

ORIGINAL

Profile of Attendance in Accident and Emergency Department: Salmaniya Medical Centre

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ABSTRACT

Accident and Emergency Department (A & E) of Salmaniya Medical Centre (SMC) is designed to manage life threatening and urgent medical conditions. The Salmaniya Medical Centre Accident and Emergency Department serves all the population of Bahrain. The Department served 144997 patients in 1991 and 163044 patients in 1992. This study was undertaken to evaluate the patterns of attendance at the SMC/A&E department.

METHODS

A special form was designed for each patient attending the A & E from 17/5/92 - 23/5/92. This week was chosen randomly. The form was filled out by a clerk and a doctor, and covered the following items: age, sex, occupation, level of education, time of arrival, geographic area, referral from, disposition, diagnosis and urgency of the problem. The urgency of the problem was classified according to the standard international classification into four classes³.

Class 1: Life threatening (needs immediate action)

Class 2: Urgent (if prompt action is not taken, the condition can progress to life threatening)

Class 3: Non-urgent (delay of 6 hours or more before interaction has no great difference to the outcome)

Class 4: Stable (delay of 24 hours or more before interaction has no great difference to the outcome)

RESULTS

Table 1
Age distribution

Age	Number	Percentage
0 - 5	302	14.6
6 - 12	329	16
13 - 20	231	11
21 - 35	727	35
36 - 50	337	16
51 - 70	125	6
71 and above	29	1.4
Total	2080	100

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Table 2
Sex distribution of patients

<i>Sex</i>	<i>Number</i>	<i>Percentage</i>
Male	1269	61
Female	811	39
Total	2080	100

During the period from 17/5/92 - 23/5/92, a total of 2080 patients attended the A & E Department, all of which are included in this study. The age distribution (Table 1) shows that the majority of attendants are in the 21-35 age group (35%), and that 30.6% are below 12 years of age.

Table 2 shows that the ratio of male patients to female patients is 1.6:1. Laborers constitute 28.5% of the total, while preschool children constitute 20.3% (Table 3).

Table 3
Occupation of attendant to A & E

<i>Occupation</i>	<i>Number</i>	<i>Percentage</i>
Preschool	425	20.3
Student	362	17.4
Housewife	340	16.3
Office work	197	9.4
Laborer	594	28.5
Not working	129	6.2
Others	33	1.9
Total	2080	100

Table 4
Level of education

<i>Level of Education</i>	<i>Number of patients</i>	<i>Percentage</i>
None	776	37.31
Primary	509	24.47
Intermediate	328	15.77
Secondary	328	15.77
High education	139	6.68
Total	2080	100

Table 5
Time of arrival to A & E department

<i>Time</i>	<i>Number</i>	<i>Percentage</i>
Midnight - 3.59 am	331	16
4.00 am - 7.59 am	252	12
8.00 am - 11.59 am	308	15.5
12 noon - 3.59 pm	409	19.5
4.00 pm - 7.59 pm	390	18.5
8.00 pm - 11.50 pm	390	18.5
Total	2080	100

Most of the attendants are educated (Table 4). The heaviest demand on the service is from 12 noon to midnight (Table 5). Almost all of the geographic areas of Bahrain are represented by the attendants (Table 6), but most of the people came from Manama and Muharraq. 84% of the patients are self referrals (Table 7), while 12% are referred from local health centres. Only 6.78% required admission, while almost half of the patients were discharged.

Diseases involving the respiratory system, the gastro-intestinal system and trauma other than road

Table 6
Geographic distribution of patients

<i>Area</i>	<i>Number</i>	<i>Percentage</i>
Hidd	36	1.73
Muharraq	296	14.23
Manama	614	29.52
Jidhafs	190	9.13
Northern Area	124	5.96
Sitra	209	10.05
Central Area	95	4.57
Issa Town	229	11.01
Riffa	95	4.57
Hawar	1	0.05
Hamad Town	84	4.04
Western Area	107	5.14
Total	2080	100

Table 7
Source of referral

<i>Referred from</i>	<i>Number</i>	<i>Percentage</i>
Health Centre	254	12
Self	1748	84
Private	37	2
Hospital	13	1
Ambulance	28	1
Total	2080	100

traffic accidents constitute the bulk of the problem (Table 9).

Patients were rated according to the urgency of their problem; table 10 shows that 74% of cases were in non-urgent and stable conditions.

