

Factors Associated with Missed Appointments of Patients in a Cleft Lip and Palate Clinic

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Introduction

The literature on dental services utilization indicates that utilization rates are lowest among the following population groups: non-whites, rural residents, and persons with little education, low status jobs, and small incomes (5). This study was undertaken to assess the utilization rate of patients registered in a cleft lip and palate clinic as measured by missed appointments and to ascertain what factors are associated with a missed appointment.

Setting and Method

The H. K. Cooper Institute is a full-time facility providing an interdisciplinary approach to the clinical treatment and research of cleft lip and palate (3). It is a regional facility primarily serving residents of Pennsylvania as well as patients from all over the world.

This study covered the first ten months of 1974 and the Daily Appointment Schedules were used as the basis for determining which patients *kept* all appointments, which patients *missed* all appointments and which patients *kept and missed* some appointments. An appointment which a patient and/or his family postponed until a later date was not considered a missed appointment. All patients, including noncleft patients, comprised the sample for this study.

Findings

An examination of the Daily Appointment Schedules from January 1, 1974 to October 31, 1974 indicates that 4595 appointments were made (see Table 1). Six hundred and sixteen or 13.4% of the appointments were *not* kept. The range was from 9.3% for May to 17.2% in July.

Table 2 presents the data for the frequency of missed appointments by number of patients involved. Three hundred and eighty-two patients were responsible for 616 missed appointments.

We defined a "chronic misser" as a patient who missed at least three appointments (even though he kept some appointments). This group consisted of

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TABLE 1. Number and Percentage of Missed Appointments For January 1, 1974–October 31, 1974 For Lancaster Cleft Palate Clinic

<i>month</i>	<i>number of missed appointments</i>	<i>total number of appointments</i>	<i>percentage for missed appointments</i>
January	61	461	13.0
February	52	363	14.3
March	63	457	13.8
April	60	471	12.7
May	48	513	9.3
June	56	481	11.6
July	84	486	17.2
August	58	403	14.4
September	74	481	15.4
October	60	479	12.5
Totals for January to October	616	4595	13.4

TABLE 2. Frequency of Missed Appointments By Number of Patients Involved for 1/1/74–10/31/74 for Lancaster Cleft Palate Clinic

<i>number of missed appointments</i>	<i>number of patients</i>	<i>total</i>
1	238	238
2	88	176
3	37	111
4	9	36
5	8	40
6	0	0
7	1	7
8	<u>1</u>	<u>8</u>
	382	616

56 or 14.6 percent of the patients responsible for 32.7 percent of the total number of missed appointments.

To ascertain what factors are associated with missed appointments, we undertook a statistical analysis of the "chronic misers" group. We found that this group is not a homogeneous one and could be sub-divided into two groups. The first group consisted of 37 or 9.7 percent of the total number of patients. These patients each kept at least one appointment and, as a group, they missed 146 appointments. The second group did not keep any appointments. They consisted of 19 or 4.9 percent of the total number of patients and they missed 56 appointments.

Table 3 presents the findings for these statistical comparisons and shows that there were only two significant findings. The fathers in the "chronic misers—missed all group" were more highly educated than those fathers in the comparison group and the type of payment (private) was greater for the former group than it was for the latter group.

The appointment keeping record of longitudinal patients was also examined. These patients are seen at the time of birth or shortly thereafter, prior to any type of treatment procedures, and followed annually or semi-annually. If clinical treatment is required, they are seen as often as necessary between semi-annual and/or annual appointments.

Of the 328 longitudinal patients, 43 of them missed 77 appointments during the first ten months of 1974. Of these 43 patients, eight of them were "chronic missers". Seven of them missed and kept some appointments, while only one longitudinal patient missed all four of his appointments for the first ten months. We compared the number and proportion of longitudinal patients who kept *all* appointments with those "other" patients and the chi-square analysis ($p > .001$) indicated that the longitudinal patients had a better record of keeping appointments than did the "other" patients.

Discussion

The finding that our missed appointment rate was 13.4% seems to compare favorably with those rates reported in the literature. Shmarak (4) reported a missed appointment rate of 28% for six dental clinics prior to changes in administrative procedures. Josi *et al.* (7) reported a missed appointment rate of 21% for inner-city adolescents enrolled in a pre-paid group practice.

In relation to the issue of what factors are associated with missed appointments, we found that the patients who missed all appointments are significantly more highly educated and are private payment patients. They also lived farther from the Clinic, tended to be older and were of a higher socio-economic status. These findings suggest that the factors of employment and geographical distance affect the ability of adult patients to keep scheduled appointments in a regional facility serving cleft lip and palate patients.

TABLE 3. Comparison of "Chronic Missers; Kept and Missed Appointments" With "Chronic Missers Who Missed All Appointments" on Selected Variables

variables	chronic missers (kept & missed) N = 37	chronic missers (missed only) N = 19	statistical test used	probability
1. Sex	Male (51.3%)	Male (63.2%)	Chi Square	NS
2. Age	\bar{X} = 14.54 σ = 9.08	\bar{X} = 18.95 σ = 10.03	t test	NS
3. Income	\bar{X} = 61.63 σ = 33.72	\bar{X} = 75.18 σ = 35.35	t test	NS
4. Fathers' Education	\bar{X} = 36.10 σ = 18.66	\bar{X} = 58.12 σ = 17.72	t test	.02
5. Fathers' Occupation	\bar{X} = 32.86 σ = 24.54	\bar{X} = 41.70 σ = 29.16	t test	NS
6. Families' SES	\bar{X} = 41.46 σ = 23.34	\bar{X} = 60.91 σ = 28.23	t test	.10
7. Residence	Lanc. Cty. (50.0%)	Lanc. Cty. (22.2%)	Chi Square	.10
8. Type of Payment	Private (16.7%)	Private (52.6%)	Chi Square	.01

Longitudinal patients have a better record of keeping appointments than do "other" patients. Because of the need of inter-disciplinary services to see longitudinal patients within two weeks of the semi-annual and/or annual anniversary of their birthdate, our staff is more aggressive with these patients and make every effort to get them to keep scheduled appointments. This is consistent with the findings of Kreisberg and Trieman (2) concerning reminders and the keeping of appointments.

Summary

This is a report of the utilization rate of patients in a cleft lip and palate clinic and to ascertain what factors are associated with missed appointments. We had a missed appointment rate of 13.4 percent which compares favorably with those rates reported in the literature. We found that the group of patients who missed all appointments were more highly educated and private payment patients. We also found that our longitudinal patients had a better record of keeping appointments than did other patients.

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