The impact of oral cancer on the quality of life of older patients

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Abstract

Introduction: Oral cancer is one of the most severe illnesses of the oral cavity. It is predominantly caused by smoking and alcohol consumption. Poor oral hygiene could also be one of the causes. In younger patients and non-smokers, the human papilloma virus has been identified to cause the disease, moreover, hereditary and environmental factors also play an important role. Due to their lifestyle, men suffer from the disease more frequently, however, it also affects women and people under 50. The treatment process is typically multimodal with a view to recovery, lowering the occurrence of complications and achieving patient independence. The objective of the study was to make a review of literature dealing with connections between oral cancer in older patients and their way of life, as well as to assess their quality of life after their return to their work and social environments. *Methods:* A review literature in both Slovenian and English language, published between 2015 and 2020, has been carried out. Relevant databases of scientific and professional literature, webpages of professional organisations and various other digital and printed sources have been used. The search included words and phrases such as cancer, lifestyle, prevention, quality of life. To achieve a more precise searching procedure, the PRISM scheme has been used. *Results:* The identified hits have been described, analysed and evaluated. The results demonstrate a partial connection between the incidence of oral cancer in older patients and their lifestyle. The recovery process of patients after an oral cancer operation does not include only satisfying their physiological needs but also taking care of their psychological, social and mental needs in order to improve the quality of their lives. *Discussion and conclusion:* There are many important factors that significantly influence lowering the risk of oral cancer. Among the most important ones are lifestyle, taking care of health, prevention activities, timely action when noticing changes that

would lower the recovery chances in more advanced stages. In the treatment process, the psychological preparation of the patient is of vital importance, as well as their understanding of the disease. Patients' reintegration into their environment, development of communication skills and accepting themselves is frequently a long process that demands the cooperation of professionals, patient and their family members. There is no price that is too high to pay if the desired result is quality life.

Keywords: cancer, lifestyle, prevention, quality of life

Introduction

Mouth cancer can affect the area of lips, oral cavity and larynx. It is one of the most widespread malign diseases in Slovenia since it accounts for 54 % of all cases of head and neck cancer. The incidence of lip cancer is decreasing, whereas the cancer of the oral cavity and larynx is on the rise. (Blatnik et al., 2019).

Alcohol consumption and smoking are largely responsible for oral cavity cancer (Blatnik et al., 2019; Logar Čuček, 2020), combining the two adds even more to the development of cancer – the negative effects of use grow exponentially (Radoi and Luce, 2013; Strojjan et al., 2018). Another factor linked with the development of the disease and growing in the developed world, is infection with the human papilloma virus (HPV) in younger patients where other risk factors are present only to a smaller extent or are not present at all (Strojjan et al., 2015; Blatnik et al., 2019). Other factors contributing to the development of oral cavity cancer are poor oral hygiene, lower socio-economic status, unhealthy diet, exposure to harmful chemicals in the work environment, ultraviolet radiation, weakened immune system, hereditary and environmental factors (Radoi and Luce, 2013; Didanovič, 2015; Blatnik et al., 2019; Dovšak, 2019).

In the last decade, men are three times more likely to suffer from oral cavity cancer; their average age is 50 years (Blatnik et al., 2019; Montero and Patel, 2015). Changes in smoking and drinking habits significantly contribute to rising incidence of oral cavity cancer in women and population younger than 50 years. Similar to other types of cancer, with age the chances of developing oral cavity cancer increase (Dovšak, 2019).

Oral cavity cancer is predominantly diagnosed in an advanced stage (Dovšak, 2006). Therefore, it is of vital importance for the oral cavity to be regularly checked, irrespective of patient's complaints. All changes in the oral cavity, for example ulcers that do not heal in two weeks, white or red patches in the lining of the mouth call for an immediate visit to the doctor or dentist, who decides what the best course of action should be, for example more frequent monitoring or referral to a specialist. Most cancer diseases start with precancerous changes, the most common being cutaneous squamous cell carcinoma (Kansky, 2015; Blatnik et al., 2019).

