

ASSESSMENT OF CARIES PREVALENCE AND DENTAL TREATMENT NEEDS AMONG ORANG ASLI IN POS SIMPOR, GUA MUSANG, KELANTAN

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ABSTRACT

In Malaysia, Orang Asli (aboriginal people) in the outback or inland is considered as marginalized community due to their lack of accessibility and availability to proper health care. Variety of health problems arise through their living environment, including poor oral health quality. It is known fact that oral health does affect one's quality of life. This study aims to assess the prevalence of dental caries and dental treatment needs of Orang Asli (OA) in Pos Simpor, Gua Musang Kelantan. This cross sectional study was conducted among 82 participants (adult n=40, children n=42). Dental charting was done and data collected were analyzed. It was noted that the caries prevalence among children was dt= 33%, mt= 5%, ft =1% and for the adults was DT=58%, MT=30%, FT=1%. The highest dental treatment need found in this study was restoration, followed by extraction and denture. From this information, it was hoped to help the future mobile dental clinic for Orang Asli to focus on the treatment need demand.

Keywords: Orang Asli, caries, dental treatment

INTRODUCTION

The indigenous people of Peninsular Malaysia, officially known as "Orang Asli" (OA) has already settled in this region since 8000 years ago (Masron, 2013). Orang Asli have their own unique languages, knowledge systems and beliefs and own invaluable knowledge of practices In 2010, Orang Asli made up 0.8% of the Peninsula Malaysia population. According to the Department of Orang Asli Affairs (JHEOA), there were 147,412 Orang Asli in West Malaysia in 2006. They consist of three major tribal groups: Proto-Malays, Senois and Negritos (Masron, 2013).

OA in Malaysia are not homogenous and there are at least 95 subgroups which each of them have their own distinct language and culture. Orang Asli especially in the outback's or inland is considered as marginalised community as Gs Murung and M Kollmair (2005) define this community through two conceptual frameworks. The first one is the societal which is based on social conditions and the second one is the

spatial dimension based on physical location and distance from the centre of development. Orang Asli may be particularly susceptible to exploitation and marginalization

Access to health care services is an essential requirement of any health system around the world and is defined as the ability of a population to make use of health services when needed (McLafferty, 2003). Due to marginalization, Orang Asli are often put aside of the mainstream system such as economic, political, cultural and health. Orang Asli in Peninsular Malaysia records a lower health status than the general population where they suffer from chronic diseases and has high infant mortality rate (Masron T, 2013). Poverty among the Orang Asli itself often led to negligence of their health (Khor G.L., 2019). Although the health of the Orang Asli improved over the years, but their level of health status still remained poor (Yew & Sia, 2015) (Phua K.L, 2015).

Only a few studies have been done on the topic surrounding oral health status among the Orang Asli community (Othman et al, 2021). The healthcare system in Malaysia is highly subsidized for all Malaysian citizens yet it is a big challenge for the Orang Asli to get dental treatment from government clinics because of poor accessible roads or transportation, especially in the inland areas of the peninsular and Malaysian Borneo. (Masron T., 2013) & (Hamat, 2014). Some of these people have to travel a long distance to a health facility to gain the access of basic medical or dental care (Nicholas C, 2004).

Dental volunteerism via Non-Governmental Organisation(NGO) such as IMAM Response and Relief Team (IMARET), Dentistry for The Needy (DFTN) and many other NGO are able to make a massive contribution in helping the global burden of oral disease among the marginalized community (Holmgren C. & Benzian H., 2011). Other than implementation of prevention strategies, the aim of dental volunteerism is also to improve the quality of life by eliminating dental pain among its sufferer. In a dental community program, oral care is defined as oral urgent treatment, atraumatic restorative treatment (ART) and prevention of dental caries such as affordable fluoride toothpaste (Han S.J. & Quinonez C.R., 2013).

In view of this background, efforts were made to conduct a dental related research with the following objectives:

1. To identify the demographic background of the Orang Asli attending the community dental service at Pos Simpoh, Gua Musang.
2. To find the caries prevalence among Orang Asli attending the community dental service at Pos Simpoh, Gua Musang.
3. To determine the dental treatment needs among Orang Asli attending the community dental service at Pos Simpoh, Gua Musang.

