

A Qualitative Study: The Challenges on Anti Parasitic Infection Campaign among Orang Asli from The Perspective of Tok Batin & JAKAO Officer in Maran, Pekan and Kuantan, Pahang

NORMALINA A^{1,2}, MOHAMAD HELMY J^{1,2}, MUHAMMAD LOKMAN M^{1,2}

¹Department Basic Medical Sciences, Kulliyah of Nursing, ²IUM Human Molecular and Cellular Biology Research Cluster (iMoleC), International Islamic University Malaysia, Jln Sultan Ahmad Shah, Bandar Indera Mahkota, 25200 Kuantan, Pahang, Malaysia.

ABSTRAK

Isu jangkitan usus parasit dalam kalangan Orang Asli sering diperkatakan. Namun begitu, isu ini tiada penghujungnya. Justeru, maklumat daripada organisasi atau pegawai yang terlibat seperti JAKOA dan Tok Batin yang berkaitan dengan Orang Asli adalah penting bagi mengatasi isu ini. Kajian ini penting dalam meningkatkan kualiti hidup Orang Asli. Oleh itu, objektif kajian ini adalah; (i) untuk menerokai masalah yang dihadapi oleh pihak berkuasa berkaitan dengan jangkitan parasit dalam kalangan Orang Asli di Kuantan, Maran dan Pekan, Pahang; dan (ii) mengenal pasti persepsi pihak berkuasa berkaitan dengan jangkitan parasit dalam kalangan Orang Asli di Kuantan, Maran, dan Pekan, Pahang. Kajian ini ialah kajian keratan rentas kualitatif. Temu bual melibatkan enam responden yang layak berdasarkan kriteria telah dijalankan di kawasan terpilih di Kuantan, Maran dan Pekan, Pahang. Kajian ini menggunakan analisis tematik untuk menganalisis data. Masalah yang dikenal pasti dari perspektif pegawai yang diberi kuasa ialah; (i) isu kebersihan; (ii) pengurusan sisa pepejal yang tidak betul; dan (iii) bekalan air bersih yang tidak mencukupi. Hasil kajian mencadangkan strategi iaitu; (i) menjalankan program kesedaran; (ii) menjalankan program sosial; (iii) menyediakan tapak pelupusan sampah yang betul; dan (iv) menyediakan bekalan air bersih yang mencukupi. Dapatan kajian dan cadangan strategi perlu diberi keutamaan oleh kerajaan bagi tujuan penambahbaikan. Selain itu, kerajaan juga harus mengkaji semula semua program sedia ada untuk menentukan keberkesanannya terhadap masyarakat Orang Asli.

Kata kunci: jangkitan parasit, Orang Asli, penguatkuasa

Address for correspondence and reprint requests: Associate Professor Muhammad Lokman Md Isa. Department Basic Medical Sciences, Kulliyah of Nursing, IUM Human Molecular and Cellular Biology Research Cluster (iMoleC), International Islamic University Malaysia, Jln Sultan Ahmad Shah, Bandar Indera Mahkota, 25200 Kuantan, Pahang, Malaysia. Tel: +609-5707308 Email: lokman@ium.edu.my

ABSTRACT

The issue of parasitic intestinal infections among indigenous people is often discussed. Nevertheless, there is no end to this issue. Therefore, information from authorised parties or personnel such as JAKOA and Tok Batin which involve in the indigenous people is important in order to overcome this issue. This study is important in improving the quality of life of the indigenous. Therefore, the objectives of this study were; (i) to explore the problems faced by the authority related to parasitic infections among Orang Asli in Kuantan, Maran and Pekan, Pahang; and (ii) to identify the perceptions of the authority about the problem related to parasitic infections among Orang Asli in Kuantan, Maran, and Pekan, Pahang. This was a qualitative cross-sectional study. Interviews were conducted on six eligible key informants based on criteria in the selected areas in Kuantan, Maran and Pekan, Pahang. This study used thematic analysis to analyse the data. The identified problems from the perspectives of authorized personnel were; (i) hygienic issue; (ii) improper solid waste management; and (iii) inadequate clean water supply. Current findings recommended strategies which were; (i) to conduct awareness program; (ii) to conduct social program; (iii) provides proper waste disposal landfills; and (iv) to provide adequate clean water supply. Research findings and strategy recommendations need to be prioritized by the government for the purpose of improvement Furthermore, the government should also review all current programs to determine its effectiveness towards the Orang Asli community.

