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**FACTORS DETERMINE THE ATTENDANCE OF CASES THAT CATEGORIZED WITH IV AND V IN THE TRIAGE SYSTEM TO THE HOSPITAL EMERGENCY IN IMAM ABDULRAHMAN BIN FAISAL HOSPITAL AT MINISTRY OF NATIONAL GUARD, DAMMAM CITY, EASTERN PROVINCE, SAUDI ARABIA**

**Community Medicine**

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**ABSTRACT**

**Aim-**Study was conducted to identify the patients reasons who categorised IV & V in triage system for accessing hospital emergency department (ED) rather than primary health care clinic (PHCC).

**Method-**This cross sectional study using researcher administer questionnaire by patients who categorized with IV and V in the triage system and present to the emergency department in Imam Abdulrahman Bin Faisal Hospital (IABFH).

**Result-**There were 227(58.7%) males and 160(41.3%) females. Significantly high proportion of the patients ( $P<0.001$ ) visited the hospital emergency in case of any medical problem and they did not try to visit primary health care clinics first. Difficulty in getting an appointment and waiting period werethe most common reasons for avoiding primary health clinic.

**Conclusion-**This study concludes that Perception of urgency play very important role while increase the awareness of primary health clinic services to the community might minimize the numbers of patients who visit ED.

**KEYWORDS**

primary health care, emergency department, category IV, category V

**INTRODUCTION**

Whenever patients want to seek any urgent attention of the doctor and want to get instant relief from their problem either mental of physical, they tried to rush to the ED (1). Accessibility to the ED is always very easy in most of the government and private hospital (2).

Sometimes patients categorise themselves as an urgent case but actually they are not. In such circumstances, non-urgent cases over crowd the ED that leads to increase the waiting time for those who really have emergency (3).

Although Saudi citizens have free medical facilities at primary health care centers (PHCCs) within the country but prevalence studies from Eastern region of Saudi Arabia showed that 59.4% to 88.7% of the cases presented to ED were categorized as non-urgent (4,5). Excessive and crowded number of patients in the hospital emergency is risky at some level, Because it is associated with patient mortality, increased the admission stay and ends with a high amount of hospital costs.(6)

Rehmani et al in 2007, examined the trend in ED over 3-year period in one of the hospital situated in Eastern region and found 30% growth of patients visits and approximately 60% of patients presented with non-urgent conditions (7). Possible contributing factors that were extracted from the literature related to middle east, include: the desire of getting treatment on same day, laboratory tests and other investigation which are not provided in PHCCs, lack of trust in primary care services etc. (7). However, very limited researches across the middle east are available related to non-urgent cases presented to ED and reasons are not clear.

Triage systems in the Imam Abdulrahman Bin Faisal Hospital at National Guard is using the Canadian Triage and Acuity Scale (CTAS) (8). The study aimed to explore and emphasize the patient's reasons for accessing the hospital emergency department(ED) with mild cases during working hours rather than primary health clinic(PHC) in Imam Abdulrahman Bin Faisal Hospital IABFH. After this study, we hope our findings can identify the reasons for further intervention and to increase awareness of primary health services.

**METHODS:**

This is a cross sectional study was conducted in Imam Abdurhman Bin Faisal Hospital at ministry of national guards, from November 2017 to January 2018.

It was conducted randomly through simple random using structured

researcher administer questionnaire was taken from Dawoud SO et al (1) with their permission, after that translated to the Arabic version and validated already. The study was dealing with the patients who are presenting to the hospital emergency and categorized as level IV or V in the triage Scale and excluded those who are attending in the weekend or coming after the working hours. the sample size was 380 sample based on the confidence level of 95% for 33000 the total number of population. data was entered in a software which is (SSPS) software. independent t-test was used to compare group means for continuous variables. Statistical significance was tested with p-value and sets at 0.05 alpha level.

**RESULTS:**

Among the participants ( $n=387$ ) of the study, there were 227(58.7%) males and 160(41.3%) females. Most of the patients were 16 to 40 years old ( $n=269$ , 69.7%), 58(15%) were less than 15 years and 60 (15.3%) were older than 60 years. Most of the patients ( $n=330$ , 85.5%) who visited emergency clinics were NGHHA employees. While, majority ( $n=321$ , 83.2%) were living outside NGHHA campus and only 65 (16.8%) were having accommodation inside the campus. Further assessment revealed that just about 24.1% ( $n=93$ ) had graduated or post-graduation, 67.4% ( $n=260$ ) having education up to high school and rest were having various diplomas and courses ( $n=33$ , 8.5). Similarly, only 26% ( $n=99$ ) had monthly income of more than 10,000 SAR.

