

**Oral Health Status of Bakarwal tribal children: A Descriptive Cross-Sectional Survey**<sup>1</sup>Zoya Chowdhary, Department of Dentistry, Government District Hospital, Reasi, J&K, India<sup>2</sup>Rajinder Kumar, Medical Superintendent, Government District Hospital, Reasi, J&K, India<sup>3</sup>Disha Gupta, Department of Periodontology, Teerthankar Mahaveer Dental College and Research Centre, Moradabad, U.P, India**Corresponding Author:** Zoya Chowdhary, Department of Dentistry, Government District Hospital, Reasi, J&K, India.**Citation of this Article:** Zoya Chowdhary, Rajinder Kumar, Disha Gupta, “Oral Health Status of Bakarwal tribal children: A Descriptive Cross-Sectional Survey”, IJDSIR- June - 2022, Vol. – 5, Issue - 3, P. No. 558 – 562.**Copyright:** © 2022, Zoya Chowdhary, et al. This is an open access journal and article distributed under the terms of the creative commons attribution non-commercial License. Which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.**Type of Publication:** Original Research Article**Conflicts of Interest:** Nil**Abstract****Background:** The Bakarwal tribe is listed as a Schedule Tribe in Jammu and Kashmir in 1991. They are the cattle-rearing community and live a nomadic life. There are scanty population based studies till date evaluating the oral health status among Bakarwal children in Jammu and Kashmir.**Aim & Objective:** To evaluate the oral health status by accessing prevalence of dental caries and periodontal condition in the children of Bakarwal tribal of Jammu division, Jammu and Kashmir.**Material & Method:** A descriptive cross-sectional survey of a total 820 children of age range 6-13 years were randomly selected from Bakarwal community. The data was collected using a questionnaire and oral examination was performed to record DMFT/dmft index and PMA index for dental caries and periodontal status, respectively. The data collected was tabulated and analyzed statistically.**Results:** Among the 820 participants, 467 (56.9%) were boys, 353 (43.1%) were girls. In this study, boys had significantly higher values for overall dmft/DMFT (**2.59 ± 2.70**) than girls. It was also found that mild, moderate and severe gingivitis significantly increases with increasing age.**Conclusion:** There is widespread poverty, illiteracy, and lack of basic amenities among the tribal people which makes it imperative to address these concerns to improve the socioeconomic disparities, overall health especially oral health.**Keywords:** Bakarwal; Dental caries; Oral health.**Introduction**India has the second largest tribal population in the world with a total of 84.33 million scheduled tribes, constituting 8.6% of the population of the country.<sup>[1]</sup> Jammu and Kashmir (J&K) has a substantial proportion of tribal population and constitutes 11.9% of the total population.<sup>[2]</sup> Gujjar tribe is the largest tribe in J&K. Gujjars are not original inhabitants of J&K but started

their migration in 9<sup>th</sup> and 10<sup>th</sup> century from plain areas such as Gujarat, Kathiawad, and Jodhpur where they have been even in power.<sup>[3]</sup> Bakarwal is a nomadic pastoral tribe known for livestock farming as the main source of livelihood and is the second largest tribe in the Union territory. The combined population of Gujjar and Bakarwal community is around 1093852 constituting 69% of the total tribal population of J&K.<sup>[2]</sup>

The Bakarwal tribe is listed as a Schedule Tribe in Jammu and Kashmir in 1991. They are the cattle-rearing community and live a nomadic life. There are scanty population based studies till date evaluating the oral health status among Bakarwal children in Jammu and Kashmir.<sup>[4]</sup> There is widespread poverty, illiteracy, and lack of basic amenities among the tribal people which makes it imperative to address these concerns to improve the socioeconomic disparities, overall health especially oral health.<sup>[5]</sup> Oral health is an essential and vital component of overall health and is much more than just healthy teeth. Hence the aim of my study was to evaluate the oral health status in Bakarwal tribal children of Jammu division, Jammu and Kashmir by accessing prevalence of dental caries and periodontal condition.

## Materials and Methods

**Study Design:** A descriptive cross-sectional survey was conducted to evaluate the oral health status by accessing prevalence of dental caries and periodontal condition in the children of Bakarwal tribal of Jammu division, Jammu and Kashmir. A total of 820 children of age range 6-13 years were randomly selected to participate in the survey. An informed consent was obtained after explaining the study to the parent/ guardian of willing participants. The survey was in accordance with the Declaration of Helsinki.<sup>[6]</sup>

## Data collection method

The data was collected by a single investigator using a questionnaire, to record the information related to record oral health.