Keywords: authorised, Orang Asli, parasitic infection

INTRODUCTION

In Malaysia, intestinal helminths is a public health issue, especially in rural and Orang Asli communities. Malaysia faces numerous challenges as a result of parasitic pathogens. The three types of organisms that cause parasitic infections are protozoa, helminths and ectoparasites. Protozoa are single-celled organisms that can survive and thrive in the human body. Giardiasis is attributed to protozoa infection and serious infection that might due to contaminated drinking water with *Giardia protozoa*. While, Helminths

are multicellular organisms that live inside or outside the human body and are commonly referred to as worms. Flatworms, tapeworms, thorny-headed worms and roundworms are among the examples. Ectoparasites are multicellular organisms that live on or in skin. Insects and arachnids such as mosquitos, fleas, ticks, and mites are the examples (World Health Organisation 2019).

Parasitic infection is transmitted in a variety of ways. For example, protozoa and helminths are spread through contaminated water, food, waste, soil and blood. Some of them

are transmitted through sexual contact. Some parasites are spread by insects which act as the disease vectors or carriers. Malaria, for example, is caused by parasitic protozoa that are spread by mosquitos when they feed on humans (Tigabu et al. 2019). According to previous research, the prevalence of soil-transmitted helminthiases (STH) is still very high in Malaysian rural communities. The STH has been linked to a number of other health issues, including micronutrient deficiencies, protein-energy malnutrition and poor educational achievement. Public health personnels have assessed to current control measures, identified innovative and integrated approaches to significantly reduce STH in rural communities (Hamid et al. 2013).

According to Article 169 by the International Labour Organisation's Convention on Aboriginal Peoples And Free Nations, "aboriginal people" refers to a group of people who live a different lifestyle than the majority of the society in terms of social, cultural and economic factors. This community is equally committed to preserving their traditional way of life (ILO 1989). The term "Orang Asli" is defined in Article 160 by the Federal Constitution as "aboriginal people living in Peninsular Malaysia" (Article 160 of the Federal Constitution 1954).

Orang Asli is defined in Section 3 of the Aboriginal Peoples Act 1954 as any individual whose father is or was a member of an aboriginal ethnic group, who speaks an aboriginal language and practises aboriginal customs and beliefs, and includes a descendant through male of such person. The

aboriginal people tribes have their own ceremonies practice, culture, customs, beliefs and way of life. They live in harmony with nature and have their own lifestyle. Natural resources provide most of their essential needs and the practice is influenced by ancestors.

The Orang Asli Department has appointed stakeholders such as Tok Batin or Village Heads and Jabatan Kemajuan Orang Asli (JAKOA) Officers to facilitate the affairs of Orang Asli. Tok Batin is the chief of the tribe for a particular village and is respected by all aboriginal people in particular community (Ali et al. 2020).

The government of Malaysia has made serious effort in developing the Orang Asli community. This is evidenced through the establishment of the Department of Orang Asli Development or JAKOA. This agency is entrusted to oversee the affairs of Orang Asli. The Aboriginal Peoples Act 1954 entitles the department to control all matters concerning to Orang Asli. The government had made the department permanent in November 1961, and they are responsible for all programmes involving Orang Asli. Since then, JAKOA has been tasked with overseeing the development of Orang Asli community.

Tok Batin and JAKOA officers must reach an agreement about the issue of Orang Asli, and all issues must be referred to the higher authority for further management. According to the our knowledge, there is a lack of information from the stakeholders who work directly with Orang Asli on local health issues. In this article, "Tok Batin"

and JAKOA officers are referred to as authorised personnels. The Orang Asli community has high regard for the stakeholders. The information from these stakeholders are very important for future planning as their input represent Orang Asli regarding their health issues.

