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Research Article

Oral Healthcare Situation in Ghana: The Case of the North

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Abstract

Oral healthcare in Ghana faces significant challenges, particularly in the five northern regions, where access to services remains limited. The shortage of oral health professionals has been a growing concern with a rising burden of oral diseases, maldistribution of Oral Healthcare Workers and limited resources for training. While Ghana's 2022 Non-Communicable Disease (NCD) Policy recognizes oral health as a priority, there is still no dedicated Oral Health Policy. Additionally, the country's revised 2020 Health Policy does not adequately address the gaps in oral healthcare. This paper explores the stark disparities in oral health services in Northern Ghana and offers practical solutions to bridge the gap. Northern Ghana continues to struggle with underdeveloped oral healthcare infrastructure and a severe shortage of dentists. Encouraging dental professionals to accept postings in the North is essential to improving access to care and reducing regional disparities. The World Health Organization (WHO) recommends a dentist-to-population ratio of 1:7,500, yet in Northern Ghana, the situation is far worse, with an estimated ratio of 1:582,583. Addressing this imbalance requires urgent policy intervention and strategic workforce planning to ensure equitable access to oral healthcare across the country.

Keywords: Health workforce, Oral health policy, Regional disparities, Dental professionals, Healthcare access, Northern Ghana

Introduction

Oral health has not been prioritized in global and national health policies, despite its crucial role in overall well-being [1]. Ideally, oral health should be fully integrated into all health policies [2] as it significantly impacts psychological [3,4] physical [2], social, and even spiritual well-being [5]. Moreover, oral health is not just an essential aspect of general health it is a fundamental human right [6]. While many developed nations have well-established oral health policies focused on disease prevention, several countries in the African sub-region, including Ghana, lack such policies [7]. This absence leaves oral health initiatives without a clear framework [8]. Oral diseases are among the most neglected Non-Communicable Diseases (NCDs), posing a significant public health burden in Ghana, comparable to malaria, if not worse [9]. According to the World Health Organization (WHO), oral diseases affect nearly half of the global population (3.5 billion people) [10]. Reports by the Global Burden of Disease (GBD) highlights dental caries, periodontitis, and tooth loss as the commonly presented oral health concerns [11]. Additionally, there has been a recent surge in Human Papillomavirus (HPV)-related oropharyngeal cancer, responsible for the increased morbidity and mortality [12]. Studies show that

nations with comprehensive Oral Health Policy (OHP) have lower prevalence rates of oral diseases, as compared to countries without such policies, like Russia, report higher prevalence, even among nations with similar socioeconomic standings [13]. Addressing this silent pandemic requires interventions at the macro- and micro-level, with policy development being a crucial macro-level approach [14]. Oral Health Policies (OHPs) play a pivotal role in improving accessibility to oral healthcare, ensuring that resources are allocated equitably, and setting benchmarks for oral disease prevention and treatment [13]. However, developing such policies is met with financial challenges and dire constraints in terms of human resource. Nevertheless, their importance cannot be overstated [15].

To ensure optimal dental health care delivery, the WHO recommends a dentist-to-population ratio of 1:7,500 [16]. However, in the Ghanaian context, it is faced with a severe shortage of dental professionals, predisposing the populations to rising oral health complications and preventable deaths. The establishment of the University of Development Studies School of Dentistry (UDS-SoD), first of its kind in Northern Ghana is a critical step in addressing this gap. Access to oral healthcare in Ghana is broadly hindered by the inadequate and skewed distribution of dental facilities and personnel [17]. This deficiency results in many patients presenting with severe oral health complications due to delay in seeking care. Additionally, Ghana has fewer dental surgeons serving a nation with a population which has grown to over 30.8 million, with 80% of them practicing in the southern regions [18]. The socioeconomic status of the indigens in Northern Ghana further exacerbates the issue. With majority of the population been peasant farmers with an annual income below $500, it makes it difficult for them to afford long-distance travel often over 400 kilometers to access dental services. Furthermore, motorcycles and tricycles serve as the primary means of transport, increasing their risk of road traffic accidents that lead to maxillofacial injuries [19]. This study seeks to highlight the state of oral health in Northern Ghana, examine the impact of the lack of an oral health policy, and outline key considerations for drafting a comprehensive policy. Additionally, it introduces the newly established University for Development Studies School of Dentistry, detailing its vision and mission in addressing the oral health crisis in Northern Ghana.

