NON-ATTENDANCE TO THE PAEDIATRIC CLINIC IN HOSPITAL UNIVERSITI SAINS MALAYSIA (HUSM)

By

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Abbreviations

UK	-	United Kingdom
US	-	United State of America
MDI	-	Metered Dose Inhaler
PPSP	-	Pusat Pengajian Sains Perubatan
HUSM	-	Hospital Universiti Sains Malaysia

ABSTRAK

Malay Version

Pengenalan

Ketidakhadiran adalah masalah utama di Klinik Pediatrik. Ketidakhadiran boleh menyebabkan masalah besar kepada pesakit dan ianya juga menyebabkan bebanan kepada sistem penjagaan kesihatan dan juga kepada staf Perubatan. Kebanyakan kajian menunjukkan laporan ketidakhadiran sebanyak 30% di klinik. Setakat ini masih ada lagi kajian sebegini dilakukan di Malaysia.

Tujuan

Untuk mengenalpasti kadar ketidakhadiran pesakit ke klinik Pediatrik HUSM dan untuk membuktikan keberkesanan satu panggilan telefon untuk memberikan satu tarikh temujanji baru kepada pesakit yang tidak hadir.

Tempat

Pediatrik klinik Hospital Universiti Sains Malaysia, Kubang Kerian, Kelantan Malaysia.

Pesakit

Semua pesakit yang tidak hadir pada temujanji dari Januari 2009 hingga Februari 2009.

Kaedah

Kajian 'cross sectional' telah dijalankan. Semua pesakit yang tidak hadir ke klinik Pediatrik HUSM dari Januari 2009 hingga Februari 2009 telah dihubungi. Pesakit yang tidak hadir tetapi berjaya dihubungi telah dimasukkan ke dalam kajian intervensi. Satu proforma telah disediakan untuk pesakit yang berjaya di hubungi dan akan diisi. Hasil utama termasuk kadar ketidakhadiran dan keberkesanan satu panggilan telefon untuk memberikan satu tarikh temujanji baru kepada pesakit yang tidak hadir

Keputusan

Seramai seribu lima ratus enam puluh tiga pesakit memiliki temujanji dari Januari 2009 hingga Februari 2009. Seramai empat ratus sembilan puluh tujuh pesakit (31.8%) tidak hadir. Sesi klinik, keadaan cuaca pada tarikh temujanji dan jenis klinik adalah yang paling jelas menunjukkan ketidakhadiran. Dari seratus enam puluh pesakit yang berjaya di hubungi, sembilan puluh lima pesakit berminat dengan tarikh baru. Lima puluh lima pesakit lagi sudah mempunyai tarikh temujanji baru semasa dihubungi dan dimasukkan kedalam kajian intervensi. Selain itu, tiga pesakit telah meninggal dunia, tiga dimasukkan ke wad dan dua lagi telah berpindah ke negeri lain dan menerima rawatan disana. Dua pesakit lagi yang berjaya di hubungi pula tidak berminat dengan temujanji baru. Dua puluh tiga peratus dari kumpulan intervensi tidak hadir ke klinik setelah diberikan tarikh temujanji baru.

Kesimpulan

Ketidakhadiran ke klinik Pediatrik HUSM adalah tinggi dan dengan satu panggilan telefon berkesan untuk mengurangkan kadar ketidakhadiran.

ABSTRACT

English Version

Introduction

Non-attendance is suspected to be one of a major problem in Paediatric Clinic. Non-attendance to clinic could lead to severe consequences to the patients and this could give a major burden to the health care system and medical staffs. Several studies have reported more than 30% non-attendance. In Malaysia, there was no similar report found in literature.

Aim

To determine the rate of non-attendance to Paediatric Clinic HUSM and to determine the efficacy of one telephone call to give a new appointment for every contactable non-attending patient.

Methods

This study was a cross sectional study. All non-attending patients who had an appointment in the Pediatric Clinic of HUSM during the study period were included in the study from 1 January 2009 to the end of February 2009. Non-attendees who are contactable by telephone were included for the intervention part of the study. A prepared proforma was filled up for every non-attendee. Primary outcome measures included non-

attendance rate and efficacy of one telephone call to give a new appointment for every contactable non-attending patient.

