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Prosthetic status and treatment needs among Tibetan refugees residing in Shimla, Himachal Pradesh, India

Estado protético e necessidades de tratamento entre refugiados tibetanos residentes em Shimla, Himachal Pradesh, Índia

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Abstract

Objective: Oral health is an integral part of the general health, however, it has been given lower priority than other health problems, especially among the underprivileged refugee population. Seventy percent out of the total refugees in the world belong to Tibet. This study aimed to assess the prosthetic status and treatment needs of Tibetans residing in Shimla, Himachal Pradesh, India and to explore and suggest a better oral health care provision to them. **Material and methods:** Tibetans above the age of 12 years were included in this cross-sectional study. ADA (American Dental Association) Type-3 examination was conducted. Data regarding demography and oral health practices were recorded on a structured format. For recording prosthetic status, WHO Proforma 1997 was used. The data were analyzed using the SPSS statistical software. Chi-square test, Student T test, and ANOVA Test were used. **Results:** Partial dentures in maxillary arch and mandibular arch were 3.9 and 1.25% respectively; 1.1% of the subjects had complete denture and the highest number of them were males; 58.2% of subjects needed prosthesis in maxillary arch and 54% needed prosthesis in mandibular arch. Prosthetic needs in all the categories were higher for maxillary arch. **Conclusion:** The study showed poor prosthetic status and high need for prosthetic treatment among Tibetan population. Treatment requirement steadily increased with the advancement of age, and was also related to other factors such as poverty, education, and their tough life in which oral health is given no priority.

Keywords: Tibetan. Refugee. Prosthetic status. Treatment needs. Himachal Pradesh.

Resumo

Objetivo: *Apesar da saúde bucal ser parte integrante da saúde geral, menor prioridade tem sido dada a ela em relação aos demais problemas de saúde, especialmente entre a população de refugiados desfavorecidos. Do total de refugiados no mundo, 70% pertencem ao Tibete. O presente estudo tem como objetivo avaliar o estado e as necessidades de tratamento protético de tibetanos que residem em Shimla, Himachal Pradesh, na Índia, bem como explorar e sugerir melhor prestação de cuidados à saúde bucal deles.* ***Material e métodos:*** *Tibetanos com idade acima de 12 anos foram incluídos neste estudo transversal. Exame tipo-3 da ADA (American Dental Association) foi realizado nos voluntários. Os dados sobre demografia e as práticas de saúde bucal foram registrados em formato estruturado. O registro do estado da prótese foi feito com base no Proforma 1997 da OMS. Os dados foram analisados usando o software estatístico SPSS. Foram utilizados o teste qui-quadrado, teste t de Student e ANOVA.* ***Resultados:*** *próteses parciais no arco superior e inferior foram 3,9 e 1,25%, respectivamente. A porcentagem de indivíduos com prótese total era de 1,1%, sendo a maioria do sexo masculino. A porcentagem de indivíduos com necessidade de prótese na arcada superior era de 58,2% e 54% na arcada inferior. As necessidades protéticas em todas as categorias foram maiores para o arco superior.* ***Conclusão:*** *O estudo revelou uma situação protética pobre e uma alta necessidade de tratamento protético entre a população tibetana. A necessidade de tratamento aumenta com o avanço da idade e também está relacionada a outros fatores como pobreza, educação e a vida difícil dos tibetanos, na qual a saúde bucal não é prioridade.*

Palavras-chave: *Tibetano. Refugiado. Qualidade protética. Necessidades de tratamento. Himachal Pradesh.*

Introduction

Oral health is the integral part of general health. Pain and disability that result from oral diseases affect the quality of life(1) by changing how we chew, speak, taste, and smile. These oral impairments can diminish social interaction, self-esteem, and self-image of people. The importance of oral health for the attainment of total well-being has long been recognized. However, oral health has been given lower priority than other health problems, especially among the underprivileged population such as poor minorities in developing countries and refugees (2).

These populations are less likely to get the required dental care than their native counterparts. After their arrival, they have limited access to care because of cultural and language barriers, low awareness of the health system, and lack of financial resources (3). Seventy percent out of the total refugees in the world belong to Tibet (4). Out of 145,150 Tibetan refugees, 101,242 live in India (5).

