

# Effectiveness of reminders in reducing non-attendance among out-patients

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**Aims and method** Non-attendance rates in a psychiatric out-patient clinic and the effectiveness of telephone or postal reminders in reducing non-attendance were evaluated. All patients who did not attend the clinic for their second appointment within 2 weeks were contacted by telephone or letter. Patients who failed to attend the clinic 6 weeks after the reminder were classified as non-attendees.

**Results** Rate of non-attendance before the intervention was 31.3% ( $n = 61/195$ ). After the intervention this was reduced to 23.1%, a relative risk reduction of 26.2%. Being male, not being prescribed medicines, having a diagnosis of psychoactive substance use or dementia were risk factors for non-attendance (odds ratio,  $OR > 1$ ). Risk of non-attendance was low for bipolar disorder, schizophrenia and depressive disorder ( $OR < 1$ ).

**Clinical implications** A simple low-cost intervention in the form of a reminder reduced non-attendance rates. Routine implementation of this intervention should be considered in all psychiatry out-patient services in low- and middle-income countries.

**Declaration of interest** None.

Studies have shown that a significant proportion of individuals fail to attend appointments as out-patients. This figure is higher in psychiatric services than in other services.<sup>1–4</sup>

Prevalence of non-attendance rates shows a wide variation. At psychiatric out-patient clinics, non-attendance ranges between 17 and 39%.<sup>5–7</sup> In the UK National Health Service (NHS), the figures for psychiatric services were almost double the mean figures for all specialties ((first appointments: 20.9% psychiatry *v.* 9.1% all specialties; total attendance: 21.5% psychiatry *v.* 11.3% all specialties).<sup>8</sup> The defaulting rate ranged from 7.6 to 37.3% in the different NHS psychiatric services.<sup>9</sup>

The main reasons for non-attendance given by patients were forgetting the appointment, practice error and a mix-up over dates.<sup>10,11</sup>

Many factors influence out-patient clinic attendance rates. Known risk factors for non-attendance include younger age, male gender and living outside the referral area.<sup>12,13</sup> Among patients with a psychiatric illness, neurotic disorders, personality disorders, alcohol and drug misuse, lower levels of community functioning and poor social support are associated with non-attendance.<sup>5,12–14</sup> Having a psychotic disorder and being prescribed psychotropics at first contact reduced the likelihood of drop-out.<sup>13</sup>

Missed appointments and drop-outs reduce quality of patient care, interfere with patient management, deprive other patients of earlier appointments and waste healthcare resources. For most chronic illnesses, adherence to

treatment is an important aspect of preventing complications. Follow-up patients with psychiatric illness who missed an appointment were found to be more unwell and more functionally impaired than those who attended.<sup>15</sup> Patients who did not keep appointments were also more likely to be readmitted.<sup>15,16</sup>

Prompt letters sent out to patients before their scheduled appointment significantly reduced non-attendance rates in a community mental health service in the UK.<sup>17</sup> A Cochrane review found that a simple prompt to attend clinic very close to the time of the appointment may encourage attendance, whereas a simple reminder letter 24 hours before the clinic appointment may be more effective in reducing non-attendance than a telephone prompt.<sup>18</sup> Mobile telephone text messages have been effective in improving attendance in primary care.<sup>19</sup> A review of 24 studies found reminder letters and telephone prompts to be effective in reducing non-attendance in patients with medical and psychiatric illness.<sup>20</sup>

In many low- and middle-income countries the healthcare delivery systems do not use computerised databases and automatic reminders because of the costs involved. Although non-attendance is perceived as a common problem, data regarding non-attendance and risk factors are scanty. Therefore, we decided to study non-attendance rates and associated risk factors in a psychiatric out-patient clinic and evaluate the effectiveness of telephone or postal reminders in reducing non-attendance.

## Method

The study was carried out at a psychiatric out-patient clinic of the National Hospital of Sri Lanka, a tertiary care hospital in Colombo. Access to the clinic is by clinician referrals or direct access by patients or carers. All patients are given a specific date and time to attend the clinic. At their first visit, patients are assessed by a consultant psychiatrist.

Data were extracted from clinical records. Diagnoses were made according to the ICD-10 clinical criteria.<sup>21</sup>

The study was carried out in two phases. In phase 1, data were extracted from patients' records to ascertain non-attendance rates and identify risk factors for non-attendance as there were no data available from psychiatric services in Sri Lanka. In phase 2, a telephone call/postal reminder was used to contact non-attendees.

The phase 1 sample consisted of all patients attending the clinic for their first consultation in the 6-month period starting 15 November 2006. Phase 2 consisted of all patients attending the clinic for their first consultation in the 6-month period starting 15 November 2007. Patients who did not need follow-up after the initial consultation were excluded.

