

Original Article

Demand for Dental Care in Household Mothers in Yazd, Iran

Mohammad Ali Morowatisharifabad¹ Ph.D., Ahmad Haerian-Ardakani^{2*} D.D.S., Ph.D., Tahereh Kamalikhah¹ M.Sc., Abbasali Dehghani-Tafti¹ M.Sc., Samira Hassanpour¹ B.Sc, Narjes Rajaei-Behbehani¹ B.Sc, Fereshteh Rezaei¹ B.Sc.

1. Department of Health education, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.
2. Department of Dental Public Health, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.

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Abstract

Introduction: Oral health is an important public health issue that influences general health and quality of life. Mothers are key persons in families paying attention to whom not only guarantees their oral health, but also the oral health of the family members. Therefore, this study aimed to determine the dental service demand status and its related factors among mothers in Yazd city.

Materials & Methods: In this cross-sectional survey, total numbers of 300 mothers in urban areas of Yazd city were selected by cluster random sampling. Data was collected by a researcher designed questionnaire which validity was approved by a panel of experts and were completed by mother's private interview.

Results: Twenty seven percent reported that they use dental services less than 1 time per year, 28% reported 1 time per year and 45% reported more than one time per year. Only 30.7% had a regular check up program every six months. Annual dental services utilization rate was in relationship to educational level, receiving dental treatment source, rate of parent's attention to oral health, receiving oral health information source, socioeconomic status and deprivation from dental treatment because of financial problems. Having a dental check-up plan also was in relation to the above variables and income level.

Conclusion: Demand for dental care among women is sophisticated and is in related to a variety of factors such as education level, financial issues, cultural issues, availability and accessibility of oral health services and cues to action. Addressing the above factors in intervention programs aimed to increase dental care utilization among women is recommended

Keywords: Oral Health; Dental Care; Women; Mothers; Dental Health Surveys

* **Corresponding author:** *Tel:* +989133536957 , *Email:* ahmad.haerian@gmail.com

Introduction

Oral health is an important public health issue that influences general health and quality of life and presents possibilities for effective intervention to prevent health problems. Dental caries has been a significant preventable public health problem yet. It is the most common chronic disease that interferes with the normal nutrition intake, speech, self-esteem and daily routine activities^[1].

Oral-health-related quality of life varies with socioeconomic status (SES)^[2] and is related to educational level^[3, 4], income and area deprivation^[2, 5] with the worst oral health found in those living in deprived households in deprived neighbourhoods^[6]. In other words several studies illustrate that, low income, low educational level, disparities, in addition to racial and ethnic minorities are associated with lower use of already available effective preventive and treatment services and influence the caries and tooth loss experience^[7-9].

According to Andersen model of health care utilization, economic factors are not the only determinants of dental care utilization. It posits that predisposing characteristics such as age, gender, ethnicity, genetics, education and literacy, oral health beliefs, cultural or social factors, immigration status, living conditions and enabling resources and need factors such as welfare receipt and competing financial needs influence dental service utilization^[10].

Availability of appropriate and comprehensive dental treatments is also necessary to address clinical need and improve access to and use of comprehensive treatments^[11]. According to the world health organization(WHO), some countries

report that tooth loss is higher in women than in men as women more often seek dental care^[12]; also studies indicate that adolescents^[13] and children^[14, 15] whose mothers had higher levels of oral health score had lower levels of dental caries and gingival bleeding after probing, and were less likely to visit the dentist mainly when in trouble than those whose mothers had lower levels of oral health^[13].

In a study by Yu et al. on dental preventive care service usage among US adolescents, 32 percent of respondents reported never having had a dental examination, and 2 percent reported never having had any preventive care^[16]. Wool folk et al. Found that infrequent preventive dental visits were associated with lower income level, being male, unavailability of a dental office for usual care and dental anxiety. They also found that factors such as lack of insurance, income, education, sex and ethnicity were predictors of lack of professional preventive care^[17].