Result

One thousand five hundred and sixty three patients had appointment from January 2009 until end of February 2009 in Paediatric Clinic HUSM. A total of four hundred ninety seven patients (31.8%) were non-attendees. There was significant different in term of clinic sessions, weather condition on the appointment day and types of clinic. From one hundred sixty patients who were successfully contacted, ninety-five patients were interested in new appointment. There were fifty-five patients who had a new appointment already at the time they were contacted. Three of the contactable non-attendees had died at home, three had been admitted, and two had moved to another state and were followed up there. The other two patients were not interested to a new appointment. 23.2% from the intervention group did not attend the clinic after given new appointment.

Conclusion

Non-attendance rate is high in Paediatric clinic HUSM and one telephone call is effective in reducing the non-attendance rate.

1. INTRODUCTION

1.1 Background of the Study

Non-attendance (failure to attend a clinic appointment) can be a major problem in paediatric clinics. Reports in the international literature on non-attendance to the paediatric clinics are relatively scanty. Many among the available studies reported non-attendance rates above 30 percent, even in developed nations (Haynes and Sweeney, 2006, O'Brien and Lazebnik, 1998, Goldbart et al., 2009, Gatrad, 1997). In general, reported non-attendance rates in the US range from 5 to 55% (Bech, 2005), whereas UK figures range from 3 to 12% (Bech, 2005). In Denmark, a very low rate (4%) has been reported (Bech, 2005). There were no reports found on non-attendance rates to paediatric clinics in Malaysia, but from the main investigator's perception and from personal communication with a large number of specialists the rate of non-attendance in Malaysia may be high.

The real cost of non-attendance is difficult to quantify, but there is always some wastage present (Koshy et al., 2008). It reduces the efficiency and effectiveness of the healthcare delivery and causes financial losses for healthcare systems (Geraghty et al., 2008). It also results in suboptimal use of clinical and administrative staff and can result in increased waiting times for other patients (Downer et al., 2005).

The main disadvantages however are incurred by those not attending. Non-attendance can result in delays in diagnosis and also decreased monitoring of long term chronic conditions which can lead to an increase in patient morbidity. This morbidity will further increase total health care costs. There will be a worse outcome for non-attendees and a loss of continuity of care.

Non-attendance is an issue that affects all clinical services. There was variability in non-attendance among different ethnic groups and depending on the seasons (Dreiher et al., 2008). Factors that influence the non-attendance rates include aspects which relate to the disease (e.g. chronic versus acute), aspects related to the patients (e.g. forgetfulness), demographic and socioeconomic aspects, clinics' accessibility and aspects related to the heath care provider (e.g. waiting time for an appointment and the duration for the next appointment) (Dreiher et al., 2008).

The consequences of non-attendance for each, the hospital, the staff and the patients will be discussed in a bit more detail.

1.2 Consequences of non-attendance to clinics

The consequences can be divided into consequences related to the hospital budget, to the medical staffs and to the patients itself.

1.2.1 Consequences of non-attendance related to the hospital budget

Non-attendance for clinics follow-up is a major burden on the healthcare system. In the UK, it costs the National Health Service (NHS) an estimated pound sterling 790 million per year (AR et al., 2005). In Malaysia, no similar research has been done. The cost is believed to be high. It is beyond this study to determine exact cost for non-attendance in HUSM.

1.2.2 Consequences of non-attendance to medical staffs

Non-attendance to clinic appointment is a major barrier to continuity of care, medical staff education and clinic efficiency. For the purpose of medical staff education in a teaching hospital like HUSM, continuity of care and doctor-patient relationship is a critical part of training to medical staff. When patients miss appointments, the medical staff time is wasted, care of plan interrupted and we miss the opportunity to see the progression of the disease or the outcome of the treatment. A national survey done by the Department of Family and Community Medicine, University of California, analyzed the awareness of family practice residency clinics regarding their missed appointment rate and the use of reminder systems. Results show that 60.5% reported non-attendance of less than 21%, 35.5% non-attendance rate of 21-50%, 1.4% non-attendance rate of more than 50% and 2.8% did not know their non-attendance rate. Seventeen percent stated that the non-attendance rate was an estimate (Hixon et al., 1999). These results showed a mean non-attendance rate of about 30%, which is high and causes wastage of time to the medical staff.

