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Arabian undergraduates perceptions regarding barriers among the geriatric patients for failing to keep dental appointments: A cross-sectional study

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ABSTRACT

Background: Regular visits to the health care providers can develop a relationship that can extend beyond the physical health alone as the patient is transiting towards older age, adapting to changes in physical health, emotional health, and social connections. Apart from limiting access to health care services, the attitudes, beliefs, comfort level of the treating doctors towards the geriatric patients can motivate or demotivate them to access dental care.

Aim: To explore the Saudi Arabian undergraduate students perception of geriatric patients and identify potential barriers that prevent the utilization of their dental appointment.

Methods: A close-ended questionnaire with one question and eight reasons was administered to the fifth year clinical students. The students were requested to specify their agreement with each question on a 5-point Likert scale. Among the barriers presented, each reason's approval was expressed as the percentage of the total number of responses. In addition, the gender comparison of mean scores was made, and an independent sample t-test was used to analyze the statements agreed by the students. All analyses were

performed using Statistical Package of Social Sciences (SPSS) version 21.0 (IBM, USA) with the probability of statistical significance at 0.05 level.
Results: Fifty-one students recorded their perceptions on the questionnaire administered during their clinical posting in the fifth year of the geriatric dental education program. It was concluded that students believed that geriatric patients give overwhelming importance to other problems with minor importance to oral health care. In addition, gender comparison was more evident as the percentage expressed was more in females.
Conclusions: There is a need for more clinical exposure of geriatric patients during their clinical postings. Student's acquaintance with didactic and clinical settings appears to be a critical element towards positive knowledge and attitude towards the geriatric population.

Keywords: *dental students; geriatric dentistry, geriatric patients; perception about geriatric*

INTRODUCTION

The geriatric population comprising individuals over 60 years of age is predicted to rise from about 670 million to almost a billion worldwide by 2050.[1,2] The rise in the aging population is owed to the improvement of life expectancy due to economic growth and medical advancement. In Saudi Arabia, the elderly population of over 60 years of age was 4.4%, and it was projected to grow to 6.9% in 2020.[3] The percentage has nearly doubled currently and is expected to grow exponentially in the future years.[4] With aging, a higher prevalence of chronic illnesses affecting the general health of the elderly is observed.[5] There is also an increased need for oral health maintenance due to the high incidence of tooth loss, periodontal diseases, dental caries, and oral cancers.[6] Oral health impacts and correlates to an individual's general health, especially with the elderly.[7] However, it is seen that oral health services are underutilized by geriatric patients when compared to the younger age groups due to varied reasons.[8] It is essential to explore the reasons for not utilizing/underutilizing the oral health services by the geriatric patients to provide adequate care, improve the overall quality of life, reduce morbidity, and restore/preserve function.[9,10] An Indian study grouped the barriers that the geriatric population face to access oral care into patient-related barriers, career-related barriers, and dentist-related barriers.[11] Elena et al.[12] reported that the most common barriers were cost, fear of care, availability, accessibility, and dentist characteristics. General systemic diseases of geriatric patients and their treatment can harm oral health.[13] Social attributes like geriatric patient's income, health insurance benefits, community factors, and access to transportation affect their utilization of oral health care services.[14–19] The inclusion of geriatric dental care in the curriculum has an impending influence on oral health care providers by including the geriatric population in clinical practice.[20] In a survey done by Weaver et al.,[21] about 20% of undergraduate dental students reported incompetence in providing dental care to geriatric patients. Fifth-year students were targeted to inculcate geriatric care among the students and motivate them in most college settings. There have been no studies conducted in this region to assess why geriatric patients cannot follow the appointment schedule from the treating students' perspective. Hence, a survey was designed to explore why geriatric patients cannot utilize the appointments scheduled by university dental students.

