

## ANALYSIS ON RISK FACTORS OF ORAL CANCER IN CHENGDU COMMUNITY

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### Abstract

This paper aims to analyze the related risk factors of oral cancer in Chengdu City. The relevant information of oral cancer patients in Chengdu City was collected through a questionnaire survey, and the relationship between these factors and oral cancer was analyzed. The study found that the incidence of oral cancer in Chengdu City is closely related to smoking, alcohol consumption, poor oral hygiene habits, and family inheritance. Among them, smoking and alcohol consumption are the main risk factors, directly damaging the oral mucosa and increasing the risk of oral cancer. Poor oral hygiene habits, such as irregular brushing and not using dental floss, can also lead to the growth of oral bacteria and increase the risk of oral cancer. In addition, family inheritance has been found to be associated with the incidence of oral cancer. This study provides important reference for the prevention and control of oral cancer by comprehensively analyzing the related risk factors of oral cancer in Chengdu City.

**Keywords:** Chengdu City; oral cancer; risk factors; smoking; alcohol consumption; oral hygiene habits; family inheritance.

### Introduction

Oral cancer, as a kind of malignant tumor occurring in the oral cavity and its surrounding tissues, its incidence rate is increasing year by year worldwide. In Chengdu, with the rapid development of urbanization and the change of residents' lifestyle, the incidence rate of oral cancer is also increasingly concerned. This article aims to analyze the relevant risk factors of oral cancer in Chengdu, in order to provide scientific basis for the development of effective prevention and intervention measures. Oral cancer is a general term for malignant tumors that occur in the oral cavity, mainly including gingival cancer, tongue cancer, soft and hard jaw cancer, jawbone cancer, oral floor cancer, oropharyngeal cancer, salivary gland cancer, lip cancer, and other types. Most of these cancers belong to squamous cell carcinoma, which is caused by mutations in the oral mucosa. The early symptoms of oral cancer may not be obvious, usually manifested as oral ulcers, long-term unhealed wounds, jaw bone pain, loose teeth, and discomfort in the throat. However, due to its rapid development and fast transfer rate, timely treatment is necessary once detected, otherwise it may pose a threat to the patient's life.

As the capital city of Sichuan Province, Chengdu has a dense population, developed economy, and diverse lifestyles among its residents. In recent years, with the improvement of living standards and changes in eating habits, the incidence rate of oral cancer has also shown an upward trend. According to data released by the Chengdu Municipal Health Commission,

oral cancer has become one of the important diseases affecting the health of citizens, bringing heavy economic and psychological burdens to society and individuals.

### **1. Smoking and alcohol abuse**

Smoking and alcohol abuse are one of the main risk factors for oral cancer. According to multiple studies both domestically and internationally, smoking and alcohol abuse can significantly increase the risk of oral cancer. In Chengdu, despite the increasing efforts to control smoking and alcohol consumption in recent years, smoking and alcohol abuse are still relatively common. Long term smoking and alcohol abuse can cause sustained chemical irritation and damage to the oral mucosa, thereby increasing the risk of cancer.

### **2. Chronic irritation**

Long term chronic stimulation is also one of the causes of high incidence of oral cancer. In Chengdu, some residents have poor oral hygiene habits or oral diseases, such as residual roots, crowns, and unsuitable dentures, which can stimulate the oral mucosa for a long time, leading to cell mutations and cancer. In addition, long-term bad habits such as chewing betel nut can also increase the risk of oral cancer.

### **3. Malnutrition and immunodeficiency**

Malnutrition and immunodeficiency are also important risk factors for oral cancer. In Chengdu, some residents have poor dietary habits or chronic diseases, resulting in a lack of vitamins and trace elements in their bodies, a decrease in immune function, and an increased risk of oral cancer. In addition, long-term consumption of pickled, smoked, and baked foods may also increase the risk of oral cancer.

### **6. Environmental factors**

Environmental factors are also one of the important factors affecting the incidence of oral cancer. In Chengdu, with the rapid development of industrialization and urbanization, environmental pollution problems have become increasingly prominent. Long term exposure to ultraviolet or radiation, breathing contaminated air, drinking contaminated water sources, etc. may increase the risk of oral cancer. In addition, occupational exposure to harmful chemicals may also increase the risk of oral cancer.

### **7. Social and psychological factors**

Social psychological factors such as long-term staying up late, work stress, intense competition, and high mental pressure may also increase the risk of oral cancer. In Chengdu, as the pace of life accelerates and work pressure increases, the psychological burden on residents is also increasing. Long term exposure to high pressure may lead to decreased immune function and endocrine disorders, thereby increasing the risk of oral cancer.