METHODOLOGY

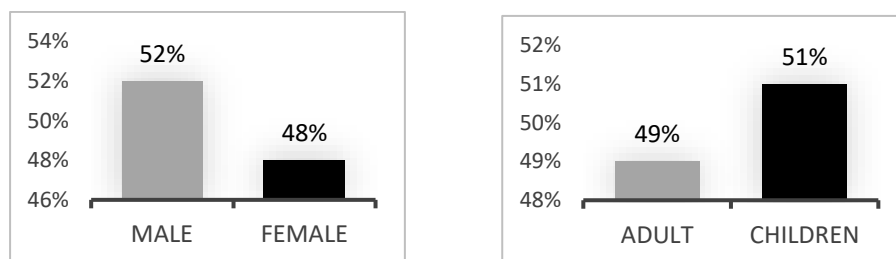
This cross-sectional study was conducted among Orang Asli in Pos Simpor, Gua Musang Kelantan involving several villages such as one static clinic in Simpor and several mobile clinics such as Penad, Jader, Sedal and Dandut from 21 April 2021 until 23 April 2021. The programme is supported by IMAM Response and Relief Team (IMARET) and Dentistry for The Needy (DFTN). In each program, three dental officers were involved. Prior to Covid-19 pandemic, all of the dental volunteers are compulsory to do Antigen Rapid Test Kit (RTK-Ag) swab test to ensure the safety of the Orang Asli and fellow volunteers throughout the program.

For dental caries status, it was assessed through the Decay, Missing, Filling (DMF) Index and Caries Risk Assessment and Management Form of American Dental Association guideline. Portable dental chairs, tables and torch lights were used to set up the dental clinic. The dental volunteers are obliged to wear proper Personal Protective Equipment (PPE) during treating patients. All teeth were examined using a disposable mouth mirror and dental examination probe. All observations and findings were recorded using the specialized DFTN Charting Form. The authors had taken the necessary measurement to make sure confidentiality of the participants such as name, photo and personal details of the participants remain safe. The data gathered were analyzed using the IBM SPSS (Statistical Package of Social Science) for Windows version 21.0.

RESULTS AND DISCUSSION

Sociodemographic Background

A total of 82 participants were recruited in this study. The gender of the participants was almost equally distributed, 52 % were male and 48 % were female. The age group also shows similar number which is 49 % adult (17 years old and above) and 51% children (below 17 years old). The details of demographic data are presented in Figure 1.



1 (a) Gender distribution

1 (b): Age distribution

Figure 1(a) & (b): Demographic Background Of The Orang Asli Attending The Community Dental Service At Pos Simpor, Gua Musang

Orang Asli in Pos Simpoh mostly comes from sub ethnic Temiar of the Senoi's group. (Syed, 2019). It is located 24km off-road from Gua Musang town which approximately around 6 hours by four wheel drive. In bad weather (condition) the journey to the destination can stretch up to 12 hours. This research able to gather 82 patients throughout the mission. It is a good head start as there is very limited oral health clinical research been conducted in Malaysia especially in the outback region.

Even though there is a significant balance between gender and age throughout this research, the total participation towards dental check-up is quite low compare to medical check-up team. This shows lack of interest towards dental treatment among Orang Asli towards oral health provider. This behavior towards oral health was also seen in other Orang Asli population in Malaysia (Othman W.M.N., 2021). Their acceptance to this kind of programme ranges from pragmatism to resignation to resistance. (Wong, 2018).

The fact that most of them were out working during the day may contribute to this low attendance. This can also be due to other barriers including competing socio-economic priorities that may have influenced their health-seeking behavior. This suggests that improving oral health outcomes rests on more than the delivery of public health messages as well as implementing evidence-based interventions (Durei, 2012).

Dental Caries Prevalence

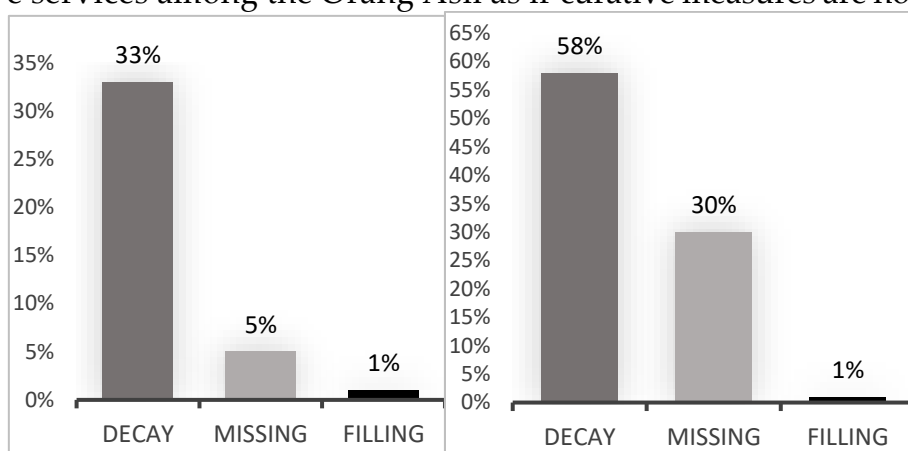
The discoveries of this study show that the prevalence of dental caries is quite high among Orang Asli children and adult in Pos Simpoh, Gua Musang. The result using dmft and DMFT score shows that, in 2(a) the prevalence is decay is 33%, missing due to caries is 5% and filling 1%. While figure 2(b) shows a higher caries prevalence among adult with decay (58%) missing due to caries (30%) and filling 1%. Petersen (2020) stated that in Asia and Latin America, dental caries have been reported to be the most prevalent of oral diseases with a negative impact on daily activities. It is relatively highest in df scores among the 4-6-year-old children.