MATERIALS AND METHODS

The study subjects were the fifth-year clinical undergraduate students studying at the college of dentistry, Majmaah University, Al-Zulfi, Saudi Arabia. A structured close-ended questionnaire adopted by Fabiano et al.[22] was administered to the

students through physical format during February 2021. All the students were advised, provided with information regarding the research project, and informed of their participation. A single question with a list of eight reasons was presented to the students. The question presented was "When patients do not keep oral health appointments, the reasons could include?", the eight interpretations were: (1) Transportation problems; (2) Financial problems; (3) Family problems; (4) They do not understand the importance of keeping appointments; (5) They do not care about oral health; (6) Complex and overlapping priorities – teeth are not at the top of the priority list; (7) Sometimes, other problems become overwhelming, and self-care seems unimportant; (8) Abuse or neglect by a family member or caregiver. The students were requested to specify their agreement with each question on a 5 points Likert scale where point 4 – important to assess in all patients, point 3 –important for more than two-thirds of the patient population, point 2 – important for one- to two-thirds of the patient population, point 1 – important in less than a third of the patient population, and point 0 – not important in all patient population. All the students attending the gerontology course have participated in this cross-sectional survey. Students gave the most appropriate answer of all reasons 1–8, and none of the missing answers were ignored. For the reasons presented, each category's agreement was expressed as the percentage of the total number of responses. A comparison of means was made based on gender. Independent sample T-tests were used to analyze the statements agreed by the students. All analyses were performed using Statistical Package of Social Sciences (SPSS) version 21.0 (IBM, USA) with the probability of statistical significance at 0.05 level.

RESULTS

The total number of students who participated in the study was 51, of which 49% were boys and 51% were girl students. The overall mean, median scores are summarized in Table 1. The most common barrier was "sometimes other problems become overwhelming, and self-care seems unimportant with an overall mean score of 2.98". Moreover, the least common barrier was the "financial problem" with an overall mean score of 1.82. Table 2 represents the barriers and their mean scores where clinical students professed for the missing dental appointment among geriatric dental patients and comparisons among the genders. The most common barrier among the geriatric patients for failing to keep dental appointments was "sometimes other problems become overwhelming, and self-care seems unimportant" (2.76±1.01). According to the opinion of both male and female students "transportation" (3.38±0.90) is reported as the most common barrier.

The overall mean score for "transportation" as a barrier for missing dental appointments among geriatric patients is 2.61, where female patients achieved more scores (3.38) than the males (1.80), and the results were statistically significant ($P < 0.05$). The overall mean score for "financial problem" as a barrier for missing dental appointments among geriatric patients was 1.82, where scores observed in females were more (2.04) than the males' score (1.60), and the results were statistically insignificant ($P > 0.05$). For "family problem" as a barrier for missing dental appointments among geriatric patients, the overall mean score was 1.88. The scores achieved by females were more (2.50) as compared to males, who had a mean score of 1.24, and the results were statistically significant ($P < 0.05$). When the reason "they do not understand the importance of keeping appointment" was asked to the students, they opinionated with an overall mean score of 2.94 where females achieved more score of 3.00 compared to males (2.88), and the results were statistically not significant ($P > 0.05$). To the barrier "they just do not care about oral health", the overall mean score is 2.73, where females attained more score of 2.73 than males (2.72), and the results were not statistically significant ($P > 0.05$). The overall mean score for the "complex and overlapping

priorities – teeth are not at the top of the priority list" as a barrier for missing dental appointments among geriatric patients is 2.73 where females' score was more (2.81) compared to males (2.64). The results obtained were not significant (P > 0.05). To the reason, "sometimes other problems become overwhelming, and self-care seems unimportant" was asked to the student, the overall score obtained was 2.98 where females achieved more score (3.19) than males with a mean score of 2.76, and the results were not statistically significant (Table 3). For the reason, "abuse or neglect by a family member or caregiver was asked to the students", they had a perception with an overall mean score of 2.00, where females achieved more score of 2.62 than males (1.36), and the results were statistically significant (P < 0.05).

