergency department and

his registration by a health worker (nurse, student or doctor). The waiting period for medical treatment, this corresponds to the length of time that elapses from the arrival of the patient until he is seen by a doctor. The period of treatment corresponds to the time elapsed from the arrival of the patient until the administration of the 1st treatment; the stay in the emergency reception service corresponds to the length of time that elapses from the arrival of the patient until the patient leaves the service. All the data were recorded on cards pre-established by two investigators. The forms were completed without the knowledge of the service personnel. The following times are listed on each patient's card: time of arrival; the time of the 1st contact with health personnel, the time of contact with a doctor; the time of the start of treatment and the time of discharge from the emergency department. The consent of the patients or their parents was a prerequisite. Anonymity was assured. Data entry and analysis was performed using Word and Excel 2016 software.

3. Results

A total of 328 patients were included in our study out of 439 admissions or 74,72%. The mean age of the patients was 25.2 years with extremes ranging from 1 day to 87 years. The age group [10-45 years] was the most represented with a rate of 62.5%. They were male in 64.52% or a sex ratio of 1.8. The majority of patients were referred from other health structures in the region(67,07%). Table 1 gives us the distribution of patients according to their origin. It emerges from this table that only 33% of the patients came from the city of Maradi. Regarding the reasons for

consultation, abdominal pain and road accidents were

predominant as shown in Table 2.

Provenance	Number	Percentage (%)
Aguié	35	10.7
Dakoro	40	11.92
GuidanRoumdji	50	15.3
Madarounfa	43	13.15
Maradi	108	33.03
Mayahi	17	5.2
Tessaoua	10	3.05
Other regions	22	6.73
Other countries	3	0.92
Total	328	100

Table 1: Distribution of patients according to their origin

Reason for consultation	Number	Percentage(%)
Abdominal pain	230	70,12
Right iliac fossa pain	25	7,62
Inguinal pain	17	5,18
Road accident	38	11,58
Infected wound	6	1,83
Gunshot wound	2	0,61
Chest trauma by blow and voluntary injury	1	0,3
Omphalocele	2	0,62
Abdominal mass	2	0,62
Acute urine Retention	2	0,62
Gangrene of limb	1	0,3
Thorax fasciitis	1	0,3
Anal fistula	1	0,3
Total	328	100

Table 2: Breakdown of patients according to the reason for consultation

Abdominal pain was the most frequent reason for consultation with a rate of 70.12% followed by road accidents with a frequency of 11.58%. In the ERS of the RHC of Maradi, the average time for a patient to be in contact with a health worker was 2.41 minutes and the extremes ranged from 0 to 15 minutes. This is shown in figure 1. Patients were seen by a health worker within the first five minutes of admission in

89.6% of cases. After being admitted by the reception agent, all patients were examined by the doctor on call. A paraclinical assessment is therefore requested on a case-by-case basis and symptomatic treatment prescribed while awaiting the results of the assessment. Figures 2 and 3 respectively give us the distribution of patients according to the time of contact with a doctor and the time to start of

treatment. More than half of our patients were taken care of within 15 minutes of their admission. The average delay was 13.2 minutes with extremes ranging from 4 to 35 minutes. The aim of therapeutic management was to provide symptomatic treatment of patients while awaiting the arrival of the results of the paraclinical examinations requested by the doctor. The various additional assessments requested were: the complete blood count (CBC), the Rh blood group; thick gout (TD); blood ionogram, urea-creatinine; blood sugar; lipasemia; ASAT-ALAT; pulmonary radiography; radiography of limbs; abdomen without preparation (ASP), abdomino-pelvic ultrasound. It

should also be noted, during the period of this study, due to their lack in the region, all patients requiring scannographic examinations are systematically referred. The length of time to wait for further test results varied from patient to patient. Only 11 patients had received their results within the first hour, while 110 patients had waited beyond 3 hours. The average wait time was 167 minutes. The extremes ranged from 60 to 480 minutes. Figure 4 represents the distribution of patients according to the waiting period for the results of additional examinations.

