

Analysis of the Impact of Socioeconomic Status on Periodontal Health in Elderly People in Guangdong Province

Kunzhi Chen¹, Ruixuan Tan²

¹ Guangdong Experimental High School, Guangzhou 510100, Guangdong, China

² Social Health Care Department of Shenzhen Medical Group Headquarters, Shenzhen 518000, Guangdong, China

Abstract: Periodontal disease is a common oral disease among the elderly, which not only affects chewing function and nutrient intake but is also closely related to various systemic diseases such as cardiovascular diseases and diabetes. Taking Guangdong Province as an example, with its large population, developed economy, and obvious aging trend, the oral health problems of the elderly are becoming increasingly prominent. Different socioeconomic status may lead to significant differences in the prevalence and treatment of periodontal disease. This paper explores the relationship between socioeconomic status, including personal income level, cultural background, medical insurance, and living environment, and the oral health of the elderly, clarifying the underlying mechanisms. The study found that elderly people with poor economic conditions, low educational background, and living in rural areas are more prone to periodontal disease and generally have poor oral hygiene habits. In addition, the low availability of oral health care services and uneven distribution of medical resources also exacerbate health inequalities. Based on this, this paper addresses the issue from multiple aspects to fundamentally avoid health disparities in periodontal disease among the elderly in Guangdong Province and enhance the overall oral health of the elderly population. The implementation process is summarized as follows.

Keywords: socioeconomic status; Guangdong Province; elderly; periodontal health status; public health policy

1. Introduction

Periodontal disease is a common chronic inflammatory oral disease with a high risk among the elderly. It not only affects oral chewing function and nutrient intake but also, if not controlled in time, can lead to tooth loosening and loss or affect the occurrence and progression of various systemic diseases [1]. As a frontier of China's reform and opening up, Guangdong Province has a developed economy and a significant trend of population aging, making oral health issues among the elderly an important topic in public health. There are significant differences in economic development within Guangdong Province, and the uneven socioeconomic background has different impacts on the availability of oral health services and health outcomes for the elderly. Epidemiological investigations have found that the prevalence of periodontal disease among the elderly in Guangdong Province shows a "west high east low" distribution pattern, which is related to the economic development of the region. Among the health social determinants, socioeconomic status is a core indicator, influencing individual oral health from three aspects: the ability to access medical services, individual health literacy and self-control ability, and medical insurance. The combined effect of these factors constitutes the current prevalence trend of periodontal disease among the elderly. Currently, there are relatively few studies on the relationship between socioeconomic status and oral health in the elderly. This paper integrates multi-source data to explore the differences and specific pathways of the impact of socioeconomic status on periodontal health in the elderly in Guangdong Province, providing a reference for formulating precise intervention plans.

2. Relationship between Socioeconomic Status and Periodontal Disease

2.1 Concept and Measurement of Socioeconomic Status

Socioeconomic status mainly includes economic income, educational level, occupation type, and living area. In the field of oral medicine, socioeconomic status is regarded as an important social influencing factor for the occurrence and development of periodontal diseases. The significant differences in urban and rural development within Guangdong Province make this factor more prominent in the oral health of the elderly.

2.2 Epidemiology of periodontal disease in the elderly in Guangdong Province

Investigation data indicates that the incidence of periodontal diseases among the elderly aged 60 and above in Guangdong Province is significant, with the overall prevalence rate exceeding 50%, and the rate in rural areas is notably higher than that in urban areas. Elderly patients with poorer economic conditions, lower educational attainment, and unstable occupations

have more severe oral problems, and typical symptoms such as plaque accumulation, gingival bleeding, and tooth loosening are frequently observed in clinical practice.

3. Analysis of the Mechanism of Social Economic Status on Periodontal Disease in the Elderly

The per capita income in affluent regions is more than three times that in poor regions, and local government health expenditures are 4 to 6 times higher, directly resulting in a significant difference in the density of dentists (the Pearl River Delta has 4.2 times more dentists than poor regions).

Table 1. Comparison Table of Social Economic Indicators and Periodontal Health Status of the Elderly in Affluent and Poor Regions of Guangdong Province

Index	Wealthy areas (Guangzhou, Shenzhen, Dongguan, Zhongshan, Foshan, Zhuhai)	Poor areas (non-Pearl River Delta) Yunfu, Shaoguan, Heyuan, Meizhou, etc
population(60 years old+)	About 6.5 million (accounting for 45% of the province's elderly population)	About 4.8 million (accounting for 35% of the province's elderly population)
Per capita disposable income (yuan)	58,000-72,000(The highest in Shenzhen)	18,000-25,000(Yunfu Lowest)
Average years of education	10.5 years (high proportion of high school and above)	7.2 years (more than 60% of junior high school and below)
Local government health financial expenditure (100 million yuan)	120-180(The highest in Shenzhen)	30-50(Yunfu Lowest)
Number of dentists per 10,000 population	3.8 people	0.9 people
Brushing rate of the elderly in the morning and evening	72%	41%
Prevalence of periodontal disease in older adults	53%	68%
Rate of missing teeth in the elderly (≥ 3)	35%	58%
Medical insurance reimbursement covers periodontal treatment items	Partial inclusion (50% reimbursement for cleaning)	Reimbursement for basal extraction/filling only

3.1 Economic Factors

Elderly patients with economic difficulties often delay or interrupt periodontal disease treatment due to cost issues. There is a significant urban-rural disparity in oral health resources in Guangdong Province, with high-quality medical institutions mainly located in urban areas, making it difficult for rural and economically disadvantaged groups to access timely and professional treatment services. At the same time, the incomplete medical insurance system further restricts the medical choices of low-income groups.

