

Program to health knowledge about oral

health in adults aged 19 to 64

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Abstract

Aim: The study aimed to establish a health education program for adults aged 19 to 64 after assessing their attitudes and knowledge about dental care and oral health. **Materials and methods:** The study involved 59 women and 41 men. They were asked to complete a detailed questionnaire composed of a set of preselected topics on oral hygiene; diet and eating habits; knowledge of oral health and oral diseases; attitudes towards dental care; awareness of dental treatment and regular visits to a dental professional; factors influencing their decision about dental treatment. **Results:** The results showed unsatisfactory health literacy of the participants, which made it necessary to determine the topics that will be included in the educational program. **Conclusion:** The creation of such a program tailored to the reported knowledge gaps of the participants will improve their health knowledge. It will encourage informed decision-making, which will affect their oral health.

Keywords: Oral health literacy, adult, educational program, oral health promotion.

Introduction

Health education on oral health problems can lead to a change in the individual's behavior, and its realization is the responsibility of dental specialists. In traditional health education methods, most clinicians increase their patients' knowledge, regardless of their intrinsic motivation. It is pointed out that more than education and vocational recommendations is needed to change behavior [1]. Therefore, more than knowledge and education is necessary to improve oral health.

Oral diseases are related to the lifestyle and personal behavior of the individual. The principles of health promotion are based on the notion that health is associated with changing the behavior of individuals, which will lead to its improvement [2, 3]. If individuals behave appropriately for their oral health, the risk of oral disease will decrease significantly [1, 3].

Oral health care has been shown to positively affect individuals' health knowledge, the planned change in their behavior, and the spread of dental caries [4, 5, 6].

Health education is informing, motivating, and assisting individuals in adopting and maintaining healthy practices and lifestyles after conducting vocational training by dentists and other health professionals [7, 8]. It combines various training methods to facilitate the individual's behavior and benefit his oral health [5]. Health education programs cover curative, preventive, or promotional health activities. The multifactorial nature of oral diseases emphasizes the educational process for achieving desired health outcomes by individuals [6].

Oral health knowledge and awareness is an essential component that generates preventive activities leading to the establishment of stable health status for individuals [9]. At the same time, the lack of such information will affect their knowledge and healthy behavior [10].

Aim

The study aimed to establish a dental health education program for adults aged 19 to 64 after assessing their attitudes and knowledge about dental care and oral health.

Materials and Methods

The study involved 59 women and 41 men after signing informed consent. They completed a detailed questionnaire composed of preselected topics and questions consistent with the oral health literature [7, 9], the researchers' knowledge, and experience of the issues studied. Questions were asked on the following topics:

1. Oral-hygienic habits (frequency, duration, time of its conduct, and used additional means for its maintenance);
2. Diet and eating habits;
3. Assessment of knowledge about oral health and oral diseases;
4. Attitude towards dental care;
5. Awareness of dental treatment and regular visits to a dental specialist.

A motivational interview with a demonstration of concern for their oral health was conducted with the participants. Each participant is predisposed to talk about their oral health and what goals they have for its improvement, asking the following questions: "Tell me about yourself. What would you like to do for your oral health? "What's bothering you about the condition of your teeth? Do you have any obstacles in receiving dental care? How can we help you?"

The statistical processing of the data is done with the software product SPSS for Windows: with IBM SPSS Statistics 20 (IBM–USA).

Results

All participants correctly answered all the questions posed.

Table 1. Oral-hygienic habits of adults from 19 to 64 years

Questions	Count	Relative share (%)
Means used for oral hygiene		
Toothbrush and toothpaste with/without fluorine	100	100 %
Mouthwash	42	42 %
Dental floss	37	37 %
Interdental brushes	0	0 %
None of the above	0	0 %
Brushing teeth - frequency		
Once a day	57	67 %
Twice a day	32	32 %
More than twice a day	11	11 %
Rarely during the week	0	0%
Time of conduct the oral hygiene		
The morning after getting up from sleep	77	77 %
Morning after breakfast	23	23 %
Evening after dinner	43	43 %
Night before sleep	57	57 %
None of the above	0	0%

Table 1 shows the participants' oral hygiene habits, the means used, and the frequency of brushing their teeth. All respondents said they brushed their teeth, with more than half brushing their teeth once a day and the rest brushing their teeth twice or more during the day. Most brush their teeth after getting up - 77% and only 23% of them brush their teeth after breakfast, in the evening after dinner - 43% and 57% before bedtime. When comparing the results, a statistically significant difference ($\chi^2=9.1$ $p<0.01$) and ($\chi^2=7.4$ $p<0.01$) is found. Participants use a toothbrush and toothpaste, but some cannot specify whether the toothpaste used contains fluorine. Only 37% of the participants used dental floss, 42% reported using mouthwash, and none indicated using additional oral hygiene products.