MATERIALS AND METHODS

A qualitative cross-sectional study was conducted through face-to-face interviews with agreed key informants to explore the problems faced by Orang Asli. Recommendation on the strategies from the perspective of “mediator” was crucial to implement better programmes in the future. As a guide during the interview, semi-structured questionnaires were developed. The questionnaires were cross-checked by the content experts to ensure their validity and reliability. The research was conducted in the Orang Asli villages at Kuantan, Maran and Pekan in the state of Pahang. The participants were chosen from the authority which were Tok Batin and the officers of JAKOA from Kuantan, Maran and Pekan. In this study context, authorised personnel referred to the Head of Village or Tok Batin and the officers from JAKOA.

Purposive sampling was used to select the six eligible key informants who met the inclusion criteria of position as Tok Batin and officers of JAKOA who had more than five years of experience. In addition, Tok Batin must live within the selected Orang Asli settlement, able to understand Malay language and is willing to

participate.

Nevertheless, the participant who was unwilling to participate and was suffering from mental illness, was not included. The interviews were tape-recorded and the length of the recording was 30 to 60 minutes per session until the data saturation was achieved. The interview was informal, open-ended and was carried out in a conversational style. The process of data collection was only carried out after the approval was obtained.

The recording was transcribed manually by listening to the recording and examining the transcription in order to obtain valuable information and the exclusive idea. The data were processed using thematic analysis. The assessment was conducted by two researchers independently. The findings were discussed and any disagreement were finalised by the third researcher.

This study was conducted from 1st March 2020 until 31st May 2020. JAKOA's approval for this study was obtained (reference JAKOA/PP.30.032Jld.47 (47)0).

RESULTS

Six key informants consisting of Tok Batin & JAKOA officers were interviewed. The participants were three Tok Batin from three Orang Asli Villages and three officers of JAKOA at Kuantan, Maran and Pekan. Key informants who agreed to participate in this study were from the age range of 36 to 60 years old. The demographic profiles of the participants were detailed in Table 1. Table 2 highlighted

a few themes that were extracted from the questionnaires. Three themes were identified during the analysis part. The themes were; (i) hygiene problem; (ii) unsystematic solid waste disposal; and (iii) water problem.

Theme 1: Hygiene Problem

Hygiene was one of the major problems highlighted by the authority related to the issue of parasitic infections among Orang Asli. During the interview sessions, five key informants mentioned that the Orang Asli did not practise personal hygiene, home hygiene and environmental hygiene.

“Some of Orang Asli do not wash their hands before eating and just take bath twice daily. Majority of them only wash their hand during programs or ceremony. Furthermore, the use of soap is not widely practised among them” (JAKOA Maran).

“Parasitic infections occurring among Orang Asli is due to the lack of emphasis on a few aspects. Those aspects are personal hygiene, home hygiene and environmental hygiene. They are lacking in terms of the emphasis on hygiene such as neglecting to take a bath, avoid wearing slippers when leaving the house and refusing

to wash their hands before consuming all sorts of foods which are among the contribution factors of the widespread of parasitic infection diseases” (JAKOA Pekan).

“Basically, in terms of hygiene, most of the Orang Asli practise less concern on hygiene in their daily lives. This can be proven by looking at only a small number of Orang Asli wash their hands before eating. However, this practice is different when they join programs, assuming that they are observed by others in the area. Not only that, they prefer to use spoons while eating in public” (JAKOA Kuantan).

“Usually, the most common problem is worm infection whereas bugs infection disease is lesser. For your information, not many Orang Asli wash their hands before consuming foods” (Tok Batin Kuantan).

“Most problems exist due to the parasitic infections. First is the presence of worms and second is related to the personal hygiene like refusing to wash hands before eating” (Tok Batin Pekan).

