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Effect of Education on Promoting Oral Cancers Knowledge of High School Students in Zahedan

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Abstract

Background: Cancers depend on the patients' lifestyles, including the use of tobacco and alcohol. Based on the available evidence, the majority of smokers form the habit when they are young adults. In fact, lifestyles are formed during the adolescence, but they can be modified by increasing the awareness of target groups.
Objectives: The present study was undertaken to evaluate the effect of educational pamphlets on promoting the awareness of high school students in relation to oral cancers.
Methods: In the present cross sectional study, 400 male and 400 female high school students were evaluated. The students were asked to fill out a standard questionnaire on oral cancer awareness. Subsequently, the educational pamphlets were distributed among the students. Three months after the distribution of the pamphlets, the same questionnaire was filled out by the same subjects.
Results: There were no significant differences in knowledge scores between male and female students before the distribution of pamphlets, with scores of 5.6 ± 4.3 and 5.6 ± 1.7 in females and males, respectively ($P = 0.96$). Three months after the distribution of pamphlets, the knowledge scores of males and females had increased, with statistically significant differences.
Conclusions: In the present study, despite the fact that the educational pamphlet was useful, it had low efficacy, which might be attributed to the more interesting nature of other more active educational methods, such as lectures or workshops for this age group.

Keywords: Oral Cancer, Knowledge, Student

1. Background

Oral cancers are the 5th most prevalent cancers worldwide, and despite recent advances in the diagnosis and treatment of cancers, good visibility of the oral mucosa, and the ease of early diagnosis, still only 50% of oral cancers are diagnosed in early stages (1).

At least, two-thirds of the oral cancers depend on the patients' lifestyles, including the use of tobacco and alcohol. Based on the available evidence, the majority of smokers form the habit when they are young adults. In fact, lifestyles are formed during the adolescence, but they can be modified by increasing the awareness of target groups (1).

A study by Pakfetrat A showed that the awareness of Iranian patients about oral cancers and the predisposing factors is poor (2). Since it has been reported that 30% of high school students in Zahedan use different forms of tobacco, it seems one of the most important reasons for oral cancer is lack of knowledge in the general population about the risk factors (3).

Al Dubai showed that 92% of Malaysian students have adequate knowledge on oral cancers and their manifestations. However, even among medical students in Zahedan, only 37% had proper knowledge on oral cancers (3, 4). In a study in Pakistan, Khawaja et al. showed that 79% of the community members were unaware of the fact that non-smoking tobacco is carcinogenic. Given the cultural similarities between Pakistan and the Balouchestan province in Iran, it is possible that the people in this area have poor knowledge about cancers; however, no studies have been carried out on the subject to date (5). An increase in the awareness about oral cancers and the detrimental effects of tobacco might modify the lifestyles of students, affecting their decision to continue or to give up tobacco use. Therefore, the present study was undertaken to evaluate the effect of educational pamphlets on promoting the awareness of high school students in relation to oral can-

cers.

2. Methods

The present cross sectional study was approved by the ethics committee of Zahedan University of Medical Sciences .In this study, 400 male and 400 female high school students were evaluated. The cluster method was used to select 4 non-profit schools (2 for males and 2 for females) and 4 state schools (2 for males and 2 for females) in each district of Zahedan. A total of 100 students were selected in each school to be included in the study in different high school grades. The students were asked to fill out a standard questionnaire on oral cancer awareness (2). They were given adequate time to fill out the questionnaires, which consisted of 15 questions on the knowledge of participants on epidemiology, etiology, symptoms, and signs of oral cancers. The questionnaire questions on the oral cancer risk factors and the conceptions of oral cancer patients (Questions 4 and 5 and 16) were open-ended. Each correct answer received 3 points, a wrong answer received no points, and "no idea" received 0.5 point. The total score range of these 2 questions was 0 to 9.

