Original Article **Brunei Int Med J.** 2011; 7 (1): 15-21

Why do patients come to the Accident and Emergency Department, RIPAS Hospital?

Po Thaw DA [1], Zaiton AWANG [2], Sahri GHANI [2], Shamsiah TAHIR [2], Norbayah JAIDIN [2], Jeffry DAMIT [2]

[1] Accident and Emergency Department, RIPAS Hospital and [2] Statistics Unit, Research and Development Section, Ministry of Health, Brunei Darussalam

ABSTRACT

Introduction: The total number of patients, especially the non-urgent cases (Priority 3) attending the Accident and Emergency Department (AED) of the RIPAS Hospital have increased from 1996 to 2003. This questionnaire study looked at the reasons for attending the AED of RIPAS Hospital instead of the outpatient peripheral clinics or health centres. **Materials and Methods:** The study was conducted using prepared survey questions (17 questions) from 15th May to 15th June 2004 (32 days) on patients/ care-givers/accompanying persons (Priority 3 – non-urgent/not serious cases) who attended the AED for various reasons. A total of 398 respondents participated in the study. **Results:** Most of the respondenta were Bruneian (88.9%) with the rest consisting of permanent residents 4.6% and expatriates (7.2%). The majority of respondents were in the age group between 16 to 45 years (32.8%). Reasons for going the AED RIPAS hospital included complete facilities (Radiology, Laboratory and etc, 87.7%), provision of a 24 hours service (89.8%), patients' perception of their illnesses being serious (81.9%), more comprehensive check-ups (66%) and less traffic leading to the AED at certain times of the day (61.2%). Interestingly, some were unaware of available specified health services in their area and that extended services were available in Ong Sum Ping Health Centre. **Conclusion:** A majority of responders attended the AED for various reasons. Patient education is important to increase awareness so that priority 3 cases can be directed to peripheral clinics to reduce congestions at the AED RIPAS Hospital.

Keywords: Appointment, emergency medical service, hospital, out-patients, triage

INTRODUCTION

The number of patients attending the Accident and Emergency Department (AED) of RIPAS Hospital has steadily increased over the years (1996 to 2003), Figure 1. All patients attending the AED are triaged into three categories: Priority 1 (Urgent / Serious and Life Threatening) cases, Priority 2 (Semi-urgent / Serious but Not Life Threatening) cases, Priority 3 (Non-urgent / Not-Serious) cases. The patients are assigned and managed according to the triage category. In

Correspondence author: Po Thaw DA
P.O. Box 107, Post Office Old Airport,
Berakas BB3577, Brunei Darussalam
Tel: 673-2450043,
E-mail: alisionthaw@hotmail.com

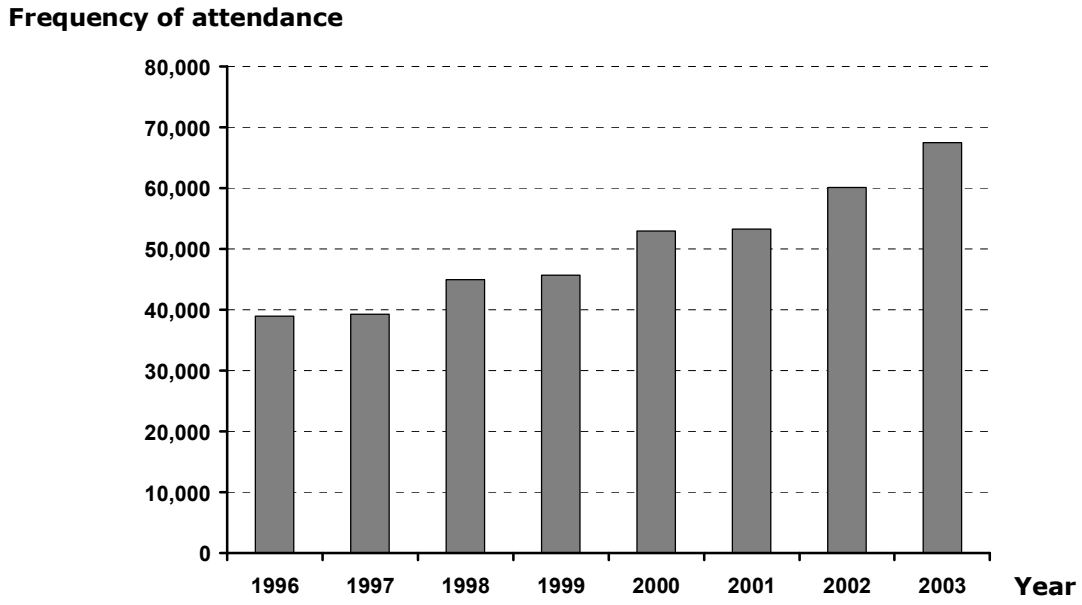

Fig. 1: The number of attendances from 1996 to 2003.

