Oral Health and Quality of Life Among 45- to 64-year-old Patients Attending a Clinic in Iasi, Romania

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Abstract

Aim: The aim of this study was to investigate the impact of oral health conditions on the quality of life of 45-64-year-olds in Romania. ***Methods:*** Data were collected from a convenience sample of 170 subjects (age range: 45-64 years; 64% females, 36% males) who attended a community dental clinic in Iasi, Romania, for routine care and treatment. The patients were clinically examined according to the World Health Organization (WHO) 1997 criteria. Oral health-related quality of life was assessed with the short version of the Oral Health Impact Profile (OHIP-14). ***Results:*** The most affected quality of life dimensions were physical disability (56%) and physical pain (41%). The next most commonly reported dimensions were psychological disability (24%), especially embarrassment (24%) and social disability (23%). Only 7% of the respondents reported functional limitations. Significant correlations were found between several oral health indicators and the OHIP-14 scores such as between the indicators "partial denture used" and "physical disability" (r=0.42), "physical pain" (r=0.32), "psychological disability" (r=-0.31), and between the oral health indicator "emergency treatment needed" and the "social disability" index (r=0.44). ***Conclusions:*** The data showed that significant percentages of the patients surveyed had impaired oral health-related quality of life and that several oral health indicators, especially for the indicator "partial dentures used", correlated with some OHIP-14 indicators. Gaining a better understanding of how oral health—such as the use of partial prostheses—affects patients' quality of life could contribute to a more patient-centred approach to providing oral health care.

Key Words: Oral Health, Partial Prostheses, Dental Patients, Quality of Life, Adult Population, Dentures, Oral Health Impact Profile (OHIP-14)

Introduction

In 1948, the World Health Organization (WHO) defined health as "complete physical, mental and social well-being, and not merely the absence of disease or illnesses" [1]. In consideration of this definition, it became clear that assessing health merely with indicators of physical health would overlook some important aspects of health [2]. The greatest limitation of the traditional approach of assessing health with epidemiological indicators is their inability to reflect the capacity of an individual to perform tasks and activities. This rationale can also be used in regard to assessing oral health. In the oral health sciences, the use of clinical indicators is, of course, central for the assessment of oral health and treatment needs. However, a combined assessment of oral health with both clinical and subjective indicators provides a more comprehensive and multidimensional assessment of a patient's oral health condition. Locker (1998) therefore argued for consideration of oral health-related quality of life indicators when assessing a patient's oral health [3]. In 2002, Inglehart and Bagramian published a monograph on this topic of oral health-related quality of life [4]. They defined oral health-related quality of life as that part of a person's quality of life that is affected by oral health [5]. Specifically, they suggested taking into consideration how oral health affects the way a person can function (such as chew, bite, and speak), whether oral health causes pain and discomfort, and how it affects a person's psychological state (such as a person's self-esteem and self-concept) and social situation (such as their interaction with others).

Concerning the measurement of oral health-related quality of life, Locker (1998) argued that quality of life indicators related to oral health could be defined as the measurements of the degree to which dental problems and oral disorders interfere

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with an individual's normal functioning [3]. With the growing recognition of the importance of quality of life measurements in oral health care as a means of describing and monitoring the oral health of populations, a number of indicators have been developed for use in dentistry [6]. The development of these measures was influenced by contributions to the understanding of the concept of oral health-related quality of life made by Locker [7] and Gift [8]. Some researchers became involved in comparing oral health status and generic health-related quality of life [9], whereas others explored the psychosocial dimensions of oral health [10]. In 1994, Slade and Spencer developed the Oral Health Impact Profile (OHIP) [10]. This instrument has been used to explore the relationship between quality of life and oral health status in different populations and in different countries including Hungary, Canada, the United Kingdom, Australia, China, and Spain [11,12,13,14]. In Romania, the short form of the OHIP, the OHIP-14 [15], was translated into Romanian by Murariu, Hanganu and Danila in 2007 using a formal forward–backward translation technique [16]. This Romanian version of the OHIP-14 was validated with an adult population in Iasi [16].

The development of quality of life indicators began in 1986 with the work by Cohen and Jago [17]. In 1994, Slade and Spencer (1994) developed and validated the Oral Health Impact Profile [18], which was based on the theoretical model proposed by Locker (1988) [19]. It consisted of 49 questions grouped into seven dimensions referring to "functional limitation", "physical pain", "psychological discomfort"," physical disability", "psychological disability", "social disability", and "handicap". The fact that this original scale had 49 questions made it impractical for use in a clinical context because it took the respondents a long time to complete it. Slade (1997) therefore developed a shorter version with only 14 questions, the OHIP-14 [15]. In this shorter version, two items each are used to measure the patients' responses to the seven dimensions listed above.

Aim

Against this background, the aim of this study was to assess the impact of oral health on the quality of life of 45-64-year-old adults in Iasi, Romania. Oral health-related quality of life was measured with the Romanian version of the OHIP-14.

