Annals of Case Reports
Ahmedani MS, et al. Ann Case Report 6: 726.
www.doi.org/10.29011/2574-7754.100726
www.gavinpublishers.com

Short Communication

Inequalities in the Oral Healthcare Sector: Trends in the 21st Century

Muhammad Shoaib Ahmedani[1*], Neelum Shah Bakht[2], Komal Shah Bakht[3], Eisha Khalid[3]

[1]Department of Periodontics and Community Dentistry, College of Dentistry, King Saud University, Riyadh, Saudi Arabia

[2]General Practitioner, College of Dentistry, Pakistan Institute of Medical Sciences, Islamabad, Pakistan

[3]General Practitioner College of Dentistry, Riphah International Islamic University, Islamabad, Pakistan

[*]**Corresponding author:** Muhammad Shoaib Ahmedani, Department of Periodontics and Community Dentistry, College of Dentistry, King Saud University, Riyadh, Saudi Arabia.

Citation: Ahmedani MS, Bakht NS, Bakht KS, Khalid E (2021) Inequalities in the Oral Healthcare Sector: Trends in the 21st Century. Ann Case Report 6: 726. DOI: 10.29011/2574-7754.100726

Received Date: 24 December, 2021**; Accepted Date:** 28 December, 2021**; Published Date:** 31 December, 2021

Abstract

According to the global health statistics, millions of people lack access to quality healthcare owing to social injustice, inequitable distribution of wealth, lack of political will, poor governance in the health delivery system as well as prevalent economic impoverishment among different classes. The health inequalities are more prominent in low-income countries due to inadequate infrastructure, insufficient health budget for procuring medicine, disease prevention, and hiring health professionals in the public sector. In such countries, the patients depend on private healthcare providers who offer quality healthcare at a higher cost, which is often beyond the paying capacity of the poor population and results in health inequalities. On the other hand, UN Agenda 2030, demands the elimination of health-related inequalities and ensuring Universal Health Coverage (UHC). The Sustainable Development Goal 3 of the UN General Assembly`s Agenda 2030, necessitates the provision of UHC to all, minimization of Out-of-Pocket health expenses to zero, and ensuring free UHC to the entire population as one of the basic human rights. The Agenda 2030 states *"To promote physical and mental health and well-being, and to extend life expectancy for all, we must achieve universal health coverage and access to quality health care. No one must be left behind"* (UN General Assembly, 2015). Such efforts at the global and country levels have resulted in substantial improvement in the global health indicators with time. But the disparities still exist, and the gap is increasing with time due to the growing population, massive urbanization, unequal distribution of wealth and resources. As far as Oral health is concerned, the situation of inequalities is worse as compared to physical and mental healthcare disciplines due to the high cost of dental material, infrastructure, equipment, and shortage of dentists. There is a need to address health inequalities in the Oral healthcare sector because the oral health problems if not addressed in time, may open the door for several other health issues including diabetes, endocarditis, cardiovascular, and respiratory diseases [1]. There has been found an increasing trend in the Oral health-related inequalities among the people belonging to different socio-economic groups living in the low-, middle- and high-income countries. The present study focuses on the occurrence and implications of inequalities in the oral health sector as well as their relationship with the socioeconomic determinants in the pretext of the 21st century.

Keywords: Inequalities; Oral healthcare; Socio-economic determinants; Dental caries; Periodontal diseases; Strategies; Oral healthcare challenges

Introduction

Statistics on the Global Burden of Disease reveal that oral diseases affect approximately 50% population of the world i.e, 3.58 billion reported in 2016). Dental caries, tooth loss and oral cancers rank among the top oral health issues in the world [2]. The oral health-related morbidity data mainly owes to the health sector inequalities, which have long been recognized as a universal phenomenon. The WHO Commission on Social Determinants of Health has declared that no effective measures have been taken by the nations to curtail health-related inequalities [3]. Health

