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Intervención educativa para la prevención del cáncer bucal en adultos mayores

Educational intervention for the prevention of oral cancer in older adults

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Palabras claves:
Adulto mayor, prevención, cáncer bucal, intervención.

Resumen

Introducción*:* El cáncer constituye un problema de salud para el hombre que se incrementa proporcionalmente al envejecimiento poblacional. **Objetivo***:* Diseñar y aplicar un programa de intervención educativa sobre prevención del cáncer bucal en adultos mayores institucionalizados. **Método***:* Investigación de desarrollo cuasi- experimental, de intervención, antes y después sin grupo control a 32 adultos mayores de la Casa de abuelos de Güines que cumplieron los criterios de inclusión, de noviembre del 2022 a noviembre del 2023. Se aplicó una encuesta de conocimientos sobre prevención del cáncer bucal antes y después de la intervención educativa. **Resultados***:* Inicialmente el 78,1 % poseían un nivel de conocimiento inadecuado. Post-intervención se elevó al 93,8 % adecuado. **Conclusiones***:* Se elevó significativamente el conocimiento sobre prevención del cáncer bucal en los adultos mayores después de aplicada la intervención educativa con el uso de las técnicas afectivo-participativas y medios de enseñanza.

Keywords:
Older adults, prevention, oral cancer, intervention.

Abstract

Introduction: Cancer is a health problem for men that increases proportionally to the aging population. Objective: To evaluate the level of knowledge about oral cancer prevention in institutionalized older adults. Method: Quasi-experimental development research, intervention, before and after without a control group to the 32 older adults from the Güines Grandparents' House who met the inclusion criteria, from November 2022 to November 2023. A Knowledge survey on oral cancer prevention before and after the educational intervention. Results: Initially 78.1% had an inadequate level of knowledge. Post-intervention it rose to 93.8%. Conclusions: Knowledge about oral cancer prevention in older adults increased significantly after applying the educational intervention with the use of affective-participatory techniques and teaching aids.

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Introduction

Cancer, in any of its variants and locations, is a health problem for modern man, especially because it is a chronic disease, which increases proportionally to the aging of the population. According to the World Health Organization (WHO), oral cancer is among the most frequent oral pathologies in the population (1).

Among all cancers, oral cancer is the sixth most common cause of death worldwide. It accounts for 2% of all cancers, almost 30% of head and neck tumors, and 90% are squamous cell carcinomas; the remaining 10% are salivary gland tumors, melanomas, sarcomas, basal cell carcinomas, lymphomas, odontogenic tumors, and metastatic lesions. (1) In the United States, the annual incidence of squamous cell carcinoma is approximately 40 thousand cases; in Europe and Russia it is 60 thousand, and the highest incidence is observed in India with 70% (2).

Risk factors for developing oral cancer include aging, smoking, alcoholism, anemia, diet, environmental changes, and immunosuppression states, to name a few (1).

In the United States, there are an estimated 45,780 new cases of oral and pharyngeal cancer, corresponding to 2.8% of all cancers. The average age of diagnosis is 62 years of age.

In Latin America, the situation is no different. The highest incidences are reported in Argentina, southern Brazil and Uruguay. In the Caribbean, the country with the highest incidence is Puerto Rico, with more than 15 cases per 100,000 inhabitants. The high inequality in Latin America requires improving health levels, especially in economically disadvantaged populations, through social protection policies (3).

The number of people in the world over the age of 60 increased in the 20th century from 400 million in the 1950s to 700 million in the 1970s. It is expected that by 2030, cancer mortality will increase by between seven and 17 million worldwide, due in part to population growth and population ageing (4).

Cuba has not escaped the growing trend of morbidity and mortality due to oral cancer.The Cuban population is aging in a very similar way to that of many developed countries. At the end of 2017, there were a total of 2,251,000 people aged 60 and over, which represents 20.1% of the population; therefore, it exhibits one of the most advanced aging rates in Latin America and the Caribbean. It increased to 20.2% in 2018 and is expected to rise to 30.3% by 2030, with 3,304,685 people aged 60 and over.(5)(6).