Oral cavity cancer treatment requires a multidisciplinary approach and includes experts from different fields. It is comprised of three parts: diagnosis,

treatment and monitoring. The two key entry points for patients are the outpatient clinic where the diagnostic procedure starts, and the multidisciplinary consilium where the course of treatment is determined. Various support services help in all stages in the form of clinics or wards, but mostly unconnected to them: pain therapy, rehabilitation of voice, speech and swallowing, clinical nutrition, dental care and rehabilitation; also other services might be involved, on recommendation of the consilium (Strojan et al., 2021). Patients' quality of life after removing oral cavity cancer is largely dependent on including them in the process of communication, boosting their self-acceptance and helping them to reconnect with their living and work environment. The process tends to be long-lasting and requires the cooperation of professionals, patient and their family (Logar Čuček, 2020).

The objective of the research was to study the interconnection between oral cavity cancer in older adults and their way of life, and the quality of life of patients after different stages of cancer treatment.

The first goal of the research was to study the connection between the way of life and its influence on the incidence of oral cavity cancer in older adults.

The second goal of the research was to assess the quality of a patient's life after rehabilitation and their inclusion in their social and work environment.

The following research question was posed:

How does lifestyle influence physical and mental quality of life in patients with oral cavity cancer?

Methods

Review methods

A descriptive method with a review of professional and scientific literature was used. We used relevant databases, websites of professional organizations, electronic and printed sources. The search for literature was conducted using the following key phrases and words: oral cancer, lifestyle, prevention, quality of life. The inclusion criteria for the selection of literature were articles in Slovene and English, published from 2015 to 2020, freely available in full text with content matching the topic of the research. A source published before 2015 clearly states the consequences of alcohol consumption, smoking and the influence of other factors on the development of oral cancer. Payable articles and those that did not provide access to the full text were excluded.

Contents analysis of 6 professional and scientific articles from the field of the interdependence of factors for the development of cancer in the oral cavity was performed. The second step was a descriptive analysis of articles on the quality of a patient's life during treatment and preparation for inclusion into their work and social environment.

Review results

The review of the databases came up with 60 sources. Subsequently, 28 sources were excluded and 32 texts were selected. The final set of sources includes 6 texts. For a more detailed process of searching the literature in databases, we used a customized schematic presentation, as enabled by PRISM scheme (Moher et al., 2009).

Data processing description

We focused on professional and scientific articles that contained at least two key search phrases. The texts were analysed using the “principle of qualitative content analysis”. The central process of text analysis is open coding (Vogrinec, 2008).

Results

Table 1 shows the sources included in the literature review (year of publication, author, typology and objectives of the research, sample and key findings). Using qualitative analysis of the contents of the sources, 6 categories with corresponding codes (Table 2) were identified: possible risk factors for oral cancer, awareness of risk factors, balanced diet and physical activity, patients’ need for information during oral cancer treatment, reducing suicide risk. After re-checking the contents, codes and categories, we changed the identified categories into subcategories and placed them under a single category titled Quality of life with oral cancer, which best describes the objective of literature review.

Table 1: A review of the key findings of the research included in qualitative content analysis

Author, year	Research typology	Research objectives	Sample	Key findings
Rosenquist, 2005	Observational study: case study-reference. Case-control study	To assess different risk factors for oral cavity cancer; the influence of factors on the recurrence or appearance of a new second primary tumour.	n = 128/320	Risk factors for developing oral cavity cancer are poor oral hygiene and irregular dental care; Excessive alcohol consumption (recurrence risk) and smoking (possible connection with death in simultaneous diseases; there is a strong connection between human papilloma infection and cancer, higher probability of recurrence.