Although the central Tibetan administration in Dharmshala has established primary health care centers in almost every settlement in Himachal Pradesh, studies from volunteer westerns and Tibetan health workers suggested an extremely poor oral and general health situation among Tibetans (6). The dental treatment of these refugees is often limited to antibiotics and extraction when in pain because of their social and financial position, which resulted in a high prevalence of edentulousness among Tibetans.

Though Tibetans are refugees living in India, them and the Indians are intrinsically bound since 1959. Thus, it is our moral responsibility to take care of their health aspects. Since there are no earlier studies regarding oral status and treatment requirements of the Tibetan population in Himachal Pradesh, this study has been considered as an eye opener to assess the prosthetic status and treatment needs of Tibetan population, and it aimed to explore and suggest a better oral health care provision to them.

Materials and method

Since this study was a work of H.P. Govt. Dental College and Hospital Shimla, we obtained ethical clearance from the ethical committee of the institute. After obtaining the consent from the Tibetan welfare officer of Shimla, the

study was performed with the Tibetan population, spread in the various colonies in the city of Shimla. A pilot study was conducted among 50 Tibetans, and its format was updated. A request letter of the principal was processed and the written consent was obtained. The cross-sectional study was conducted between the period of 02-26-2009 to 04-08-2009, covering 636 Tibetan population. The study was systematically conducted on a prescheduled timetable. The help of local Tibetan leaders were taken for translation purpose.

A community health worker of the Tibetan colony accompanied and assisted the study for arranging the survey camp and translating. The study was conducted in the habitats of Tibetan refugees utilizing the available furniture. All Tibetans above the age of 12 years were included in the study.

After obtaining informed consent data regarding personal details and oral hygiene practices, dental problems and care when seeing the population were recorded in an updated format and followed by oral examination. ADA (American Dental Association) Type- 3 examination (7) was conducted. For recording prosthetic status and treatment need, WHO Performa (8) was used. Blood pressure was also recorded for all the subjects above 30 years as well as a screening test for cardiovascular disease for referral purpose. Instruments were sterilized by autoclaving before taking them to the field. Later in the field, chemical sterilization was followed and disposable ice cream sticks were used.

Tibetans were also health educated – we gave a demonstration of tooth brushing on a model and distributed free toothpastes. For those subjects who needed detailed treatment, a referral card were issued and they were motivated to take the treatment at Govt. Dental College and Hospital Shimla.

The collected data were entered into a MS-Excel sheet and analyzed using the SPSS, statistical software (SPSS version 11.05). We considered significant a p value < 0.05 . Confidence interval was taken at 95%. The statistical tests used were: Chi-Square test, T-test, and One-way ANOVA. Socioeconomic status was evaluated by B.G. Prasad's classification, which was modified using Aggrawal criteria (9).

Results

The mean age of subjects was 39.63 years. Median age was 36 years, and the range was 12-101 years. Children below the age of 12 years were excluded from the study, being 58.1% males and 41.9% females. A considerable number of the subjects were unemployed (25.1%).

Socioeconomic status was measured using B.G. Prasad's classification. Most of the subjects (93.7%) were in the poor class, and 38.6% of the subjects were uneducated.

More than 90% of the Tibetans brushed their teeth once a day with a toothbrush and a tooth paste.

Dental treatment

When subjects were asked whether they have any tooth problem or not, 85.2% of them answered in the affirmative. However, only 39.6% of the subjects had gone to a dental hospital to seek dental care, and only 44.3% of the subjects were aware of any health center in their nearby area.

Prosthetic status and treatment need

When the prosthetic status of subjects was studied, we found that partial dentures in maxillary arch and mandibular arch were 3.9 and 1.25 respectively. Of the subjects, 1.1% had complete denture, and the highest number of them were males (Table 1).

When prosthetic needs of the subjects were estimated, we found that 58.2% (370) of subjects needed prosthesis in the maxillary arch, and 54% (353) needed prosthesis in the mandibular arch. Prosthetic needs in all the categories were higher for maxillary arch. Fifty-six subjects required complete denture in the maxillary arch, and 54 required complete denture in the mandibular arch (Table-2).

Discussion

The present study was carried out to assess the prevalence of prosthetic status and treatment needs of Tibetan population in Shimla Himachal Pradesh.