Theme 2: Unsystematic Disposal Solid System

From the interview session, only one respondent emphasised on

Table 1: Focus Group Participant

Participants	Age	Gender	Profession
1	36	Female	JAKOA Maran
2	42	Female	JAKOA Kuantan
3	45	Female	JAKOA Pekan
4	49	Male	Tok Batin Maran
5	52	Male	Tok Batin Kuantan
6	60	Male	Tok Batin Pekan

Table 2 : Extracted Themes

Q1 . What is the problem related to parasitic infections among Orang Asli in Kuantan, Maran and Pekan at Pahang based on opinion of authorized personal?	
Themes	Categories
Hygiene Problem	Do not concern on personal hygiene, home hygiene and environmental hygiene
Unsystematic Solid Waste Disposal	Does not provide a systematic landfill
Water Problem	Unable to get clean water
Q2. What will be among suggested strategies regarding to the problem related of parasitic infections among The Orang Asli in Kuantan, Maran and Pekan in the district of Pahang Malaysia?	
Themes	Categories
Awareness Programs	Programs and talks in Orang Asli Village
Social Programs	Health screening programs
Waste Disposal System Program	Provide landfills
Water Supply	Provide adequate and cleanliness water supply

unsystematic solid waste disposal.

"...the problem of solid waste disposal is not systematic at all. Majority of Orang Asli throw garbage everywhere" (JAKOA Kuantan).

Theme 3: Water Problem

One respondent commented on the water problem such as the limited access to clean water.

"...there is no toilets provided throughout the village. Often, Orang Asli only use river to access the water supply" (Orang Asli Maran).

DISCUSSION

Orang Asli are vulnerable to STH infections due to their routine and inferior sanitation system. The STH infections still prevail among Orang Asli (Nasr et al. 2013). Malaysian government has steadily improved the socioeconomic status, educational standard and healthcare facilities in Orang Asli settlements but there is

more can be done. Therefore, effective anthelmintic drug regiment has to be administered. Furthermore, the Orang Asli should be exposed to nutritional programs to ensure normal growth and development. This will enable the future generations of Orang Asli to be more competitive (Wong et al. 2014).

Hygiene is the most pressing concern when it comes to parasitic infections issue among Orang Asli. Majority of key informants were aware that poor personal hygiene, home hygiene and environmental hygiene were among the contribution factors in parasitic infections that affected the Orang Asli. In fact, majority agreed that some Orang Asli did not wash their hands before eating. Furthermore, some Orang Asli did not bathe, while others only bathe once or twice daily. Not only that, most of the Orang Asli did not wash their hands after defecating. Therefore, awareness programs such as educational and informative talks were essential for the Orang Asli to increase knowledge and awareness to ensure

a good hygiene practice in their daily routine.

Solid waste is defined as useless and unwanted solid products resulting from anthropogenic activities that are discarded by the society. This study found that a vast number of Orang Asli stored household waste beneath their homes and disposed it throughout the community. This was discovered from the study that solid waste management practices had negative impact on both the environment and the lives of the Orang Asli community. This study proved that JAKOA, a selected body to deal with Orang Asli had multiple responsibilities. They do not only provide Orang Asli with solid waste disposal management services but also provide education and the awareness program. To improve their solid waste management practices, it is important for the Orang Asli to store their household waste in plastic bins. In this case, more bins should be provided to prevent open dumping (Hakim et al. 2007).

Moreover, limited access to clean water was also an issue which led Orang Asli prone to parasitic infections. This is because the Orang Asli do not have access to good quality drinking water. Many Orang Asli communities suffered from parasitic infections due to the limited clean and convenient water access. For those who lives in the woods, water sources are located away from them. Families, particularly women, are forced to travel long distances to collect and transport water. Water is regarded as a valuable resource due to the circumstances and the transported water is frequently

used for washing clothes and bathing as well (Ahmed et al. 2012).

Health education about parasitic infections to Orang Asli should be the main concern of the higher authority. This is because, the awareness on parasitic infections can reduce the rate of parasitic infection cases among the targeted group and thus can improve a healthy life. Therefore, it is highly recommended for the Orang Asli to wash their hands using soap before eating, after playing with soil and after using the toilet; wear slippers or shoes when going outside; avoid open (indiscriminate) defecation; wash vegetables and fruits before consumption; and drink clean (boiled) water.

