Admissions to the Day Ward of the Accident and Emergency Department in Brunei Darussalam

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ABSTRACT

Introduction: The Day Ward or Observation Ward is an essential part of an Accident and Emergency Department (AED), and for the hospital as a whole. The Day Ward serves as an area where patients can be observed and reviewed after a few hours, before decisions are made whether admissions are required. This study was carried out to assess the profiles of admissions to the Day Ward of the AED of RIPAS hospital and to assess the rate of admissions to the hospital. **Materials and Methods:** A retrospective study on 4,459 patients who were admitted to the day ward of the AED, RIPAS Hospital from 1st January to 30th June 2007 was carried out. The triage sheets were analysed. Data on the time from triage to the time of admission/discharge, the presenting symptoms, and reasons for admissions to the various wards were extracted. **Results:** Close to 60,000 patients visited the AED during the 6 month study. There were more male patients than female patients; however female patients were more likely to be admitted to the day ward for observation. The most common age group was in the 31-60 years. The most common indications for admissions to the Day Ward were for abdominal pain (18%), non–specific giddiness (15%), non-specific body weakness (13%) and headache (12%). Of the 4,459 patients who were admitted to the day ward, only 179 patients (4.01%) were admitted to the hospital wards, more female than male patients. The most common symptoms were giddiness and body weakness. They were mainly admitted to the medical wards primarily for deranged laboratory investigations. The average duration spent in the day ward was 5-6 hours. **Conclusion:** The Day Ward is very essential to the AED and hospital. Many patients present to AED with a wide spectrum of symptoms, but only a small fraction of the require admission, most of them are discharged after a brief period of observation.

Keywords: Short stay ward, observation ward, outcomes, admissions

INTRODUCTION

The Day Ward also known as Observation or Short Stay Ward is an essential part of any Accident and Emergency Department (AED) and has been shown to reduce the number of admissions. [1-3] It has also been shown to improve patients options for short term treatment even in the paediatric and geriatric populations. [4, 5] As the cost of healthcare increas-

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es, options where patients can be rapidly evaluated and managed on a more ambulatory basis especially for the milder cases becomes important.

The Day Ward serves as a short stay area where patients can be observed, treated and diagnosis clarified before decisions are made whether patients require admission or not. [6] Generally patients admitted to the Day Ward are those who are not sufficiently ill enough to warrant direct admissions, and where conditions may improve sufficiently after treatment to be further managed in the outpatient setting. Therefore, the Day Ward is an important paof any healthcare institution.

The Raja Isteri Pengiran Anak Saleha (RIPAS) Hospital, a major tertiary referral centre in Brunei Darussalam also has a Day Ward attached to the AED which has been in operation since 2000. To date, there are no data published on the function of the Day Ward in Brunei Darussalam. This study assessed the profiles and outcomes of admissions to the Day Ward of the AED, RIPAS Hospital over a six month period.

MATERIALS AND METHODS

Setting: RIPAS Hospital is a 550 bedded tertiary referral hospital for the country. The AED has a population catchment of approximately 280,000 mainly for the Brunei-Maura district. The Day Ward is designed in the form of the letter H with two wards, one for male and the other for female patients with the nurses' station in the middle. There are altogether eight beds in the Day Ward.

The Day Ward is managed by two nurses and the doctors on duty for the AED. Patients are usually admitted to the Day ward based on the criteria listed; i) Category B cases who require some treatment, but can be managed in the outpatient setting, ii) Cases waiting for relevant investigations, and iii) Patients with chronic illness, fever, gastroenteritis and non-specific symptoms that may improve with minor treatment.

All the triage sheets of patients admitted to the Day Ward between 1st January 2007 and 30th June 2007 were retrieved and reviewed. Data on the age, gender, symptoms

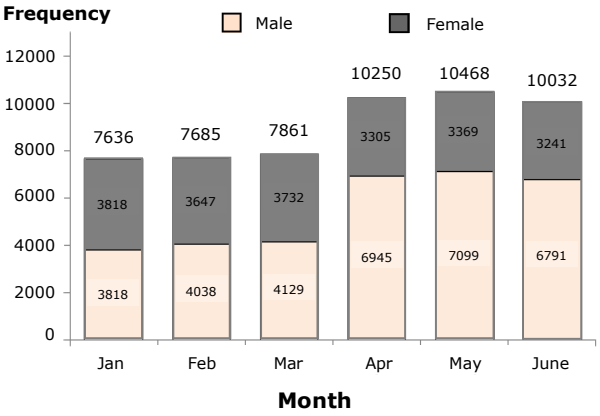

Fig. 1: The total number of patients seen in the AED of RIPAS Hospital over the six month period.