In phase 2, all patients who had not attended the clinic for their second appointment 2 weeks after the due date were sent a letter. Only 41 of the 61 who did not attend the second appointment had a telephone. Of those, we were able to contact 20. Attendance was recorded again 6 weeks after the telephone or postal contact and those who failed to attend the clinic within this time were classified as non-attendees.

The letter contained a brief reminder that the patient had not attended a scheduled appointment and requested the patient to attend a subsequent clinic on a convenient day. When telephone contact was made, information regarding the reasons for the call was given only to the patient. If the patient was not available, the conversation was discontinued without any information being divulged. The postal reminders only indicated the name of the hospital.

Written informed consent was obtained from all patients before participation in the study. The ethics review committee of the Sri Lanka Medical Association, Colombo, gave the study its ethical approval.

Data were analysed using SPSS version 13.0 for Windows. Chi-squared tests were used to determine the differences between groups for non-parametric variables. Independent *t*-test was performed to analyse the mean difference in ages between groups. Univariate logistic regression was used to calculate odds ratios.

## Results

The phase 1 sample consisted of 176 new patients and the phase 2 sample consisted of 195 new patients.

Table 1 gives the participant characteristics of the phase 1 and phase 2 samples. Mean age of the phase 1 sample was 38.6 years. There were fewer female patients (45.5%). The majority of patients (75%) were prescribed medicines at the initial visit. The most frequent diagnosis was depressive disorder (36.3%), followed by schizophrenia and schizotypal or delusional disorders (23.3%). Of those attending the clinic, 20.5% were identified as having 'other disorders', which included somatoform disorder, relationship problems and intellectual disability. There were only 6 patients diagnosed with manic episode/bipolar affective disorder, 3 with organic disorders (including dementia) and 16 with phobic anxiety disorder, other anxiety disorders or obsessive-compulsive disorder.

The mean age of the phase 2 sample was 38.4 years (s.d. = 5.0). There were 50.3% females. Of the sample, 86.1% were prescribed medicines at the initial visit. The most frequent diagnosis was schizophrenia, schizotypal or delusional disorders (41.0%); 54 patients were diagnosed as having a depressive episode (27.7%).

## Risk of non-attendance

The risk factors for non-attendance were calculated by comparing those who attended with those who did not

**Table 1** Demographic and clinical characteristics of the phase 1 and phase 2 samples

	Phase 1		Phase 2	
	Attendees N = 104	Non-attendees N = 72	Attendees N = 134	Non-attendees N = 61
Age, years: mean (s.d.)	37.8 (15.2)	40.5 (16)	37.4 (14.5)	40.5 (16.0)
Female, n (%)	49 (47.1)	31 (43.1)	76 (57)	22 (36)
Medication prescribed at first consultation, n (%)	92 (88.5)	40 (55.6)	124 (92.5)	44 (72.1)
Diagnosis, n (%)				
Depressive episode	47 (45.2)	17 (23.6)	39 (29.1)	15 (24.6)
Schizophrenia, schizotypal and delusional disorders	32 (30.8)	9 (12.5)	61 (45.5)	19 (31.1)
Phobic anxiety disorders/other anxiety disorders and obsessive-compulsive disorder	7 (6.7)	9 (12.5)	4 (3.0)	3 (4.9)
Manic episode/bipolar affective disorder	6 (5.8)	0 (0)	12 (9)	2 (3.3)
Mental and behavioural disorders due to psychoactive substance use	1 (1.0)	9 (12.5)	2 (1.5)	2 (3.3)
Organic disorders	0 (0)	3 (4.2)	1 (0.7)	3 (4.9)
Other <sup>a</sup>	11 (10.6)	25 (34.7)	15 (11.0)	17 (27.8)

a. Other diagnoses included somatoform disorder, relationship problems and intellectual disability.

attend the second appointment in both phase 1 and phase 2 groups (Table 1). In total, 238 patients attended the second appointment (64.2%) and 133 did not (35.8%).

Mean age of those who attended was 37.5 years and of those who did not attend 38.2 years ( $t = -0.376$ , *d.f.* = 356,  $P = 0.71$ ). Males were more likely not to attend ( $\chi^2 = 5.2$ , *d.f.* = 1,  $P = 0.02$ ; OR = 1.65). Risk of non-attendance among those who were not prescribed medicine was significantly higher ( $\chi^2 = 39.4$ , *d.f.* = 1,  $P < 0.001$ ; OR = 5.6). Of those prescribed medicine, 72% attended the second appointment, whereas of those offered only psychological therapy only 31.9% attended the second appointment. When diagnostic categories are considered, risk of non-attendance was low for patients with a diagnosis of manic episode/bipolar disorder (OR = 0.19, 95% CI 0.04–0.84), schizophrenia, schizotypal and delusional disorders (OR = 0.41, 95% CI 0.25–0.67) and depressive episode (OR = 0.55, 95% CI 0.34–0.90). Risk of non-attendance was high for patients with disorders caused by psychoactive substance use (OR = 7.2, 95% CI 1.98–26.45), anxiety disorders (OR = 2.1, 95% CI 0.9–4.89), and organic disorders (including dementia) (OR = 11.46, 95% CI 1.36–96.31). The category of ‘other disorders’, which included somatoform disorder, relationship problems and intellectual disability, also had a high risk of non-attendance (OR = 4.0, 95% CI 2.26–7.08).