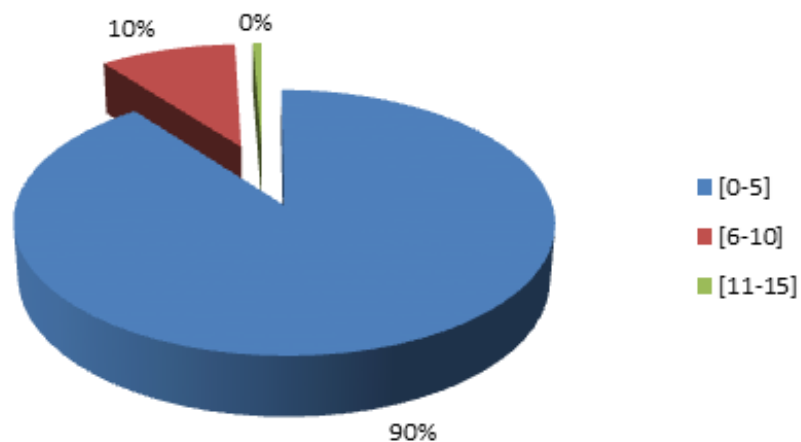


Figure 1: Distribution of patients according to the time between admission and the first contact with health personnel

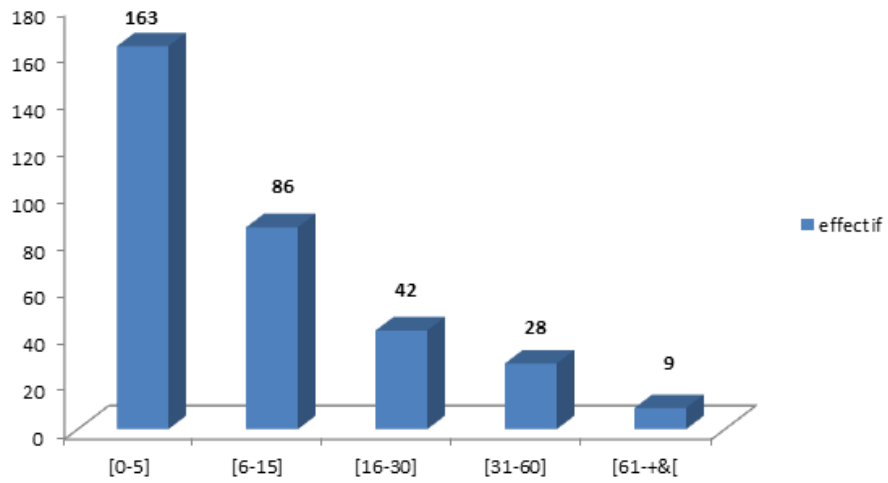


Figure 2: Distribution of patients according to the length of the doctor's wait
The average time to medical treatment was 10.42 min. extremes ranged from 0 to 480 min

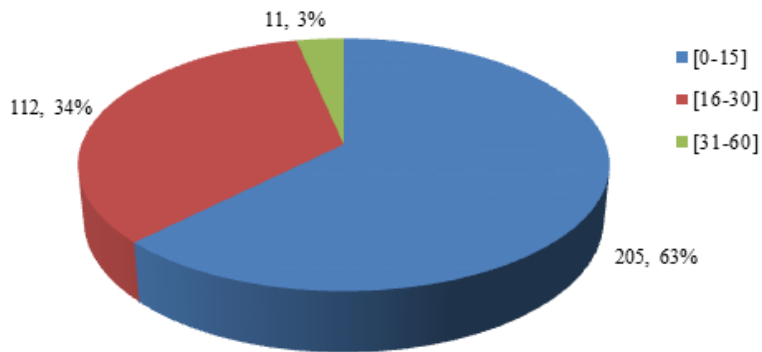


Figure 3: Distribution of patients according to the time taken for treatment

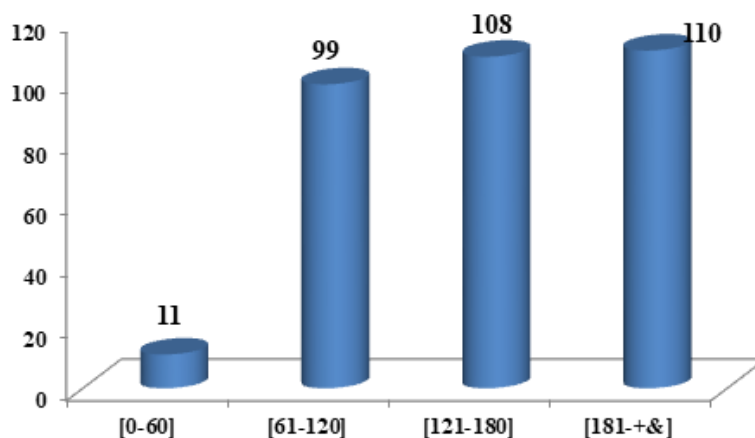


Figure 4: Distribution of patients according to the waiting period for the results of additional examinations

In the emergency department, patients had stayed an average of 5 days with extremes ranging from 6 hours to 15 days.

During the three months of the study, 17 patients had an unfavorable outcome, resulting in a mortality of 05.2%.