Materials and Methods

A wide literature search was carried out using Google Scholar and PubMed from September 2024 to March 2025. The retrieved studies were reviewed, and findings were prioritized and compiled.

Two independent reviewers screened and assessed the abstracts of the identified studies, selecting those relevant to the research objectives. In cases of disagreement, a third reviewer provided a final decision after carefully re-evaluating the abstracts. A total of Fifty (50) studies were shortlisted and critically evaluated for inclusion in this review.

Discussion

In Ghana, the training of high-level dental professionals is currently limited to two public universities: the University of Ghana Dental School and the Kwame Nkrumah University of Science and Technology. Additionally, there are two institutions responsible for training middle-level oral health professionals: College of Health & Well-being (public) and Garden City University College (private) in Kintampo and Kumasi respectively. At the policy making level, thus Ministry of Health (MoH) there is no policy on Oral Health. At the policy implementation level, the Ghana Health Service (GHS) lacks a dedicated Oral Health Directorate. Instead, there is a defunct Office of the Chief Dental Officer, which operates without a budgetary allocation for oral health activities. This gap in governance and financial support has contributed to significant challenges in oral healthcare delivery across the country. Recognizing these challenges, the University for Development Studies (UDS) established the first community-based School of Dentistry (SoD) in the northern sector of Ghana in May 2022. The Bachelor of Dental Surgery (BDS) programme was introduced to train highly skilled dental surgeons to address the growing oral health needs of Ghanaians, particularly those in the northern regions. The initiative aims to bridge the gap in the unequal distribution of dentists across the country.

The mission of the UDS-SoD is to establish a premier community-based dental training programme that provides high-quality dental care to the northern regions of Ghana and neighboring countries. UDS, has a mandate of addressing the unique challenges facing northern Ghana and the country as a whole. By promoting community-oriented and pro-poor educational programs, the university seeks to provide world-class training opportunities for talented but financially disadvantaged students. The BDS graduates will be equipped with the necessary knowledge and skills to function effectively in healthcare facilities across the country. Their presence will be particularly valuable in the five northern regions, where access to oral healthcare remains limited. If Ghana had a comprehensible oral health policy, it could have served as a guide for the training of these professionals and ensuring the establishment of the necessary infrastructure for effective oral healthcare service delivery [18].

Towards Oral Health Policy in Ghana

For any nation to chalk strides in its oral health, the formulation and implementation of a comprehensive Oral Health Policy (OHP) is essential. A well-structured OHP with clear goals that provide direction and vision for a country's oral healthcare system [20]. Evidence have shown that countries lacking OHP tend to have a higher burden of oral diseases compared to those with similar socioeconomic stature but with established working policies [21]. A national OHP is critical if the fight to reducing the prevalence of oral diseases is a goal. OHP provides a long-term framework typically spanning 10 years or more to spearhead national oral health initiatives and promote collaborative efforts among stakeholders

[22]. Additionally, an effective OHP features the current oral health status of a country and directs resources towards realizing targeted health outcomes. However, simply establishing an OHP does not automatically guarantee improved oral health outcomes [15,21]. The triumph of such policies hinges on factors such as the political will, budgetary allocation, governmental and stakeholder support, sustainability, and a multisectoral approach to the overall implementation [13,15]. A review of existing literature for this study revealed that Ghana's Revised Health Policy (2020) [23] does not include oral health as a key health sector indicator. This oversight reflects a broader global trend, where oral health is often not prioritized in national health policies, despite strong advocacy from international bodies such as the WHO and the Federation Dental International (FDI) [24,25]. Nearly half of the countries in the WHO African region lack a national OHP [24].