This result is similar with Tynan (2020) that stated Indigenous Australians are less likely to approach normal oral health checkup but instead would rather seek for treatment only after oral problems occurs. The study is similar with other research showing that people in marginalised groups have difficulties from these basic services. (Almado H., 2015). In addition, there are also several reasons and conditions which affects the impact of this oral health education programs and services such as availability to health services, barriers of characteristics, social and culture among the Orang Asli and health workers and existing wealth and social support. (Tynan, 2020).

This untreated dental caries will lead to a bigger problems of toothache which any complicated procedure such as endodontics that cannot be done due to limited

access and availability (McLafferty, 2003). Hence, it only left the dental practitioner one option which is extraction of the teeth. Eventually, if this sequence keep on going, certainly denture for the adults Orang Asli will be needed to improve oral function.

In Malaysia, the 2007 National Oral Health Survey of School Children reported the caries prevalence in primary teeth among children aged 6 years was 74.5%, among children aged 12 years was 41.5% and aged 16 years was 59.6% (Oral Health Division, 2010). This is quite similar with this research which shows overall caries prevalence of 40% among the children. Next, decayed and missing teeth contributed most to the DMFT index among adults in this research. This is one of the evidences that shows poor utilization of restorative and preventive services among the Orang Asli as if curative measures are not a priority.



2(a) Caries Prevalence In Children 2(b) Caries Prevalence In Adult

Figure 2(a) & (b) : Caries Prevalence Among Orang Asli Attending The Community Dental Service At Pos Simpoh, Gua Musang

The Dental Treatment Needs

According to the result, the main dental treatment needed is restoration. From our observation, restoration for adult involves mostly posterior teeth while anterior teeth for children. From the table, 42% of adults and 33% of children need at least one restoration. Out of those who need restoration, 68% of adult and 86% of children are identified as high caries risk.

Category	Treatment Need for restoration	High caries risk	
		No	Yes
Adult	42% (n= 40)	32% (n=16)	68% (n=16)
Children	33% (n=42)	14% (n=13)	86% (n=13)

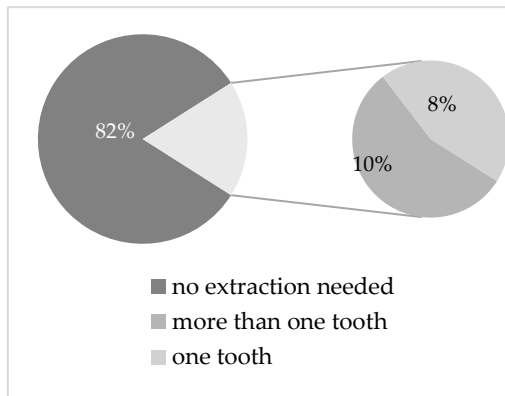
Table 1: Dental Treatment Needs for Restoration Among Orang Asli Attending The Community Dental Service At Pos Simpoh, Gua Musang

Although previous studies Bolton (1972) has shown that there is no significant difference of the Orang Asli's diet, which still contains a lot of carbohydrates and fiber yet very little sugar the accessibility of other sources of 'sugary food' becomes easier nowadays for them to get. In contrast, the challenges of oral health services remain the same is one of the major factors of the increasing caries prevalence in both children and adult. It must be acknowledged that direct comparisons between the available epidemiological studies conducted in Malaysia seem inappropriate as the methods used were different respectively (Kadir, 1990).