Hessari et al. in 2002 in a survey investigated the oral health status of 35-44-year-old Iranians (n = 8,301, female=4676) across 28 provinces regarding gender, place of residence and education. The mean number of teeth was 21.5 ± 6.2 , with DMFT: 11.0 ± 6.4 , decayed: 2.6 ± 2.7 , and filled: 1.8 ± 3.2 . Decayed existed in 6,080 (73%) of the subjects and filled in 3,209 (41%). The mean number of filling teeth was greater among urban residents, women and those with a higher level of education. This study revealed an impaired oral health status in Iranian adults, particularly those of low social status and educational level^[18]. In the only study in Iran regarding dental demand, Ghaderi et al. found that

gender, educational level, job and household income as statistically significant correlates of household demand for dental care^[19].

However to the best of our knowledge, limited studies in Iran are available on dental demand and its associated factors especially accessibility of governmental and private dental centre and insurance especially in household mothers so this study aimed to determine factors that affect dental care utilization of mothers as key persons in the family in Yazd, Iran.

Materials & Methods

This cross-sectional study was conducted in Yazd city in 2011. The target population for the study included all household women living in Yazd. A cluster random sampling was used for selection of totally 300 mothers to enter the study in five sexagesimal clusters. Participation was voluntary based on verbal consent of them. A researcher designed questionnaire was applied to the study, which content validity was approved by a panel of experts. Questionnaires were completed by private interviews with participants at their homes. The questionnaire included demographic variables such as income level, dental insurance status, educational level and age. The questionnaire also included 22 questions regarding different domains of dental care. For example: “how many times do you visit dental services yearly?” The responses were classified as less than 1 time per year, 1 time per year and more than one time per year, “Do you have a dental check up plan every six months for preventive care?”, “How old were you when you visit the

dentist for the first time?”

“How much was or is your parent’s attention to oral health?” Variables such as the availability of private or governmental dental services, source of receiving dental health information, treatment group of receiving dental care, treatment centre of receiving dental care, knowledge about communicable diseases through dental treatment, history of having a toothache and tooth extracted, regular brushing and flossing also were assessed.

Data analysis was focused on determining related factors of the respondent’s demand for dental care, using χ^2 .

Results

The mean age of participants was 41.10 ± 15.09 years with a range of 18-89 years. Most of the participants (82.7%) had an insurance coverage. The average income was 573 ± 193.36 thousand Tomans. Twenty two percent of them were illiterate or had a primary education level (Table 1).

Table 1. Demographic characteristic of participants

Demographic Variables	Categories	N	%
Age	Under 30	99	33
	31-45	95	31.7
	Upper 45	106	35.3
Education	Illiterate	18	6
	Primary	48	16
	Secondary	45	15
	High school and diploma University education	71 118	23.7 39
Income	Under 350 thousand Tomans	32	10.7
	350-700 thousand Tomans	160	53.3
	Upper 700 thousand Tomans	91	30.3
Insurance coverage	No	52	17.3
	Yes	248	83.7

