

## FINAL PROJECT REPORT

# APPROPRIATENESS IN UTILIZATION OF EMERGENCY DEPARTMENT SERVICES IN HOSPITAL KOTA BHARU AND HOSPITAL UNIVERSITI SAINS MALAYSIA

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BY



LIN NAING @ MOHD AYUB SADIQ

BAHAGIAN PENYELIDIKAN & PEMBANGUNAN  
CANSELORI  
UNIVERSITI SAINS MALAYSIA



Laporan Akhir Projek Penyelidikan Jangka Pendek

1) Nama Penyelidik : Dr. Lin Naing @ Mohd Ayub Bin Hj. Mohd Sadiq

Nama Penyelidik-penyelidik  
Lain (Jika berkaitan) Dr Selasawati Hj Ghazali

2) Pusat Pengajian/ Unit : Jabatan Perubatan Masyarakat, Pusat Pengajian Sains Perubatan, Universiti Sains Malaysia.

3) Tajuk Projek : Appropriateness in the Utilization of Emergency Department Services in Hospital Kota Bharu and Hospital Universiti Sains Malaysia

4) (a) Penemuan Projek/  
Abstrak

**ABSTRAK**

*(Perlu disediakan makluman di antara 100-200 perkataan di dalam Bahasa Malaysia dan Bahasa Inggeris. Ini kemudiannya akan dimuatkan ke dalam Laporan Tahunan Bahagian Penyelidikan & Pembangunan sebagai satu cara untuk menyampaikan dapatan projek tuan/ puan kepada pihak Universiti).*

The prime concern in the inappropriate utilization of emergency departments (ED) is compromised management of patients requiring emergency treatment. Significant attendance of non-emergency cases in ED was found in several countries.

The objectives of this study are to determine the proportion of inappropriate cases, as well as the distribution of utilization by time (over 24 hours and within a week) and by diagnoses (Phase I) and to determine the associated factors and the reported reasons in the inappropriate utilization of ED services (Phase II).

A cross sectional study (Phase I) was conducted in ED, Hospital Kota Bharu (HKB) and ED, Hospital Universiti Sains Malaysia (HUSM). A sample of 350 cases from each ED was randomly selected from ED register of the year 2000. A decision flowchart, which was adopted from 4 guidelines, was applied to identify inappropriate cases.

The proportions of inappropriate cases were 57.4 % for ED HKB and 55 % for ED HUSM. The inappropriate cases increased considerably in early morning, late evening, during the weekend and early part of the week. Most common diagnoses of inappropriate cases were upper respiratory tract infections, mild acute gastroenteritis and urinary tract infections.

The subsequent case-control study (Phase II) with 170 cases in each group revealed the independently significant factors associated with inappropriate utilization of ED services such as perceived illness (Odds Ratio (OR)=9.13; 95% Confidence Interval (CI): 4.99, 16.67), knowledge on roles and functions of ED (OR=0.05, 0.05; CI: 0.00, 0.05).

ED (OR=0.65; 95% CI: 0.50, 0.85), knowledge on roles and functions of OPD (OR=0.24; 95% CI: 0.13, 0.44), marital status (OR=4.58; 95% CI: 1.16, 18.06), gender (OR= 3.00; 95% CI: 1.73, 5.18), number of family members (OR=0.88; 95% CI: 0.79, 0.97), and shift-work (OR= 2.34; 95% CI: 1.15, 4.71).

The first 3 factors seem to be modifiable by giving education, whereas the later 4 factors give some understanding on customer needs, which may help to customize ED and OPD services. Studies to explore further on customer needs and customizing the hospital services accordingly, which will lead to a more efficient primary care, are recommended.

## ABSTRAK

Kesan utama penyalahgunaan jabatan kecemasan adalah gangguan terhadap perjalanan perkhidmatan ini kepada pesakit yang benar-benar didalam kecemasan atau tenat. Kajian menunjukkan penggunaan jabatan kecemasan bagi kes-kes bukan kecemasan adalah signifikan di beberapa negara.

Objektif kajian ini adalah bagi mengenal pasti kadar kes-kes bukan kecemasan, corak kedatangan kes-kes bukan kecemasan dalam masa 24 jam dan dalam seminggu, serta diagnosa-diagnosisnya (fasa 1) dan menentukan faktor-faktor yang mempengaruhi penggunaan jabatan kecemasan bagi kes-kes bukan kecemasan (fasa II).