Table 2. Eating habits of adults from 19 to 64 years

Questions	Count	Relative share (%)
Milk intake and products		
Seldom	55	55 %
Often	23	23 %
Always	22	22 %
Fruit and vegetable intake		
Once a day	85	85 %
Twice a day	8	8 %

More than twice a day	2	9 %
Rarely during the week	5	5 %
Intake of sugar and Confectionery		
Once a day	41	41 %
Twice a day	34	34 %
More than twice a day	19	19 %
Rarely during the week	6	6 %
Intake of sweetened and carbonated drinks		
Once a day	60	60 %
Twice a day	17	17 %
More than twice a day	10	10 %
Rarely during the week	13	13 %

Table 2 shows the eating habits of the participants. The results show unhealthy eating habits in most of them, with low consumption of milk and dairy products, fruits and vegetables, but with frequent intake of confectionery and confectionery, as well as carbonated and soft drinks, which requires a serious change in their diet with the active help of our team after their training and motivation. Statistical confidence ($\chi^2=p<0.05$) is established when comparing the results.

Table 3. Health knowledge about oral health

Questions	Count	Relative share (%)
Does frequent consumption of sugary foods and drinks affect the health of your teeth?		
Yes	46	46 %
No	21	21 %
I don't know	33	33 %
Does fluoride prevent the development of dental caries?		
Yes	29	29 %
No	5	5 %
I don't know	66	66 %
Do you know what the structure of your teeth is?		
Yes	17	17 %
No	83	83 %
Does oral health affect overall health?		
Yes	18	18 %
No	11	11 %
I don't know	71	71 %

Table 3 presents the results of participants' oral health knowledge and awareness. A large majority (46%) were aware that frequent intake of sugary foods and beverages could cause dental caries. At the same time, the other participants lacked knowledge of the consequences of the frequency of eating sweet foods and the harm of taking sweetened drinks ($\chi^2=10.21$ $p<0.01$).

The role of fluorides in preventing dental caries was supported by only 29% of respondents compared to the other participants' responses ($\chi^2= p<0.05$).

The overwhelming majority of parents are unaware (71%) or do not support the claim (11%) that oral health can affect overall health. The results of this question are statistically reliable ($\chi^2=p<0.05$).

Most participants were unaware of tooth structure, and only 17% responded positively that they had the necessary knowledge ($\chi^2=24.2$ $p<0.05$).

Table 4. Attitude toward professional dental care

Questions	Count	Relative share (%)
How often do you visit the dentist?		
Regularly	21	21 %
When I have pain or problems with my teeth	52	52 %
Sometimes or never	27	27%
Do you know if frequent visits to the dentist are essential?		
Yes	27	27 %
No	41	41 %
I don't know	32	32 %
Reason for your last visit to the dentist:		
Dental Caries	64	64 %
Pain	13	13 %
Prophylactic manipulations	3	3 %
Regular preventive dental examination	17	17 %
Summary to Avoid visiting your dentist:		
The Fear of the Dentist	29	29 %
High treatment costs	38	38 %
Shortage of time	22	22 %
No specific reason	11	11 %

Table 4 presents the participants' attitudes toward professional dental care. Few of them – only 3% reported that they had visited the dentist exclusively for prophylactic manipulations. Of the respondents, 27 % stressed the importance of regular visits to the dentist, while 41 % disagreed with this fact or could not answer ($\chi^2=9.2$ $p<0.01$).

The main reason for the last visit to the dentist was pain (13%). Other factors were dental caries (64%), regular dental examination (17%), and prophylactic manipulations (3%), supported by a reliable difference of results ($\chi^2=7.8$ $p<0.01$).

The results showed that the most common reason for the reluctance to visit the dentist regularly was the participants' fear of dental treatment (29%), which was statistically credible ($\chi^2=11.23$ $p<0.01$) when compared with the other reasons given, such as high treatment costs (38%), shortage of time (22%) associated with dental treatment. Only 7% of participants indicated that there was no specific reason.

Creating an educational program tailored to participants' reported knowledge gaps will improve their health knowledge, which will help achieve long-term outcomes for influencing their oral health. In addition, the program will influence the change in their health knowledge and behavior for making informed decisions, affecting their oral health. Based on the results obtained, the topics that will be included in the educational program were specified:

Dental caries – its essence is explained, and the factors that can lead to its development are described.

Risk assessment for the development of dental caries and periodontal diseases –. It is explained that dental caries is a process that can be stationed at any time, reducing the risk and increasing the protective factors of the oral environment. It explains the risk and protective factors of the oral environment and the possibility of a risk factor becoming protected.