<i>Author, year</i>	<i>Research typology</i>	<i>Research objectives</i>	<i>Sample</i>	<i>Key findings</i>
Montero and Patel, 2015	Systematic literature review.	To ensure preventive behaviour before the disease and proper rehabilitation after the surgical procedure.	n = 78	Other risk factors: tobacco chewing, wood dust exposure, genetic illnesses, insufficient nutrition, immune system change. Vital to change lifestyle. Timely diagnosis and proper treatment.
Latino-Martel et al., 2016	Systematic literature review.	To assess the connection between dietary factors and cancer.	n = 133	Prevention is the strongest weapon against cancer: reduce the consumption of alcoholic beverages, ensure a balanced diet, be physically active.
Schorn et al., 2020	Retrospective cohort study.	To evaluate the connection between patients' needs for special care in terms of physiological rehabilitation, family support and their impact on patients' quality of life.	n = 1359	A correlation between social ties and depression has been proved. The needs for speech therapy, physiotherapy and breathing exercises have been fulfilled only minimally.
Jehn et al, 2021	Retrospective cohort study.	To assess the connection between patients' need for information during the treatment of oral cancer and the quality of life or the development of post-traumatic stress disorder.	n = 1359	Lack of information regarding the surgery and possible complications. Established correlations between lack of information and post-traumatic disorders.
Twig et al., 2020	Systematic literature review.	To determine the incidence of suicide in patients suffering from head and neck cancer. To evaluate the procedures for suicide reduction.	n = 63	The risk of suicide in these patients differs from others with cancer. There is no evidence of interventions to reduce suicidal thoughts and suicide risk.

Table 2: Code allocation by category

Category	Subcategories <i>n</i> = 6	Codes <i>n</i> = 25	Authors
Oral cavity cancer patients' quality of life	Possible risk factors for oral cavity cancer.	Excessive alcohol consumption. Heavy, long-term smoking, men – women. Human papilloma virus infection (HPV). Disease recurrence. Other primary tumours. Simultaneous diseases.	Rosenquist, 2005 Tsai et al., 2014 Druesne-Pecollo et al., 2014. Kansky, 2017
	Raising awareness of risk factors.	Assessing the disease. Prevention. Raising the awareness of the disease. Change of lifestyle. Early diagnosis – ways of treatment and rehabilitation. Reducing the influence of therapy on shape and function. Regular disease monitoring.	Montero and Patel, 2015 Giraldi et al., 2017 Kansky, 2017
	Balanced diet and physical activity.	Excessive weight. Obesity. Alcoholic beverages. Red and processed meat. Salty food.	Montero and Patel, 2015 Latino-Martel et al., 2016
	Patients' need for care during oral cancer treatment.	Social connections reduce depression. Speech therapy. Breathing exercises. Physiotherapy.	Schorn, 2020 Jehn et al., 2021
	Patients' need for information during oral cancer treatment.	Information during treatment. Post-therapy disorders. Quality of life.	Jehn et al., 2021 Kansky, 2017
	Suicide risk reduction.	Mental problems. Social support. Emotional problems during treatment. Suicide prevention.	Twigg et al., 2020 Schorn, 2020

Discussion

Due to all the dimensions of the consequences for the patient and society, special attention should be paid to the management of oral cancer. Rosenquist (2005) used the results of a study a decade and a half ago to link the development of cancer in the oral cavity with poor oral hygiene, poor dental care, and defective complete dentures. The risk can be reduced with regular dental care and dental hygiene. Furthermore, excessive drinking and smoking do not only pose a high risk for developing the disease. Based on the results of the research, Rosenquist points to the possibility of recurrence; in heavy smokers there is a