4. Discussion

4.1 Socio demographic study

The RHC of Maradi is the only hospital in the region, which has surgeons covering the eight district hospitals in this region. However, during our study, we had only collected 328 patients. In a Tunisian hospital, 508 patients were registered in 07 days [3]. Likewise, M. Bartiaux et al. in 2013, collected in seven days 473 patients in the emergency department C.H.U. Saint-Pierre in Brussels [4]. This difference could be explained by the fact that during these studies all emergency department personnel were involved in the investigation while in our study there were only two investigators. Also, these two teams conducted their studies in the medical and surgical emergency departments. Often the unavailability of these has caused certain recordings to be missed,

allowing certain cases to pass. The average age found in our study was 25.2 years with a minimum of 1 day and a maximum of 87 years. This result is similar to that of Ndjoh N. [5] in Mali who found 25.7 ± 17 years old. This similarity could be explained by the fact that our two countries have the same demographic characteristics. W.-A. Hanhart [6] in Switzerland, and P. Troude at Lariboisière Hospital in France [7], had respectively found better results than ours with an average age of 44 years, 49 years and 50 years. This could be explained by the young character of our population. The population of our study was male in 64.52%. This predominance in favor of the male sex has been found in the literature [4-6].

4.2 Study of the different delays in taking charge of the emergency department

4.2.1 Admission period: At the Maradi RHC's ERS, the on-call and on-call teams are made up of a surgeon, senior surgical and anesthesia technicians, a nurse and internship students. This allowed us to have an average delay of 2.41 minutes. However, it should be noted that the surgeons, given their small number, only provided on-call duty and are sometimes called at night as needed. This medico-nursing management allows patients to quickly sort them out, make a diagnosis and authorize a return home after a clinical medical examination and possibly an additional examination as soon as patients arrive. The value of this type of medical care in reducing waiting times before consultation has already been demonstrated in a London study, carried out from December 2001 to February 2002, on a sample of 378 patients [8]. In this work, the authors compare the waiting room times of patients managed by a single nurse versus a team made up of a doctor and a nurse. The assessment is carried out by calculating after 4 hours the number of patients remaining in the waiting room when the triage is performed by a nurse versus the doctor-nurse pair. The number of patients in the waiting room drops from 18.3 to 5.5, after 2 hours, when the doctor-nurse pair is working and this difference is statistically significant.

4.2.2 The waiting period for medical treatment:

Patients in our study waited an average of 10.42 minutes. Some of our patients were seen directly by a doctor. Some of them had to wait 480 minutes (08

hours) before being examined by a doctor. This long delay was most often recorded in patients admitted at night. In fact, at the RHC in Maradi, the number of doctors is insufficient to allow for on-call planning. So that at night they went to their home while remaining reachable in case of need. A longer delay (22 min) than ours was reported by some authors [4].

4.2.3 The time taken to take charge: The time taken to take charge is based on the essential indicators of good practice at the level of the emergency services. In our study, this delay was 13.2 minutes. Similar results have been found in other studies [2,3]. However, some authors such as M. Bartiaux in Brussels [4] had a longer delay than ours. This could be explained by the difference in the methodology used for our studies. The waiting period for the results of additional examinations:

At the end of the clinical examination of the patients by the doctor, a paraclinical assessment was most often requested depending on the case. However, the Maradi RHC did not have certain additional examinations at the time of this study. So, apart from the CT scan and MRI, which did not even exist in the region, one would have to go to private facilities to do the blood ionogram, kidney and liver functions and the standard X-ray. All this coupled with the lack of financial means of the population leads to a delay in the realization of this assessment and suddenly the extension of the waiting period for results.

4.2.4 The exit time or length of stay in the ERS: The average length of stay represents the time a patient on a stretcher spends in the emergency room before

being discharged or being admitted to a hospital ward. This was five days for our patients. It differs depending on the clinical condition of the patient upon admission, and also the reason for hospitalization. Indeed, all neurosurgical patients were hospitalized in the emergency room for lack of a dedicated neurosurgery department. What is more, increases the average length of stay in this service. This is why we found a result (5 days) that was much better than the other authors [2-6].

4.3 The limitations of the study

The study is monocentric and observational. It is carried out for 3 months. Several patients escaped investigation. The lack of information about patients who left the emergency room before seeing a doctor is a major limitation. The lack of computerization made it impossible to accurately analyze wait times down to the minute.

5. Conclusion

This prospective study shows that the organization of our UAS, based on a medical and/ or nursing reception, allows for satisfactory waiting times. The evaluation of the waiting time for patients in the emergency reception services is part of a process of continuous improvement of professional practices, and of quality of care. In order to check the stability of these first estimates and to consider target times according to the pathologies, a second analysis seems necessary.

Conflict of interest

The authors declare that they have no conflict of interest in connection with this document

Contribution and agreement of the authors

All the authors mentioned above have contributed to the production of this document. They have all read and approved the content.

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