2003 the total number of AED attendances was 67,397 patients and the majority were categorised into Non-urgent (Priority 3) cases. The breakdown is shown in Table 1. As the number of patients increases, this resource will be stretched and may compromise the care of patients in Priority 1 and 2 categories. This study was carried out to identify the various reasons for the Non-urgent/Not Serious (Priority 3) cases attending the AED of RIPAS Hospital instead of the outpatient peripheral health clinics or centres.

MATERIALS AND METHODS

This study was conducted in the AED, RIPAS Hospital located in the main tertiary hospital located in the Brunei-Muara district with a population catchment of approximately 240,000.

The study was conducted using prepared survey questions (17 questions) from 15th May to 15th June 2004 (32 days) on patients/ care-givers/ accompanying persons (Priority 3 – non-urgent/ not serious cases) who attended the AED of RIPAS Hospital for various reasons. The survey questions were based on the responses given in interviews with 42 participants of a focus group and following discussion and agreement of personnel of the AED of RIPAS Hospital. A total of 398 respondents answered the questionnaire and filled in the survey forms during the survey period.

In addition to looking at the reasons

Table 1: Breakdown of the various Priorities in 2003.

	Definitions	**Frequency**
Priority 1	Urgent/Serious and life threatening	621 (0.9%)
Priority 2	Semi-urgent/Serious but not life threatening	14,685 (21.8%)
Priority 3	Non-urgent/Not-serious	52,091 (77.3%)

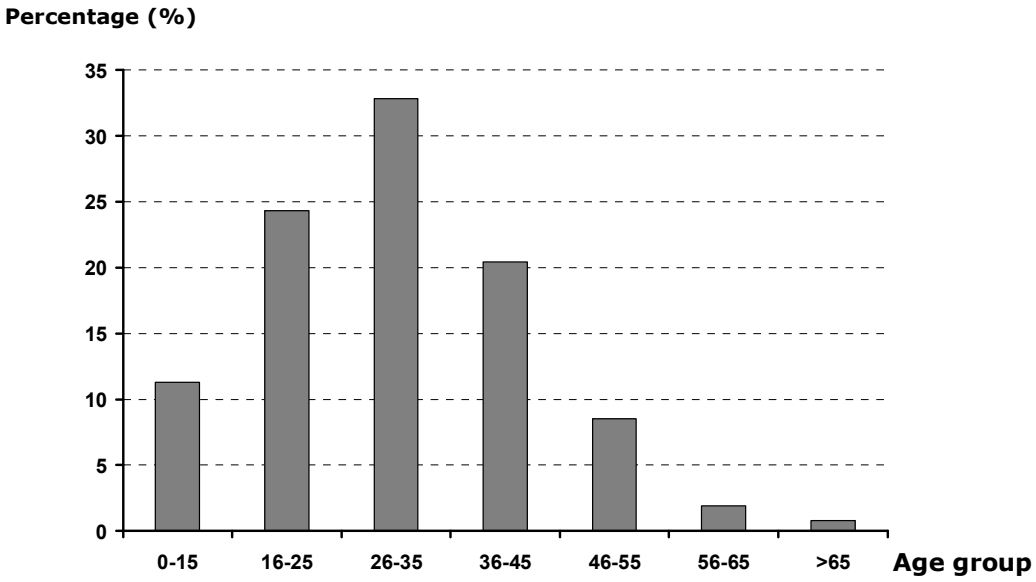

Fig. 2: Age group distribution of patients.

for choosing to come to the AED, RIPAS hospital for consultation and treatment we also looked at time of attendance. We retrospectively looked at 1,364 triage sheets between 15th of May 2004 to 31st of May 2004 (17 days) to assess the peak period/time of attendance at the AED. We divided the attendance time into four hours periods (12-4am, 4-8am, 8am-12pm, 12-4pm, 4-8pm and 8pm-12am). Data is presented as absolute number and percentages.

RESULTS

The demographics of patients based on their identity card were as follow: Bruneian citizens (88.2%), Permanent residents (4.6%) and Expatriates (7.2%). The age group of the participants showed that the majority were in the 26 to 35 age group (Figure 2).