For decades, intestinal parasitic infection among the Orang Asli has been regarded as a public health issue. Mercy International (MI) initiated and implemented a control program to reduce morbidity and successfully managed to control transmission of intestinal parasites in 1993. The management of the program, part of a larger health-care project, and the measures had been carried out through existing health-care facilities. This project was based on the concept of "Comprehensive Health Care Approach" and targeted Orang Asli (Lim et al. 2009). One of the social programmes that can be implemented is health screening in order to solve parasitic infection issue. It is crucial to conduct a health screening program on Orang Asli to maintain a good and healthy lifestyle.

A landfill is a carefully designed structure that is built into or on top

of the ground and to separate trash from the surrounding area (Wong et al. 2016). Landfills hold garbage and prevent contamination of the waste to the surrounding environment, particularly groundwater. A waste disposal system programme, such as providing landfills to Orang Asli is important because some Orang Asli dispose garbage under their houses and pollute its surrounding area. In this case, landfill is a critical concern to protect human and the environment from the contamination by the improper management of waste disposal.

The government should provide a clean and treated water supply to Orang Asli villages in Pekan and Maran to ensure a good hygiene. Health problems among the minority group of Orang Asli are caused by limited clean water. Water scarcity is one of the concerns raised by the Orang Asli community.

Based on the interviews, it was discovered that the majority of the issues raised by the authorities were related to parasitic infections among Orang Asli. In an Orang Asli village in Kuantan, the problem with parasitic infections among Orang Asli is due to the lack of hygiene and the lack of a systematic solid waste system. Meanwhile, for Orang Asli villages in Pekan and Maran, the problem of parasitic infections among Orang Asli is primarily due to hygiene handling.

The success of anti-parasitic program involves contribution by multiparty. A few themes were extracted to propose strategies that need to be prioritised to ensure the current issue in Orang Asli

village can be properly managed.

According to three of the key informants, awareness programmes must be implemented to ensure that Orang Asli understand the importance of maintaining a good hygiene.

"I think programs and talks have been conducted but the frequency needs to be considered because the awareness and health programs did not achieve the target every year. Maybe, the awareness program needs to be expanded and continued. I think self-awareness is more important to Orang Asli" (JAKOA Pekan).

"Regarding to the strategies to reduce the parasitic infections, the awareness program needs to be improved. It can be done by giving health education about the importance of maintaining a personal hygiene" (JAKOA Kuantan).

"The way to reduce the parasite problem is to maintain personal hygiene. The awareness programs need to be implemented to tell Orang Asli that it is important to maintain a good hygiene" (JAKOA Maran).

Parasitic infections among Orang Asli can be reduced by improving social programs such as health screening. Regarding to this initiative, one respondent spoke up.

"The way to reduce the parasitic infections is by doing the health screening more frequently. The health screening needs to be done by giving a medicine to avoid the infections" (Tok Batin Kuantan).

One respondent suggested that by providing landfills, parasitic infections among Orang Asli could be reduced.

"The problem of solid waste disposal is still not fully systematic due to the

disposal of garbage under the house or everywhere. Waste disposal system programs have been conducted before this, but it will need to be conducted more on in the future.” (JAKOA Kuantan).

Based on the perceptions regarding to the problem related to parasitic infections among Orang Asli, the two key informants mentioned that water supply was important to reduce the parasitic infections.

“The way to reduce parasitic infections is the government needs to ensure that clean water supply sources reach Orang Asli villages” (JAKOA Pekan).

“The problem about parasitic infections is the problem of water supply. So, the strategies to reduce parasitic infections among Orang Asli is by doing the suggestions for getting enough water” (Tok Batin Maran).