A single examiner was trained to prevent any diagnostic variability. Community Periodontal Index (CPI) probe, no. 23 explorer and a plane mouth mirror was used and clinical examination was carried out. The DMFT/dmft (**Decayed, Missing, and Filled Teeth**) index and PMA (Papilla, Marginal gingiva and Attached gingiva) index were recorded for all participants

## Statistical evaluation

The collected data were analyzed using SPSS version 22.0 statistical analysis software (IBM, Chicago, IL, USA), and the level of statistical significance was set at  $p < 0.05$ . Quantitative values were compared using student t-test and Chi-square test.

## Results

A descriptive cross-sectional survey was conducted to evaluate the oral health status by accessing prevalence of dental caries and periodontal condition in the children of Bakarwal tribal of Jammu division, Jammu and Kashmir. Out of the total 820 participants, 467 (56.9%) were males and 353 (43.1%) were females, with a majority (53.7.6%) of the participants were in the age range of 10-13 years.

Table 1 shows that the mean number of decayed teeth (dt/DT) and decayed missing filled teeth (dmft/DMFT) for boys was high with a significantly higher values ( $p=0.007$ ) for overall dmft/DMFT (**2.59 ± 2.70**) than girls. Table 2 shows the comparison of different age groups with the DMFT/dmft scores. It was observed that there was significant decrease in dmft/DMFT scores with increasing age.

The 'p' value was found to be non-significant ( $p=0.668$ ) when severity of gingivitis i.e., mild, moderate and

severe gingivitis was compared between different gender groups (Table 3), but when compared within different age group, it was found that severity of gingivitis i.e., mild, moderate and severe gingivitis was significantly increases ( $p=0.001$ ) with increasing age (Table 4).

### Discussion

Despite certain constitutional provisions, the tribal population in India is backward compared to the general population, their situation being worse than the Schedule Caste (SC) and Other Backward Class (OBC) population.<sup>[7]</sup> Similar to general population, the oral health and general health problems of tribal community are influenced by the interplay of various factors including demographic, socio-economic variables, biological, and political ones.<sup>[8]</sup>

The Bakarwal community socio-economic status has been quite different from the rest of the Jammu and Kashmir society. The tribal population of J&K mostly lives in scattered clusters across hilly, in accessible terrains due to which, they have remained beyond the realm of the general development process, lacking the basic facilities like access to healthcare, pure drinking water, and education resulting in the extremely poor socio-economic conditions.<sup>[9]</sup> The tribes have also been suffering from various forms of social discrimination and political isolation<sup>[10]</sup> but there is significant scarcity of data on this population.

In this study, the study population was 820 children from the Bakarwal tribal community. Among the subjects, 467(56.9%) were boys, 353 (43.1%) were girls. Our study was in accordance with Soni PK et al.<sup>[11]</sup> study in which the DMFT mean in 6-8 year age group was 2.54 which were similar to our study ( $2.59 \pm 2.94$ ). In their study, the caries prevalence and severity of 12 year age group children was low but was high for children aged

6–8 years. But in our study the results were not similar to that study.

Prasad R<sup>[12]</sup> in their study showed that in the age group of 6-8 years the caries prevalence was 47.7% and 44.3% in 9-11 years respectively, which is similar to the present study. The finding of the present study are much higher than the findings in C.H.Chu et al.<sup>[13]</sup> and Jalil V P et al.<sup>[14]</sup> studies for DMFT scores.

In this study, it was observed that incidence of caries among boys was significantly higher than girls. Similar findings were observed by Nagaraja et al.,<sup>[15]</sup> Shaoo PK et al.,<sup>[16]</sup> and Rao et al.<sup>[17]</sup> and Dasar PL.<sup>[18]</sup> In the present study it was observed that none of the children had a filled tooth which was similar to the studies conducted by Viragi PS et al,<sup>[19]</sup> Kumar T.S.<sup>[20]</sup> and Bhat M.<sup>[21]</sup>

In the present study it was observed that sex difference has no role in gingivitis in each group, the 'p' value for gender wise comparison was found to be non-significant when compared mild, moderate and severe gingivitis between boys and girls, which was in accordance with Mandal S et al.<sup>[22]</sup>

### Conclusion

There is widespread poverty, illiteracy, and lack of basic amenities among the tribal people which makes it imperative to address these concerns to improve the socioeconomic disparities, overall health especially oral health. Increasing awareness about the oral health through locally accepted and culturally appropriate strategies need to be implemented in coordination between local people, dental professionals and the government sector.