The total score for all the eight reasons which were asked as the obstacle for geriatric patients missing dental appointments had an overall mean score of 19.7 where females achieved more mean score (22.27) as compared to males (17.00), and the results were statistically significant (P < 0.05). The study subjects' Likert responses regarding barriers

TABLE 1 Details of scores of participants regarding barriers

Barriers	Mean	Median	Minimum	Maximum
Transportation	2.61	3	0	4
Financial problem	1.82	2	0	4
Family problem	1.88	2	0	4
They do not understand how important keeping appointment is	2.94	3	0	4
They just don't care about oral health	2.73	3	0	4
Complex and overlapping priorities – teeth are not at the top of the priority list	2.73	3	0	4
Sometimes other problems become overwhelming and self-care seems unimportant	2.98	3	1	4
Abuse or neglect by a family member or caregiver	2.00	2	0	4
Total score	19.7	20	11	32

TABLE 2 The comparison of mean scores of participants based on gender regarding barriers to appointments in geriatric dentistry

Barriers	Males	Females	P-value
Transportation	1.8 ± 0.91	3.38 ± 0.90	<0.05*
Financial problem	1.6 ± 1.08	2.04 ± 1.37	>0.05
Family problem	1.24 ± 1.23	2.5 ± 1.27	<0.05*
They do not understand how important keeping appointment is	2.88 ± 0.93	3.0 ± 1.06	>0.05
They just don't care about oral health	2.72 ± 1.02	2.73 ± 1.22	>0.05
Complex and overlapping priorities – teeth are not at the top of the priority list	2.64 ± 1.11	2.81 ± 1.10	>0.05
Sometimes other problems become overwhelming and self-care seems unimportant	2.76 ± 1.01	3.19 ± 0.94	>0.05
Abuse or neglect by a family member or caregiver	1.36 ± 1.15	2.62 ± 1.36	<0.05*
Total score	17.0 ± 4.35	22.27 ± 4.75	<0.05*

TABLE 3 Overall perceptions scores of students regarding the barriers

Barriers	0	1	2	3	4
Sometimes other problems become overwhelming and self-care seems unimportant	0.0	5.9	31.4	21.6	41.2
They do not understand how important keeping appointment is	2	5.9	21.6	37.3	33.3
They just don't care about oral health	3.9	7.8	31.4	25.5	31.4
Complex and overlapping priorities – teeth are not at the top of the priority list	3.9	9.8	23.5	35.3	27.5
Transportation	2	21.6	21.6	23.5	31.4
Abuse or neglect by a family member or caregiver	15.7	25.5	25.5	9.8	23.5
Family problem	19.6	25.5	19.6	17.6	17.6
Financial problem	17.6	25.5	21.6	27.5	7.8

for not attending appointments in gerodontology patients are shown in Figure 1.

DISCUSSION

The number of older adults in the Arab region will be at its highest level in 2050.[23] In 2013, the World Health Organization (WHO) estimated that approximately 4.3% of Saudi Arabia's population will be between 55 and 64 years. The United Nations predicts that the Saudi Arabian population aged 65 years and above will continue to increase and make up to 18.4% of the total population in 2050. With this expected increase in the older adult population, research on geriatric dentistry is almost invisible in this region.[24] Moreover, Aldhuwayhi et al.[25] opined that prosthodontics emergencies are very common in geriatric patients and the authors proposed a unique model to schedule appointments.

Elderly individuals are an integral part of any nation's population. The need for the hour to be prepared adequately to care for and meet the geriatric population's dental health care needs is growing exponentially compared to a decade ago. This study assessed the dental student perceptions about the reasons for geriatric patients not keeping dental school appointments. The eight reasons that prevent geriatric patients from keeping appointments are ranked in order of participants' selection of the problems. These findings are in agreement with previous research.[25–27] The descriptive gender comparison of the mean scores among the fifth year clinical students professed the missing dental appointment among geriatric dental patients. Table 3 highlights the percentage of barriers in descending order.

