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Research Article

Oral Health Status and Quality of Life Among Rohingya Refugee- A Cross-Sectional Study at Kelambakkam, Chennai

Dr Anita. M[*1], Dr T.G. Srinivvasan[2] Dr K G Sruthi[3] and Dr.Arthi Balasubramaniam[4]

[1*]*Professor, Department of Public Health Dentistry, Sree Balaji Dental College and hospital. India*

[2]*Health education officer, Greater Chennai Corporation, India*

[3] *Intern, Department of Public Health Dentistry, Sree Balaji Dental College and Hospital, India*

[4]*Senior Lecturer, Department of Public Health Dentistry, Saveetha Dental College and Hospital, India*

Abstract: The Rohingya people are a minority who live mainly in northern Rakhine State (formerly Arakan) in Myanmar and are said to be one of the most persecuted ethnic minorities in the world. They describe themselves as descendants of Arab merchants who settled in the area many generations ago. They have been persecuted in their home state of Rakhine in Myanmar because they deny citizenship. They have crossed the border into neighboring countries, including Bangladesh, for escaping extreme violence against ethnic and religious minorities, where about a million people reside. reside in Cox's Bazar district. Refugee camps are overcrowded with poor sanitation, meaning they pose a health risk, and dental health is no exception and is often overlooked. Oral health professionals are unable to deal with these deal problems due to their different cultures. The article aims to assess oral health status and quality of life among Rohingya refugees in Kelambakkam, Chennai. An operated administered pre-tested questionnaire specially designed for this purpose was used. Demographic information, Dentition status, Periodontal Status of adults and children were recorded for the Rohingya Refugee at Kelambakkam, Chennai. Caries prevalence was found to be 84.8% among adults aged 15 years and above. Periodontal disease with gingival bleeding was present among 57.6%. Caries prevalence was found to be 50% among children under the age of 15 years**.** Gingival bleeding was found to be highly significantly correlated with functional limitation, physical pain, and psychological discomfort. The most common dental problems were gingival or periodontal problems, dental caries, and decayed teeth, highlighting the need for a comprehensive dental care program**.** However, the Government should take more measures to advocate dental health policies and treatment of refugees and implement strategies.

Keywords: Myanmar, Rohingyas, Refugee, Oral Health, Quality of life

***Corresponding Author**

Dr.Anita.M , Professor, Department of Public Health Dentistry, Sree Balaji Dental College and hospital.India

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1. INTRODUCTION

The Rohingya are one of the most ill-treated and persecuted refugee groups in the world, having lived in a stateless kingdom for more than six generations, and who continue to do so. In recent years, more than 500,000 Rohingya have left Myanmar (Burma) for neighboring countries.[1] Due to discrimination, exclusion, and armed conflict, more than 910,000 Rohingya, a religious minority in Myanmar, have fled in waves to Bangladesh, where most of them live in refugee camps in Cox's district Bazar, in the southwest of the country, near the border with Myanmar.[2] They were suppressed and oppressed back in Burma (Myanmar). The army had begun to attack their community, they had no choice but to run for their lives, so they decided to flee from their hometown to protect themselves. They came to India, through Bangladesh, and came to Chennai by sea. However, the recent violence in August 2017 prompted an additional 6,93,000 Rohingya to emigrate, bringing their number, as of June 2018, to around 1 million (918,936) in Bangladesh.[3] According to the United Nations High Commissioner for Human Rights (UNHCR) Australia, the definition for a refugee is someone who "owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality and is unable to, or owing to such fear, is unwilling to avail himself of the protection of that country; or who, not having a nationality and being outside the country of his former habitual residence as a result of such events, is unable or, owing to such fear, is unwilling to return to it. [4] The massive influx forcing Rohingya refugees to live in camps where most of them do not have access to good housing, clean water, and good sanitation has, in his view, increased the likelihood of contracting the disease. Their infectious diseases and dental problems. Additionally, the Rohingya face traumatic events related to war including the destruction of property, loss of family members, witnessing extreme violence, and injury or loss of property. These events are likely to subject the Rohingya refugees to different psychological distress.[5] Most of the refugees suffered trauma. In their country of origin, they experience pre-migration traumas such as human rights violations, murder, imprisonment, torture, and war. When they transit to their destination, they often experience physical and sexual abuse, as well as abuse by traffickers and authorities. Finally, after reaching their destination, refugees face post-migration stressors, such as feelings of loneliness and discomfort, and social exclusion that sometimes leads to overt hostility. and difficulty in securing their livelihood. The impact of poor oral health on quality of life is of urgent importance for these populations because they are a part of this habitual healthcare system, have limited financial resources, live with reduced access to nutritious food and clean water, and have lost their social support network.[6] Rohingyas living in the community are not eligible for Centrelink benefits and are not eligible to work in India. As a result, they face serious financial barriers in accessing private dental services. They may not have access to some public dental health services as well as urgent care and pain relief. Hence, this study aims to determine the Oral health status and quality of life among Rohingya refugees- a cross-sectional study at Kelambakkam, Chennai

2. MATERIALS AND METHODS

2.1 Study Design

This is a cross-sectional descriptive study.