1.2.3 Consequences of non-attendance to patients

Defaulting follow up (non-attendance) in the paediatric clinic can have various consequences for the patient. It may result in severe complications such as seizures or severe asthmatic attacks because of discontinuation of anti-epileptic or anti-asthmatic medications respectively. Less dramatic but still important consequences may include delays in instituting proper exercise therapy for patients with cerebral palsy or delayed treatment of urinary tract infection. Other patients who needed monitoring of the disease

status such as post acute glomerulonephritis may have recovered spontaneously and non-attendance to the follow-up clinic may have no major effect on their health. In the following paragraphs, few of the potential poor outcomes of non-attendance to some of the paediatric subspecialty clinics will be discussed.

1.2.3.1 Neurology clinic

The neurology clinic is one of the main paediatric clinics in a tertiary hospital. Cases range from congenital anomalies such as neural tube defects to acquired diseases whether it is perinatally such as cerebral palsy due to cerebral asphyxia or meningitis that was acquired postnatally. The neurology clinic is very demanding in terms of time. Consultations require a time consuming very detailed and multidisciplinary approach. First visits take a real long time and because the doctors tend to anticipate some level of non-attendance, they tend to allow patients to arrive simultaneously in order to avoid a situation where the doctor has to wait for the patients.

Non-attendance will disturb the continuation of care. Non-attendance of patients with cerebral palsy who need regular physiotherapy to help reduce the spasticity, will affect the patient in terms of movement or future walking. Discontinuation of exercise therapy may result in the need for orthopaedic interventions at a later stage. For patients with epilepsy, non-attendance indicates non-compliance to medications. These patients might developed status epilepticus at home and may end up in hospital or even cause mortality. A study found that failure to keep the clinic appointment is an indicator of poor compliance with medications (Al-Faris et al., 2002). Post meningitis patients also need

regular follow-up, as this will help in term of detecting developmental delay or hearing loss.

1.2.3.2 Cardiology clinic

The cardiology clinic receives patients of various ages, ranging from the neonatal period to the adolescent period. It is the third busiest clinic of the paediatric department in HUSM. Most of the patients in this clinic are having chronic diseases such as congenital heart disease, rheumatic heart disease or Kawasaki disease. This type of diseases, especially congenital cyanotic heart disease, needs a regular follow-up to monitor the disease progression, growth pattern, timing of surgery and the effect of potential polycythaemia. Failure to stick to regular follow-up will put these patients at risk for uncontrolled heart failure, growth failure or even stroke and death.

1.2.3.3 Respiratory clinic

The majority of patients in this clinic are asthmatic patients. They need to regularly use their medication to reduce the frequency of asthmatic attack and to lead a normal life and normal growth. Besides that, a good technique of MDI usage is paramount to the delivery of drugs to the lungs. Each clinic follow-up needs to stress on good technique and compliance to medications. Good attendance to clinics will improve the technique and usually help the patients to comply with the treatment. Non-attendance will risk them to get severe asthmatic attacks because of not taking at all the medications or because of a poor technique. Providing paediatric asthma education reduces mean number of hospitalizations and emergency department visits (Coffman et al., 2008). For

other patients with chronic respiratory conditions, adequate follow up may be equally essential.

1.2.3.4 Neonatology clinic

Patients who attend neonatal clinic are usually aged less than 1 year . The important component of assessment in the neonatal clinic is neurodevelopmental assessment. With this assessment, medical staff can detect early problems with those patients, especially high risk infants (e.g. perinatal asphyxia, severe neonatal jaundice or ex-premature infants). An early intervention is necessary such as physiotherapy and occupational therapy for those who are detected to have delays in neurodevelopment.

1.2.3.5 Haematology/oncology clinic

The majority of patients treated for childhood cancer are living to adulthood as a result of advances in paediatric oncology therapy. Currently, almost 80% of paediatric patients with cancer survive more than 5 years from an effective cure. Despite the improvement in survival rates, these patients are predisposed to adverse health condition related to cancer and chemotherapy. The side effects are organ dysfunction, psychosocial maladjustment and future risk of different type of malignancies. This may give impact on quality of life and cause early mortality. Attendance to follow-up in clinic is necessary to facilitate education about cancer-related diseases, early treatment of morbidity and to implement health-promoting interventions. Cancer-related sequelae or morbidity are one of the primary concerns to the children who survive cancer. Regular medical follow-up is at utmost important for childhood cancer survivors to enable the early detection of

morbidity. Follow-up clinic visits provide an opportunity to educate patients and their families regarding how to improve health by reduction of risky behaviors such as sedentary lifestyle and to increase activities. For example, patients who attend follow-up clinic receive informative health promotion messages that may serve to prevent or reduce engagement in risky health behaviours (Klosky et al., 2008).