The most significant barrier was that the geriatric patients had other problems which were more important than self-care. The importance of recognizing older people's psychosocial characteristics, which influence oral health behaviors, and the potential success of dental treatment should be understood. It indicates the need for dental students to demonstrate awareness of the psychosocial issues that play a vital role in patient compliance to treatment.[25] The dentists need to be knowledgeable to establish a dentist–patient rapport that improves patient compliance to dental appointments. Another critical barrier identified was that the patients could not understand the importance of keeping appointments. Dentists should understand that older adults tend to transition through three stages as they age: independent, semi-dependent, and entirely dependent. Another aspect of treating semi- and entirely dependent older adults is ensuring that they fully understand the information presented to them and give informed consent. It directly affects the compliance of patient appointments.[28]

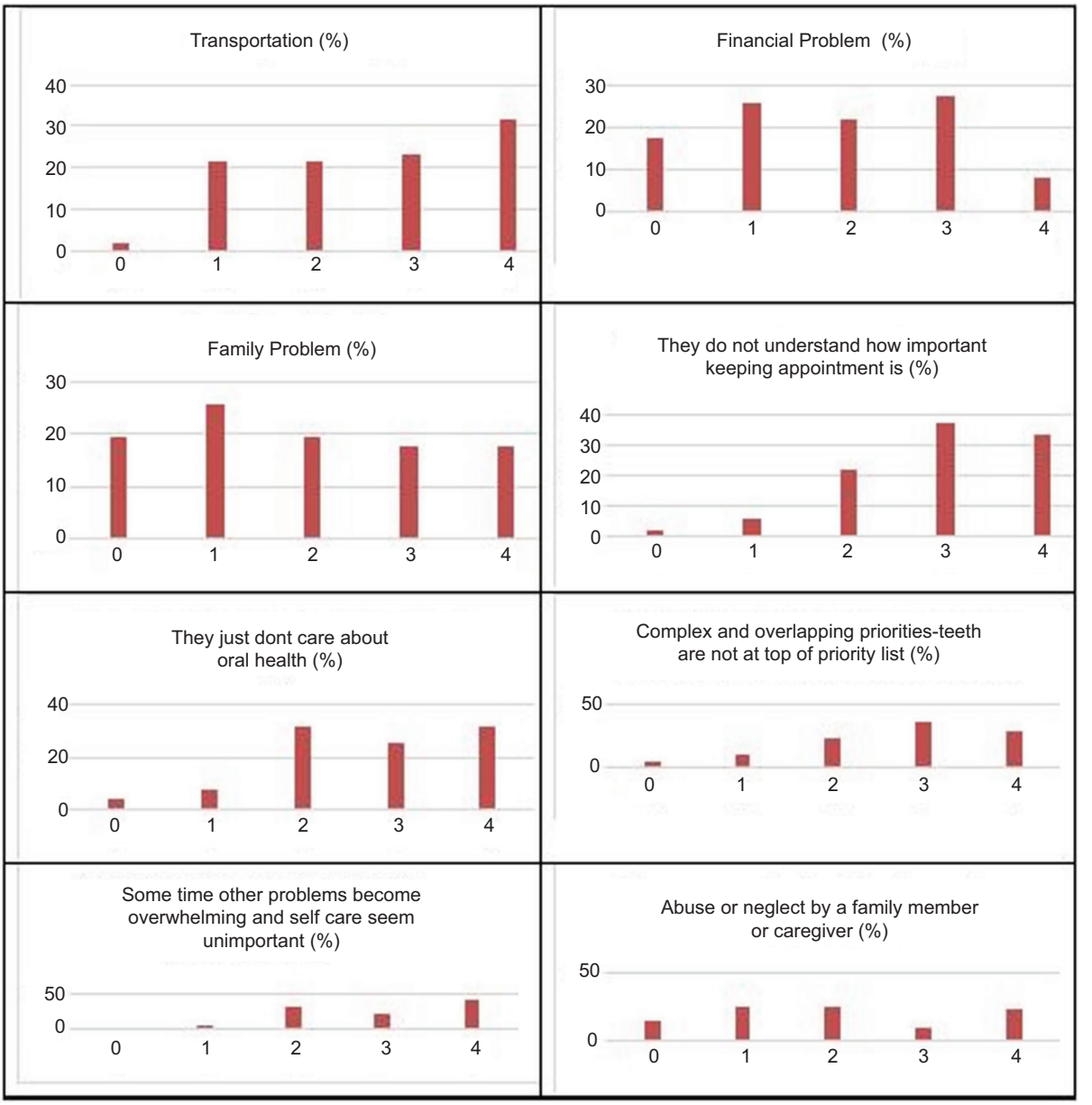

FIGURE 1 Overall responses regarding barriers for not attending appointments in gerontology patients.