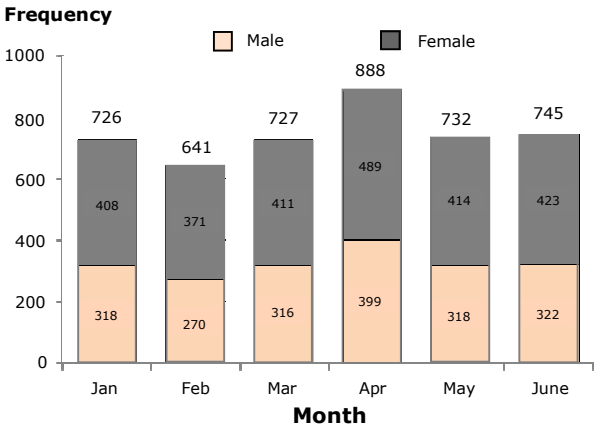

Fig. 2: The total number of patients admitted to the Day Ward over the six month period.

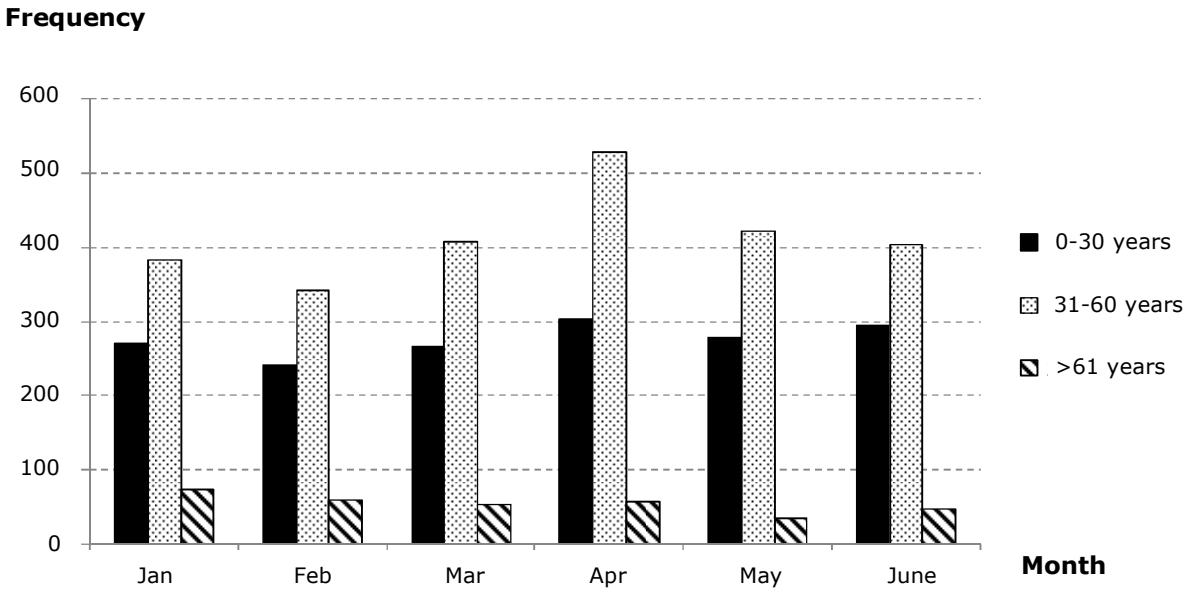

Fig. 3: The number of patients admitted to the Day Ward by age groups (Refer to Supplementary text for chart with raw data).

and admissions to the wards were extracted and tabulated.

RESULTS

During the study period, there were a total of 53,392 attendances to the AED (monthly range 7,636 to 10,468). Of the patients seen in the AED, 4,459 (8.35%) were admitted to the Day ward for observation. This averaged 743 admissions to the Day Ward per month (range 641 to 888), and 25 admissions per day. The breakdown of attendances by gender seen in the AED and those admitted to the Day Ward are shown in Figures 1 and 2.

Table 1: Symptoms resulting in admission to the Day Ward.

Symptoms	%
Abdominal pain	18%
Non-specific giddiness	15%
Non-specific body weakness	13%
Headache	12%
Bleeding per vagina	9%
Shortness of breath	7%
Vomiting/hyperemesis	6%
Others	5%
≥ 2 or more symptoms	15%

Overall, there was a male preponderance in AED attendances, but there was a female preponderance in admissions to the Day Ward (Figures 1 and 2).

The majority of the patients admitted to the Day Ward were in the 31-60 age group, followed by the 30 or under age group (Figure 3) over the six months.

The three most common symptoms leading to admission to the Day Ward were abdominal pain, followed by non-specific giddiness and non-specific body weakness. Fifteen per cent had two or more symptoms. The breakdown of symptoms leading to admission to the Day Ward is shown in Table 1.

Altogether, 169 (3.79%) patients were admitted to the main hospital wards, while the majority were discharged from the Day ward after a period of observation and treatment. The majority of the patients needing admission were admitted to the Medical

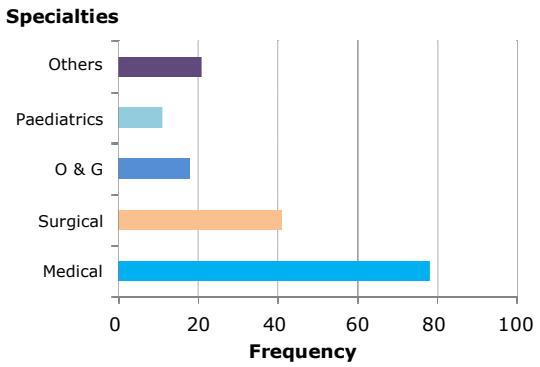

Fig. 4: The wards where patients were admitted to from the Day Ward.

and Surgical wards. The destinations of patients who required admission are shown in Figure 4.