1.3 Factors that influence non-attendance to clinics

There are many factors that influence non-attendance to clinics. A study by Casey on adult urology out-patient non-attendees found different reasons for non-attendance. Forgetting to attend and claiming not to have received an appointment accounted for 44% of reasons overall (Andrews et al., 1990, Casey et al., 2007). A study by Mona L. McPherson on noncompliance with medical follow-up after paediatric intensive care found that the most common reasons were logistic and communication errors (McPherson et al., 2002). In another study, found that ethnic origin and season of the year determined non-attendance in paediatric patients attending allergy clinic (Dreiher et al., 2008).

1.4 Interventions to reduce non-attendance rate.

Prompts to encourage attendance at clinics are often used in day to day practice by diligent carers. Various interventions have been used to promote clinical attendance including clinic reminder, orientation statement and videos, financial incentives and structural improvement to clinic booking systems. Clinic reminders, including both telephone and written reminders have been shown to significantly increase attendance

rates in adults. Despite concerns about poor clinical attendance in the paediatric population there have been few intervention studies done in this population. Contacting the patient by telephone is a simple and cheap intervention that could remediate some of the non-attendance and that could have major health benefits for a relatively large number of patients. Two studies have found that simple telephone reminder call is an effective means to reduce non-attendance rates (Sawyer et al., 2002, Haynes and Sweeney, 2006). A Cochrane review shows that telephone prompts at the time of appointment may have an effect and encourage appointment. This effect (although weak) could be very cost effective, considering the financial implications of non-attendance. A telephone prompt was compared with an 'Orientation statement'. This was a short paragraph, taking about 30 seconds to read, explaining the programme of care, the fee system, and providing gentle encouragement. The results favoured the text-based prompt although the result is not quite statistically significant (Reda and Makhoul, 2001).

1.5 Rationale of this study

Based on the above rationales, there is a need to determine the non-attendance rate to the paediatric clinic in HUSM, to determine the causes and to evaluate whether one simple telephone call help to reduce non-attendance. Besides that, factors associated with non-attendance also need to be addressed, as it will help to reduce the non-attendance rate.

2. OBJECTIVES

Objectives of this study

The primary objectives of this study were:

- To determine the rate of non-attendance to the pediatric clinic in HUSM.
- To determine the effects of one phone call to give a new appointment for every contactable non-attending patient.

Secondary objectives include:

- To determine the reasons of non-attendance to the pediatric clinics.
- To determine the association of types of telephone for ability to be contacted.
- To determine the percentage of non-attending patients on medications.

3. METHODOLOGY

3.1 Setting

The study was carried out in the Paediatric Clinic, Hospital Universiti Sains Malaysia (HUSM), Kubang Kerian, Kelantan from 4th January 2009 until 26th February 2009. HUSM is a tertiary centre that receives referrals from district hospitals. It also receives the referrals from other tertiary centres in Kelantan, Terengganu, Pahang and Kedah.

3.2 Study design

This study was a cross sectional study. It was approved by the Ethical Committee of the Medical School (Pusat Pengajian Sains Perubatan, PPSP), University Sains Malaysia. A total of 1563 patients were on appointment.

3.3 Subjects

All non-attending patients who had an appointment in the Pediatric Clinic of HUSM during the study period were included in the study. Non-attendees who are contactable by telephone were included for the intervention part of the study.

3.4 Study Subjects

All the patients who had an appointment within the period of January 2009 to the end of February 2009 were included in the study.

3.5 Sample Size

The primary outcome measured was percentage of non-attendance to the Pediatric Clinic HUSM.

The sample size was calculated using single proportion sample size calculation.

Formula:

$$n = \left(\frac{z}{\Delta} \right)^2 P(1-P)$$

n = sample size

p = anticipated population proportion

Δ = Absolute precision

z = confidence interval

Based on previous studies finding a 30% or 0.30 non-attendance to clinic, with a precision of ±0.03 or ±3%, at 95% confidence level, the sample size required is about 896 participants.

p = 30% (0.30)