The peak attendance time was between 8-12pm followed by 4-8pm (Figure 3).

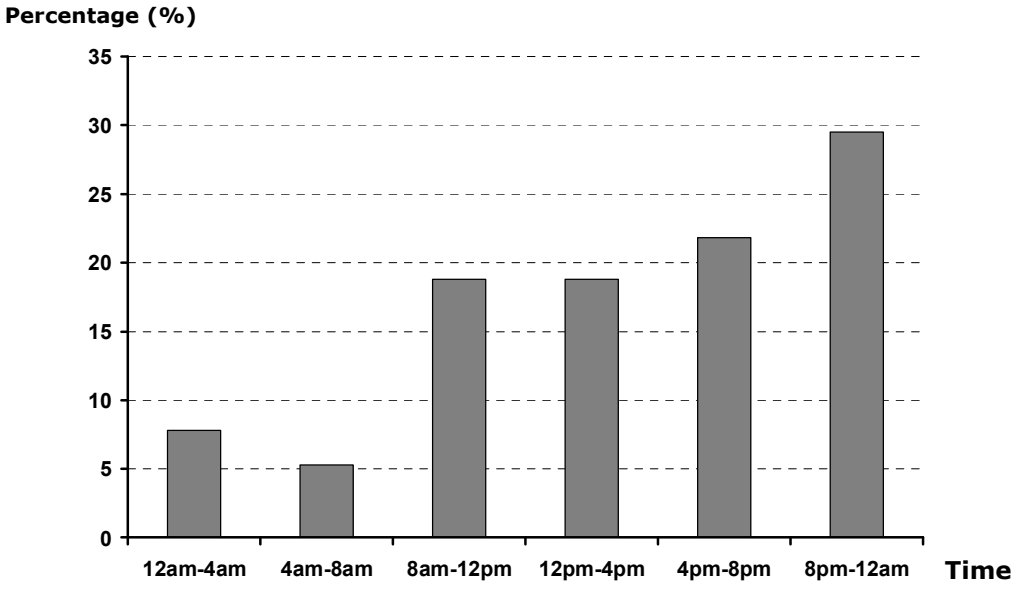

Fig. 3: Peak attendances in different time periods.

The survey findings are shown in Table 2.

DISCUSSION

With increasing population, the number of attendances or referrals for consultations or treatment is increasing and this places a major burden on already stretched health care services. This situation is also similar in Brunei Darussalam. Given the increasing number of attendances to the AED of RIPAS Hospital over the years, it is important that the AED services are not overwhelmed by Priority 3 (Non-urgent cases) cases to such an extend that care for the Priority 1 and 2 cases is compromised. In 2003, Priority 3 cases accounted for 77.29% (52,091) of the AED, RIPAS Hospital attendances. Our figure rally comparable to the rates reported in the literature. However, the reported rates are variables. Our rate is higher that the rates reported from Kuwait (61%) [1], Turkey (44%) [2], Saudi Arabia (70%) [3], Indonesia (26.2%) [4], Malaysia (38.3%) [5], Brazil (24.2%) [6], Greece (30%) [7] and France (29 to 35%). [8] Interestingly a report from Jordan reported a rate of 91%. [9]

The demographics of our patients based on national identity card showed that that large majority of the attendances were locals with only 7.2% of those sampled being expatriates. This figure is much lower than the national breakdown. This finding is not unexpected considering that expatriates pay for consultations and treatment and as such

Table 2: Responses to the 17 questions enquired.

Number	Questions	Yes	No
1	Easy access to parking spaces especially at night time	48.8	51.2
2	Further investigations such as X–ray, lab as well as inpatients services are available on site (at RIPAS Hospital)	**87.7**	12.3
3	There is less traffic on roads leading to AED at certain times of the day	**61.2**	38.8
4	Doctors at AED are more skilful and efficient	**65.5**	34.5
5	Waiting area at AED more comfortable	55.8	44.2
6	Short waiting time at specific times of the day	45.2	54.8
7	AED is closer to home than the nearest Health Centre	33.9	**66.1**
8	Check–ups given at AED are more comprehensive	**66.0**	34.0
9	Past experience whereby patients who went to Health Centers were requested to go to AED for treatment	51.6	48.4
10	Inadequate medication stock at Health Centre	40.6	**59.4**
11	Not aware that there is a specified Health Centre for their area	27.7	**72.3**
12	Not aware extended out-patient services are provided at Ong Sum Ping	32.9	**67.1**
13	AED provides 24 hours ongoing service as opposed to Health Centre	**89.9**	10.2
14	Treatment and service given at Health Centre not satisfactory	46.3	53.7
15	I perceive my illness as serious and should be given due attention at AED	**81.9**	18.1
16	Would prefer going to local Health Centre if facilities are enough	**83.0**	17.0
17	Health Centre patients were asked to go to AED if their condition persists	56.2	43.8

Data provided in percentages

are more likely to seek medical treatment in one of the many private clinics where waiting time is generally much shorter. The majority of the sampled attendees were in the 25 to 45 age group.