Table 9
Diagnosis of the problem

<i>Diagnosis</i>	<i>Number</i>	<i>Percentage</i>
Trauma other than RTA	500	24
Respiratory diseases	363	17
GIT diseases	287	14
Urinary	119	5.5
Ortho other than trauma	93	4.5
Eye	92	4.5
ENT	79	4
Obs & Gynae	78	3.7
SCD	76	3
RTA	62	2.9
Abscess & Infection	60	2.4
CVS	53	2.4
Skin diseases	50	1.3
Burn	27	1.3
Neurological	25	1.3
Psychiatric	24	1.3
Dental	24	1
Allergy	19	0.76
Poisoning	9	0.6
Geriatric	7	0.4
Dead on Arrival	3	0.3
No diseases given	16	0.14
Undiagnosed	14	0.14
Total	2080	100

Table 8
Disposition of patients

<i>Disposition</i>	<i>Number</i>	<i>Percentage</i>
Home	1009	48.51
Day Case Unit	53	2.55
Outpatient	190	9.31
Admission	141	6.78
Health Centre	687	33.03
Total	2080	100

DISCUSSION

Age distribution of patients attending the SMC A & E Department is exactly similar to the distribution of the Bahraini population⁶, with the highest users in the young adult age group (21 - 35 years) and children (below 12 years). The former age group constitutes the work force, which is expected to have accidents and various types of trauma requiring emergency services, explaining the higher number of male attendants (Table 2). The high number of children below 12 years of age can be explained by the fact that it is convenient for parents to come to SMC where they are promptly attended to and that accessibility to paediatric specialists is easy and rapid in comparison to the other medical facilities in Bahrain.

Most of the users are educated (Table 4) implying that a good educational campaign in society may decrease the unnecessary use of the SMC A & E Department.

In the 3 time-periods from 0.00 hours to 12 noon (Fig 1 and 2), almost equal number of patients attended the A & E, (43.5% of total). And in the 3 time-period from 12 noon to midnight almost equal number of patients attended the A & E Department (56.5% of total).

Table 10
Urgency of problems

<i>Urgency</i>	<i>Number</i>	<i>Percentage</i>
Life threatening	26	1.2
Urgent	516	24.8
Non-urgent	1036	49.8
Stable	502	24.2
Total	2080	100

ACCIDENT AND EMERGENCY DEPARTMENT

TIME OF ARRIVAL TO A&E DEPARTMENT

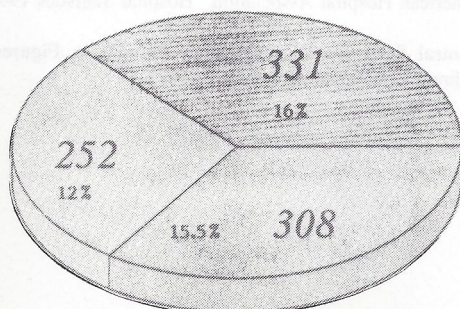


FIGURE I
FROM 00 AM TO 12 NOON

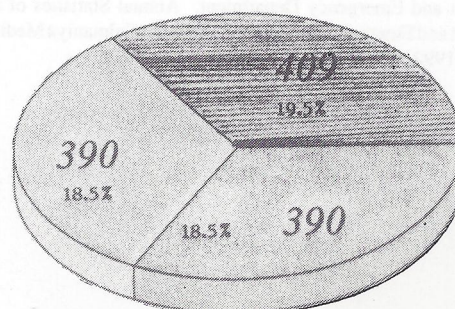


FIGURE II
FROM 12 NOON TO 11.59 PM

■ 0.00 - 3.59	■ 4 - 7.59	■ 8 - 11.59
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But, 28% of the total attended the A & E Department from midnight to 8:00 am. This load is relatively high because there are no local health centres and limited private medical facilities are open to the public during this period. Similarly, the periods from 12 noon to 4 pm and 8 pm to midnight (38% attendance of total), there are practically no open health centres and again very limited private facilities. Adding these figures ($38\% + 28\% = 66\%$), it becomes apparent that 66% of the patients have very limited alternative medical care to turn to and, therefore, must come to A & E Department during the periods specified above, which also explains the high number of self-referred patients (84%).

From the data in tables 8-10, it is obvious that 74% of the cases can easily be managed in the local health centres. This is further substantiated by the fact that almost 50% of these cases were sent home and 33% were asked to seek medical care in the local health centres the following day.

Table 9 supports our contention that the majority of the cases are non-urgent placing a high burden on the A & E staff⁴.

CONCLUSION

We have analysed at random one week's attendance at Salmaniya Medical Centre Accidents and Emergency Department. The analysis shows:

1. A large number of patients utilise the services, despite the small population of Bahrain.
2. One major cause for attending the Salmaniya Medical Centre, A & E is that no alternative health care service is available in critical time periods.
3. 74% of attendants at the emergency department fall into the non-urgent and stable conditions.

In an effort to decrease the huge load on the Salmaniya Medical Centre A & E department, and, hence, improve the care available to the truly critical patients, we recommend the following:

1. Make available primary health care in at least some of the health centres for 24 hours a day.
2. Educate the public in the appropriate use of the A & E Department.

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