Kajian hirisan-lintang bagi fasa 1 telah dijalankan di jabatan kecemasan Hospital Universiti Sains Malaysia (HUSM) dan Hospital Kota Bharu (HKB). Sebanyak 350 kes bagi setiap pusat kajian telah dipilih secara rambang dari buku pendaftaran jabatan kecemasan. Carta alir penentuan yang diolah dari 4 jenis panduan telah diguna pakai untuk mengenal pasti kes-kes bukan kecemasan.

Kadar kes-kes bukan kecemasan bagi ED-HKB adalah 57.4% manakala bagi ED-HUSM 55%. Kajian mendapati kes-kes bukan kecemasan meningkat pada awal pagi, lewat petang, masa hujung minggu serta awal minggu. Diagnosa-diagnosa utama bagi kes-kes bukan kecemasan adalah batuk dan selsema, cirit-birit dan jangkitan saluran air kencing.

Selanjutnya, satu kajian kes-kontrol bagi 170 kes setiap kumpulan mendapati faktor-faktor berikut mempunyai kaitan dengan penyalahgunaan jabatan kecemasan bagi kes-kes bukan kecemasan. Faktor-faktor tersebut adalah tanggapan terhadap penyakit (Odds Ratio (OR)=9.13; 95% Confidence Interval (CI): 4.99, 16.67), pengetahuan tentang peranan dan fungsi jabatan kecemasan (OR=0.65; 95% CI: 0.50, 0.85), pengetahuan tentang peranan serta fungsi jabatan pesakit luar (OR=0.24; 95% CI: 0.13, 0.44) taraf perkahwinan (OR=4.58; 95% CI: 1.16, 18.06), jantina (OR= 3.00; 95% CI: 1.73, 5.18), bilangan ahli keluarga (OR=0.88; 95% CI: 0.79, 0.97) dan waktu kerja "shif" (OR= 2.34; 95% CI: 1.15, 4.71).

Tiga faktor pertama yang dikenalpasti mungkin boleh diubahsuai dengan memberi kesedaran tentang peranan jabatan kecemasan. Empat faktor yang kemudiannya pula memberi pemahaman yang mendalam tentang kehendak pengguna. Kajian lebih mendalam tentang aspek ini perlu dijalankan untuk mengenalpasti perkhidmatan yang sesuai dan lebih efisien.

(b) Senaraikan Kata Kunci yang digunakan di dalam abstrak :  
(Keywords)

Keywords:  
Appropriateness, Inappropriate Utilization, Emergency Department,  
Kata kunci:  
Kesesuaian, Salah guna, Jabatan Kecemasan

### 5) Output Dan Faedah Projek

(a) Penerbitan (termasuk laporan/ kertas seminar) (Sila nyatakan jenis, tajuk, pengarang, tahun terbitan dan di mana telah diterbitkan/ dibentangkan).

Presentation:  
Seminar / Conferences / Pembentangan

1. Kajian Fasa 1  
Clinical Presentation, Hospital Kota Bharu - - 16 Ogos 2001
2. Kajian Fasa 1  
Persidangan Kesihatan Negeri Kelantan - 5 November 2001  
Di Perdana Beach Resort, Kota Bharu Kelantan.
3. Kajian Fasa 1  
Kolokium Kebangsaan Kesihatan Masyarakat IX - 25 September 2002  
Di Grand Blue Wave Hotel, Shah Alam, Selangor
4. Kajian Fasa 2 - 6 Oktober 2002  
Postgraduate CPC  
DK 5, Pusat Pengajian Sains Perubatan, USM
5. Kajian Fasa 2.  
Journal Club, Meeting Room, Jabatan Perubatan Masyarakat, PPSP, USM, Kubang Kerian, Kelantan. (31/10/2002)

Penerbitan:

1. Tajuk : Appropriateness in the Utilization of Emergency Department Services in Hospital Kota Bharu  
Author : Selasawati HG, Naing L, Wan Aasim WA,  
Penerbitan : Prosiding Persidangan Kesihatan Negeri Kelantan 2001  
(Published 2002 pg 136-144.)
2. Tajuk : Inappropriate Utilization of Emergency Department Services In Universiti Sains Malaysia Hospital, Kota Bharu Kelantan  
  