**Table 1:**

Question Q9, 10,16,14,18,18.1	Semi Urgent	Non-Urgent	Total	P -value
Do you have pre-file in the hospital?				
Yes	295	54	349	0.08
No	23	9	32	
Have you tried to see a doctor in an outpatient clinic before coming to Emergency				
Yes	79	17	96	0.75
No	241	46	287	
How many time have you come to emergency during this year				
Frequently	76	9	85	0.38
One to two months	139	34	173	
Three to four months	58	13	71	

Six months to one year	12	2	14	
Rarely	36	5	41	
Since when are you suffering from this problem?				
Suddenly	13	3	16	0.009*
One to two days	65	17	82	
One to two weeks	82	26	108	
Almost a month	105	14	119	
More than a month	58	3	61	
Do you suffer from long waiting times at the emergency room?				
Yes	287	56	343	0.7
No	36	6	42	
For how many hours did you have to wait in emergency room?				
Waiting for an hour	33	8	41	<0.001*
For two hours	82	30	112	
For three hours	68	8	76	
More than three	108	11	119	

\*Statistically significant at 0.05 level of significance

Number of semi urgent cases (n=323, 84%) were significantly higher (p<0.001) compare to non-urgent cases (n=63, 16%), who visited emergency department of National Guard. Increasing trend in the responses of semi urgent patients observed (p=0.009) when patients asked that since when they are suffering from this problem (Table 1). Furthermore, approximately 89% of the patients suffer from long waiting time in emergency room. Significantly higher number of semi urgent patient (p=0.001) responded that they had to wait more than three hours in emergency room (Table 1).

Table 2:

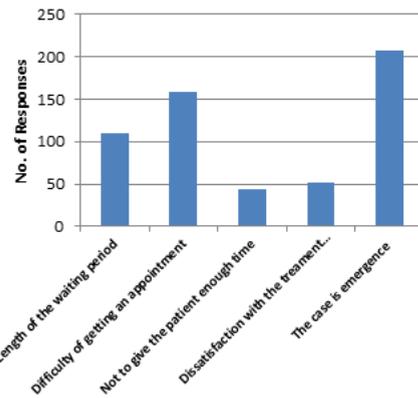
Questions	Semi Urgent	Non-Urgent	Total	P -value
Q11,12,13,20,21,21.1,22				
Did you get treatment in the emergency room as you had expected?				
Yes	251	54	305	0.15
No	54	7	61	
Do you get better services in the emergency room than doctor's clinic?				
Yes	224	42	319	0.34
No	95	21	63	
Do you have health insurance?				
Yes	32	7	39	0.43
No	280	52	312	
Have you ever left the emergency department without seeing a doctor or getting treatment?				
Yes	126	23	149	0.7
No	197	40	237	
Have you ever gone to the emergency department and the staff apologized that they could not receive you because your case was not an emergency?				
Yes	53	11	64	0.49
No	263	51	314	
Did they give you alternative solution to your health problem?				
Yes	35	5	40	0.35
No	28	2	30	
When you felt the symptoms was your first thought to go to the emergency room?				
Yes	219	54	317	<0.001*
No	98	6	104	

\*Statistically significant at 0.05 level of significance

Among the patients who visited emergency department, 306 (83.4%) were satisfied with the treatment provided at emergency clinic while only 61 (16.6%) were not satisfied and proportion of satisfied patients was significantly high (p-value <0.001). Furthermore, 69.1% of semi urgent and 90% non-urgent patients had first thought to go to emergency room after feeling symptoms and their proportion was

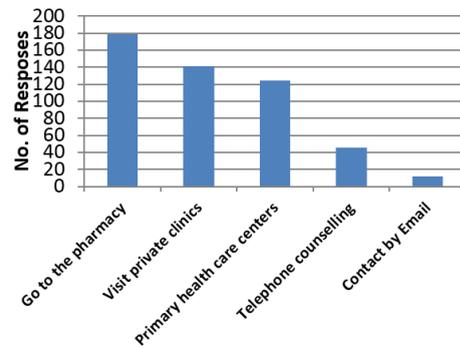
significantly high with p-value <0.001 (Table 2).

Figure 1: Reasons for not seeing a primary health care doctor in PHCC before coming to the emergency



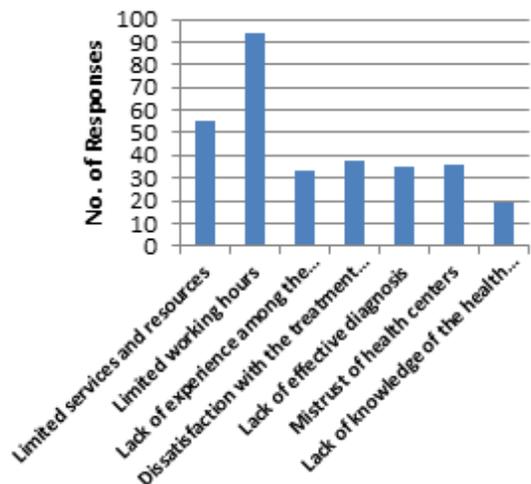
Patients who did not try to visit primary health care clinics (PHCC) before coming to the emergency department were further asked few questions to evaluate the possible reasons for not being there at PHCC. Significantly, high proportion of the patients (68%, p-value <0.001) was considering their case as an emergency case. Followed by "difficulty of getting an appointment"(figure 1).