3.2 Cultural Factors

Groups with higher educational levels usually have better oral health knowledge and can adhere to correct brushing methods and use dental floss and other auxiliary cleaning tools. In contrast, people with lower educational attainment have insufficient awareness of oral health and are more likely to develop bad habits such as smoking and irregular dental check-ups, thereby increasing the risk of periodontal diseases.[2]

3.3 Social Factors

Elderly people who have long engaged in physical labor or are in poor working environments (such as farmers and industrial workers) are more prone to periodontal lesions. At the same time, factors such as the quality of drinking water in living areas and the accessibility of dental medical resources also significantly affect oral health conditions.

4. Current Situation of Health Inequality in Periodontal Disease among the Elderly in Guangdong Province

Significant regional differences: The Pearl River Delta urban agglomeration has established a relatively complete oral health service system due to its economic advantages, while rural areas in eastern, western, and northern Guangdong are relatively weak in periodontal disease prevention and treatment capabilities. Medical insurance policy: Basic medical insurance has a wide coverage, but the personal payment ratio for treatment items such as scaling and periodontal surgery is still relatively high, creating obstacles for economically disadvantaged elderly groups to seek medical treatment. Medical behavior: Elderly people with high social economic status pay more attention to preventive oral health care, while low-

income groups tend to adopt a passive medical treatment model, often seeking treatment only when symptoms worsen, which affects the prognosis.[3]

5. Practical Exploration and Management Strategies to Improve Health Inequality in Periodontal Disease in Guangdong Province

5.1 Strengthen community oral health education

Strengthen oral health education for people with low socioeconomic status, start with community education, and adopt multi-level health education interventions to improve the awareness of brushing and cleaning teeth among the elderly, develop oral health behavior habits, and minimize risky behaviors such as smoking in daily life. For the elderly with low education, design easy-to-understand popular science materials, produce leaflets and local dialect explanation videos, and focus on promoting the rules of dental care: brushing your teeth every morning and evening, cleaning your teeth professionally once a year, and replacing your toothbrush with a new toothbrush every quarter [4]. It focuses on the harm of tobacco use to periodontal tissue and provides specific guidance on smoking cessation methods. Set up a "tooth love knowledge station" in the gathering place of the elderly in the community to display dental specimens, toothbrushing tools and other physical objects, and improve awareness through on-site demonstrations. Carry out the evaluation of "oral health model households" and set up typical demonstrations. Integrate oral health care guidance into daily health examinations, and medical staff will conduct personalized education during routine physical examinations. Cooperate with community education institutions for the elderly to set up special lectures on oral health care, and regularly arrange professional doctors to give lectures.

5.2 Optimize the allocation of medical resources

To improve the level of oral medical services in rural and underdeveloped areas, the following measures should be taken: prioritize the construction of oral specialty capabilities in the eastern, western and northern regions of Guangdong, ensuring that each county and district has at least one standard-compliant treatment center equipped with modern dental treatment equipment. Innovate service models, organize mobile dental medical teams to provide regular services in rural areas, ensuring that remote towns receive at least two visits per month. Simultaneously promote the construction of "Internet + oral healthcare", establish a remote consultation system to enable online diagnosis and technical guidance by experts, and improve the quality of primary medical care. At the same time, improve talent incentive policies, attract oral health professionals through grassroots employment programs, and provide job subsidies and career development support.

5.3 Multi-departmental collaborative intervention

To effectively improve the prevention and treatment of periodontal diseases among the elderly, a multi-departmental linkage mechanism should be established. The government should strengthen policy guidance, list elderly oral health care as a key livelihood project, and introduce supporting measures and increase special funds. The medical system should improve the hierarchical medical system, organize experts from higher-level hospitals to provide regular technical assistance to grassroots areas, and strengthen the training of community doctors in oral diagnosis and treatment skills. At the community level, the role of grassroots organizations should be fully utilized, and oral health education and free check-ups should be carried out through community health service stations, and establish personal oral health records for the elderly. In elderly care institutions, standardize the construction of oral health services and equip necessary diagnostic and treatment equipment.[5] Research institutions should conduct targeted research based on local characteristics, and enterprises should actively participate in public welfare projects. All types of media should innovate ways to popularize oral health knowledge.

5.4 Establish a complete medical insurance policy

It is suggested that basic periodontal treatment items such as scaling and root planing be included in the medical insurance chronic disease payment directory, and set an appropriate annual reimbursement limit. For elderly patients with economic difficulties, a special subsidy fund can be established to provide a certain amount of medical expense subsidies. At the same time, add oral health check-ups to the family doctor contract service, and improve the medical insurance payment mechanism to ensure it.

There are significant differences in the prevalence and treatment of periodontal diseases among the elderly in Guangdong Province due to socioeconomic status. People with lower socioeconomic status bear a heavier disease burden. To improve the current situation of oral health inequality among the elderly in this region, measures such as strengthening health education, adjusting policies, and optimizing the distribution of medical resources can be taken, and corresponding public health strategies should be adopted to better protect the oral health of the elderly.

6. Conclusion

The significant differences in socio-economic status have a significant impact on the periodontal health status of the elderly population in Guangdong Province, and factors such as economic conditions, education level, and medical security have collectively led to health inequality. To improve this situation, comprehensive measures such as strengthening community health education, optimizing medical resource allocation, improving medical insurance policies, and promoting multi departmental cooperation are needed to gradually narrow the health gap and enhance the oral health level of the elderly. In the future, further attention should be paid to the needs of vulnerable groups, and precise intervention strategies should be formulated to provide reference for the elderly oral health cause in Guangdong Province and even the whole country.

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Author Bio

First author: Kunzhi Chen, male, Han ethnicity, born on January 22, 2008, place of origin: Zizhong, Sichuan, Education: Currently a sophomore in an international high school, research direction: health analysis.