2.2 Study Area

This study was conducted in Refugee camp Kelambakkam, Chennai

2.3 Study Population

This study was conducted among Refugees in Kelambakkam, Chennai

2.4 Informed Consent

Written Informed consent was obtained from all participant's participant and minors were included only after obtaining consent from parents or guardians.

2.5 *Ethics*

Ethical issues were given primary importance. Anonymity was maintained.

2.6 Sampling Method

Convenience sampling

2.7 Scheduling

Data collection was a period of one year from Dec 2019 to Jan 2021

2.8 Survey Instrument

An operated administered pre-tested questionnaire specially designed for this purpose was used. Demographic information, Dentition status, and Periodontal Status of adults and children were recorded.

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3. STATISTICAL ANALYSIS

Data were entered in a Microsoft Excel spreadsheet and analyzed using SPSS (version 22 software)

4. RESULTS

Out of 33 adults in the study 12(36.36%) were males and 21(63.64%) were females and 8(24.24%) were 18-24 years,17(51.51%) were 25-44 years and 8(24.24%) were more than 44 years.[Table 1]

Table 1. Demographic characteristics of Adult Rohingya subject	
Demographic characteristics	**N (%)**
Age (years)	
Below 6	11 (32.4)
6-11	18 (52.9)
12-17	5 (14.7)
Gender	
Male	20 (58.8)
Female	14 (41.2)

Table 2- Demographic characteristics of Children Rohingya subjects	
Demographic characteristics	**N (%)**
Age (years)	
18-24	8 (24.24)
25-44	17 (51.51)
>44	8 (24.24)
Gender	
Male	12 (36.36)
Female	21 (63.64)

Out of 34 children in the study 20(58.8%) were males and 14(41.2%) were females and 11 (32.4%) were below 6 years, 18(52.9%) were between 6-11years and 5(14.7%) were between 12-17 years.[Table 2] Caries prevalence was found to be 84.8% among adults. Periodontal disease was found in the entire population. Enamel fluorosis, Enamel erosion, and dentinal erosion were also noticed in the population. Mucosal lesions like frictional keratosis and leukoplakia were also assessed. Out of all mucosal lesions, present Leukoplakia (6.1%) was found to be more prevalent.[Table 3]

Table 3: Oral health status of adults in 2013	
Dentition status of adults	
Number and percentage of subjects with dental caries	24 (84.8%)
Number and percentage of subjects with missing teeth	5 (15.2%)
Mean DT (decayed)	4.7 ± 5.4
Mean MT (missing)	0.79 ± 2.6
Mean DMFT	5.48 ± 5.81
Periodontal status	
Number and percentage of subjects with gingival bleeding	19 (57.6%)
Number and percentage of subjects with periodontal pocket	13 (39.4%)
Number and percentage of subjects with loss of attachment	14 (42.4%)
Number and percentage of subjects with Enamel fluorosis (questionable)	1 (3%)
Number and percentage of subjects with Enamel erosion	8 (24.2%)
Number and percentage of subjects with dentinal erosion	4 (12.1%)
Number and percentage of subjects with trauma	2 (6.1%)
Number and percentage of subjects with mucosal lesions	
Frictional keratosis and Tobacco pouch keratosis	1 (3%)
Leukoplakia, AP, Candidiasis, C, A	1 (3%)
Leukoplakia	2 (6.1%)
Tobacco pouch keratosis	1 (3%)
Ulceration	1 (3%)
Intervention URGENCY	
Preventive or routine treatment needed	6 (18.2%)
Prompt treatment (including scaling) needed	19 (57.6)
Immediate (urgent) treatment due to pain or infection of dental and/or oral origin	8 (24.2%)

Caries was Found to be prevalent among 50% of the children. [Table 4]

Table 4- The oral health status of children in 2013	
Number and percentage of subjects with dental caries	17 (50%)
Number and percentage of subjects with filled teeth	2 (5.9%)
Mean DT (decayed)	1.24 ± 1.47
Mean FT (Filled)	0.29 ± 1.40
Mean DMFT	1.53 ± 1.84
Dental health status	
Number and percentage of subjects with Enamel fluorosis (questionable)	1 (2.9%)
Number and percentage of subjects with Enamel fluorosis (very mild)	2 (5.9%)
Intervention URGENCY	
Preventive or routine treatment needed	13 (38.2%)
Prompt treatment (including scaling) needed	4 (11.8%)

