

REASONS FOR DELAY IN INPATIENT ADMISSION AT AN EMERGENCY DEPARTMENT

*Article Review by Eugene Nnamdi Nwauwa, Nigeria
(MPH, MMSc-Emergency Medicine Student of Texila American University)
Email: - indmedsv@yahoo.com*

SOURCE

Published by Journal Ayub Medical Coll Abbottabad in 2008 and I found it at <http://www.ayubmed.edu.pk/JAMCP/PAST/20-1/Tashkandi.pdf>

REVIEW OF LITERATURE

There has been quite a number of works on the reason for patient delay in the Emergency Department. Many of these studies have ascribed the delay in Emergency Department to overcrowding as rightly referenced by the authors, as in Derlet R, et al (1) Andrulis DP et al (2).

However many of the literatures showed that factors responsible for overcrowding was indirectly responsible for delay in Emergency Department. Such include insufficient emergency department or inpatient beds, delays while waiting for the laboratory tests (3). Previous studies did not separate the delay into before and after admission to inpatient ward was advised. This attempts to clearly depict the stage at which the delay sets in and hence would be easier to design a solution for the specific factor.

None of the articles cited is less than 10years old. However by 2004 when the study was done and 2008 when it was published most of the articles were current under 3 years old. As a matter of fact, there has been a number of newer studies on overcrowding and other sources of delay to impatient admissions (4, 5).

The review used the Vancouver referencing and the references were quite authoritative.

INTRODUCTION

In this article I shall examine the author's perception about the burden of Emergency Department patient delay and the possible effects of this situation on the patient's satisfaction. We want to see if the author's analysis agrees with the existing literature especially as there are newer articles than this. Has the author indicated the advantage of determining the stage at which the

delay occurs most? I would also want to determine if the study brought out possible solutions to the identified causes of delay in Emergency Department.

I will look at how other researchers see the issue of delay in Emergency Department and the solutions they have proffered, comparing it with what obtains here. I will like to agree with the write up where it is possible otherwise I will disagree with reasons, where I am not convinced. I will try to bring fresh reflections.

SUMMARY

This study titled- Reasons for delay in inpatients admission at an emergency department was conducted by Mohammed A. Tashkandy and his colleagues at Al-Noor specialist Hospital, Makkah, Saudi Arabia.

This retrospective study done in 2004 reviewed the time of arrival at the emergency department, time of advise for inpatient admission and time of admission into the inpatient ward for 4876 patients who visited the emergency department during the study period. The demographic data was taken from the emergency department cards while the timing was in addition collected from the medical and nursing personnel notes.

The study focused to elicit the reasons as to why patients stayed more than 2 hours in the emergency department, a period beyond which this study defines as delay.

Since the various services to the patient consumed various times, the services that took maximum time was considered as the main reason for the delay for that patient.

Using students t-test to measure the difference in duration between both groups, chi-square test and 95% confidence interval ($P < 0.05$), it was found that out of 4876 who visited the Emergency Department, only 355 (7.3%) were admitted.

Out of the ones admitted 238 (67%) were delayed ($P < .001$) while males 135 (56.7%) were more than female. 58% of group A spent at least 2-3 hours in the emergency department while only 25% of group B spent at least 2-3 hours in the Emergency Department. This means that more people are delayed 2-3 hours and more in group A than in group B.

The most common reason for delay in group A (before admission was advised) is multiple consultations with further investigation. 70 (45%) followed by critical care management 30 (20.5%) on the other hand, the greatest cause of delay in group B (after the advise for admission has been given) is file making process 40 (43.5%) followed by investigations, done on the way to the wards 25 (27.2%) ($p < 0.001$).

The data analysis confirms that most of the admitted patients were delayed in the emergency department before the advice for admission was given. The main reasons for the delay were multiple consultations followed by file making process, critical care management and

investigation done on the way to the ward. Diseases of the circulatory system caused more delay at the emergency department than other groups.

In order to decrease delay in the emergency department these prominent factors of delay must be addressed.

ARTICLE STRUCTURE

Over all, this entire article is well articulated and very concise in presentations. The author tried to avoid ambiguous statements. The abstract was so detailed and clear that it was quite easy to understand the main body of the study. At every stage of the write up, the author defines every new term she introduces, such as what period constitutes delay.

The authors used tables to more clearly present their findings.

The discussion captured objectively what the results showed while the confounding factors and limitations of the study were adequately mentioned.

However the paper presented too many information such as comparing the number of hours stayed in the emergency department and the group and comparing the hours delayed and the admitting diagnosis. These tend to confuse the reader and one almost lost focus as to reason why there is delay in emergency department. The references were well displayed using the Vancouver system.

AUTHORITY

The authors are Mohannad A Tashkandy

Zohair Jamil Gazzaz – MD King Abdulaziz University Department of Internal Medicine

Main Usman Farooq

Khalid O. Dhafar

M. Tashkandy is a nephrologist working at Al-Noor Specialist Hospital Makkah, Saudi Arabia.

ACCURACY

I would comment that the accuracy of the article is high. It sets out to find the reason for over stay of patients in the emergency department, even when they have been given inpatient admission. This it achieved effectively and went further to determine at what point the delay occurred. The large sample size of 4,576 who visited emergency department and 355 who were admitted is more likely to give good result than a small sample size.