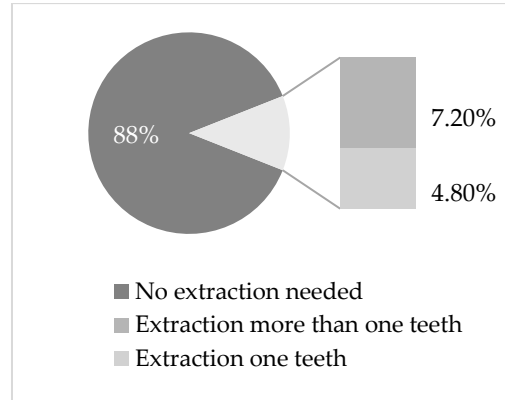
Nevertheless, the overall picture regarding the caries status of Orang Asli's children and adults is an important reference for future planning of dental care programs. Hence, the government able to plan a thorough effort to reach out to these marginalized groups through home visits, oral screening programs via static or mobile dental clinics (MOH, 2020). This is because conventional method to control the caries prevalence might not be effective to this marginalized population.

The Basic Package of Oral Care (BPOC) that the World Health Organization (WHO) can be used in any dental community programmes conducted (Helderman & Benzian, 2006). It comprises of three main components: First is Oral Urgent Treatment (OUT) to alleviate pain, to attend to emergency cases and to refer any complicated cases, second, Affordable Flouride Toothpaste (AFT) and third, The Atraumatic Restorative Treatment (ART). In this program, the dental volunteers also distribute oral hygiene kita and at the same time emphasized again on the oral health education to the Orang Asli.

Another dental treatment to be prioritized is dental extraction. About 12% of the children needs extraction due to caries (not through physiological mobility and exfoliation) and majority of them require multiple extraction. For adult cases, 18% needs extraction and almost half of them require multiple extraction. Additionally, treatment need for denture among adult patient comprises of 13% in this research. Denture is not so common but it is in need of attention as it can improve oral function as chewing and speaking. However, if the same caries prevalence pattern persist and increasing, no doubt denture will be one of the essential need for Orang Asli in the future.



3(a):Extraction Requirement for Adult



3(b): Extraction Requirement for Children

Figure 3(a) & (b): Dental Treatment Needs for Extraction Among Orang Asli Attending The Community Dental Service At Pos Simpoh, Gua Musang

The same results were obtained in a Vietnamese study which concluded extraction was the most commonly used treatment due to high number of missing and low number of filled teeth. This could be due to extraction being much cheaper and time efficient than other dental procedures (Nguyen, 2010).

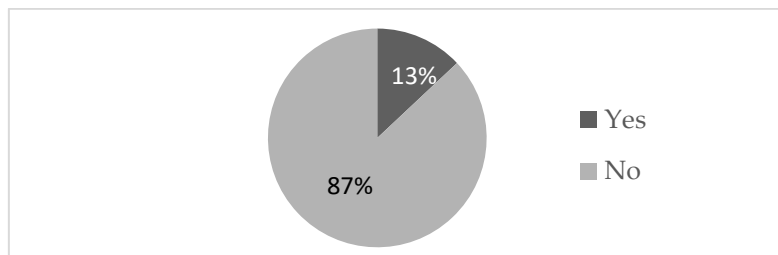


Figure 4 : Dental Treatment Needs for Denture Among Orang Asli Attending The Community Dental Service At Pos Simpoh, Gua Musang

CONCLUSION

It can be concluded that the distribution of Orang Asli patients attending the dental checkup and treatment care are almost equal between adult and children and also between male and female. The caries prevalence among Orang Asli in Pos Simpoh, Gua Musang Kelantan is in need for attention as in this research, it is noted that a number of patients presents with high caries risk both in children and adults. The most common dental treatment needs among the Orang Asli patients are restoration and extraction.

In National Oral Health Survey for Adults (NOHSA) 2010, 94% of adults suffer from some form of periodontal disease, which remains the same for the past 20 years. In depth, 18.2% of the adults have severe periodontal disease in which can be a heavy

burden to the country (Mohd-Dom et al., 2016). With the current research, we are unable to determine the baseline data needed in order to assess the need of dental treatment scaling in their locality. A Basic Periodontal Examination (BPE) can be a good tool in determining the need of scaling or intervention from periodontist. A survey on their diets and the cause of loss of dentition can be the next step in giving a holistic approach to their dental needs as well.

In order to ensure the continuation of this program, variables such as geographical factors, total population, cultural, lifestyle, road networks and transportation modes must be taken into consideration for fellow researchers. This project is expensive and require a dedicated team and volunteers. Hence, donation from the public plays a major role in the programme continuation. This has become an obstacle in the past. One of the suggested methods to approach and enable the oral health services to the Orang Asli is through collaboration between the government and non-governmental organization (C Holmgren & H Benzian, 2011).

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