### Effectiveness of telephone or postal reminders

In the phase 2 sample of 195 patients, 61 did not attend the second appointment 2 weeks after the due appointment date (Table 2). These non-attendees were contacted by telephone or were sent letters. Attendance rates were reassessed 6 weeks after the reminder; 45 individuals did not attend even after the intervention. The relative risk reduction after the intervention was 26.2%.

## Discussion

A simple low-cost intervention of a telephone call or reminder letter reduced non-attendance rates at a psychiatric out-patient clinic by 26.2%. This indicates that it is a cost-effective measure. In countries like Sri Lanka, although automatic reminders are not sent to patients, the study shows that this simple intervention can improve quality of care and service provision. High literacy rates and good telephone penetration make this a viable intervention on a large scale.

Of concern was the high non-attendance rate at the clinic (31.3%). Data regarding non-attendance rates in psychiatry services in other countries show that the rate

was comparable to those found in some NHS trusts in the UK and in Brazil,<sup>7,9</sup> but it is higher than rates reported in general practice settings.<sup>8,13</sup>

Our study identified several important risk factors for non-attendance. Male gender, substance use and being offered only psychological therapy were some of them. Although patients with schizophrenia and other major psychiatric illnesses are known to be non-adherent, our study found that patients with these illnesses had a lower risk of non-attendance compared with those with substance use and anxiety disorders. Offering only psychotherapy and not prescribing medication increased the risk of non-attendance. It may be because some of these patients have problems that resolve on their own or because patients feel obliged to return for medication but not necessarily for ‘talking therapy’. Some patients who were not offered medicines may have believed that the care they received was inadequate and may have subsequently sought care from another psychiatric service.

There may be other general factors that increase non-attendance rates. Healthcare services in Sri Lanka are not based on geographically designated catchment areas, therefore individuals can access the clinic of their choice in any part of the country. This leads to ‘doctor shopping’. Some of the non-attendees may have subsequently attended another service.

Specialist psychiatry services in many Western countries only provide services for individuals with severe mental illness such as schizophrenia, bipolar disorder and severe depression. However, in Sri Lanka, individuals with a wide variety of diagnoses including anxiety disorders, somatoform disorder, sexual problems and relationship problems access the clinic. Some of these individuals have minimal functional impairment and may be reassured by the visit to a psychiatrist. This may be another reason for the high non-attendance rates.

### Limitations

We only looked at some risk factors. Distance travelled, affordability and many other social factors such as good family support, sociocultural background, economic factors and the patient’s level of education, as well as clinician-related factors, may influence attendance. Patients are often accompanied by family members, who may remind and encourage them to attend follow-up appointments. The small number of patients with dementia and anxiety disorders prevented us reaching valid conclusions regarding their non-attendance rates.

We also did not use a control group. Ideally, this study should have been carried out by randomising non-attendees to a control and intervention group. Such a randomised study could further evaluate the effectiveness of the intervention.

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	<i>n</i> (%)	
	Before intervention	After intervention
Attended	134 (68.7)	150 (76.9)
Did not attend	61 (31.3)	45 (23.1)
Total	195 (100)	195 (100)

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## Perceived oral health needs in psychiatric in-patients: impact of a dedicated dental clinic

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**Aims and method** We have audited the impact of a dedicated dental clinic on the oral health needs of an inner-city in-patient psychiatric population. A questionnaire assessing patient perception of oral health was undertaken on in-patient wards before opening a dental clinic on the hospital site and 5 months after.

**Results** The audit suggested improvements in patients' perception of oral health, behaviour directed at oral hygiene and knowledge of accessing services after initiation of a dedicated in-patient dental clinic.

**Clinical implications** Psychiatric in-patient settings may provide important opportunities for oral health promotion and intervention. This is a neglected component of in-patient care.

**Declaration of interest** None.

It has long been recognised that mental illness is associated with poor physical health.<sup>1</sup> Oral and dental diseases are common problems for psychiatric patients,<sup>2</sup> and the Department of Health alerted health professionals that

the oral health of individuals with severe mental illness merits particular attention.<sup>3</sup> Poor diet, smoking, lack of exercise, self-neglect, comorbid drug and alcohol use, side-effects of psychotropic medication and lack of medical