CONCLUSION

Based on the finding, the main problems associated with parasitic infections among Orang Asli from the perspectives of authorised personnel are the lack of hygiene practice, the lack of systematic solid waste disposal system, and lastly the imited access to clean water supply. In order to successfully reduce parasitic infections among Orang Asli, proper awareness programs, active social programs, proper waste disposal system and clean water supply are recommended. In conclusion, this study is useful to fulfil the gap of existing literatures in determining the problem faced by authorised personnel in reducing

parasitic infections among Orang Asli.

ACKNOWLEDGEMENT

The authors would like to express gratitude to the health institutions and personnels who had contributed to this article.

REFERENCES

- Ahmed, A., Al-Mekhlafi, H.M., Al-Adhroey, A.H. Ithoi. I., Abdulsalam, A.M., Surin, J. 2012. The nutritional impacts of soil-transmitted helminths infections among Orang Asli schoolchildren in rural Malaysia. *Parasit Vectors* 5: 119.
- Ali, A., Jangga, R., Yaakob, A.N., 2020. The implementation of aboriginal people Act 1954 (Act 134) and customary law in the appointment of Tok Batin Kaum Jakun in Bekok, Segamat. *Gading J Soc Sci* 23(1): 24-32.
- Article 160 of the Federal Constitution 1954 . Malaysia Federal Constitution. https://www.jac.gov.my/spk/images/stories/10_akta/perlembagaan_persekutuan/federal_constitution.pdf [2 Mac 2020]
- International Labour Organization. 1991. C169 - Indigenous and Tribal Peoples Convention, 1989. Convention concerning Indigenous and Tribal Peoples in Independent Countries. Retrieved from https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C169#:~:text=Indigenous%20and%20tribal%20peoples%20shall,freedoms%20without%20hindrance%20or%20discrimination.&text=No%20form%20of%20force%20or,rights%20contained%20in%20this%20Convention. [1 Feb 2020].
- Hakim, S.L., Gan, C.C., Malkit, K., Azian, M.N., Chong, C.K., Shaari, N., Zainuddin, W., Chin, C.N., Sara, Y., Lye, M.S. 2007. Parasitic infections among Orang Asli (aborigine) in the Cameron Highlands, Malaysia. *Southeast Asian J Trop Med Public Health* 38(3): 415-9.
- Hamid, H., Samah, A.A., Man, N. 2013. The level of perceptions toward agriculture land development programme among Orang Asli in Pahang, Malaysia. *Asian Soc Sci* 9(10): 151.
- Lim, Y.A., Romano, N., Colin, N., Chow, S.C., Smith, H.V. 2009. Intestinal parasitic infections amongst Orang Asli (indigenous) in Malaysia: has socioeconomic development alleviated the problem? *Trop Biomed* 26(2): 110-22.
- Nasr, N.A., Al-Mekhlafi, H.M., Ahmed, A., Roslan, M.A., Bulgiba, A. 2013. Towards an effective

- control programme of soil-transmitted helminth infections among Orang Asli in rural Malaysia. Part 2: Knowledge, attitude, and practices. *Parasit Vectors* **6**(1): 28
- Tigabu, A., Taye, S., Aynalem, M., Adane, K. 2019. Prevalence and associated factors of intestinal parasitic infections among patients attending Shahura Health Center, Northwest Ethiopia. *BMC Res Notes* **12**: 333.
- Wong, W.K., Foo, P.C., Roze, M.N. M., Pim, C. D., Subramaniam, P., Lim, B.H. 2016. Helminthic Infection and Nutritional Studies among Orang Asli Children in Sekolah Kebangsaan Pos Legap, Perak. *Can J Infect Dis Med Microbiol* **2016**: 1326085.
- Wong, H.J., Moy, F.M., Nair, S. 2014. Risk factors of malnutrition among preschool children in Terengganu, Malaysia: a case control study. *BMC Public Health* **14**(1): 785
- World Health Organization. 2019. Soil transmitted helminthiasis. Retrieved from https://www.who.int/intestinal_worms/resources/by_year/en/ [8 August 2021]

Received: 21 Jan 2022

Accepted: 12 Apr 2022