In 2013, the crude rate of lip, oral cavity and pharyngeal cancer in both sexes was 6.5 per 100,000 inhabitants, ranking fifth among the top ten locations. In 2013, 723 Cubans died from this type of cancer (7)..In 2016, the crude rate of lip, oral cavity and pharyngeal

cancer was 6.7 per 100,000 inhabitants (5).In 2021, 894 deaths occurred from this cause for a rate of 8.0 per 100,000 inhabitants in Cuba and in 2022, 967 died for a rate of 8.7 per 100,000 inhabitants. (8).

At the end of 2017, there were 76,451 older adults (19.9%) and in 2018 that number rose to 77,604 for a 20.2% aging rate, which shows the rapid aging of our population. The municipalities with the highest aging are Jaruco with 23.4%, followed by Madruga with 22.34 and Güines with 21.4%.(6).

All these data show the low level of knowledge about oral cancer prevention in older adults, which could be present in the Grandparents' Home in the Güines municipality.

This is justified by the fact that, despite the fact that it is located in regions accessible to physical examination, most patients are diagnosed in advanced stages when the chances of a cure are remote, which makes treatment difficult and worsens the patient's prognosis. This is due to the few symptoms in its initial stages and the non-specific nature of the lesions.

Currently, prevention and health promotion occupy a leading place in the world of Stomatology. The National Program for Comprehensive Stomatological Care for the Population in Cuba contains the Oral Cancer Detection Program (PDCB), which in turn integrates the Cancer Control Program. The Program for the elderly in Cuba is characterized by community work and because it provides promotion, prevention, care and rehabilitation; however, it is reported in the literature that there is an increase in oral conditions in the geriatric population. Since this is a disease with a high risk of causing disability, and eventually death, its early diagnosis and treatment constitute the key to reducing its morbidity and mortality (9)(10)(11).

It is important to assess what the population knows about oral cancer and its risk factors, in order to establish work strategies that allow us to increase their knowledge and consequently prevent such a painful disease.

The increase in patients with oral cancer that is evident in previous descriptive studies (2)(8) called on the Comprehensive General Stomatologist to control risk factors, as well as the complications associated with oral cancer and its direct mortality motivated the realization of this research to give tools to patients that contribute to raising their level of knowledge on this subject.

Based on the design and implementation of an educational intervention program on the prevention of oral cancer in institutionalized older adults, it is proposed to evaluate the level of knowledgements on the prevention of oral cancer in older adults belonging to the Grandparents' Home of the Güines municipality.

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Methodology

A quasi-experimental, interventional, before and after research and development without a control group was carried out to raise the level of knowledge on oral cancer prevention among older adults belonging to the Grandparents' Home of the Güines municipality, Mayabeque province, in the period between November 2022 and November 2023.

The population consisted of 32 of the 38 elderly people belonging to the Grandparents' Home of the municipality of Güines, Mayabeque province, who were willing to participate in the study. Six grandparents classified as invalid due to psychiatric disorders and/or senile dementia did not take part in the study.

The variables studied were: the level of knowledge about risk factors for oral cancer, protective factors, signs and symptoms, technique for performing and frequency of oral self-examination, and the level of general knowledge that older adults presented about the prevention of oral cancer.

For all variables studied, the measurement scale was taken into account as adequate and inadequate according to the responses of a survey prepared for this purpose.

The study was divided into 3 stages:

Diagnostic stage

In this first stage, a knowledge survey was applied that was validated by a group of experts composed of a Specialist in Comprehensive General Stomatology, a Geriatrician and a Psychologist to assess the level of knowledge, attitudes and learning needs in the prevention of oral cancer in the study group.

It included closed questions, the use of clear language and no technical terms, and its application was the responsibility of the authors in an initial meeting at the Grandparents' House.

The level of knowledge of older adults about oral cancer prevention was assessed in:

Adequate: When they answered 3 or more questions appropriately.

Inadequate: When they answered less than 3 questions adequately.

Intervention stage

Following the assessment of the initial level of knowledge of older adults on oral cancer prevention and based on the deficiencies identified in the diagnostic stage, an Educational Intervention was designed and implemented under the title: A safe old age.

The meetings were held at the Grandparents' House for five consecutive weeks, on a weekly basis (on Saturdays) and lasting no more than 45 minutes each. Participatory-affective techniques were used, and teaching aids included: tenths, murals, flipcharts and Microsoft Power Point electronic presentations where images associated with oral cancer were projected.

Each meeting began with an initial conference with the following topics:

1.Definition and current situation of oral cancer.

