



## Burden of Different Types of Dental Cases Seen in Hospitals across Twenty Districts of Bhutan.

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### ABSTRACT

**Objective:** The objective of this study is to see the burden of different types of dental cases seen in hospitals across twenty districts of Bhutan.

**Methods:** Data was collected from the Annual Health Bulletin (AHB), 2020. The collected data was scrutinized and described appropriately. The data related to common dental procedures were collected from all 20 districts of Bhutan. Except for one district, all other 19 districts had furnished the details in the AHB, 2020. The data comprised of treatments/part of treatments given for various dental problems like oral prophylaxis, scaling, restorations done, tooth/teeth extractions and medications done. Other problems and treatment given were covered under "others". This covers all other problems/treatment not mentioned here-in like root canal treatments (RCT), various benign oral lesions, swellings, growths, mucocele, red and white lesions, vesiculo-bullous lesions, jaw problems, orthodontic problems, prosthesis given, biopsies and oral pre cancers and cancers.

**Results:** At least 25% of the Bhutanese people had suffered from one or other type of dental illness in 2019. Thimphu district had seen the highest number of dental patients at 7% of the total population followed by Chukha and Sarpang districts at 2% each of the total population. The least numbers of patients were seen in Gasa and Lhuentse district at 0.14% and 2% respectively. Going by the procedures done, dental extractions performed was the highest among all the procedures.

**Conclusion:** From this study, it can be concluded that our people visit hospital for dental care at the last stage, where the tooth/teeth cannot be salvaged. Annually 25% of the people visit hospitals for dental problems indicating that the oral hygiene of our people is not satisfactory and at least 25% of our people suffer from dental illness every year. Oral health has direct impact on overall health, therefore, it is recommended that a proper study be done to address the existing dental problems in our community.

Keywords: Dental procedures, Districts, Oral health, People, Bhutan.

### 1. Introduction

Bhutan is a small country in the Himalayan range in South East Asia sandwiched between mighty India on the south and China on the north. It has an area of 38,394 square kilometers with a projected population of 7,71,608 for 2020 according to the National Statistics Bureau of Bhutan(1). All types of health services including dental services are provided by the Royal Government of Bhutan free of cost. The services are delivered through a three-tiered health system comprising of Out Reach clinics, Primary Health care centers and Hospitals. There are 50 Hospitals, 185 Primary Health Care Centers, 45 Sub-

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posts, 5 HISC, and 551 Out Reach Clinics under the Ministry of Health and 18 health facilities outside the purview of Ministry of Health spread across the 20 districts of Bhutan.

Oral health is an integral part of overall health. At present oral diseases are among the most widespread diseases all over the world. It does not pose major mortality threat but it influences the general health of the people(2). The mouth is the only gateway to the body and everything we eat or drink has to pass through it(3). To provide proper oral health, the Royal Government of Bhutan has placed Dentists to all the hospitals of the country. There are 120 registered Dentists in Bhutan as of December 2020 as per the Bhutan Medical and Health Council records(4). Dental caries and mouth cancer are highly prevalent in our society. As per the study by Ngedup et al. in 2016 dental caries in 6 years old was as high as 80% (5). A recent study by Bajgai et al. showed that caries among elderly Bhutanese population is at 41.8% (6). Some 80% of the elderly people didn't have teeth in their mouth and 46% had root stumps in their mouth(6). The presence of root stumps may be a potential source for developing cancers. Cancer is one of the major non-communicable diseases (NCD) and its burden can be reduced if their modifiable major risk factors are addressed through public health interventions (7, 8). The oral cavity cancer is one of the commonest types of cancers in the world with the estimated age standardized rate of 4.0 for every 100,000. It is also one of the first leading types of cancer in terms of new cases and the second leading types in terms of deaths among males in South Central Asia (7-9). In Bhutan, the head and neck cancer was the fourth leading types of cancer as per the Cancer Facts in Bhutan published by the Bhutan Cancer Society in 2015(10). The three other more common cancers apart from head and neck cancer in Bhutan are stomach, cervix, and colorectal cancers (10). According to one of the recent study by Tshering et al. in Bhutan on head and neck cancers, it is seen that it has taken over other cancers becoming the 3<sup>rd</sup> most common cancers only next to stomach and cervical cancers in Bhutan (11). Oral cavity cancer is one of the top most sites among the head and neck cancers and is more common in men than women (11).

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## 2. Methods

Data was collected from the Annual Health Bulletin (AHB), 2020. The collected data was scrutinized and described appropriately. The data related to common dental procedures were collected from all 20 districts of Bhutan. Except for one district, all other 19 districts had furnished the details in the AHB. The data collected comprised of treatments given for various dental problems like oral prophylaxis given, scaling, restorations done, tooth/teeth extractions done. Other problems and treatment given were covered under "others". This covers all other problems/treatment not mentioned here-in like root canal treatments (RCT), various benign oral lesions, swellings, growths, mucocele, red and white lesions, vesiculo-bullous lesions, jaw problems, orthodontic problems, prosthesis given, biopsies and oral precancers and cancers.

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## 3. Statistical Analysis and Results

Since this is a retrospective descriptive study. We didn't use any tool for analysis however, the results were described appropriately. At least 25% of the Bhutanese people had suffered from one or other type of dental illness in 2019. Thimphu district had seen the highest number of dental patients at 7% of the total population followed by Chukha and Sarpang districts at 2% each of the total population. The least numbers of patients were seen in Gasa and Lhuentse district at 0.14% and 2% respectively. Going by the procedures done, dental extractions performed was the highest among all the procedures.

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## 4. Discussion

In our study we saw that our people visited hospital very late despite all the medical and dental services provided by the state. There is no medical or dental insurance, however all the medical and the primary and emergency dental services are completely free in Bhutan. Head and neck cancer, including oral cavity cancer is the 3<sup>rd</sup> highest in the country (11). The prevalence of dental decay/caries is very high (5, 6). Many elderly patients are observed having lot of root stumps in the mouth which could cause repeated trauma and cancer ultimately (6, 11). The presence of root stumps in the mouth is a concern. These root stumps cause chronic irritation and may cause mouth cancer in the long run(12). Dental caries and periodontitis burden is still very high among elderly people (13). Mucosal diseases were also common in elderly and adult patients due to medications or side effects of long term medications. Even if they perform these procedures normally, they still have higher chances of having poor oral health due to hypo-functioning of salivary glands resulting in decrease of salivary flow(14).

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## 5. Conclusion

From this study, it is understood that our people visit hospital for dental care at the last stage, where the tooth/teeth cannot be salvaged. This study also highlights that 25% of the people visiting hospitals for dental problems indicate that the oral hygiene of our people is not satisfactory. Since oral health has direct impact on overall health, it is recommended that a proper study be done to address these existing dental problems in our community.

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