Methods

Approval for this study was obtained from the ethics commission of the Community Dentistry Clinic in Iasi, Romania.

Data were collected from 170 patients between 45 and 64 years of age who came to a community dental clinic for treatment in 2008. *Table 1* provides an overview of the respondent characteristics. This table shows that the patients were more likely to be female (64%) and came mostly from an urban area (83%). Two calibrated dentists collected the oral health information according to the WHO (1997) criteria [20]. Oral health-related quality of life was assessed with the Romanian version of the OHIP-14 [16]. The OHIP-14 questionnaire consists of 14 questions that are designed to measure the impact of oral conditions on the respondents' quality of social, psychological, and physical life. Answers are given on a five-point answer scale, with 0=never, 1=hardly ever, 2=occasionally, 3=fairly often, and 4=very often. A negative impact of oral health on a person's life is indicated by the answers "fairly often" and "very often", whereas a positive impact is indicated by the answers "never", "hardly ever", and "occasionally".

Statistical analysis was performed using statistical software (SPSS Version 13, SPSS Inc, Chicago, USA). A statistical significance level of $P<0.05$ was used. Spearman correlation coefficients were computed to assess the relationship between the OHIP-14 indicators and the four oral health indicators "partial denture used", "prosthetic treatment needed"," denture needed", and "emergency treatment needed".

Results

Table 1 provides an overview of the background characteristics of the respondents and the frequencies/percentages of patients with certain oral health indicators. This table shows that 39% of the patients used partial dentures, 34% needed dentures, and 15% needed prosthodontic treatment. A total of 33% of the patients needed emergency treatment.

Table 2 provides a frequency distribution of the respondents' positive (1=never, 2=hardly ever, 3=occasionally) versus negative answers (4=fairly often, 5=very often) to the Romanian version of the OHIP-14 [16]. These data show that the most commonly reported impact was the interruption of meals because of dental issues (56%; item 8), followed by problems with discomfort during meals (41%; item 4). A total of 31% of the patients reported that their oral health status led them to have a

poor diet (item 7). Other negative effects of oral health were psychological and social impacts such as being embarrassed (24%; item 10) and feeling self-conscious (24%; item 5), feeling irritable (23%; item 11) and having a difficult time relaxing (23%; item 9). About one fifth of the patients reported aching in the mouth (21%; item 3), an inability to function (21%; item 14), and that their life was less satisfying because of their oral health (21%; item 13). Concerning the distribution of the answers to the items of the seven dimensions covered by the OHIP-14, *Table 2* shows that the highest percentages of responses were given to the two items of the dimension "physical disability", followed by the responses to the items assessing the dimensions "physical pain", "psychological disability", and "handicap". The least affected dimension was "functional limitations".

Table 1. *Overview of respondents' characteristics*

	Frequency (%)
Gender	
- Female	109 (64)
- Male	61 (36)
Residence area	
- Urban	141 (83)
- Rural	29 (17)
Denture status	
- No dentures	21 (12)
- Partial dentures used	67 (39)
- Dentures needed	57 (34)
- Prosthodontic treatment needed	25 (15)
Emergency treatment needed	56 (33)

Table 2. *Frequencies and percentages of responses to the OHIP-14 items*

OHIP dimensions	**Questions:* How often in the last days have you had:**	**Positive impact (never, hardly ever, occasionally) n (%)**	**Negative impact (fairly often, very often) n (%)**
Functional limitation	OHIP 1: Trouble pronouncing words	165 (98)	5 (2)
	OHIP 2: Worsened taste	162 (95)	8 (5)
Physical pain	OHIP 3: Aching in mouth	134 (79)	36 (21)
	OHIP 4: Discomfort eating food	99 (59)	71 (41)
Psychological discomfort	OHIP 5: Feeling self-conscious	130 (76)	40 (24)
	OHIP 6: Feeling tense	150 (89)	20 (11)
Physical disability	OHIP 7: Poor diet	116 (69)	54 (31)
	OHIP 8: Interrupted meals	75 (44)	95 (56)
Psychological disability	OHIP 9: Difficulty relaxing	131 (77)	39 (23)
	OHIP 10: Embarrassment	129 (76)	41 (24)
Social disability	OHIP 11: Irritability	131 (77)	29 (23)
	OHIP 12: Difficulty in doing usual jobs	150 (89)	20 (11)
Handicap	OHIP 13: Life less satisfying	133 (79)	37 (21)
	OHIP 14: Inability to function	135 (79)	35 (21)