inequalities refer to the disparities among the capacity of the people to make choices to avail quality healthcare. Numerous social determinants such as social injustice, inequitable distribution of energy, goods, and services are responsible for health-related inequalities across the globe [4]. As health is one of the most important basic rights, such inequalities go against the principles of justice, fairness, ethics, and basic human rights [5]. The literature on health inequalities reveals that the prevalence of inequalities in Oral healthcare is more pronounced. The oral health inequalities have been recognized at the global level as is evident from the establishment of the Global Oral Health Inequalities Taskforce [6]. Like medical illness, oral health diseases excessively affect the low-income and poor people based on Beal`s suggestion that *"it's the poor wot gets the blame"* [7] but the rich enjoy luxuries. Such discriminatory access to Oral-healthcare-services based on the socioeconomic status of the poor people is termed as *"Oral health inequalities"*. Oral health inequalities are defined as *"The differences in rates of poor oral health (conditions which are largely preventable) and access to timely, affordable and acceptable dental care"* [4]. Numerous clinical health indicators determine the degree of inequalities in oral health sectors, such as frequency of visitation to dental clinics, the prevalence of caries, mouth cancers, oral health-related quality of life, and self-perceived oral health from global ratings [8].

Determinants of the Oral Health-related Inequalities

Numerous non-medical factors (Figure 1) exert a significant impact on Oral health inequalities and health outcomes [5]. The WHO denotes these factors as Social Determinants of Health (SDH), which include the circumstances in which people are born, live, grow-up and work such as social background, income, social support/security, employment, literacy, basic amenities of life, food, and nutrition etc. [9].

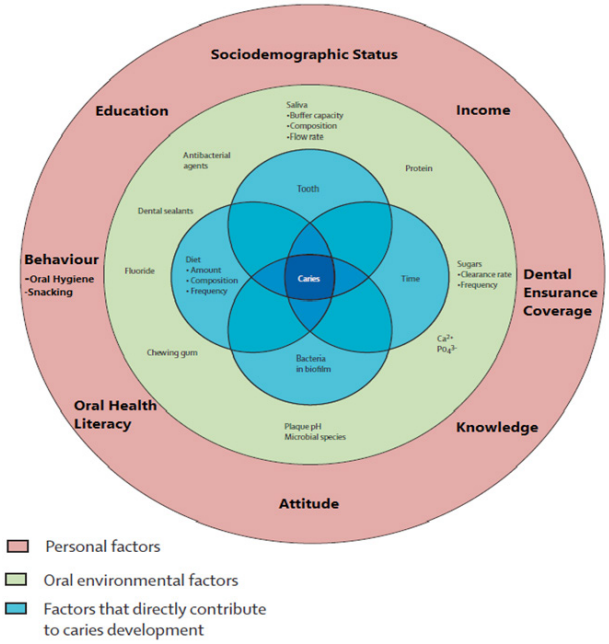
Source: Dahlgren & Whitehead, 1993

Fig-1 Social Determinants of Oral Health Inequalities

The SDH drive political agendas, socioeconomic policies, and development agendas that directly influence the level of health inequalities. People with low- income or those without employment and health insurance are generally unable to afford dental treatment as compared to those employed or belonging to the upper-middle-income groups. Likewise, food and nutrition influence health inequalities among the population e.g, malnutrition and eating of surgery foods may lead to the development of caries and other dental problems. Social support such as the availability of public transport also plays a significant role. Sometimes patients are unable to attend their appointment due to the availability of transport. There has been found a direct relationship between oral health indicators and the socioeconomic status of the people. In a study conducted in Australia, a loss of 5 teeth was recorded among the individuals under 35-44 years age group without health insurance. Whereas this loss was 3 teeth among their health insured counterparts. There was observed an increasing gap with respect to tooth loss with the age of the uninsured and insured groups. For example, uninsured individuals falling in the age group 55-64 lost 12 teeth, whereas their insured counterparts lost only 6 teeth. Likewise, the magnitude of oral health issues greatly varied in accordance with household income. There was found a fourfold difference in the severity of the oral health problems between the population with an annual income of ≤ $80,000 (7.5%) as compared to the groups with a household income of to ≥ $20,000 (27.9%) [10].

Dental Caries Related Oral Health inequalities

The statistics pertaining to the Caries related health inequalities depict vast gaps between developed and developing countries with a significant gradient in the prevalence of caries between the least developed and the advanced countries. As far as socioeconomic status is concerned, poor and underprivileged classes represent a higher prevalence of caries and tooth loss [10]. A deep probe of the issue associates numerous socioeconomic, cultural, and environmental factors resulting in Caries related health inequalities in the world (Figure 2). The socioeconomic factors shown in the outermost circle are the dominating determinants of caries related health inequalities followed by the secondary factors such as personal hygiene, use of mouthwash, fluoride, type of foods, and eating habits [11]. Apart from these factors, caries prevention programmes and the varying levels of awareness among different socioeconomic groups across the countries also contribute towards caries related health inequalities.