Lessons From Other Countries

A comparison with other lower- and middle-income countries in Africa, such as Nigeria, highlights common priority areas within their national OHPs [7,26], including:

a. Oral health promotion and disease prevention

b. Human resource development and capacity building

c. Access to standardized oral healthcare services

d. Financing of oral health programs

e. Research, monitoring, and evaluation

f. Health information systems

In contrast, Australia a developed country with a population size similar to Ghana has a well-defined National Oral Health Policy (2015-2024) to guide oral health service delivery. Australia's policy emphasizes workforce planning, recognizing a relative maldistribution of dental professionals. While workforce supply is projected to exceed demand by 2025, the country's focus remains on optimizing workforce utilization to address regional disparities [22,27]. For Ghana to address its oral health challenges effectively, the formulation of an OHP must not only focus on increasing the number of dental professionals but also consider equitable workforce distribution, sustainable financing, and integration into the broader health system [2]. A well-structured OHP, backed by strong governmental and stakeholder commitment, will serve as a blueprint for improving oral healthcare access and outcomes across the country.

Multi-Sectoral Approach and System Alignment in Oral Health Promotion and Prevention

Many aspects of oral diseases are preventable, and various oral health promotion strategies can be implemented to reduce the burden [28]. However, looking into the future, a well-coordinated and collaborative approach that brings together different strategies is the most effective way forward. The overarching goal of oral health promotion is to promote oral health at the community level rather than focusing only at the individual level. Since the implementation of the Ottawa Charter for Health Promotion, there have been key strides in health and for that matter oral health promotion globally [29]. In the case of India, a developing country, it has seen remarkable progress in Oral health after the introduction of their comprehensive oral health program [30].

The Ottawa Charter [29,30] provides a structural framework for formulating oral health programs by addressing the broader economic, social and environmental determinants of health. The five strategic action areas that should be given a priority include building healthy public policies, creating supportive environments, strengthening community action, developing personal skills, and reorienting health services.

Building healthy public policies involves interventions that aids in regulating sugar and tobacco abuse and advocating community water fluoridation to reduce the risk of oral diseases. Creating supportive environments encompasses ensuring access to fluoride, healthy diets, and the provision of safe water, which are very essential for maintaining good oral health. Strengthening community action means engaging in community-based outreach programs, expanding school-based oral health initiatives and interventions, and fostering collaboration among schools, non-profit organizations, and local governments to collectively reduce the burden of oral diseases. Developing personal skills focuses on educating individuals about oral hygiene, impact of nutrition, and risk reduction methods to empower them with the literacy they need to maintain good oral health. Reorienting health services requires shifting the focus from curative dentistry as this has been the usual to preventive dentistry and advocating for the integration of oral health into primary healthcare systems to ensure early intervention and long-term improvement of oral health [30].

Oral disease prevention and curative strategies significantly improve outcomes. However, a greater portion of the population globally is yet to fully benefit. This is largely due to sociocultural factors such as limited oral health literacy, extreme poverty and cultural beliefs that has the tendency of increasing the risk of oral diseases. The effect of poverty and illiteracy are twofold, as they do not only lead to poor oral health but also influence individuals' perceptions and behaviors toward seeking oral healthcare [31]. Addressing environmental risk factors is also critical to pushing the overall oral health promotion agenda [32,33]. Several communities still lack access to safe water and proper sanitation, which poses significant risks to both oral and overall health and well-being. The fight against high sugar consumption and unhealthy dietary habits must also be intensified at all levels, as these are leading risk factors for oral diseases in many communities. While improving access to oral healthcare services is important, the most effective approach lies in prioritizing primary care and prevention as the main strategy for combating rising oral diseases burden [34]. Despite the existence of various curative interventions, oral diseases remain

prevalent. This means that simply improving healthcare services might not be enough, and a fundamental shift toward oral health promotion is essential to achieving long-term improvements in oral health [35].