The peak attendance or busy period was from 4pm onward peaking in the period from 8pm to midnight. This finding is not surprising considering that these are at the end of after office hours. In this study we had only looked at Priority 3 cases with non-serious conditions. As such it is not unexpected that most will only seek medical attention after office hours.

Most respondents came to the AED, RIPAS hospital due to the perceptions that the facilities are more complete (87.7%); check-ups are more comprehensive (87.7%) and because of provision of a 24-hour service (89.8%). While all these facts are generally true, this is not unexpected considering that RIPAS hospital is a major hospital. There is also a perception that doctors in the AED RIPAS Hospital are more knowledgeable and skilful. Importantly, a large proportion of the respondents (81.9%) perceived that their illnesses was serious. Apart from minor differences, our findings are comparable to what has been reported in the literature. However, there are many reasons that influence patients' choice of going to outpatient or emergency services for their medical illnesses. A study in Hong Kong reported reasons for not attending general out-patient clinic (GOPC) included closure of the GOPC, preference to continue treatment at the same hospital, GOPC too far away, no improvement after visits to GOPC doctors, GOPC doctors' inability to make proper diagnosis and affordability. [10] A Turkish study showed 35% perceived that their illnesses were serious and could be managed only in the emergency service. [2] In fact, 40% had never thought of presenting to the primary care clinics. [3] This is much lower than our finding of 81.9%. In contrast, Vazquez *et al.* reported that 26% of subjects thought that the emergency service had better technical equipment, 11.4% thought their problem was urgent, and 8% knew other services offered less qualified service to them. [11] Other reported reasons included too anxious to wait (33%), financial reasons in those with insurance coverage, being a research hospital and reliability. [12, 13]

Interestingly, a large proportion stated that it is easier to get to the AED, RIPAS hospital at certain times of the day. Given that RIPAS Hospital is located near a major highway, this is again not unexpected. This is also reflected by the peak time of attendances of after office hours when the traffic leading to the Hospital is generally much lighter. The peak time of attendances is an important reflection of the times that patients or carers are free to seek medical attention. Given that there is only one outpatient clinic (Ong Sum Ping) that provides extended services, it is not surprising that the majority of patients prefer to come to the AED, RIPAS Hospital. Furthermore, this extended service is only till 9pm when the number of attendances to the AED is just beginning to increase. It is possible if the outpatient extended services is extended to midnight, the congestion at the AED may be lessened.

In addition, awareness of the services provided by the government outpatient clinics was poor. Apart form this, there were some

misconceptions regarding services provided in the outpatient clinics. Many perceived that the facilities in the outpatient clinic were inadequate, doctors were less knowledgeable and check-ups were less comprehensive. Apart from the facilities differences, doctors in clinic are just as knowledgeable and the check up provided is dependent on the severity of illness. Encouragingly, a majority (83%) of responders would prefer to go their nearest outpatient clinic if the facilities were adequate.

There are many things that can be implemented that may help alleviate the situation. Patients need to be made aware that outpatient clinics are the first line clinics for minor cases i.e. Priority 3 cases where not many investigations will be required. This is also why outpatient clinic facilities are generally less comprehensive compared to a tertiary referral hospital. Furthermore, patients need to be made aware that they can seek consultations the following day in outpatient clinics rather than going to the AED, adding to the congestion. Therefore, public education is important. Alternatively, triage can be done and Priority 3 cases can be redirected or given appointments with or without treatment. Introduction of fast tracking has been shown to decrease the AED length of stay for non-admitted patients without compromising waiting times and the AED length of stay of other AED patients. [14] Extended services can also be extended to other selected clinics. However, increasing the facilities in outpatient clinics will be costly.