Table 1 - Prosthetic status according to gender

Prosthetic status	Maxilla				Mandible			
	Male		Female		Male		Female	
	%	No	%	No	%	No	%	No
No prostheses	93.9	340	94.8	260	96.4	349	99.26	270
Bridge	0.97	3	0.36	1	0.28	1	0	0
More than 1 bridge	0	0		0	0.28	1	0	0
Partial denture	3.6	13	4.48	12	1.66	6	0.72	2
Full removal denture	1.53	6	0.36	1	1.38	5	0.72	2
Total	100.0	362	100.0	274	100	362	100.0	274

Table 2 - Prosthetic need according to gender

Prosthetic need	Maxilla		Mandible	
	Male	Female	Male	Female
	No(%)	No(%)	No (%)	No (%)
No prostheses	144(39.7)	122(44.5)	192(53)	91(33.2)
One unit prostheses	34(9.39)	26(9.48)	33(9.1)	28(10.2)
Multi-unit prostheses	26(7.18)	16(5.83)	21(5.8)	20(97.2)
Combination of one or/and multi-unit prostheses	78(21.54)	86(31.38)	99(27.3)	90(32.8)
Complete denture	32 (8.83%)	24(8.75)	28(7.73)	26(9.48)
Total	100.0(362)	274(100.0)	100.0(362)	100.0(274)

P (Maxilla)-.004 (Mandible)-.003 (significant)

We found that one person was more than 101 years old and 23.3% of the population falls above the age of 55 years. This clearly indicates that the proportion of the population above the age of 55 years is considerably higher. The longevity of the Tibetan population living in India is higher despite all the problems they are facing such as social insecurity, poverty, and refugee ships, among others. This definitely requires a further study to know the secret of longevity of life among Tibetans. The number of males were higher than the number of females, and this ratio (1000:719) was found higher than the ratio of Indian population.

There is a good literacy rate (61%) among the Tibetan population. The illiterate and uneducated people are older adults who have migrated from Tibet. Most subjects used toothbrush for cleaning their teeth. This clearly indicates their awareness about oral hygiene, but most of them brush their teeth once a day. Hence, they need to be educated and motivated to brush their teeth twice a day. The amount of subjects who never brushed their teeth in this study was lower than reported by Randeros et al. (10) and Uetani et al. (2). Most of them brushed their teeth once a day, which was higher than reported by Randeros et al. (10), Robert et al. (11), and Wang et al. (12). Prevalence of dental caries was low among the subjects that brushed their teeth twice a day (4.9) as compared to those who brushed them once a day (6.8). They were poor, however, most of them used tooth paste for cleaning their teeth.

Eight-four percent of the subjects were found to have a normal or pre-obese body mass index, though 93.7% belong to the poor socioeconomic category. This indicates that even though they are poor their nutritional status is good. The prevalence of anemia was 2.7%, which may be because of the place where

they live, since Shimla is a hilly area and in hilly areas the RBC (Red Blood Cell) count increases. More males than females were affected.

Only few subjects had some prostheses. The number of subjects wearing prostheses in the maxillary arch was higher than in the lower arch, and similar finding is reported in a study performed by Loh et al. (13). Overall, the prosthetic need in our study was high, accounting for 58% of the Tibetans, which is lower than reported by Heloc (14) and Zimmerman et al. (15), and higher than reported by Mickenautsch (16). Partial denture is required by 50% of the Tibetan population, which is lower than reported by Mazid et al. (17) and Galan et al. (18). Prosthetic need was higher in females, which was in accordance with the study done by Galan et al. (18) and,Lichota et al. (19). Complete denture was required by 8% of the population in our study, which is lower than reported by Mazidet al. (17) and Galan et al. (18). The most common prosthetic need was a combination of one or/and multi-unit prostheses (27%).

Conclusion

We found in this study that the prosthetic status of the Tibetan population is very poor, and only few Tibetans were wearing some kind of prostheses. The prosthetic need was very high among the population and was increasing with the age. Most of the Tibetans needed prostheses, because of the high rate of extraction among this population. They have limited access to medical care facilities, and most of them are unaware of the importance of oral health, which resulted in high rate of extraction and ultimately need for prostheses.

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