Targeted oral health education has been recognized as a crucial tool in health promotion [36], particularly for adolescents, who make up a significant portion of the global population [37]. Adolescence spans from ages 10 to 19 [38], this age group are vulnerable to excessive consumption of sugary foods, carbonated drinks, tobacco, and alcohol, which can contribute to oral diseases and, in some cases, precancerous lesions. Targeting effective partnerships aimed at educating and protecting young people from oral health risks is key since adolescents are part of families, schools and communities. Evidence suggests that a combination of professional, community, and individual-level strategies is the most cost-effective and innovative approach to preventing oral diseases [30]. A multi-sectoral approach to oral health promotion that combines education, policy interventions, and community participation is essential for the success of health initiatives [39,40]. Identifying and implementing evidence-based strategies in alignment with the Ottawa Charter principles can help reduce global oral health disparities. Governments and healthcare systems must advocate for the integration of oral health promotion into broader public health interventions to improve quality of life and prevent the burden of oral diseases on a global scale.

Access And Quality in Oral Health

Access to oral health refers to the freedom or ability of individuals or populations to utilize oral healthcare services [41], while utilization is the actual ability to use these services [11]. Access to affordable and quality dental healthcare remains a significant challenge worldwide, affecting the optimization of oral health services, according to the FDI World Dental Federation [42]. The situation is no different in Ghana, particularly in the northern regions, where disparities in access to oral healthcare are pronounced. The major barriers contributing to this challenge in Ghana, as in many other developing countries, include low levels of oral health literacy, high costs of dental treatments, uneven distribution of the oral health workforce, and limited prioritization of oral health interventions. Additionally, the availability of routine curative care and preventive services is inadequate. Political commitment is also crucial, as limited efforts have been made to integrate oral health into essential health services [34,43].

Several well-meaning organizations have taken steps to put to an end barrier to oral healthcare by advocating for equal access. Displaced persons, disable, mentally derailed, and to the elderly are at the greatest risk of not benefiting [44]. Teledentistry and mobile community dental outreach services serve as interventions that help expand access to oral healthcare [45]. The barriers to oral healthcare accessibility remain prevalent including high cost of dental treatment, workforce shortages, low level of oral health literacy, inadequate coverage by insurance, and the systemic neglect of oral health in achieving the universal health coverage (UHC) goal [42]. The revised FDI Policy Statement advocates for equitable access to oral healthcare by integrating it into general healthcare, promoting disease prevention, and addressing barriers both at the structural and individual level. Recommendations include oral health education, community-based interventions, workforce expansion through teledentistry, and legislative measures to reduce shared risk factors such as tobacco abuse and sugar consumption. Provision of incentivizes for the provision of services in underserved areas is non-negotiable in improving oral healthcare through disease screenings, timely referrals, and preventive measures [42].

The directive to appoint Oral Health Focal Persons in each region by the Director-General of the Ghana Health Service underscores a significant boost in oral healthcare. In a letter dated March 10, 2025, addressed to all sixteen regional directors of health services, he emphasized the urgent need to strengthen oral health activities nationwide as part of Ghana's Non-Communicable Disease (NCD) strategies. This initiative seeks to raise consciousness, promote oral health screenings, enhance community engagement, and integrate oral health services into broader public health education interventions [46].

Workforce Challenges in Oral Health

The World Health Organization (WHO) advocates a dentist-to-population ratio of 1:7,500 to ensure ultimate dental healthcare distribution [16]. However, in Northern Ghana, the situation is far away from ideal. Among the five northern regions, only three regions (Northern, Upper East and Upper West) have dentists, while Savannah and North East regions have none. This dire shortage of oral health professionals emphasizes on the urgent need for workforce expansion programs, and provision of incentives to lure dentists to these underserved areas.

Table 1: *Source Population Data: Population Census, 2021.*

Sn	Region	Population	Number of Dentist	Dentist: Population Ratio
1	Upper East	1,301,221	1	1: 1,301,221
2	Upper West	901,502	2	2: 450,751
3	North East	658,903	0	-
4	Savannah	653,266	0	-
5	Northern	2,310,939	7	1; 330,134
	Total	5,825,831	10	1:582,583

Workforce and Human Resource Planning in Oral Health

A fundamental component of implementing the policy is ensuring the availability of a capable workforce who are able to meet the community's needs. Effective planning and management of human resources are essential for delivering quality oral healthcare services. However, in many developing countries, the reality is a severe shortage of oral health professionals [15]. The prevalence of oral diseases remains high across populations, including young children, making it critical to prioritize human resource development [47]. In Ghana, oral health facilities are staffed by two main categories of professionals: dentists and middle-level dental professionals. The latter includes Dental Surgery Assistants, Dental Therapists (Physician Assistants - Dental) formally Community Oral Health Officers (COHO's), Dental Technicians, and Dental Hygienists. However, training programs for some of these professionals are no longer available in the country.