Author : Selasawati HG, Naing L, Wan Aasim WA  
Penerbitan : In the process of publication in The  
" Asia-Pacific Journal of Public Health".
3. Tajuk : Factors Associated With Inappropriate Utilization of Emergency Department Services In Universiti Sains Malaysia Hospital Kota Bharu Kelantan  
  
Author : Selasawati HG, Naing L, Wan Aasim WA  
Penerbitan : In the process of publication in The  
" Asia Pacific Journal of Public Health".

4. Dissertation submitted in partial fulfillment of the requirements for the degree of master of Community Medicine (Health System Management), PPSP USM.

(b) Faedah-faedah Lain Seperti Perkembangan Produk, Prospek Komersialisasi Dan Pendaftaran Paten. None  
*(Jika ada dan jika perlu, sila gunakan kertas berasingan)*

(Other benefits such as product progress, commercialization prospect and patent registration)

(c) Latihan Gunatenaga Manusia i) Pelajar Siswazah (Postgraduate student) :  
(Manpower training) - Dr. Selasawati Bt Hj Ghazali

6) Peralatan Yang Telah Dibeli : None  
(Equipments bought)

**UNTUK KEGUNAAN  
JAWATANKUASA  
PENYELIDIKAN  
UNIVERSITI  
(For the use of the  
university research  
committee)**

**TANDATANGAN  
PENGURUSI  
JAWATANKUASA  
PENYELIDIKAN  
PUSAT PENGAJIAN**

  
**Assoc. Prof. (Dr.) Zabidi Azhar Mohd. Hussin**  
Chairman of Research & Ethics Committee  
School of Medical Sciences  
Health Campus  
Universiti Sains Malaysia •  
16150 Kubang Kerian  
KELANTAN, MALAYSIA.

# COMPREHENSIVE REPORT

**INAPPROPRIATE UTILIZATION OF EMERGENCY DEPARTMENT  
SERVICES IN UNIVERSITI SAINS MALAYSIA HOSPITAL**

Selasawati HG<sup>1</sup>, MD

Naing L<sup>2</sup>, MBBS, M.Med.Stat.

Wan Aasim WA<sup>3</sup>, MBBCh, M.Med (Anest)

Winn T<sup>1</sup>, MBBS, PhD

Rusli BN<sup>4</sup>, MBBS, PhD

1 Department of Community Medicine, School of Medical Sciences

2 School of Dental Sciences, Universiti Sains Malaysia

3 Emergency Department, Hospital Universiti Sains Malaysia,

4 Deputy Dean (Research & Postgraduate Education), Deputy Dean Office, School of  
Dental Sciences, Universiti Sains Malaysia

Address for correspondence:

Lin Naing

Lecturer, School of Dental Sciences

Universiti Sains Malaysia

16150 Kubang Kerian, Kelantan, Malaysia

Email: [naing@kck.usm.my](mailto:naing@kck.usm.my)

Tel No: 609-7663743 Fax No: 609-7653370

## **INAPPROPRIATE UTILIZATION OF EMERGENCY DEPARTMENT SERVICES IN UNIVERSITI SAINS MALAYSIA HOSPITAL**

### **ABSTRACT**

Inappropriate utilization of Emergency Departments (ED) services may result in compromised management of patients requiring true emergency treatment. Significant attendance of non-emergency cases in ED was found in several countries. A cross-sectional study was conducted in Universiti Sains Malaysia Hospital (HUSM) to determine the proportion of the inappropriate cases and the utilization pattern by time (over 24 hours and within a week) and by diagnoses. A sample of 350 cases was randomly selected from ED-HUSM register of the year 2000. A decision flowchart, which was adopted from 4 guidelines, was applied to classify appropriate and inappropriate cases. There were 55% inappropriate cases in this study. The inappropriate cases increased considerably in early morning, late evening, during the weekend and early part of the week. Most common diagnoses of inappropriate cases were upper respiratory tract infections, mild acute gastroenteritis and urinary tract infections. Considerable attendance of inappropriate cases calls for interventions.

**Keywords:** emergency department, inappropriate utilization, university hospital