

# Evaluation of the Need for Dental Prostheses in the Senegalese Population: Review of the Literature

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**Abstract:-** This article presents the results of a literature review of studies conducted on the assessment of dental prosthesis needs in Senegal. It focused mainly on edifying resources such as: PubMed, Google scholar, CAIRN INFO, HAL, SPRINGER, and the Cheikh Anta Diop University of Dakar (UCAD) Digital Library. The results of the studies included in the review were unanimous in stating that there is a real need for dental prostheses in the Senegalese population. The review also showed that a multitude of determinants is associated with the definition of needs (felt or diagnosed) in the subjects. These are: socio-demographic and economic characteristics, facilitating factors and those related to the care systems. These results were used to develop a conceptual framework for a study on the determinants of demand for dental prostheses in Senegal.

**Keywords:-** Assessment, Determinants, Needs, Demand, Dentures, Senegal.

## I. INTRODUCTION

The World Health Organisation (WHO) has stated that oral diseases are a global health problem, especially in the poorest communities. It is the fourth most expensive disease to treat worldwide [1]. It is estimated that there are more than five billion cases of dental caries in the world [2].

In Senegal, the prevalence of caries is 76.3%. [3]The country is still far from WHO standards in terms of human resources (one dental surgeon per 1000 inhabitants) with a ratio of one surgeon per 32 500 inhabitants [4] . They represent the first reason for edentulism.

Due to several factors (lack of awareness, low income etc.), tooth extraction remains a very common activity for dentists, yet poor oral health affects patients physically and psychologically. The absence of teeth leads to difficulties in mastication and phonation and therefore in communication, disrupts the aesthetic appearance of the face, modifies eating habits (which can lead to deficiencies and malnutrition) and can constitute a risk factor for cardiovascular diseases and many other problems. [5]. One of the main reasons for this is that too little attention has been paid to the social determinants of oral health [6].

Since every 'health problem' translates into 'health needs', the need for dental prosthetic rehabilitation becomes a reality of concern in the population in relation to caries-related consequences. Identifying the determinants of oral health needs in the population would be the first step in planning public health responses [7].

Thus, as part of a doctoral thesis in community health, we are interested in evaluating the determinants of the demand for dental prostheses in Senegal.

This article aims to analyze the need for dental prostheses in Senegal and to propose a conceptual framework for measuring the determinants of demand.

## II. METHODS AND MATERIALS

This was a rapid systematic review, this method is defined as "a synthesis of knowledge in which the steps of a review are accelerated and the methods streamlined to achieve the review in a rapid timeframe" [8]. The literature review was based on edifying resources available such as Pubmed, Google scholar, CAIRN INFO, HAL, SPRINGER and the UCAD Digital Library. Our searches were based on the following keywords and combinations of keywords: "evaluation", "needs", "demand", "dental prosthesis", "Senegal" for the period from 2000 to 2021. A total of 15 documents (articles, theses, dissertations) were found, but only 08 were exploited to produce the analytical narrative synthesis because of their direct correlation with our theme (Table 1).

Types of documents	Documents reviewed	Selected documents
Scientific articles	10	5
Theses/dissertations	5	3
Total	15	8

Table 1:- Types and number of documents examined and selected

### III. RESULTS

The article by Ka, 2002 on the "evaluation of dental prosthesis needs in the commune of Dakar" showed that only 10% of the sample wore a dental prosthesis, with a predominance of women (63.4%) and the elderly. 53.8% of the subjects needed dentures compared to only 7.2% who felt the need. The study revealed that the need for dentures was real and very important. It concluded that the lack of prevention, financial and geographical inaccessibility influence the demand [9].

In a study by Gueye et al, 2015 [10] in an urban population in Dakar, the felt need was 7.2% and the diagnosed need 53.8% among subjects. Women, the elderly, and low-income people had the most diagnosed need. According to this study, a better organization of the social and healthcare system could facilitate the accessibility of prostheses to disadvantaged populations. A similar study conducted in Senegalese dental practices by Mbodji et al, 2011, found that the average number of missing teeth was 4.4 among subjects. Expressed need was 55.3% compared to 81.8% diagnosed need. A statistically significant difference between the 2 was noted ( $p < 0.0001$ ). The lack of prevention and the inaccessibility of health facilities are thought to be at the root of this situation [11].

According to Gueye. et al, 2014 the need for dental prosthesis would increase with age due to edentulism which is more frequent in the elderly [12]. Difficult and precarious socio-economic conditions mean that people do not have sufficient financial means to pay for prosthetic treatment [13], [14].

In the same vein, Faye and Gaye [15] assessed the community's perception of oral health in Diamniadio. The study estimated the unmet need for prostheses at 60% among the subjects. The reasons given by the subjects for not using prostheses were high cost, lack of local supply structures and lack of information. The same study conducted by Cissé and Gaye (2016) in Richard Toll (Saint Louis) also showed that prostheses were worn by only 12.4% of edentulous subjects, even though the identified need was very high. The better availability of the service in the Dakar region compared to the more remote regions could explain this situation [4], [15].