2.Risk factors and protective factors for oral cancer.

3.Clinical manifestations and warning signs of oral cancer.

4.Early detection program for oral cancer. Oral self-examination.

5. Final conclusions and recommendations.

Evaluation stage

The initial survey was administered again to all older adults who participated in the intervention strategy implemented (one month after the last work session) with the aim of observing the changes in relation to the knowledge acquired on the prevention of oral cancer. This entire process was carried out with the same requirements as the diagnostic stage to determine the knowledge acquired after the intervention stage.

For the processing and analysis of the information, a database was created with the information collected through the survey that was processed on an Intel HD CoreTMi5 PC, using Windows 7 software. The texts were processed with Microsoft Word 2007 and the tables were created with Microsoft Excel 2007 using the percentage as summary measures for both quantitative and qualitative variables.

Statistical analysis of percentages was performed using the contingency table through the X2 test (Steel and Torrie 1988). In cases where significant differences were reached (P 0.05, P 0.01 or P 0.001), the Duncan comparison test (1955) was applied and the statistical software InfoStat (V 1.0) (2001) was used to process the information.

The results were presented in tables and theoretical methods were used for discussion and induction-deduction and historical-logical methods were used for analysis and synthesis.

The study was approved by the management of the Senior Citizens' Home where the research was carried out, as well as by the Research Ethics Committee. The study was carried out after informing the elderly about the objectives and characteristics of the research.

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The modesty and confidentiality of the data was respected, no harm was caused, no aggressive methods were used, everyone was treated equally and the scientific importance of the results was explained with their informed consent.

Results

Table 1 shows that knowledge of oral cancer risk factors before the intervention was inadequate at 62.5%. After the educational intervention was applied, knowledge increased to 90.6% with highly significant differences (P<0.001).

The cognitive component only represents one link in the process of changing behavior; it is necessary for the individual to develop an adequate perception of risk, a fact that constitutes an incentive to continue developing educational work in the population.

Table 1:*Knowledge of older adults in the nursing home about risk factors for oral cancer. Güines. 2023.*

Knowledge of risk factors for oral cancer	Before		After	
	No	%	No	%
Appropriate	12	37.5 c	29	90.6 a
Inappropriate	20	62.5 b	3	9.4 d
EE and Sign		±8.8***		
Total	32	100	32	100

EE: Standard error
Sign: Statistical significance
***P<0.001
a, b Different superscripts indicate significant differences according to Duncan (1955)

As reflected in Table 2, in the diagnostic stage only 25% of the older adults had adequate knowledge, identifying at least 2 of the 3 protective factors. After the educational intervention, a qualitative leap in knowledge was achieved, where all respondents (100%) identified all the elements correctly with a difference of high statistical significance (P<0.001).

It is significant that in the initial stage a high number of older adults have not identified the protective factors assessed. Hence the importance of developing educational intervention to raise awareness about the importance of regularly visiting a dental clinic for a complete oral check-up at least once a year, the frequent consumption of antioxidant foods such as fruits and vegetables and the correct technique for performing oral self-examination as a preventive method for oral cancer.

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Table 2:*Level of knowledge of elderly people in the nursing home about protective factors for oral cancer. Güines. 2023*

Knowledge ofprotective factors for oral cancer	Before		After	
	No	%	No	%
Appropriate	8	25.0 c	32	100.0 to
Inappropriate	24	75.0 b	0	0.0 d
EE and Sign		±8.8***		
Total	32	100	32	100

EE: Standard error
Sign: Statistical significance
***P<0.001
a, b Different superscripts indicate significant differences according to Duncan (1955)

Table 3 shows that only 31.2% of the grandparents were aware of the signs and symptoms of oral cancer, while 68.8% were unaware of all or many of these. Subsequently, knowledge among the group of those unaware increased to reach 90.63% of adequate knowledge, leaving only 9.4% of the elderly surveyed with inadequate knowledge regarding this topic after the educational intervention was applied, with highly significant statistical results.

It is essential that older adults have adequate knowledge of the symptoms and signs of oral cancer that allow them to identify and request dental care early, since early diagnosis of oral cancer has shown high survival rates when lesions less than 1 cm in diameter are identified. In this way, the morbidity and mortality of this disease, which is a health problem for our population, is reduced.