However the study outcome may not be exhaustive as many other conditions that cause overcrowding in the emergency department indirectly cause delay and such were not included.

This included shortage of hospital beds, aging population with concomitant ailments and insufficient emergency department staff (1). While this study relied on the actual events that happened and extracted from the emergency department cards and doctor/nurses notes, most other studies used the opinions of the interviewed emergency department staff who filled questionnaire. This is highly subjective. Hence a more accurate result is likely with this study.

Again most of the factors responsible for the delay in this study were same in Miro's and Rehmani's studies. (6, 7)

PERIOD

The study was conducted in August 2004 but was published in 2008. This is about 6yrs old project. Since the publication many other many other similar studies have been conducted (9, 10).

However this has formed the basis for many other studies such as the effect of the emergency department delay on patients out come.

RELEVANCY

The authors were well focused in determining the reasons for delay in patient admission. Their introduction explained the need to determine these factors in order to address them. The author went straight to design the study that will not only determine there is delay but will also indicate the stage at which the delay occurred, the service that caused the delay the medical condition that is associated with the longest delay and the gender that is more implicated. The detailed breakdown of these causes makes it easy to address.

Though the study did not determine the effect of the delay on patient's outcome, it incorporated all relevant information that agreed with the literature review to determine the most important factors contributing to emergency department delay.

OBJECTIVITY

This study is highly objective. The patient's Emergency Department card was used. This captured the exact time as recorded by the attendant healthcare who was blinded as to the use of the card for the study. Doctors and nurses wrote without any bias or knowledge of the aims of the study. The exact time when patient was advised for admission was also honestly recorded by the attendant physician.

To avoid any subjectivity, the admitting diagnosis was sorted out with the standard ICD-10 codes. The data was subjected to the standard analysis with 95% confidence interval using the student's t-test and chi-square test. The results were compatible with similar jobs by other authors.

STABILITY

This article is stable considering that articles of later dates have confirmed the findings of this study and have gone further to determine the impact of the delay on the patients outcome and the various steps to improve emergency department visit in order to eliminate delay. For example, some studies have suggested using higher level medical staff at the emergency department who have the capacity to diagnose and admit the patient. This will reduce the multiple consultations that occurs when junior medical staff man the emergency department and must contact the consultant for further decision to admit.

ANALYSIS OF GRAPH/TABLE

There are 4 tables. Table one is a demographic one which shows the age group, gender and nationality that are delayed most (beyond 2 hours) in the emergency department.

This table therefore shows that age group 13-30, males and Saudis are delayed most (beyond 2 hours) in the emergency department.

Table two shows the group A or B and the number of hours they are delayed. In group A (where greatest delay occurs before advice for admission), greatest number of patients in this group are delayed between 2-3 hours where as in group B (where greatest delay is after they have been advised for admission) most of the patients are delayed 3-4 hours.

In table three, the reason for delay and the number of patients affected are shown; multiple consultation with further investigation was the highest cause of delay in group A at the emergency department (48%), where as in group B file making process caused the highest delay 43.5%.

Table four shows the ailment that had the greatest delay in the emergency department using ICD-10 codes. It showed that diseases of the circulatory system followed by external causes of morbidity and mortality had the greatest delay (35% and 33% respectively).

RECENT ADVANCES RELATED TO THE TOPIC

Since the last 6 years there have been many studies on overcrowding and patient delay in the emergency department. These include the work done by Huang Q et al 2010 in which they redefined delay as, time from emergency department arrival to decision to admit of more than 12 hours (9) as opposed to the present study which used > 2 hours to define delay. In this same study 11.6% of admitted patients experienced delay as opposed to the 67% of the admitted in this review study. The team using the 12 hrs as delay concluded that delays to admission from the emergency department are associated with increased inpatient lost and inpatient cost. (9). Therefore improving the patient delay in the emergency department will reduce hospital cost and improve quality of care.

Current research has placed more emphasis on the emergency department external factors such as hospital bed availability, laboratory investigations, specialist availability and even elective surgeon schedules to be the major determinant of emergency department delay than emergency department internal bottle necks such as insufficient emergency department staff, emergency department bed shortages etc.

CONCLUSION

This article has clearly shown that there are different factors that cause delay when a patient arrives at the emergency department. Group A which most of the times are intra emergency department factors, and the delay after the patient has been advised for admission. Group B, which are largely external to emergency department. Hence, where as the multiple consultation/laboratory investigation is the major cause in Group A, file arrangement is the major cause of delay in Group B. The study further drew attention to the relationship between gender and nature of the ailment with the delay in the emergency department.

REFERENCING

The references were relevant to the hypothesis and given in Vancouver format and were from the authorities in the subject field.

It would be appropriate to have more researches focus on the outcome of the admitted victims of emergency department delay. Since some of the factors for the delay are external to emergency department while some are within the emergency department, there should be a wholistic approach to address both intra emergency department and extra emergency department factors in order to bring about improved inpatient care at less cost. It will also remove the frustration which patients and relation go through in the emergency department.

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