Source: Selwitz et al, 2007

Figure 2: Determinants of Caries related Oral Health inequalities.

Periodontal diseases and the Oral Health inequalities

Literature reveals that 90% of the world population suffers from dental diseases including periodontitis, gingivitis, dental caries, and resulting tooth loss in their life. Following caries, periodontal diseases rank 6th most prevalent dental problem in the world [12,13]. Both diseases if not treated well in time result in permeant tooth loss [14,15]. The periodontal diseases and caries represent the highest burden among oral health diseases particularly in socioeconomically poor and marginalized populations both in the developing and developed countries [16,17]. According to the information given in the "Oral Health Atlas", about 5-20% population living in the world suffers from periodontitis. Likewise, the prevalence of both peri-implant mucositis and peri-implantitis has been recorded as (19-65 per cent) and (1-47 per cent), respectively [18]. As stated in (Figure 1 and 2), income inequality has been directly associated with oral health inequalities related to periodontal diseases [19] followed by social capital [20].

Strategies to Reduce Oral Health Inequalities

To reduce inequalities in the oral health sector, various population-based approaches have been adopted by many countries [4]. The population-level strategies have been prioritized over high-risk approaches focusing only on the socially marginalized classes to fulfil Agenda 2030 of the UN General Assembly ensuring UHC for all. Improvement in the SHD has been given prime importance to enhance universal access to quality oral healthcare services irrespective of the socioeconomic background of the people. The WHO Commission on Social Determinants of Health [3], has asserted that the world has not adequately implemented population-based sustainable approaches to address health-related inequalities. It has been suggested that oral health inequalities may be better addressed if the social determinants improvement strategy is associated with a population-based approach. These population-focused interventions help in achieving equity and changing the social gradient at the universal level. To achieve this, we will have to shift conventional health research to Health-promotion research to enhance the scope and impact of health interventions as well as to reduce health inequalities among the population [21]. The health promotion strategy addresses people's behaviour that ultimately fosters the required change at the global level [9]. It has been suggested that in order to address oral health inequalities, improvement in the SDH should be the highest priority followed by public-health driven interventions aiming to change the context for health through making healthy choices easier [22].

21st Century and the Oral Heath related Inequality Trends

The share of dental treatment accounts for 5% of the total health expenditure ad 20% of the OOP expenditures. Due to the highest cost, dental treatment has not been made part of the UHC in many low- and middle-income [23]. Consequently, oral health inequalities are increasing in the world with time. Studies conducted in Brazil during 2011-2015 revealed an increasing trend in the prevalence of oral health problems in the country [24]. The oral health-related statistics from Canada and the United States of America have also shown an increasing trend of Oral-health inequalities. A study conducted during 1970 and 2000 revealed an increase in absolute difference from 10.40% to 19.50% in Canada and from 17.40 to 32.30% in the USA in terms of One or more decayed teeth. Likewise, an increase in relative difference was recorded from 1.22 to 2.21 in Canada, and from 1.50 to 4.08 in the USA [25]. The same increasing trend was observed in a study conducted in Iran during 1990-2010. There was found an increase in caries related DALYs from 37,230 to 56,521, periodontal diseases related DALYs from 21,482 to 43,308, oral cancer-related DALYs from 5,597 to 7,771, and for cleft lip and cleft palate related DALYs from 6,157 to 5,034 irrespective of ages and gender. All these statistics prove that Oral Health inequalities are increasing with time in the 21st century and there is a need to include Oral Health as a component of UHC in the world by the WHO as well as member countries.

References

1. Tynan A, Walker D, Tucker T, Fisher B. (2020). Factors influencing the perceived importance of oral health within a rural Aboriginal and Torres Strait Islander community in Australia. BMC public health, 20: 514.

2. WHO. 2020a. Oral Health.

3. CSDH-Commission on Social Determinants of Health (2008). Closing the gap in a generation: health equity through action on the social determinants of health. Geneva: World Health Organization.