The highest mean score was offered for physical disability and psychological disability and the least mean score was observed for physical pain. [Table 5]

TABLE 5- Distribution of responses and mean scores for the Oral health impact profile

Dimensions	Items	Very often	Fairly often	Occasionally	Hardly ever	Never	Don't know	Mean (SD)
Functional limitation	Trouble pronouncing words	0	0	2 (6.1%)	0	31 (93.9%)	0	4.88 (0.48)
	Felt sense of taste worsened	0	1 (3%)	3 (9.1%)	0	29 (87.9%)	0	4.73 (0.76)
Physical pain	Had painful aching in the mouth	2 (6.1%)	1 (3%)	6 (18.2%)	0	24 (72.7%)	0	4.30 (1.23)
	Uncomfortable eating foods	0	2 (6.1%)	1 (3%)	0	30 (90.9%)	0	4.76 (0.79)
Psychological discomfort	Been self-conscious	0	0	2 (6.1%)	0	31 (93.9%)	0	4.88 (0.48)
	Felt tense because of the problem	0	0	2 (6.1%)	0	31 (93.9%)	0	4.88 (0.48)
Physical disability	My Diet has been unsatisfactory	0	0	3 (9.1%)	0	30 (90.9%)	0	4.82 (0.58)
	Had to interrupt meals	0	0	1 (3%)	1 (3%)	31 (93.9%)	0	4.91 (0.38)
Psychological disability	Found it difficult to relax	0	0	1 (3%)	1 (3%)	31 (93.9%)	0	4.91 (0.38)
	Been a bit embarrassed	0	0	2 (6.1%)	0	31 (93.9%)	0	4.88 (0.48)
Social handicap	Been a bit irritable with other people	0	0	1 (3%)	1 (3%)	31 (93.9%)	0	4.91 (0.38)
	Had difficulty doing usual jobs	0	0	2 (6.1%)	1 (3%)	30 (90.9%)	0	4.85 (0.50)
Handicap	I felt life, in general, was less satisfying	0	0	2 (6.1%)	0	31 (93.9%)	0	4.88 (0.48)
	Been unable to function	0	0	2 (6.1%)	0	31 (93.9%)	0	4.88 (0.48)

Correlation between the variables of oral health status and OHIP-14. DT, MT, and DMFT were found to be highly significant when correlated with the functional limitation, physical pain, and psychological discomfort and MT was also significant with the physical disability. The highest correlation was found between physical disability and MT.[Table 6]

Table 6- Correlation between the variables of oral health status and oral health impact profile-14

Dimensions of OHIP-14	DT	MT	DMFT	Gingival bleeding	Pocket
Functional limitation	0.380 (0.538)	0.680 (0.410)	-0.092 (0.544)	0.907 (0.635)	0.098 (0.754)
Physical pain	0.434 (0.054)	0.168 (0.039)	-0.208 (0.166)	0.502 (0.170)	0.336 (0.324)
Psychological discomfort	0.198 (0.031)	0.380 (0.984)	-0.092 (0.544)	0.265 (0.129)	0.098 (0.754)
Physical disability	0.404 (0.004)	0.174 (0.677)	-0.167 (0.270)	0.230 (0.316)	0.287 (0.334)
Psychological disability	0.133 (0.861)	0.680 (0.645)	-0.86 (0.569)	0.136 (0.243)	0.219 (0.238)
Social handicap	0.198 (0.031)	0.194 (0.659)	0.005 (0.975)	0.219 (0.334)	0.156 (0.456)
Handicap	0.252 (0.182)	0.589 (0.998)	-0.092 (0.544)	0.749 (0.688)	0.243 (0.296)