Table 3:*Level of knowledge of elderly people in the nursing home about symptoms and signs of oral cancer. Güines. 2023*

Knowledge ofsymptoms and signs of oral cancer	Before		After	
	No	%	No	%
Appropriate	10	31.2 b	29	90.63 a
Inappropriate	22	68.8 a	3	9.4 b
EE and Sign		±8.8***		
Total	32	100	32	100

EE: Standard error
Sign: Statistical significance
***P<0.001

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a, b Different superscripts indicate significant differences according to Duncan (1955)

Table 4 shows how initially knowledge about the technique for performing self-examination was adequate in only 6.2% of participants, with these results changing favorably at the end of the intervention when the number of grandparents who achieved adequate knowledge about the technique of oral self-examination rose to 93.8%.

A similar behavior was obtained when analyzing the knowledge of grandparents about the frequency with which oral self-examination should be performed, where the percentage of grandparents with inadequate knowledge at the beginning of the intervention is more than half of the respondents (81.2%), and the knowledge was significantly modified to adequate up to 90.6% after applying the educational intervention program. It is noteworthy that highly significant statistical results (P<0.001) were achieved in the two knowledge variables studied, technique and frequency of oral self-examination.

The poor knowledge of older adults regarding the performance of oral self-examination may be related to the predominance of low education and advanced age of the same, in addition to the scarce use of media with educational messages on this subject and health promotion and education activities of dental personnel aimed at prevention and early diagnosis through oral self-examination of preneoplastic and malignant lesions of the oral complex.

Table 4:*Knowledge of older adults in the nursing home about oral self-examination.Güines.2023.*

Knowledge about oral self-examination.	Technique				Frequency			
	Before		After		Before		After	
	No	%	No	%	No	%	No	%
Appropriate	2	6.2 b	30	93.8 a	6	18.8 b	29	90.6 a
Inappropriate	30	93.8 a	2	6.2 b	26	81.2 a	3	9.4 b
EE and Sign		±8.8***				±8.8***		
Total	32	100	32	100	32	100	32	100

EE: Standard error

Sign: Statistical significance

***P<0.001

a, b Different superscripts indicate significant differences according to Duncan (1955)

Table 5 shows that in the initial stage of the research, the level of inadequate general knowledge (78.1%) predominates over the adequate level (21.9%) among the respondents. Once the educational intervention was applied, the knowledge of the elderly increased considerably up to 93.8% with significant statistical results (P<0.001).

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It is evident that there is a need to increase the level of information about oral cancer prevention in older adults so that perception gradually develops in these patients, an important aspect in the elimination of risk factors and prevention in general, since an adequate perception is necessary for the success of any activity, through which the image of reality is formed, corrected and verified, it is the initial link in knowledge and information processing.

Table 5:*General knowledge level of elderly people in the nursing home on oral cancer prevention. Güines. 2023*

Knowledge about oral cancer prevention	Before		After	
	No	%	No	%
Appropriate	7	21.9 b	30	93.8 a
Inappropriate	25	78.1 a	2	6.2 b
EE and Sign		±8.8***		
Total	32	100	32	100

EE: Standard error

Sign: Statistical significance
***P<0.001
a, b Different superscripts indicate significant differences according to Duncan (1955))

Discussion

The most commonly identified risk factors were smoking, alcoholism and eating hot and irritating foods. The least commonly identified were prolonged exposure to the sun, dental restorations and sharp teeth and ill-fitting dentures.

Similar results were obtainedHernández Ferro LC, et al. where the42.5% presented a regular level of knowledge about the risk factors for premalignant lesions (11).Herrera et al. (13) agree that 64.1% correctly identified the smoking habit.

Various studies have shown a poor perception of the risk of illness among the population and a lack of collaboration in this type of program. In Cuba, the individual's sense of risk perception is low, with extreme trust in the health sector, and it is not understood that the joint participation of the individual and society is essential to solving a problem.

The educational intervention strategy generated a positive impact on the population under study. Initially, 62.5% identified the risk factors for oral cancer; at the end of the intervention, 90.6% recognized it.

Only 25% of older adults had adequate knowledge about protective factors for oral cancer.

Another study by Valledor et al. (14) coincides with a low level of cancer protective factors where patients reach old age with poor oral hygiene and health information, resulting from the low level of knowledge about risk factors and protective factors.