** The answers are given on a five-point scale ranging from "never" to "very often".*

Table 3. *Correlations between oral health status and OHIP-14 responses*

OHIP-14 dimensions	**Oral health indicators**			
	Partial denture used	**Prosthodontic tx needed**	**Dentures needed**	**Emergency tx needed**
Physical disability	**0.42** ***P*=0.004**	0.10 *P*=0.254	**0.29** ***P*=0.039**	-0.01 *P*=0.880
Physical pain	**0.32** ***P*=0.01**	0.08 *P*=0.413	-0.09 *P*=0.325	-0.04 *P*=0.645
Psychological disability	**-0.31** ***P*=0.023**	-0.03 *P*=0.762	-0.10 *P*=0.298	-0.06 *P*=0.762
Social disability	0.08 *P*=0.361	0.08 *P*=0.381	0.06 *P*=0.649	**0.44** ***P*=0.007**

In order to assess the relationship between certain oral health indicators and the responses to the OHIP-14 items, Spearman correlation coefficients were computed between four oral health indicators ("partial denture used", "prosthodontic treatment needed", "dentures needed", and "emergency treatment needed") and the indices of the seven OHIP-14 dimensions. *Table 3* shows that the oral health indicator "partial dentures used" correlated significantly with the responses to the two items of the "physical disability" dimension (r=0.42; *P*=.004), the two items assessing "physical pain" as a consequence of poor oral health (r=0.32; *P*=.01), and the two items of the "psychological disability" dimension (r=-.31; *P*=.023), indicating that respondents with partial dentures were likely to experience more physical disability, more physical pain, but less psychological disability than patients without partial dentures. The more that patients needed dentures, the more they reported having physical disabilities (r=0.29; *P*=.039), and the more that they needed emergency treatment, the more social disability they reported (r= 0.44; *P*=0.007).

Discussion

In 2002, Inglehart & Bagramian published a monograph on oral health-related quality of life [4]. The chapters of this book showed convincingly that oral health-related quality of life plays an important role in the lives of children and older adults, patients with special needs or with chronic pain as well as among medically compromised patients. They stressed the fact that the oral health-related quality of life concept can be used by dental educators to challenge future dental providers to become truly patient-centred, by clinicians and clinical researchers to evaluate the ultimate effectiveness of treatments, and by basic researchers to guide their research agendas. Since the publication of this monograph, numerous research studies, such as that by John *et al.* (2006) [21], have supported the argument that oral health-related quality of life indicators can play an important role in gaining a more comprehensive picture of a patient. Among the clinical indicators that have been found to have a negative impact on patients' oral health-related quality of life were partial edentation without treatment, the use of dentures, the presence of untreated decay and periodontal disease [22]. Based on these extensive findings, it seemed worthwhile exploring the oral health-related quality of life of adult dental patients in Romania.

Before discussing the findings in more detail, it is important to stress that the data were collected from a relatively small convenience sample of regularly scheduled patients at a community dental clinic in Romania. The results should therefore be interpreted with this information in mind. However, it seems worthwhile to discuss the effects of certain oral health factors on these patients' quality of life. First of all, it seems important to understand that substantial percentages of adult dental patients reported significant negative impacts of their oral health status on their quality of life. For example, it is quite striking that over half of the respondents reported that their oral health status affected their lives by interrupting their meals and that more than four out of ten respondents indicated that their oral health caused discomfort when eating. Overall, these descriptive results should challenge clinicians to consider the tremendous impact poor oral health has on their patients' lives. These results could also be used to demonstrate the importance of providing access to oral health care for all citizens.

A more specific analysis of these data showed the importance of preventing oral disease and the need for prosthodontic treatment. The results showed that wearing partial dentures had a negative impact on patients' quality of life by increasing physical disabilities and physical pain. However, this type of prosthodontic treatment had a positive impact on the patients' quality of life related to the dimension "psychological disability". The findings concerning the negative impact of partial dentures were also supported by a study conducted in Great Britain with 375 patients over 40 years of age [23]. In this study, 48% of the edentate patients reported physical pain, compared to only 27% of the dentate subjects, and 33% of the edentate subjects reported physical discomfort compared to 25% of the dentate subjects [see also 24, 25].

Finally, one interesting finding is the fact that needing emergency dental treatment is significantly correlated with the responses on the "social disability" dimension. In other words, respondents who had required an emergency dental treatment during the last year reported that this fact was correlated with a negative impact on their social relations. Locker and Slade (1993) reported similar findings from a study carried out in Canada with a group of patients over 50 years of age [26]. These authors found that 24% of their respondents had an impaired social life because of their dental problems, and 13% even avoided smiling [26].

Conclusions

1. Significant percentages of 45-64-year-old patients assessed in this study reported clear impacts of their oral health status on their quality of life. The most frequently reported oral health impacts were those related to physical pain and physical disability, and the least frequently reported oral health impacts were related to functional limitations.

2. More specifically, prosthodontic treatment and prosthodontic treatment need had a negative relationship with the patients' physical (dis)abilities.

3. The need for emergency dental treatment was significantly correlated with the impact on the patients' social quality of life.

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