



Appointment Failure among Dental Patients Attending a Government Dental Centre in Enugu, Nigeria

Nneka Kate Onyejaka¹, Ikenna Emmanuel Emele², Obinna Franklyn Eboh³

¹Department of Child Dental Health, University of Nigeria, Enugu, Nigeria.

²Department of Oral and Maxillofacial Surgery, University of Nigeria Teaching Hospital, Enugu, Nigeria.

³Regional Centre for Oral Health Research and Training Initiatives for Africa, Jos, Plateau State, Nigeria.

Author to whom correspondence should be addressed: Dr. Nneka Kate Onyejaka, Department of Child Dental Health, University of Nigeria, Enugu, Nigeria. Phone: 08037449279. E-mail: nnekaonyejaka@yahoo.com.

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Abstract

Objective: To evaluate the prevalence and socio demographic factors associated with failed dental appointments among dental patients in a government dental clinic.

Material and Methods: This was a cross-sectional study of 419 participants who were non-first clinic attendees at a government dental clinic in Enugu, Nigeria. Data was collected on socio-demographic profile, mode of transportation and reasons for failed appointment, using a pretested structured questionnaire. Bi-variate analysis was conducted to test the association between study participants' age, sex, occupation, mode of transportation and failed dental appointment using Chi-square test and $p < 0.05$ was considered significant. **Results:** The age of the study participants ranged from 5 years to 90 years. More females (57.8%) than males (42.2%) participated in the study. The prevalence of failed appointment was 27.7%. The major reasons for failed appointments were "being busy with other activities" (12.4%) and "far distance" (6.9%). Only 0.7% of the study participants received telephone calls as reminder. There was no statistically significant association between age ($p=0.40$), sex ($p=0.12$), level of education ($p=0.40$), occupation ($p=0.52$), mode of transportation ($p=0.71$) and failed dental appointment.

Conclusion: The prevalence of failed dental appointment was high in this population. Being busy and far distance were the commonest reasons for failed appointments. Very few study participants were reminded of their appointment.

Keywords: Appointments and Schedules; Patients; Oral Health.

Introduction

Failure to keep dental appointments is one of the problems affecting effective management of patients. Keeping dental appointments enhances patient care while failure to keep appointments can result in inefficiencies, economic cost and patient care disruption [1]. Studies have shown that the prevalence of failed appointment ranges from 29.5% to 43.0% [2-5].

Patients' failure to keep appointment has been attributed to various factors which include lack of time [4], gender, age, proximity of oral health centres [6], difficulty in transportation [5], forgetfulness [2], longer intervals between appointments, effective communication or doctor-patient relationship, religious reasons [5], cost [7] and fear [8].

Failure to attend follow up dental visits was higher in rural settings [6] than in urban settings. It also occurred more in paediatric patients [9], males [10], patients with multiple dental treatments [11], those from low socioeconomic background [12] and patients attending conservative clinics [10].

Sending SMS and text messages [3,13,14], educating new patients [15], providing transportation [16], and giving patients detailed information two weeks before their appointment [17] are some of the methods employed to reduce dental appointment failure. Long waiting time and previous defaulters have been shown to be the predictors of failed dental appointments [18].

Dental students and dentists are affected by the inability of patients to keep their appointments. Students have less number of patients to treat to meet clinical requirements, while dentists have less number of patients to expose students to, which eventually impacts negatively on their academic progress [10].

There is currently no study on failed dental appointments in Enugu, Southeastern Nigeria, hence this study. The study identified the prevalence, and the association between age, sex, level of education, occupation, mode of transportation and failed dental appointments at the dental clinic of Federal College of Dental Technology and Therapy, Enugu, Nigeria. It also assessed the reasons for failed dental appointments.

Material and Methods

Study Area

The study area was the dental clinic of Federal College of Dental Technology and Therapy (FCDDT), Trans-Ekulu, Enugu East Local Government Area (LGA) of Enugu State, Nigeria. It is situated in Enugu metropolis. Enugu State is located in the 6.30'North 7.30' East of the equator. The inhabitants are mainly civil servants, traders and farmers. Patients are seen at the dental clinic by dental surgeons and are also attended to by therapists and technologists, depending on the treatment needed.

Study Design

It was a cross sectional study to determine the prevalence of failed dental appointments by patients, the socio demographic factors associated, and the reasons for failed appointments. The independent variables were age, sex, level of education, occupation and mode of transportation, while the dependent variable was failed dental appointment. Patients who were non-first clinic attendees in the dental clinic and patients who provided consent for the study were recruited for the study. Those who were not mentally fit to participate in the study were excluded.