The perceived importance of oral health in geriatric patients is a significant factor for the utilization of dental care. Self-efficacy regarding oral health is lower than self-efficacy regarding general health and medication use among older adults. To increase patient compliance to dental appointments in geriatric patients, elderly patients should be aware of the geriatric population's oral problems and the importance of dental care utilization.[29]

Two barriers with similar frequency reducing geriatric patients' compliance to dental appointments are a low priority for oral health and other

complex and overlapping priorities. These two barriers are interrelated to each other. As geriatric patients become less independent, daily self-care and other priorities become a herculean task, and oral health problems take a backseat over other problems.[30] It is severe for frail adults living in institutional facilities like nursing homes. The dentist should communicate to patients and ask for their help in adopting assisted living. They can help identify a caregiver and assure any assistance in making treatment and/or financial decisions about their oral health. The standard issue was transportation problems in keeping dental appointments and utilizing dental care.[31,32] A suggestion to combat transportation problems can be suggested depending on the community's size, and dentists can work with local transportation companies offering transportation at fair rates to the geriatric population. Abuse or neglect by family members or caregivers is a significant barrier and acute problem faced by the geriatric population. It can occur with a caregiver due to willful or lack of appropriate action causing harm or distress to the older person.[33,34] Such victims may also be encountered in dental care settings. Prompt recognition and evaluation by the dentist are mandatory for such cases. The case should be reported to the appropriate authority within the legal framework of the kingdom.[35,36]

Family problems can also result in missing dentist appointments and poor dental health in geriatric patients. As a result, dental health becomes the least priority. The majority of respondents of a preliminary study in older Saudi adults acknowledge a preference for family support during the aging process.[37] Regular dental visits can prevent dental problems and maintain oral health. The American Dental Association recommends visiting the dentist at least once a year for scaling and dental checkups.[38] However, financial limitations and the inability to afford dental care prevent elders from getting timely dental care. Presently, dental treatment fees are covered by patients or caregivers themselves. Although the current geriatric population has sufficient funds to afford dental health services, still some proportion of the elderly lack the financial resources to afford treatment for several dental conditions. Two studies have stated that economic difficulties and limited access to health services were the biggest obstacles in Saudi Arabia.[39,40] Greater public and private sector support for accessible and affordable dental services must be offered to ensure proper dental care in the elderly population.[41] Many dentists, public health clinics, and dental school clinics offer services at reduced rates through dental society-sponsored assistance programs. Inclusion of dental insurance and medical insurance and provision of treatment reimbursements can also help overcome this barrier. A similar study was done by Fabiano et al.[22] and Anehosur et al.[42] The most common barriers in Fabiano et al.'s[22] study were transportation, financial problem, and family problem. In contrast, the minor common barriers were "teeth are not at the top of the priority list, abuse and neglect by a family member, and other problems become overwhelming". Anehosur et al.[42] reported that the most prevalent barriers were "teeth were not at the top of the priority list, transportation problem and financial problem, and the minor common barriers were family problems, abuse by the family members and other problem self-care".

In contrast with the previous studies most common barriers in our study were that sometimes other problems become overwhelming and self-care seems unimportant. The least common barriers were "abuse or neglect by a family member or caregiver", "family problems", and "financial problems".

CONCLUSIONS

This study warrants additional research in the Saudi geriatric population, who will become a more significant percentage of the total population in the future. In addition, further research with larger groups of geriatric patients can be undertaken to understand the factors related to dental students' perception of non-compliance of the elderly population to dental appointments in Saudi Arabia.

CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare.

AUTHORS' CONTRIBUTIONS

All authors contributed equally to this manuscript.

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