strong link with death due to simultaneous diseases. Patients at high risk for HPV infection showed a threefold increased chance of cancer recurrence or the appearance of a second primary tumour. The need for improving oral hygiene was also noted by the authors of the study (Tsai et al., 2014). Poor hygiene is associated with high risk of head and neck cancer – the highest risk group are alcohol consumers with the poorest oral hygiene. The importance of reducing alcohol consumption was also presented by researcher Druesne-Pecollo and colleagues (2014). They pointed out that drinking alcohol is associated with another primary risk of cancer of the oral cavity, throat, larynx and oesophagus. Alcohol consumption, smoking, and especially the combination of the two, is also cited by Kansky (2017) as an important factor for the development of squamous cell carcinoma in the mouth. Due to changes in smoking and drinking habits, the incidence of oral cancer among women has been on the rise recently (Blatnik, et al, 2019). The same authors also state in their research that HPV infections increase the incidence of oral cancer among younger people, especially men with higher socio-economic status. This was already pointed out by Kansky (2017), who, unrelated to alcohol and smoking, pointed out the relevance of HPV, namely in men aged 44–55 years.

Montero and Patel (2015) emphasize the importance of disease awareness and education about inappropriate lifestyle which in most cases leads to various diseases, including oral cancer. In their study, Giraldi et al (2017) found that a low level of education, in addition to smoking and alcohol consumption, is an unfavourable prognostic factor for overall survival in patients with oral cancer (Giraldi et al., 2017).

The awareness of the importance of physical activity and a balanced diet to offset harmful effects on health and the consequent development of cancer is an important disease preventive step. Latino-Martel and colleagues (2016) state that to improve cancer prevention, three main goals need to be achieved: reducing alcohol consumption, having a varied and balanced diet, and being physically active.

How a patient will live or what their quality of life with oral cancer will be is determined as soon as the disease is diagnosed. Pre-surgical optimization, consultations with a reconstruction surgeon, involvement of various therapists, from speech therapist, to swallowing and lifestyle changes coach, as well as giving up smoking and excessive alcohol consumption, all lead to a better quality of life during treatment and after reintegration into the work and social environment (Montero and Patel, 2015). A study conducted by Schorn and colleagues (2020) showed that physical rehabilitation of patients took place only at the time of hospitalization, in the initial phase of treatment. During this time, patients also needed speech therapy, physiotherapy, and respiratory therapy, but received them infrequently, in contrast to post-surgery patient care requirements. Proper patient care shortens the time of hospitalization and reduces postoperative complications. The quality of life of the patient is undoubtedly also enhanced by being provided with proper information during the treat-

ment of oral cancer; the lack of information consequently affects the patient's perception of post-traumatic disorders. Patients should be informed of the possible physical and psychological consequences of the operation; information is also needed before surgery (Jehn, 2021). The path of accepting the diagnosis, treatment, and re-socializing is difficult for patients, especially for those who do not have enough social support. They often suffer from emotional distress that occurs at any time during, or even more frequently, after the treatment. They represent a much higher suicide risk compared to a demographically comparable general population group (Twigg et al., 2020). The authors found that no specific procedures exist for reducing suicide risk in these patients. Schorn and colleagues (2020) state that strong family ties and meaningful friendships reduce problems with depression and anxiety.

Researchers Kell et al., (2018) point out that one of the most important factors with positive effects in the treatment process and later, is communication with nurses and doctors as well as in the home environment.

Treating oral cancer is demanding and never without consequences. It marks the patient for life (Kansky, 2017). The author states that it is of vital importance to offer support to the patients also as human beings, to encourage and listen to them, and in this way help their successful rehabilitation after treatment.

Conclusion

The reviewed literature on oral cancer in older adults clearly confirms the fact that it is of vital importance to put the quality of life of patients at the forefront.

Oral health is an integral part of the overall health and well-being of every individual and society. The contents of the reviewed research papers indicate the need to stop smoking and moderate alcohol consumption. These are key elements in preventing and controlling oral cancer. Improving oral hygiene can bring additional benefits, as can caring for healthy teeth. Due to the increasingly important role of HPV infection in the development of oral cancer, more attention needs to be paid to the younger generation and their protection against this type of infection.

Early detection is needed to successfully treat oral cancer and improve survival rates. This can be achieved by raising the awareness and knowledge of the consequences of the risk factors that lead to disease.

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