Sample Size Determination

Sample size was determined using the formula $pxq (SE)^2$ [19], where p is prevalence, q is (100 - p) and SE is the standard error tolerated. Based on estimated prevalence of 50.0% of failed dental appointments in the study area; $q = (100-p) = 50.0\%$, and a sampling error of 5%, a total of 419 participants were recruited.

Data Collection

A questionnaire was developed for the study. The first part elicited information on socio-demographic profile of the patients (age, sex, level of education, occupation), mode of transportation to dental clinic and missing a dental appointment, while the second part elicited information on the reasons for failed appointments by the patients. The reasons included: "fear of treatment", 'cost', 'ill health', 'forgot dental appointment', 'far distance', 'industrial action', 'busy with other activities', 'school examination' and 'others'. Information on whether the patient received phone calls as a reminder was also elicited.

Two dentists were trained on the content of the questionnaire. Administration of the questionnaire by the dentists occurred after due consideration of the ethical issues, and study participants who met the eligibility criteria were given the questionnaire. After filling, the questionnaire was collected immediately from participants. The questionnaire was evaluated using 10 patients not included in the study.

Data Analysis

The data collected from the study was analyzed using the Statistical Package of Social Science (SPSS) version 16 (IBM, Chicago, IL, USA). Exploratory analysis was conducted to ensure data consistency. Results were expressed using frequency tables, percentages, bar charts and pie charts. Descriptive analysis was conducted using a wide variety of measures of location (mean) and dispersion (deviation). Bi-variate analysis was conducted to test the association between study participants' age, sex, occupation, mode of transportation and failed dental appointment. The test for significance was done using Chi Square statistics and $P < 0.05$ was considered significant.

Ethical Aspects

Ethical clearance was obtained from Health Research and Ethics committee of University of Nigeria Teaching Hospital, Enugu. Permission was sought from the head of clinical services in FCDTT. Written informed consent was obtained from study participants above 18 years and from parents/guardians of children less than 18 years. Assent was obtained from children aged 8 years and above.

Results

Four hundred and nineteen patients participated in the study. Age range was from 5 years to 90 years. The mean age was 34.46 ± 17.17 years. The prevalence of failed dental appointment was 116 (27.7%).

Table 1 shows that most of the study participants (31.0%) were aged 21 to 30 years, females (57.8%), had tertiary level of education (60.9%), students (38.9%) and many (68.5%) used public transport to get to the dental clinic. Only 0.7% participants were reminded of their appointment by telephone calls.

Table 1. The socio demographic profile of study participants.

Variables	Frequency	
Age (Years)	N	%
20 and below	70	16.7
21-30	130	31.0
31-40	88	21.0
41-50	60	14.3
51-60	25	6.0
60 and above	46	11.0
Sex		
Male	177	42.2
Female	242	57.8
Level of education		
Primary	54	12.9
Secondary	110	26.3
Tertiary	255	60.9
Occupation		
Civil Servants	117	27.9
Private Workers	102	24.3
Students	163	38.9
Clergymen	3	0.7
Unemployed	34	8.1
Mode of transportation		
Private	132	31.5
Public	287	68.5
Phone call		
Yes	3	0.7
No	416	97.3
Missed appointment		
Yes	116	27.7
No	303	72.3
Total	419	100.0

Table 2 shows there was no statistically significant association between age ($p=0.40$), sex ($p=0.12$), level of education ($p=0.40$), occupation ($p=0.52$), mode of transportation ($p=0.71$) and failed dental appointment.

Table 2: Association between socio demographic profile and failed dental appointment

Variables	Failed Dental Appointment			p-value
	Yes N (%)	No N (%)	Total N (%)	
Age (Years)				
20 and below	22 (19.0)	48 (15.8)	70 (16.7)	0.40
21-30	39 (30.0)	91 (30.0)	130 (31.0)	
31-40	21 (18.1)	67 (22.1)	88 (21.0)	
41-50	15 (12.9)	45 (14.9)	60 (14.3)	
51-60	10 (8.6)	15 (5.0)	25 (6.0)	
60 and above	9 (7.8)	37 (12.2)	46 (11.0)	
Sex				
Male	56 (48.3)	121 (39.9)	177 (42.2)	0.12
Female	60 (51.7)	182 (60.1)	242 (57.8)	
Level of Education				
Primary	10 (8.6)	44 (14.5)	54 (12.9)	0.40
Secondary	30 (25.9)	80 (26.4)	110 (26.3)	
Tertiary	76 (65.5)	179 (59.1)	255 (60.9)	
Occupation				
Civil servants	34 (29.3)	83 (27.4)	117 (27.9)	0.52
Private workers	25 (21.6)	77 (25.4)	102 (24.3)	
Students	50 (43.1)	113 (37.3)	163 (38.9)	
Clergymen	1 (0.9)	2 (0.7)	3 (0.7)	
Unemployed	6 (5.2)	28 (9.2)	34 (8.1)	
Mode of Transportation				
Private	35 (30.2)	97 (32.0)	132 (31.5)	0.71
Public	81 (69.8)	206 (68.0)	287 (68.5)	
Total	116 (100.0)	303 (100.0)	419 (100.0)	

Figure 1 shows that the commonest reasons for failed appointments were “being busy with other activities” (12.4%) and “far distance” (6.9%).