Questions 1, 2, 8, 13, and 14 were on epidemiology and prognosis, and questions 3, 6, 7, and 12 were on clinical symptoms and signs, with answers "yes", "no", and "I don't know". Questions 9 to 11 were on attitudes, with "yes" and "no" answers. The maximum score of these 12 questions was 12 and the overall score range of 15 questions on the questionnaire was 0 to 21. On this questionnaire, a score > 75% was deemed high knowledge level, a score of 50% to 75% was deemed moderate knowledge level, and a score < 50% was considered poor knowledge. Subsequently, the educational pamphlets were distributed among the students. The pamphlets were prepared by an oral diseases specialist and contained information about the oral cancer risk factors, the most common locations of the involvement of oral mucosa, symptoms and signs, and methods to prevent oral cancers. In addition, some photographs of oral cancers, pre-cancerous lesions, and the most commonly used non-smoking tobacco were included in the pamphlet. An appropriate font was selected for the ease of reading. The pamphlet was printed in color on A4 paper. Three months after the distribution of the pamphlets, the same questionnaire was filled out by the same subjects. At the end of the study, the correct answers were given to the students.

2.1. Statistics Analysis

Data were analyzed with SPSS 18. To compare students' knowledge before and after distributing pamphlets, we used depended t test. In order to compare males and females, independent t test was used, and $P \leq 0.05$ was considered significant.

3. Results

Of 400 male students included in the present study, 35% had a history of using the different forms of tobacco and 12.5% (50 students) had used tobacco during the previous month. Of all the female students, 15% (61 students) had a history of using the different forms of tobacco and 4.5% (18 students) had used tobacco during the previous month. There were no significant differences in knowledge scores between male and female students before the distribution of pamphlets, with scores of 5.6 ± 4.3 and 5.6 ± 1.7 in females and males, respectively ($P = 0.96$). Before the distribution of the pamphlets, there were no significant differences in the overall knowledge scores of male and female students between different age groups as well as between the same age groups (Table 1).

Three months after the distribution of pamphlets, the knowledge scores of males and females had increased, with statistically significant differences (Table 2).

As shown in Table 2, the knowledge scores of male students increased more significantly than those of female students.

There were no significant differences in knowledge sores between different age in females groups and in males groups (Table 3), but there were significant differences in knowledge sores between different age groups in male and female, except between 15-year age groups.

The comparison of male and female students in the same age groups after the distribution of pamphlets revealed statistically significant differences, except for the 15-year age groups, which revealed no significant differences between male and female students.

The results of the present study showed that the overall knowledge of high school students on oral cancers was poor (score < 50%).

4. Discussion

One of the strategies to increase the oral cancer awareness with long-term effects is the use of educational pamphlets. It is also possible to hand in the pamphlet to someone else after reading it without damaging it. A properly designed pamphlet can have a strong effect on the audience and is a proper adjunctive educational tool. The results of the present study showed that the overall knowledge of high school students on oral cancers was poor. Although education through pamphlets increased

Table 1. The Mean Knowledge Scores of Male and Female Students in Different Age Groups Before the Distribution of the Pamphlets

Age Group, Y	Awareness Score (Females)	Awareness Score (Males)	P Value (T Test)
15	5.6 ± 5.7	5.6 ± 1.6	0.9
16	5.4 ± 1.6	5.6 ± 1.6	0.8
17	5.6 ± 5	5.8 ± 1.7	0.4
18	6.6 ± 4.2	5.5 ± 1.8	0.6
P value (ANOVA)	0.3	0.72	

Table 2. The Mean Knowledge Scores of Male and Female Students Before and After the Distribution of the Pamphlets

Variables	Awareness Score (Females)	Awareness Score (Males)	P Value (T Test)
Before the distribution of pamphlets	5.6 ± 4.3	5.6 ± 1.7	0.96
After the distribution of pamphlets	5.7 ± 2.8	7.3 ± 1.4	0.01
P value (t test)	0.02	0.001	

Table 3. The Mean Knowledge Scores of Male and Female Students in Different Age Groups After the Distribution of Pamphlets