Table 2. Relationship between annual dental visit and other variables

Variables	Categories	Annual dental visits			Chi square	p value
		Less than one time N (%)	One time N (%)	More than one time N (%)		
Age	Under 30	21 (21.2)	36 (36.37)	42 (42.43)	7.359	0.118
	31-45	25 (26.3)	26 (27.4)	44 (46.3)		
	Upper 45	35 (33.0)	22 (20.8)	49 (46.2)		
Education	Illiterate	6 (33.3)	2 (11.1)	10 (55.6)	21.164	0.007
	Primary	21 (43.8)	11 (22.9)	16 (33.3)		
	Guidance school	13 (28.9)	12 (26.7)	20 (44.4)		
	High school and diploma	18 (25.4)	29 (40.8)	24 (33.8)		
	University education	23 (19.5)	30 (25.4)	65 (55.1)		
Income	Under 350 thousand Tomans	9 (12.3)	8 (25.0)	15 (46.9)	5.038	0.283
	350-700 thousand Tomans	46 (28.8)	50 (31.3)	64 (40.0)		
	Upper 700 thousand Tomans	18 (19.8)	24 (26.4)	49 (53.8)		
Insurance coverage	No coverage	19 (36.54)	11 (21.15)	22 (42.31)	3.274	0.195
	Coverage	62 (25)	73 (29.43)	113 (45.56)		
Extracting permanent teeth	No	58 (16.3)	39 (24.5)	62 (39.0)	15.424	<0.001
	Yes	23 (16.3)	45 (31.9)	73 (51.8)		
Deprivation from dental treatment because of financial problem	Yes	46(38.3)	37(30.8)	37(30.8)	19.008	<0.001
	No	35(19.4)	47(26.1)	98(54.4)		
Rate of parents' attention to oral health	Good	14 (12.6)	28 (25.2)	69 (62.2)	37.959	<0.001
	Average	33 (27.5)	43 (35.8)	44 (36.7)		
	Weak	34 (49.3)	13 (18.8)	22 (31.9)		
Distance to private oral health centers	≤ 1 kilometre	48 (25.9)	56 (30.3)	81 (43.8)	11.811	0.019
	1-2 kilometres	10 (23.3)	10 (23.3)	23 (53.5)		
	≥2 kilometres	14 (56.0)	4 (16.0)	7 (28.0)		
Oral health information source	Dentist	10 (8.2)	28 (23.0)	84 (68.9)	62.069	<0.001
	Mass media	31 (36.5)	29 (34.1)	25 (29.4)		
	Parents	4 (21.1)	8 (42.1)	7 (36.8)		
	Nobody	36 (48.6)	19 (25.7)	19 (25.7)		
Self appraisal of socio- economic status	Low	12 (52.2)	4 (17.4)	7 (30.4)	20.777	<0.001
	Average	68 (27.2)	75 (30.0)	107 (42.8)		
	High	1 (3.7)	5 (18.5)	21 (77.8)		

Twenty seven percent reported that they use dental services less than one time per year, 28% reported that they use dental services 1 time per year and 45% reported more than one time per

year. Only 30.7% had a regular plan for dental check up every six months. Average distance to governmental and private dental health centres was 1.13±0.88 Km and a 1.19±1.06 kilometre,

respectively. Forty percent of them stated that they receive oral health information from specialist dentist. Seventy one percent of participants received their treatment needs of private dental offices and 20% from both governmental and private oral health centers. Forty seven percent of participant's had extracted their permanent teeth with an average rate of 7.32 ± 9.36 teeth, while 90.7% of them had an experience of toothache, with an average time of 8.44 ± 5.89 hours. Seventy three percent reported that their first dental visit was over 12 years old and only 4% reported visiting dentist under six years old. 40% said that their parents' attention was moderate. Of the participants, 16.6% reported that they brush their teeth infrequently or never brush and 61% reported that they floss their teeth infrequently or never floss.

Annual dental services utilization was not associated with age, insurance type and income level, but had a statistically significant relationship with educational level ($p=0.007$) and distance from the private oral health centres ($p=0.019$). It also was significantly related to receiving oral health information from the dentist, receiving dental treatment from private dental offices ($p<0.001$), rate of parents' attention to oral health ($p<0.001$), deprivation of dental treatment ($p<0.001$) and socio- economic status ($p<0.001$) (Table 2).

χ^2 test revealed that having a dental check up plan every six months was significantly related to educational level ($p<0.001$), income level ($p<0.001$), receiving oral health information from the dentist ($p<0.001$), receiving dental treatment from private dental offices ($p<0.001$), rate of parents' attention to oral health ($p<0.001$),

deprivation of dental treatment ($p<0.001$) and socio- economic status ($p<0.001$).

Discussion

This study investigated the factors that affect dental care utilization and dental check-up and presented self-reported rate of dental services utilization by household movers in Yazd, Iran. There is a paucity of data about the mothers' dental service use that enables us to compare the characteristics of those who do and who do not use services in different studies.