Oral hygiene, methods, and means of its conduct – Explain the types of brushes and pastes, the rules of oral hygiene - frequency of brushing, and duration—sutures, types, and method of use.

Fluoride prophylaxis – explains what fluorine is, the sources of fluorine, and the different types of fluorine prophylaxis.

Role of nutrition and eating habits – explains the impact of unhealthy eating habits and frequent carbohydrate intake on developing dental caries. The foods and beverages that support dental health and those that cause tooth decay are discussed, focusing on sugar-containing foods and drinks.

Periodontal diseases – causes of their development, as well as strategies for their prevention.

For motivation, the participants, for 15-20 minutes, are presented with educational MS Office PowerPoint presentations on various topics, supplemented with brochures and short films showing good health practices in oral health. Practical advice and quality information will be given in writing to highlight the importance of care for good oral health.

Discussion

In recent decades, different models for change in oral health-related behavior have been presented. One of these models is the advisory technique called "motivational interview" (MI) [6, 7]. MI is a patient-centered consultation that helps them change their behavior with maximum intrinsic motivation and minimal resistance. This method was first introduced for patients with various addictions (alcohol, tobacco, drugs) and has since been used for lifestyle changes, diet, and dentistry to change healthy behaviors related to oral health [6, 7]. The MI method of health education is based on a pre-planned interview protocol to examine factors that may promote health behavior and factors that could act as resistance to change [6]. A timetable is then set for the individual's training and motivation according to the factors found and the necessary guidelines to achieve educational health goals. The individual's cultural and social features may influence teaching methods, and more research is needed on this topical issue [3, 5].

The questions asked to the participants in our study are explicitly focused on the risk and protective factors that can affect their oral health. Assessing health knowledge, attitudes, and awareness about oral health is essential to dental professionals' efforts to encourage individuals to preserve and improve their dental health. It has been found that the more positive the attitude toward the advice of dental professionals, the

individual's health status will be better [5]. This requires the creation of educational programs on oral health to improve the health knowledge of the population.

The participants' responses to their eating habits and the role of frequent intake of sweet foods and beverages in developing dental caries were alarming. Most of them often consume sweet foods and drinks. This clearly shows their low level of awareness and lack of adequate dental education. Similar results have been reported by several authors [5, 6,10]. Therefore, dietary advice should be given when talking to each participant.

Our team found that parents are deprived of knowledge about the role of fluoride in preventing dental caries and the appropriate use of fluoride toothpaste. Therefore, participants should be trained on the importance of fluoride and the optimal fluoride exposure needed for their dental health. In addition, the importance of the protective action of fluorides for the development of dental caries should be emphasized [11].

The need for regular preventive dental examinations and treatment is not considered necessary by most participants in our study. These findings support the results reported by other authors who write the poor use of preventive dental services, as their importance is not realized [7, 8, 11].

In our study, the fear of dental treatment due to negative personal experience of dental treatment is a severe factor in some participants, which harms regular visits to a dental specialist and prevents them from receiving the necessary dental treatment. Other authors have reported similar study results [5, 10].

Dentists can play an essential role in helping each patient overcome fear through an empathic approach, changing their negative behavior due to previous experience through motivation and training, and applying the latest dental techniques that minimize discomfort and pain [4, 6, 8].

Educational health programs aimed at changing attitudes or beliefs that create potential barriers to access to dental treatment should provide oral health information to every member of society [4, 8, 10, 11].

The results of our study reveal that a multidisciplinary approach is needed to improve participants' oral health. Early identification of high-risk individuals is mandatory to be able to apply appropriate preventive strategies and improve their health literacy [9]. Motivational interviews and oral health promotion are promising and should be investigated [7]. Preventive strategies should be included in programs for parents of children who are in preschool and school environments. Health training should be provided on the rules of oral hygiene, dietary advice on rational nutrition, and the importance of regular visits to the dentist [8, 12]. Dental professionals should support public oral health promotion campaigns to give advice and information on oral health and the prevention/treatment of oral diseases to any member of society with a low level of health literacy.

Accurate assessment of oral health knowledge can help plan and implement educational and cognitive-behavioral interventions for the population [4].

Conclusion

Different health professionals need intensive and coordinated action to build a high level of health knowledge. Therefore, establishing health training programs is a mandatory element in conducting preventive care to improve oral health, such as adequate oral hygiene, healthy diets and building healthy eating habits, and encouraging regular visits to the dentist.

Barriers to attending a dental office, such as fear, negatively affect the decision to treat the dental treatment. However, they can be minimized by motivating each participant in the study, emphasizing the importance of oral health for general health, and providing appropriate health information about oral diseases, their prevention, and treatment.

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