4. Jamieson L, Gibson B, & Thomson WM. (2020). Oral Health Inequalities and the Corporate Determinants of Health: A Commentary. International journal of environmental research and public health, 17: 6529.

5. Whitehead, M.; Dahlgren, G. (1991). What can be done about inequalities in health? Lancet, 338: 1059-1063.

6. Sheiham, A, Alexander, D, Cohen, L, Marinho, V, Moysés, S, Petersen, P. E, Spencer, J, Watt, R. G, & Weyant, R. (2011). Global oral health inequalities: task group--implementation and delivery of oral health strategies. Advances in dental research, 23: 259-267.

7. Beal, J.F. (1998). Inequalities in health-It's the poor wot gets the blame. Community Dental Health, 15: 229-230.

8. Peres MA. Macpherson LMD; Weyant RJ, Daly B, Venturelli R, et al. (2019) Oral diseases: A global public health challenge. Lancet 394: 249-260.

9. WHO.2020b. Social determinants of health.

10. Sanders, A.E. (2007). Social Determinants of Oral Health: conditions linked to socioeconomic inequalities in oral health and in the Australian population. AIHW cat. no. POH 7. Canberra: Australian Institute of Health and Welfare (Population Oral Health Series No.7).

11. Selwitz, R. H, Ismail, A. I, & Pitts, N. B. (2007). Dental caries. Lancet (London, England), 369: 51-59.

12. Jin, L. J, Armitage, G. C, Klinge, B, Lang, N. P, Tonetti, M, & Williams, R. C. (2011). Global oral health inequalities: task group--periodontal disease. Advances in dental research, 23: 221-226.

13. Kassebaum, N. J, Bernabé, E, Dahiya, M, Bhandari, B, Murray, C. J, & Marcenes,W. (2015). Global burden of untreated caries: a systematic review and metaregression.Journal of dental research,94: 650-658.

14. Kassebaum, N. J, Bernabé, E, Dahiya, M, Bhandari, B, Murray, C. J, & Marcenes, W. (2014). Global burden of severe periodontitis in 1990-2010: a systematic review and meta-regression. Journal of dental research, 93: 1045-1053.

15. Silva-Junior, M. F, Sousa, A, Batista, M. J, & Sousa, M. (2017). Oral health condition and reasons for tooth extraction among an adult population (20-64 years old). Condição de saúde bucal e motivos para extração dentária entre uma população de adultos (20-64 anos). Ciencia & saude coletiva, 22: 2693-2702.

16. Corbet, E. F, Zee, K. Y, & Lo, E. C. (2002). Periodontal diseases in Asia and Oceania. Periodontology 2000, 29: 122-152.

17. Hugoson, A, Sjödin, B, & Norderyd, O. (2008). Trends over 30 years, 1973-2003, in the prevalence and severity of periodontal disease. Journal of clinical periodontology, 35: 405-414.

18. FDI World Dental Federation. 2019. Annual Report 2019.

19. Bernabé, E, Sheiham, A, & Sabbah, W. (2009). Income, income inequality, dental caries and dental care levels: an ecological study in rich countries. Caries research, 43: 294-301.

20. Pattussi, M. P, Hardy, R, & Sheiham, A. (2006). Neighborhood social capital and dental injuries in Brazilian adolescents. American journal of public health, 96: 1462-1468.

21. Kwan, S, Petersen, PE (2010). Oral health: equity and social determinants. In: Equity, social determinants and public health programmes. Blas, E, Sivasankara Kurup, A, editors. Geneva:World Health Organization, 159-176.

22. Milio, N. (1987). Making healthy public policy; developing the science by learning the art: an ecological framework for policy studies. Health promotion (Oxford, England), 2: 263-274.

23. WHO.2020c. Oral health: Key facts.

24. Silva Junior, M. F, Sousa, M, & Batista, M. J. (2020). Reducing social inequalities in the oral health of an adult population. Brazilian oral research, 33: e102.

25. Farmer, J, McLeod, L, Siddiqi, A, Ravaghi, V, & Quiñonez, C. (2016). Towards an understanding of the structural determinants of oral health inequalities: A comparative analysis between Canada and the United States. SSM - population health, 2: 226-236.