At the time of the study, there were a total of eight government primary health care centres located in the Brunei-Muara district which manage most of the cases during working hours up to 4.30 p.m. After office hours, only one health centre (Ong Sum Ping Health Centre) remains open until 9.00 p.m. on working days. On public holidays the same health centre is also operational from 2.00 p.m. to 10.00 p.m. while all the other government health centres are closed. Increasing the duration of and number of clinics with extended service to other health centres may reduce congestion in the AED, RIPAS Hospital. However, doing so will require an increase in manpower to run these additional services and given the current shortage of doctors and nurses, this will stretch the existing system. Therefore, efforts are required to increase manpower.

There are several limitations with our study that need to be considered when interpreting our findings. First the sample size was small in comparison to the overall annual attendances and hence may not provide a true reflection of the reasons for attending the AED, RIPAS hospital. Second, the study was conducted over a short period of 32 days. Finally, our study was based in a single centre and may not be generalisable to the other AEDS of the other districts. Despite this, we believe our results provide a good insights into the reasons why Priority 3 cases choose to go to the AED, RIPAS Hospital.

In conclusion, our study showed some misconceptions among Priority 3 cases that contribute to the congestion of the AED, RIPAS Hospital. In order to address this problem, issues such as public education, awareness of and improvement in facilities in the outpatient clinics will need to be considered without comprising the health of patients.

Acknowledgement: The authors gratefully acknowledge Nursing Officers Maraja bin Ulat, Hj Basri bin Md Said (for their contribution in developing the survey questions and form), all the nursing staff and medical record staff of the AED of the RIPAS Hospital for assisting in distribution and collection of the survey forms during the survey period.

Note: Poster Presentation Sub-theme: Intensive Care Unit Session of the Malaysia, Indonesia and Brunei Darussalam Medical Science Conference 28-29th of July 2007, Rizqun Hotel, Brunei Darussalam.

REFERENCES

1: Shah NM, Shah MA, Behbehani J. Predictors of non-urgent utilization of hospital emergency services in Kuwait. Soc Sci Med. 1996; 42:1313-23.

2: Kalemoglu M, Keskin O, Demirbas S, Ozisik T. Non-urgent patients in Emergency Medical Service. Rev Med Chil. 2004; 132:1085-9.

3: Al-Shammari SA. Use and abuse of emergency services in Ryadh health - centres, Saudi Arabia. Saudi Med J. 1991; 12:489-93.

4: Bradshaw YS, Emergency Medicine as Community Medicine: Non-urgent Patients Across 4 Emergency Departments in Urban Indonesia. Ann Emerg Med 2000; 35:559.

5: Azhar AA, Ismail MS, Ham FL. Patient attendance at a major accident and emergency department: are public emergency services being abused? Med J Malaysia. 2000; 55:164-8.

6: Carret ML, Fassa AG, Kawachi I. Demand for emergency health service: factors associated with inappropriate use. BMC Health Serv Res. 2007; 7:131.

7: Aqouridakis P, Hatzakis K, Chatzimichali K, Psaromichalaki M, Askitopoulou H. Workload and case-mix in a Greek emergency department. Eur J Emerg Med. 2004; 11:81-5.

8: Lang T, Davido A, Diakite B, Agay E, Viel JF, Flicoteaux B. Non-urgent care in the hospital medical emergency department in France: how much and which health needs does it reflect? J Epidemiol Community Health. 1996; 50:456-62.

9: Abdallat AM, al-Smadi I, Abbadi MD. Who uses the emergency room services? East Mediterr Health J. 2000; 6:1126-9.

10: Lee A, Lau FL, Hazlett CB, et al. Factors associated with non-urgent utilization of Accident and Emergency Services: a case-control study in Hong Kong. Soc Sci Med. 2000; 51:1075-85.

11: Vazquez QB, Pardo MG, Fernandez CG, Canals AM, Delgado NMA, Naves AM. Why do our patients go to hospital emergency departments? Atencion Primria 2000; 25:172-5.

12: Kellermann L. Non-urgent Emergency Department Visits: Meeting an Unmet Need. JAMA 1994; 271:1953-6.

13: McCaig LF. National Hospital Ambulatory Medical Survey: 1992 Emergency Department Summary. Hyattsville, Md: National Center for Health Statistics; 1994. Advance Data for Vital and Health Statistics, No 245. Available from http://www.cdc.gov/nchs/data/ad/ad245.pdf (Accessed 26th September 2010)

14: Considine J, Kropman M, Kelly E, Winter C. Effect of emergency department fast track on emergency department length of stay: a case-control study. Emerg Med J. 2008; 25:815-9.