Overall, the majority of patients were discharged between 4 to 6 hours (Figure 5). The median waiting time from being registered with the AED to being discharged from the Day Ward was between 5 to 6 hours.

DISCUSSION

In the six month study period, close to 60,000 patients attended the AED of RIPAS Hospital. Of these, 8.35% were admitted to the Day Ward for observation or treatment. After a period of observation, only a small proportion, 3.79% (n=169) required admissions to the main wards of the hospital. This accounted for 0.32% of all the patients seen in the AED during the six month periods. This, however does not take into account patients who were admitted directly to the wards without going through the Day Ward. Other studies have quoted rate of admissions to the day ward of generally less than 10%. [1, 2, 6] Our finding is therefore consistent with what has been published in the literature in terms of the number of patients admitted to the Day Ward. However, our rates of admission to the main wards after admission to the Day Ward was much lower than those reported by other studies which ranged from 19.2 to 23%. [1, 2, 6]

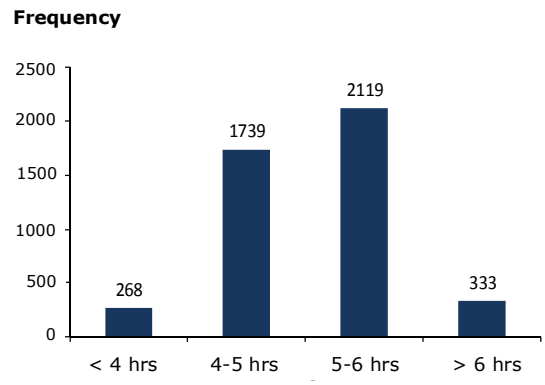

Fig. 5: The time from registering with AED to the time of discharge from the Day Ward.

Overall, there was a male preponderance in those attending the AED but interestingly, there were more female needing admission to the Day Ward. Others have not observed ant difference in the gender distribution. [1, 6]

The majority of patients admitted to our Day Ward were younger than 60 years old. This is not unexpected considering that older patients tended to be admitted directly to the main wards. Other studies have shown day ward admissions for geriatric patient are safe similar to what have been shown for adult and paediatric patients. In fact, they may actually benefit from admission to the Day Ward due to more frequent doctor reviews. [7] However, this is not universal and is depends on the institution.

The main presenting symptoms were non-specific abdominal pain, giddiness and body weakness. These complaints are often non-specific and may resolve with, treatment

(i.e. intravenous fluid rehydration, antispasmodic and acid suppression therapy), hence admission to the Day Ward. Admission to the medical wards was chiefly for deranged laboratory investigations such abnormal electrolytes, elevated inflammatory markers or elevated cardiac enzymes whereas those admitted to the surgical wards were mainly for abdominal pain such as suspected acute appendicitis.

On the whole, the admission period can be considered short with an average of five to six hours spent in the Day Ward. If the speed of processing investigations to results becoming available can be reduced, the average length of stay can be shortened further. This may allow more patients to be observed instead of being directly admitted to the main wards, and this may reduce the overall direct admissions to the wards. In fact extending the Day Ward stay has been not shown to be associated with total hospital costs or revenue or total hospital length of stay but imposed substantial ED opportunity costs, with decreased potential revenue. [8] Interventions that reduce ED delays in hospital admissions have the potential to significantly increase hospital revenues.

It is also important to note that in the AED of RIPAS hospital, there are review clinics run by Senior Medical Officers or Consultants for patients discharged from the AED or Day Ward. This service provides a safety net for early discharge from the Day Ward and AED. This may also account for the overall lower number of patients admitted to the main ward in our study (3.79%) compared to other studies. [1, 2, 6]

Our findings highlighted the importance of a Day Ward, regardless of the bed capacity. The Day Ward of AED, RIPAS Hospital only has eight beds, four for male and four for female patients. With an average admissions of 25 patients per day, this meant that all the beds were occupied in each of the eight hours shift. Furthermore, during busy periods, patients were also observed or treated on trolleys in the corridors. Such patients were not included in this study. If the bed capacity of the Day Ward was increased, it is possible that some of the patients admitted directly to the main wards could have been observed and treated in the Day Ward and discharged without needing admission.

In conclusion, the Day Ward is an essential part of any AED as it serves as a temporary holding area where patients can be monitored and treated before decisions are made whether admission is required. Patients present to the AED with a wide spectrum of symptoms, but most are mild and can be managed in the outpatient setting. For those who require further investigations or treatment, they are usually admitted to the short stay Day Ward. Our study showed that after an average stay of five to six hours, most patients can be discharged safely. For the minority of patients who required admissions, most were admitted to the Medical and Surgical services.

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