Age Group, Y	Awareness Score (Females)	Awareness Score (Males)	P Value (T Test)
15	5.9 ± 1.7	6.17 ± 1.9	0.3
16	5.6 ± 1.4	7 ± 5.8	0.008
17	5.8 ± 4.3	7.8 ± 1.9	0.01
18	6.1 ± 3.2	6.9 ± 1.8	0.02
P value (ANOVA)	0.7	0.13	

the knowledge, the knowledge level was still poor (a mean knowledge level of < 50%). Therefore, it seems it is necessary to use other techniques that are more appealing to the students in order to promote their knowledge on oral cancers. An important consideration in the present study was the fact that the pamphlets increased the knowledge levels of males more than those in females, which might be attributed to more intense curiosity in males compared to females in relation to cigarettes and other tobacco products. Oral cancer is one of the life-threatening conditions with a survival rate of 80% if it is diagnosed in early stages. However, if it is discovered after metastasis, the survival rate decreases to less than 30%. Although lack of sufficient general knowledge is considered one of the potential obstacles to the early detection of oral cancers, only a limited number of studies have been carried out on the knowledge of the general population about oral cancers in Iran. Tadbir evaluated the general knowledge levels on oral cancers in Shiraz and reported a poor knowledge in this respect (6). Pakfetrat evaluated the knowledge levels in relation to oral cancers in Mashhad and reported that 89.4% of the population had a poor knowledge on oral cancers (2). Motallebnejad reported that the general population in Babol had a very poor knowledge about oral cancers, with a knowledge score of 1.47 out of 10. Education was provided for the subjects on oral cancers, which resulted in an increase in knowledge scores of the subjects to 5 out of 10 after a month (7). The results of the present study showed a high rate of the use of cigarette and tobacco products in high school students (35%). It seems that this period of life is very important in relation to forming habits and lifestyles of the students. Therefore, promoting the awareness of this age group might have a great role in decreasing the high-risk behaviors. Unfortunately, a very limited number of studies have evaluated the role of education in relation to oral cancers in this age group. Matiss provided female high school students with the educational programs to give up smoking in a dental educational center and reported that the awareness of the education group increased compared to the control group (8). In another study conducted in a technical institute on 15- to 25-year-old students, Multani showed that 47.8% of subjects used the different forms of tobacco and only 71.7% of them were aware of the detrimental effects of smoking (9). Orlando

evaluated the awareness of high school students and reported that only 6% of the subjects were aware of the relationship between smoking and oral cancers. Overall, the knowledge of students on cancer prevention methods was poor (10).

In addition, several studies have evaluated the role of education in increasing the knowledge of patients about oral cancers.

Loperz-Jornet et al. (2013) evaluated the effects of 3 different educational methods with the use of films, pamphlets, and interviews on patients over 40 years and reported that the subjects' awareness about oral cancers increased 4 weeks after intervention, with no significant differences between the 3 methods (11).

Boundouki et al. (2004) evaluated the effect of educational pamphlets on the awareness of patients about oral cancers and reported that the patients' awareness was higher immediately after studying the educational pamphlets and 8 weeks after it was compared to those not receiving such pamphlets (12).

Humphries et al. (2001) evaluated the effects of educational pamphlets on oral cancers and reported that immediately after reading the pamphlets (immediate knowledge), there was an increase of 5 points in the scores of these subjects compared to those not receiving such pamphlets. Contrary to the present study, in that study, gender had no effect on awareness. The researchers in the above study did not evaluate the long-term effects of educational pamphlets (13).

In conclusion, despite the fact that the educational pamphlet was useful, it had low efficacy, which might be attributed to the more interesting nature of other more active educational methods, such as lectures or workshops for this age group. On the other hand, it seems that repetition of the required educational programs is necessary to more effectively keep them in mind. Considering the importance of oral cancers and the high rate of using different tobacco products and easy access to them, it is suggested that educational programs on the prevention of oral cancers and the relevant factors be included in high school educational curricula and more supervision be implemented on the sale of these products to individuals under 18 years.

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Footnotes

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