The results of LÔ et al (2011) [14] have shown that people in urban areas consume more services while those in rural areas are more concerned by high expenditure because they bear more burdens such as transport, etc.

### IV. DISCUSSIONS

The literature has demonstrated a significant need for dentures in the Senegalese population. For various reasons, a significant difference exists between the needs (felt and diagnosed). Age, gender, education level, income level, accessibility of services are intimately related to the definition of denture needs in edentulous people [9]-[11], [14], [15].

In total, three main factors were identified as being elements to be considered in the evaluation of the determinants of the demand for dental prostheses by the Senegalese population: socio-economic and demographic characteristics, facilitating factors and factors related to health care systems.

The conceptual framework of our study, which is concerned with the "assessment of the determinants of demand for dental prostheses", will be built on the basis of these factors and adapted to the conceptual model of Thaddeus and Maine [16] (Fig. 1).

### V. CONCLUSION

Finally, identifying the determinants of oral health in the population is the first step in planning public health programmes [7]. This literature review contributed to the development of our conceptual framework and justified the relevance of our research topic which will contribute to the resolution of a public health problem.

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➤ Annex:

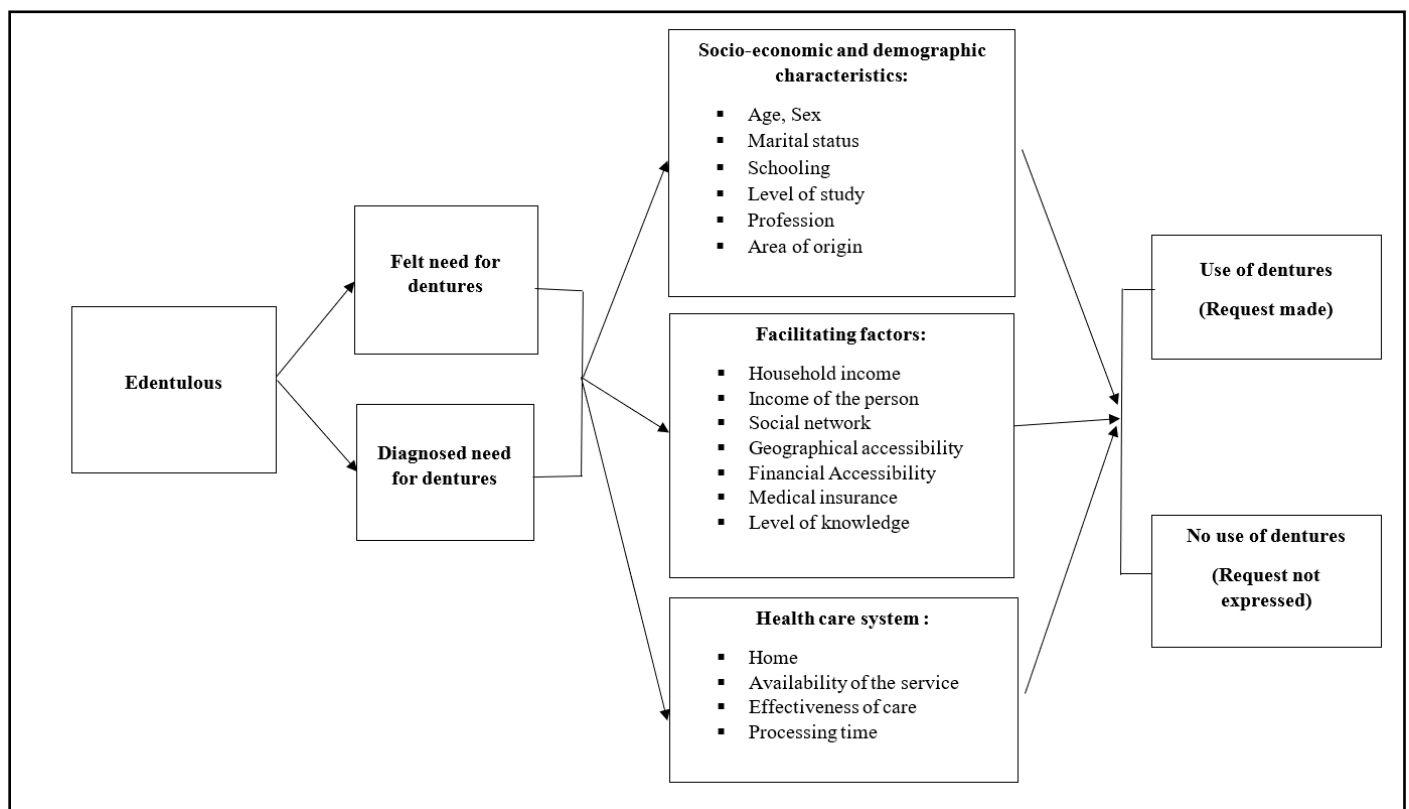


Fig 1:- Conceptual framework for the study of the determinants of demand for dental prostheses