In this sample of household mothers, 73% reported that they visit a dentist once or more per year and 30.7% of women had a regular plan to check up every six months. These findings may suggest that they use emergency visits vs. routine or preventive care.

The results of our study recommend that different factors affect mothers dental care utilization such as educational level and distance from the private oral health centre, receiving oral health information from the dentist, receiving dental treatment from the private dental office, the rate of parents' attention to oral health, deprivation from dental treatment because of financial issues as well as socioeconomic status.

Mothers' annual dental visit was not related to the income, and insurance coverage which differs from previous studies [7, 10, 20-22]. This discrepancy might be due to the fact that most of insurance schemes in Iran do not cover dental services. These results showed that factors other than income may affect a person's propensity to use dental care and sufficient financial resources alone may not guarantee an adequate level of dental care demand. As well, finding related to income from

this part of the questionnaire was inconsistent with other part of the questionnaire which asked about deprivation from dental treatment because of financial problems and self appraisal of socio-economical status and their relationship to mothers' annual dental visit that were statistically significant. It may be due to the fact that parents most delay seeking care for their own dental health when faced with other life and child demands and sacrifice themselves. They place a higher premium on the maintenance of their children's dental health than on their own^[23].

Also regular dental visits every six months showed statistically significant relationship with income and insurance which illustrates that although women with different levels of income did not differ significantly by using dental care, women with higher levels of income were more likely than women with less income to actually have check-up plans. Perhaps they have to use dental care because of pain and other consequences of dental caries but they are not supposed to have check-up plans or they don't have sense of force. Other studies have proposed that women engage in more health-seeking behaviors than men because of their sensitivity to pain. In a study by Muirhead et al. Among working poor Canadians, no relationship was seen between toothache or oral pain and dental care seeking patterns^[10]. Our data suggest that additional effort is warranted to change this attitude and increase regular plans to check-up every six months for preventing dental problems. Hessari et al. also reported a higher mean number of filling teeth among women^[18].

Our data also revealed that extracting permanent teeth is in relation to dental care

utilization and dental care check up plan. Perhaps it acts as an internal cues to action and because of bad previous experience, invoke them to pay more attention to their oral health.

The other major important results were statistically significant relationship between mothers' annual dental visit and regular dental care check-up plan with the rate of a parent's attention to oral health. Moallemi et al.^[15] also revealed that mother's attitude affect children's dental health and these results correctly emphasizes the leading role of parents especially mothers in the oral health of the next generation.

Another important finding was a significant relationship between annual dental care utilization rate and regular dental check-up and receiving oral health information from dentist vs. mass media and parents. It may be due to the credibility of the dentist or face to face training in the dental office. Therefore, holding refresher courses for dentists and asking them to educate their clients is recommended.

Seventy one percent of our participants fulfilled their treatment needs from private dental office and 20% mentioned both governmental and private oral health centers. Moreover, receiving dental treatment from private dental offices had a statistically significant relationship with annual dental care utilization rate. It shows that they don't trust on governmental dental offices because governmental dental offices are crowded and do not provide a variety of dental services. In Wool Folk et al. study unavailability of a dental office for usual care has been argued as a factor for infrequent preventive dental visits^[17]. Consistent with our results De Rosa et al. in a survey have argued that transportation and availability of

services are effective factors for adolescence dental demand [24]. Although these data and analyses are useful in practice, they have some limitations. Firstly, data are self-reported and may be less accurate than would be the data collected by means of observation or dental record abstraction. Second, psychosocial factors such as self-perceptions of oral health, anxiety from dental treatment were not addressed which may be investigated in further studies. Also investigation regarding the reason why people tend to receive

dental services from private dental offices in spite of the high cost.

In general, dental care demand among women is sophisticated and is in relation to a variety of factors such as educational level, financial issues, cultural issues (parent's attention to oral health), availability and accessibility of oral health services and the availability of cues to action.

Addressing the above factors in intervention programs aimed at increasing dental care utilization among women is recommended.

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