Training of middle-level dental professionals is currently by the College of Health and Well-Being, and Garden City University. Additionally, the Methodist Faith Health Hospital Dental Nursing School in Ankaase has initiated a program to train Dental Nurses [48]. According to the Medical and Dental Council's register, the total number of registered dentists in Ghana as of 2023 was 432 [49]. Since its inception, the College of Health has trained approximately less than thousand Dental Assistants according to data from the Kintampo Oral Health Training and Service Center. When compared to Ghana's total population, these numbers are grossly inadequate to meet the country's oral healthcare needs. In Northern Ghana, the shortage is particularly severe. Out of the total number of dentists as reported per the MDC's 2023 register, only 10 (2.3%) are based in the five northern regions, while 97.7% of dentists work in the middle and southern parts of the country. This unequal distribution of oral health professional's further limits access to dental care for communities in the north, highlighting the urgent need for workforce expansion, and incentives to encourage dental professionals to serve in underserved regions.

Research

The collaborative efforts of dental professionals and researchers have significantly contributed to advancements in dentistry, shaping its past, present, and future. Without such collaboration, dentistry would not have achieved its current strides, particularly in the development of smart biomaterials, tissue engineering, functionally graded materials, 3D printing, and tele-dentistry. However, many questions remain unanswered, especially regarding the etiology of certain oral diseases, baseline data on dental health issues, and optimal treatment approaches [50]. Additionally, some critical areas have yet to receive adequate attention. These include the validation of dental materials such as new resins and preventive products, the effectiveness of pharmaceutical products used in oral healthcare, and the evaluation of new treatment protocols introduced by researchers. Addressing these gaps is essential for improving patient care and advancing the field of dentistry [50]. Dental professionals play a crucial role in investigating unresolved challenges and driving the evolution of dentistry in Ghana. Integrating research into student training and providing mentorship opportunities can help foster a passion for research among early-career dental professionals. Faculty members at dental schools and training institutions can also collaborate with their students to conduct research aligned with local healthcare needs, which will improve the availability of reliable data to inform both clinical practice and policy decisions whiles harnessing evidence-based practice.

Conclusion

It is recommended that a National Oral Health Policy be formulated to address oral health as a significant component of the overall health burden in Ghana. Several critical questions need to be asked within the dental fraternity. What is the current state of dentistry in Ghana, and what does its future look like? Without a clear roadmap, how can we assess its growth and development? Are there benchmarks to guide the establishment of dental schools and the training of middle-level dental professionals? Evaluation of collaboration among major stakeholders, including the Ministry of Health (MoH), Ministry of Education (MoE), Medical and Dental Council (MDC), Allied Health Professions Council (AHPC), Ghana Dental Association (GDA), Oral Health Professionals Association of Ghana (OHPAG), civil society organizations (CSOs), Non-Governmental Organizations (NGOs), and development partners is key. Additionally, how has research in oral health been promoted, and to what extent has technological advancement influenced current dental practices? Another pressing concern is the affordability and accessibility of dental care services. Are the temporary preventive and promotive oral health services sustainable, and are they making a significant impact? As more individuals venture into dentistry due to its perceived financial returns, there is a growing need for effective regulatory measures. What gatekeeping systems have been put in place by regulatory bodies to ensure that standards and quality of care remain a priority? It is crucial to prevent unqualified individuals from practicing clinical dentistry, thereby protecting the public from substandard care and potential harm. A well-structured policy framework, coupled with stakeholder collaboration, research, and regulation, will be essential in shaping the future of oral healthcare in Ghana.

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Competing of Interest

None.

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