### References

1. Butt TI, Gupta R. Tribal population and development policies in the Himalayan state of

- Jammu and Kashmir: A critical analysis. *Int J Human Social Sci Invent*. 2014;3:18–26.
2. Census of India. Registrar General of Census. New Delhi: GOI; 2011. Available from: [www.census.india.gov.in](http://www.census.india.gov.in).
3. "Gujjar Social structure," Tribal Research and Cultural Foundation. Available from: [http://jktribals.page.tl/Gujjar\\_-Social-Structure.htm](http://jktribals.page.tl/Gujjar_-Social-Structure.htm).
4. Bamzai, Sandeep (6 August 2016). "Kashmir: No algorithm for Azadi". Observer Research Foundation. Archived from the original on 10 August 2016.
5. Ganie MA, Habib A, Ali SA, Rashid A, Rashid R, Fazili A. Cross sectional study on Kashmiri tribal population: Their demo-economic status and behavioural risk factors. *J Family Med Prim Care*. 2020 Sep 30;9(9):4929-4935.
6. De Roy PG. Helsinki and the Declaration of Helsinki. *World Med J* 2004;50/1:9.
7. Nathan D, Xaxa V. Social exclusion and adverse inclusion: Development and deprivation of Adivasis in India. New Delhi: Oxford University Press; 2012. p. 335.
8. Dondapati SKS, Karimaddela K. Socio-demographic and health profile of schedule tribes of Velugodu, Andhra Pradesh, India. *Int J Commun Med Public Health*. 2016;3:2615–20.
9. Abdullah N. A survey on socio-demographic and health status of tribal community of Bangladesh: Santals (Doctoral dissertation, East West University) 2014
10. Sharma JC, Nair V, editor. Nutritional status, health, growth and development of a central Indian tribe with special reference to environment and genetic risk factors. *Anthropology of tribal health and medicine in forest environment*, N KIR-TADS. 1995:55–60.
11. Soni PK, Varoda A, Mitra M. Ethnomedical Practices Among Gond & Halba Tribe of Chhattisgarh, India: *Int J of Sci & Resr*. 2016;5(9):955-8
12. Prasad R, Vaish. Prevalence of caries among tribal school children in Phulbani District, Orissa. *J Indian Dent Ass* 1983; 55: 455-457.
13. C. H. Chu, D. S. H. Fung, and E. C. M. Lo. Dental caries status of preschool children in Hong Kong, *British Dental Journal* 1999; 187: 616–620.
14. Jalli V P, Sidhu S S, Khabanda O P. Status of dental caries and treatment needs in tribal children of Mandu (central India). *J Pierre Fauchard Acad* 1993; 7:7-15.
15. Nagaraja RG, Venkateswarlu M, Bhat KS. Oral health status of 500 school children of Udupi. *J Indian Dent Assoc* 1980;52:367-70.
16. Shao PK, Tewari A, Chawla HS, Sachdev V. Interrelationship between sugar and dental caries – A study in child population of Orissa. *J Indian Soc Pedod Prev Dent* 1992;10:37-44
17. Rao A, Sequeira SP, Peter S. Prevalence of dental caries among school children of Moodbidri. *J Indian Soc Pedod Prev Dent* 1999;17:45-8.
18. Dasar, P. L. (2011). Dental caries status of tribal children in Javadhu Hills (Tamil Nadu). *Journal of Indian Association of Public Health Dentistry*, 9(18), 718–721
19. Viragi PS, Dwijendra KS, Kathariya MD, Chopra K, Dadpe MV, Madhukar HS. Dental Health and Treatment Needs Among Children in a Tribal Community. *J Contemp Dent Pract* 2013;14(4):747-750.
20. Kumar TS, Dagli RJ, Mathur A, Jain M,

Balasubramanyam G, Prabu D, Kulkarni S .Oral health status and practices of dentate Bhil adult tribes of Southern Rajasthan, India. *Int Dent J* 2009;5(3):133-140.

21. BhatM. Oral health status and treatment needs of a rural Indian fishing community. *West Indian Medical Journal* 2008;57(4): 414-417.
22. Mandal S, Ghosh C, Sarkar S, Pal J, Kar S, Bazmi BA. Assessment of oral health status of Santal (Tribal) children of West Bengal. *J Indian Soc Pedod Prev Dent* 2015;33:44-7.