Figure 2: Choices of getting treated other than emergency room



73.4% thought they would go to pharmacy as a second choice of emergency room (figure 2).

Figure 3: Reasons of not visiting primary health care clinics even if they can deal with the case (q27)



While, significantly high number of patients (n=94, 65.3%) were complaining about limited working hours of primary health care clinics with p-value less than 0.001 (figure 3).

Table 3:

Questions 10 (1-5), 19(1-8), 24(1-5),27(1-7)	Semi Urgent	Non-Urgent	Total	P-value
Reasons for not seeing a specialized doctor				
Length of waiting period				
Yes	90	20	110	0.335
No	160	26	186	
Difficulty of getting an appointment				
Yes	122	37	159	0.001*
No	131	13	144	
Late in patients receiving				
Yes	71	14	85	0.045*
No	46	6	52	
Go to pharmacy				
Yes	145	33	178	0.039*

Significantly high number of non-urgent patients reported that they faced difficulty in getting appointment ( $p=0.001$ ) at PHCC. Furthermore, non-urgent patients were also complaining that staff in ER were late in patients receiving ( $p=0.045$ ). When patients were asked about other possible options rather than ER, significantly high proportion of patients were replied to go to pharmacy directly ( $p=0.039$ ) (Table 3).

Either it was a semi urgent or non-urgent emergency patient, they all were well aware about primary health care centers. 326(84.2%) patients stated that they were aware about primary health care clinics. 275(71.1%) patients had primary clinics in their neighborhood and 236(61%) knew how to access its services.

#### DISCUSSION:

To study the patients' behavior towards PHCC and ED some studies have already been performed (7). But factors were not quite clear which could explain why a patient prefers to get treated at ED rather than PHCC. From the results, it was observed that in most of the cases patients did not try to access of PHCC before coming to ED. Significantly high number of patients perceived their case as an emergency case compared to duty nurses who were categorized the sampled patients as either semi urgent (IV) or non-urgent (V). This finding is similar with the findings of Al-Yasin et al, who did same kind of study at ED of a government hospital in Riyadh, Saudi Arabia (9).

Findings of the current study also revealed that only 4.1% of the participants approached to ED within 24 hours on onset of problem. Contrary to our findings, a study from Jordan reported 20% of the patients visited ED within 24 hours of onset of their symptoms (12 10). Al-Yasin et al found that one third of their participants took up to a week since onset of their symptoms to decide to attend ED (9).

Commonly patients do not have regular visits to primary health care centers that was why their awareness and level of satisfaction towards the care provided at PHCCs was generally low. Furthermore, patients complained about the limited working hours of PHCCs. This supports the argument given by Al-Sakkah et al that mostly Saudis reliant on the ED for healthcare and their lack of trust on the services providing at primary health care clinics (10). Al-Yasin et al reported that only 4.9% of patients tried to contact with primary health care center before coming to ED of government hospital situated in Riyadh, Saudi Arabia (9).

Reasons for patients' visits of ED also included the accessibility, short waiting time and easy access to treatment without having prior appointment. Majority of the patients were more satisfied with the treatment received from ED compare to PHCCs. Over 60 percent never left from ED untreated. These findings were similar to studies performed in other Middle Eastern countries (11). On the other hand, difficulty in getting an appointment and length of waiting period before getting treatment were the basic reasons for not being visited PHCCs. When patients were asked about other choices rather than ED, they would prefer to go to pharmacy directly to get some medicine and those who could bear the cost of private clinics stated to visit private clinics as second option. This attitude could be due to their low level of knowledge or satisfaction towards PHCCs.

Findings of the present study lead to the point that patients consciously or unconsciously seeking for convenience. They prefer to visit ED instead of PHCC because of various reasons. 24/7 ED services, easy accessibility, short waiting time and never left ED untreated were major reasons. Contrary to this, PHCCs are limited working hours during weekdays and do not open on weekends. Furthermore, appointment system and long waiting list also cause of frustration. These issues can be addressed by increasing the working hours. Online booking system can help to improve accessibility of the patients.

#### CONCLUSIONS:

Based on our findings there are many factors affecting the decision of coming to the hospital emergency department. Perception of urgency play very important role while increase the awareness of primary health clinic services to the community might minimize the numbers of patients who visit ED.

We recommend further study to clarify more about the perception of patients regarding health services that provided in PHC also to assess the PHCs services and resources.

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