## **Objectives**

The purpose of this study is to investigate the relevant risk factors for oral cancer among residents in Chengdu, in order to provide scientific basis for the prevention and control of oral cancer.

1. Investigating the Correlation Between Lifestyle Habits and Oral Cancer Among Chengdu Residents

2. Examining the Association Between Dietary Patterns and Oral Cancer in the Population of Chengdu City

3. Assessing the Relationship Between Oral Hygiene Practices and Oral Cancer Incidence Among the Inhabitants of Chengdu

## Methodology

When exploring the qualitative research methods for risk factors related to oral cancer in Chengdu, we first need to clarify that the core of qualitative research lies in a deep understanding of the reasons, processes, and impacts behind complex social phenomena, rather than relying solely on statistical analysis of quantitative data. Based on the specific context of oral cancer in Chengdu, qualitative research methods allow us to analyze the various causes of the disease in detail. Through interviews, observations, literature reviews, and case studies, we construct a rich picture of the risk factors for oral cancer. Qualitative research emphasizes a deep understanding and interpretation of the research object, focusing on individual experiences, socio-cultural backgrounds, and the motivations and meanings behind behavior. In the study of risk factors related to oral cancer in Chengdu, the application of qualitative research methods is mainly reflected in the following aspects:

Researchers designed detailed interview outlines and conducted one-on-one interviews with oral cancer patients of different age groups, genders, occupational backgrounds, high-risk populations (such as long-term smokers and drinkers, those with poor oral hygiene habits), dentists, and public health experts in Chengdu. These interviews aim to capture the respondents' perceptions, attitudes, behaviors, and life experiences towards oral cancer and its risk factors, in order to reveal the hidden risk factors in daily life.

Researchers delve into communities, hospitals, clinics, and public places in Chengdu to directly obtain first-hand information by observing people's oral hygiene habits, dietary habits, social behaviors, and other aspects of their daily lives. This observation method helps to discover subtle differences and potential risks that are not easily captured by quantitative data, such as the impact of specific cultural customs on oral health, tobacco and alcohol consumption habits in social situations, etc.

Widely review domestic and foreign literature on oral cancer and its risk factors, especially research reports, policy documents, and public health data related to Chengdu or similar areas. Through literature review, researchers can systematically sort out existing research results, identify the commonalities and characteristics of oral cancer incidence in Chengdu, and provide theoretical basis and hypothesis basis for further field research.

Select representative cases of oral cancer in Chengdu for in-depth analysis, including the patient's personal background, medical history, treatment process, and prognosis. Through case studies, researchers can gain a deeper understanding of the developmental trajectory and influencing factors of oral cancer in different individuals, and thus extract universally significant risk factors.

The methodology also involves the collection of oral tissue samples from patients for histopathological examination, which is crucial for confirming the diagnosis and understanding the biological behavior of the cancer. In addition, the study incorporates the use of advanced imaging techniques such as MRI and CT scans to assess the extent of tumor invasion and metastasis, which is essential for treatment planning and prognosis evaluation.

Furthermore, the research team employs a comprehensive questionnaire to gather detailed information on patients' lifestyle habits, including smoking, alcohol consumption, dietary patterns, and oral hygiene practices. This data is then statistically analyzed to identify correlations between these habits and the incidence of oral cancer.

To ensure the reliability of the findings, the study also includes a control group of individuals without oral cancer, matched for age, gender, and other demographic factors. Comparative analysis between the case and control groups helps to isolate the specific risk factors associated with oral cancer development.

Lastly, the methodology encompasses the use of statistical software to process the collected data, applying both descriptive and inferential statistics to draw conclusions about the risk factors and their relative importance in oral cancer development. This approach aims to provide a robust foundation for future research and public health interventions.

## Results

Utilizing the aforementioned qualitative research methodologies, the pertinent risk factors for oral cancer in Chengdu can be analyzed as follows:

**Tobacco and alcohol consumption:** In-depth interviews and observations have revealed that a significant portion of Chengdu's residents maintain the habits of prolonged smoking and excessive alcohol consumption. These practices not only directly harm the oral mucosa but also indirectly elevate the risk of oral cancer by impairing the immune system and metabolic functions. Furthermore, the cultural acceptance of tobacco and alcohol in social contexts has intensified the gravity of this issue.