The elements that were taken into account to analyze the knowledge about signs and symptoms of oral cancer do not coincide with the study by Herrera et al. (12) where 62.8% stated that avoiding smoking can help reduce the risk of oral cancer; 37.7% considered that avoiding excessive alcohol consumption is important; and 30% did not recognize any prevention measures.

Other studies (4)(13) agree with the results obtained, showing the qualitative leap experienced by older adults after applying the strategy in relation to protective factors or preventive actions to prevent oral cancer, in which after receiving the necessary knowledge, 100% of those surveyed reached the optimal level. In addition, they can contribute by serving as informal health promoters for all those around them.

68.8% were unaware of all or many of the symptoms and signs of oral cancer. After the educational intervention, knowledge among the group of those unaware increased to 90.63%.

Similar results were found by Martínez et al. (15) where the level of knowledge about oral cancer was low (56.5%). 43.8% identified white/red patches as signs of oral cancer and 32.9% identified it as a non-healing ulcer.

The symptoms and signs most commonly identified before the intervention were ulcers that did not heal for more than 15 days, painless lesions that bleed on their own or with minimal contact, and swollen areas in the mouth, face, and neck. The least commonly identified symptoms were difficulty moving the tongue or jaw and difficulty chewing or swallowing. Most of these were identified after the educational intervention.

A study by Hernandez et al. (11) He stated that 92.5% of respondents knew where to go in case of suspected premalignant lesion and 85% stated that they had received information on the matter.

Knowledge of the self-examination technique was adequate in only 6.2% of participants.

Hernández et al. (11) obtained similar results where 58.75% of the respondents did not master how to perform the oral self-examination and 70% did not master the frequency of performing it.

A study carried out in a Grandparents' Circle in Havana found that 53.8% reported how to perform the self-examination(16).

When analyzing the frequency of self-examinations proposed by the elderly subjects studied, it was found that only 18.8% responded appropriately, which showed a low level of knowledge on the subject. After the educational intervention, knowledge of the monthly frequency of oral self-examinations rose to 90%.

The study conducted by Garcia et al. (16) obtained a low level of knowledge on the frequency of oral self-examination with 19.2% of the older adults surveyed coinciding with the results of this research.

When comparing with other authors the importance of knowledge about the frequency of self-examination, it is reported that the practice of self-examination is closely related to the detection and successful treatment of cancer.

An assessment of the general knowledge of these patients on the subject under study was made and it was observed that in the initial stage of the research the level of inadequate general knowledge predominated (78.1%) over the adequate level (21.9%). Once the educational intervention was applied, the knowledge of the elderly increased considerably up to 93.8% with significant statistical results (P<0.001).

Similar results were found by several studies(12)(13)(15) who classified the respondents into good, average and bad, with the bad rating predominating, which demonstrated the low level of knowledge about oral cancer prevention of the respondents.

This study coincides with that of several authors (9)(11)(12)(15)(16) who, through their educational work, managed to change their knowledge favorably among the elderly, who initially had inadequate knowledge on this subject, and referred to the importance of self-examination for the early detection of oral cancer.

The EGI, as a fundamental link in the Oral Cancer Prevention Program within the Comprehensive Dental Care Program for the Population, plays a fundamental role in solving this health problem by carrying out promotion and prevention actions. Through health education developed through the application of affective-participatory techniques, the application of specific measures such as periodic oral examinations for all patients who come for consultation, active examinations for all patients over 35 years of age in the population, and early diagnosis, we must be able to significantly reduce morbidity and mortality from oral cancer, without forgetting that the population, specifically older patients and those at high risk of suffering from this disease, understand the need to incorporate individual responsibility for their health and the perception of risk.

Conclusions

- Older adults' knowledge of oral cancer risk factors before intervention was inadequate at 62.5%.

- Only 25% had adequate knowledge of protective factors.
- He31.2% wereknowledgeable about the symptoms and signs of oral cancer, whilethat the68.8% were unaware of all or many of these.
- Only 6.2% performed the self-examination technique correctly and less than half knew how often they performed it.
- In the initial stage of the research, the level of inadequate general knowledge predominated (78.1%) and with the educational intervention it rose to 93.8% of older adults.

Conflict of interest:

The authors have no conflicts of interest to publish.

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