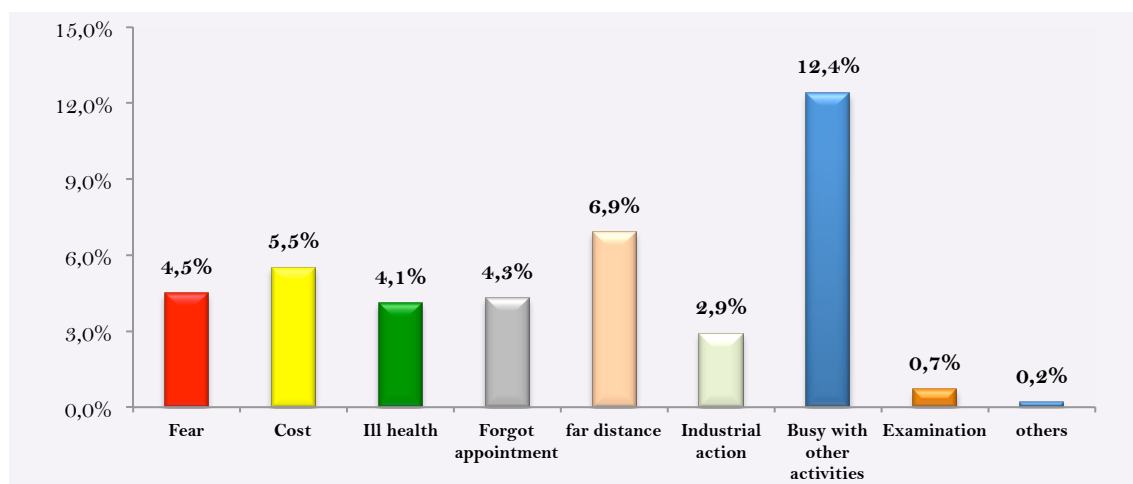


Figure 1. Reasons for failed appointment.

Discussion

This study showed the prevalence of failed dental appointments as 27.7%. Being busy with other activities and long distance from the clinic were the major reasons for failed dental appointments, and very few patients received phone calls as reminder for their appointments.

One of the limitations of this study is recruiting only the patients present in the clinic at the time of the study. Another limitation is that the data collected were based on recall ability of the study participants. However, the study gave an insight into reasons for failed dental appointments among people in developing countries such as Nigeria.

More than a quarter of the study participants missed their appointments and this implies that their care was disrupted [1]. This prevalence however was lower than that observed in Scotland (31%) [3] and India (32.6%) [7]. This may be as a result of the method of recruiting the study participants. Nevertheless, the study could not establish any relationship between the socio demographic profile of patients and failure to keep dental appointments, unlike other studies which showed association between paediatric patients [9], males [10], those from low socioeconomic status [12] and failed dental appointments.

Being busy with other activities and long distance were the main reasons for failed dental appointments in this study. A study in the same environment on children reported that caregivers were unable to honour referral letters to dental clinics because of lack of time [20]. This is also similar to previous study that found that 'lack of time' was the main reason for irregular dental clinic attendance [21]. The possibility of operating dental services on weekends and evenings - when individuals will be less busy may reduce the rate of failure in keeping dental appointments. Also, discussion with patients and adequate explanation of the treatment should be done before an appointment is scheduled. Dental clinics being far from residential home contributed to failure in keeping dental appointments. This may be as a result of the time and extra cost it takes to access the dental clinic [22,23]. Locating dental clinics in easily accessible areas will help to reduce the rate of failed dental appointments.

It is worth noting that very few study participants received phone calls as a reminder for their appointments. This might also have contributed to the high prevalence of failed dental appointment in the study area. Several studies have shown that use of reminders result in reduced cases of failed dental appointments [3,13,14]. Dental practitioners in the study environment are encouraged to use reminders such as phone calls, SMS, postal reminders to encourage patients to keep their dental appointments.

Conclusion

Failure to keep dental appointment was high in the study environment. Being busy with other activities and long distance were the commonest reasons for failed appointments. Very few patients were reminded of their appointments.

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