5. DISCUSSION

Oral health is an important constituent of general health and quality of life. However, poor oral health affects one's physical, psychological, and social well-being, as well as one's quality of life. The migrant population is often forced to live a life of destitution and despair due to a lack of access to resources, essentially housing, education, healthcare services, and employment opportunities. This often predisposes this vulnerable section of society to increased health risks and poor oral health [7]. There is very little literature that is available about the Oral status and Quality of life of the Rohingya Refugee population in India. Thus, this study was done to determine oral health and quality of life among Rohingya Refugees at Kelambakkam**,** Chennai. The prevalence of dental caries in adults(Above 15 years) was 84.8% which is similar to the study done by Lav Kumar Niraj *et al*, on Rohingya refugees in New Delhi where the prevalence of dental caries was 83.93%, and the study done immigrants and refugee of Canada by Ghaibi *et al* where the prevalence was 85%. The similarity of higher caries can be attributed to factors like poor oral hygiene habits, low socioeconomic status, and low utilization of dental health services. [3] In the present study decayed component was high (4.7) which is similar to the findings of a study conducted by Lav Kumar Niraj *et al* where the decayed component was 3.63 which was a contrast to the findings the study done on Somali Refugees where the Missing component was predominant (2.76) [7] In the present study, the prevalence of dental caries among children was 50% which was in contrast to the findings of the study done by Lav Kumar Niraj et al because the sample size in their study was more than our study but similar to the study conducted by Quach et al (2015) among the Australian refugees the prevalence of dental caries among children was 66%.(3) In this present study, the number of subjects who has gingival bleeding was 19 which was similar to the study conducted by Lav Kumar Niraj *et al.*This difference is negligible. A total of 39.4% of adults had periodontal pockets which was a contrast to the study conducted by Lav Kumar Niraj *et al* where there was a total of 52.4% of adults had periodontal pockets, this contrast may be due to more sample size in their study. [3] The OHRQoL was assessed using OHIP-14 domains. Correlation between the variables of oral health status and OHIP-14. DT, MT, and DMFT were found to be highly significant when correlated with the functional limitation, physical pain, and psychological discomfort and MT was also significant with the physical disability. Gingival bleeding was significant with any of the dimensions of OHIP-14. The highest correlation was found between functional limitation and Gingival bleeding which was in contrast to the study conducted by Lav Kumar Niraj et al, where the highest correlation was found between functional limit and DMFT. This contrast may be due to no significant values for gingival bleeding with oral health impact values found in their study. [14] The mean score for social disability, physically challenged and psychological discomfort/disability domain was 4 which was similar to the study conducted by Lav Kumar Niraj et al where the mean scores were 2.81, 3.03, and 2.50, respectively. This means the refugee people are accepting lots of oral pain and dysfunction but have no other choice, but to live with it. The dimensions of functional limitation, physical pain, and psychological discomfort were found to be positively correlated with DT, MT, and DMFT components in the present study which was similar to the finding of the study conducted by Lav Kumar Niraj et al(3). The reason for the present finding might be because decayed teeth lead to pain, food lodgement, interference with mastication, and the daily routine activity, which is perceived by the patient as a functional limitation, physical pain, and psychological discomfort [9]. A high level of the need for treatment is not available in this study population. The study shows that there is a need to improve oral hygiene practices among this group. Further, there should be dental services available for these people. [15] The present study has several strengths: the study used both clinical indicators of oral health status and a multi-item OHRQoL scale. The further personal interview was preferred compared to the original self-reported form because it is well-described in the literature, that the use of the OHIP-14 in the questionnaire format may result in lower completion rates and loss of data which could be linked to the educational level of the participants. Literacy impairments could affect the participants when answering some questions in the questionnaire format In this study, there are also some limitations such as the judgment pattern which may affect its interpretation and generalization. Therefore, it cannot be assumed that the results apply to the general population. The small sample size may have influenced the results regarding the effects of oral health status and gender variables on OHRQoL. However, the apparent effect on OHRQoL is consistent with previous studies. Therefore, further studies are needed with certain population groups, especially in different social and cultural settings, as these factors play an important role in both oral health and its impact on quality of life. [8] The existing situation demands the formulation and implementation of the National Oral Health Policy in India to expand oral health care to make it more affordable, and reachable [10]. The need of the hour is to implement the sustainable strategies by the host countries to significantly improve access to oral health care for refugees and asylum seekers [11]

6. CONCLUSION

Caries prevalence was found to be 84.8% among adults aged 15 years and above. Periodontal disease with gingival bleeding was present among 57.6%. Caries prevalence was found to be 50% among children under the age of 15 years. The most common dental problems were gingival or periodontal problems, dental caries, and decayed teeth, highlighting the need for a comprehensive dental care program. Gingival

bleeding was found to be highly significantly correlated with functional limitation, physical pain, and psychological discomfort. Fortunately, strategies and interventions had been developed to reduce the oral health inequities in this population. However, the Government should take more measures to advocate dental health policies and treatment of refugees and implement strategies.

7. RECOMMENDATIONS

1. Dental students and Dental professionals with the help of dental institutions can fund dental programs and camps to improve oral health policies.
2. More research should be done by public health professionals about this need of the hour. [12]
3. The government should get new strategies to improve oral health and quality of life among Rohingya refugees.

8. AUTHOR CONTRIBUTION STATEMENT

Dr. Anita.M designed and conceptualized the study, Dr. Arthi curated and analyzed the data and Dr. K G Sruthi gave her input and prepared the original draft. All authors read and approved the final version of the manuscript.

9. CONFLICT OF INTEREST

Conflict of interest declared none.

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