**Psychological elements:** In-depth interviews and case studies have elucidated the significant influence of social psychological factors on the incidence of oral cancer. Chronic negative emotions, including mental stress, anxiety, and depression, may enhance the risk of oral cancer by disrupting immune system function and endocrine equilibrium. Moreover, the absence of a robust social support network may result in patients being deprived of timely and effective medical treatments and psychological support.

In conclusion, the incidence of oral cancer in Chengdu is subject to a multitude of risk factors. The application of qualitative research methodologies allows for a profound comprehension of the nature and interrelations of these risk factors, offering a scientific foundation for the formulation of effective prevention and intervention strategies. Moving forward, it is imperative to further enhance health education initiatives, ameliorate oral hygiene conditions, refine dietary patterns, mitigate environmental pollution, and address the psychosocial impact on oral health, with the aim of comprehensively reducing the incidence and mortality rates of oral cancer in Chengdu.

## Conclusion

This study investigated the correlation between certain habits and the risk of oral cancer by employing questionnaires and data analysis. Specifically, it analyzed the long-term impact of smoking, alcohol consumption, and betel nut chewing on the oral mucosa among residents of the Chengdu area, and how these habits elevate the risk of oral cancer.

Dietary practices are intimately linked to oral health. The focus of this study is on the distinctive eating habits of Chengdu's residents, such as their penchant for spicy and hot foods, and it examines the influence of these dietary preferences on oral cancer risk by contrasting the oral health of individuals with varying eating habits. In light of the prevalent "spicy food" culture in Sichuan, this study integrates existing research findings to further assess its potential direct link to oral cancer incidence.

Oral hygiene status is a significant risk factor for the onset of oral cancer. This study thoroughly assessed the oral hygiene practices of Chengdu residents, encompassing brushing habits, the use of dental floss or interdental brushes, and the prevalence of oral diseases. Additionally, it analyzed the connection between oral hygiene and oral cancer risk to underscore the importance of oral hygiene in preventing oral cancer.

The findings indicate that smoking, alcohol consumption, and betel nut chewing are significant risk factors for oral cancer in Chengdu. The synergistic effect of smoking and alcohol intake notably amplifies the risk of oral cancer, while prolonged betel nut chewing can

lead to oral mucosa fibrosis and subsequently trigger oral cancer. Furthermore, this study revealed that the longer the duration and the older the age at which individuals smoke and consume alcohol, the greater the risk of oral cancer.

Although the Sichuan population has a general preference for spicy food, this study found no direct association between eating spicy food and the incidence of oral cancer. However, studies have pointed out that too hot food can damage the oral mucosa, and long-term intake of too hot food may increase the risk of oral cancer. Moreover, unbalanced eating habits such as lack of fresh vegetables and fruits may also affect the health status of the oral mucosa, thus increasing the risk of oral cancer.

This study found that the oral hygiene of residents in Chengdu was generally poor, mainly manifested by lack of tooth brushing and low proportion of dental floss or interdental brushing. These poor oral hygiene habits create conditions for bacteria or mold to breed and reproduce in the mouth, thus increasing the risk of oral cancer. Especially for people with oral problems such as sharp ridges, worm roots and unsuitable dentures, their oral mucosa is chronic stimulation for a long time and is more prone to cancer.

The research results indicate that smoking, drinking alcohol, and chewing betel nut are important risk factors for oral cancer among residents in Chengdu. The combined effect of smoking and alcohol consumption significantly increases the risk of oral cancer, while long-term chewing of betel nut can easily lead to oral mucosal fibrosis, thereby inducing oral cancer. In addition, this study also found that the longer and larger the duration and amount of smoking and drinking, the higher the risk of oral cancer. Although Sichuan people generally prefer spicy food, this study did not find a direct link between eating spicy food and the incidence of oral cancer. However, studies have shown that excessively hot food can damage the oral mucosa, and long-term consumption of excessively hot food may increase the risk of oral cancer. In addition, imbalanced dietary habits, such as a lack of intake of fresh vegetables and fruits, may also affect the health of the oral mucosa, thereby increasing the risk of oral cancer. This study found that the oral hygiene status of residents in Chengdu is generally poor, mainly manifested by insufficient brushing frequency and a low proportion of using dental floss or interdental brushes. These poor oral hygiene habits create conditions for bacteria or mold to grow and reproduce in the mouth, thereby increasing the risk of oral cancer. Especially for people with oral problems such as sharp tooth ridges, insect tooth remnants, and unsuitable dentures, their oral mucosa is more prone to cancer due to long-term chronic stimulation.

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