ISSUE BRIEF

TRENDS IN COVID-19 VACCINE HESITANCY AMONGST INDIGENOUS PEOPLES IN PENINSULAR MALAYSIA AND ITS IMPLICATIONS ON HEALTH COMMUNICATION

Amidst the recent surges, fears about the spread of variants of concern, and emergency wide-scale mobility restrictions, vaccination has finally begun in Malaysia. Hopes of returning to normal anchored on ideations of what used to be are becoming more realistic as the country engages itself in the pursuit of obtaining herd immunity. Whether or not this will be realized soon rests on the speed and efficient allocation of vaccines by government and (recently) private institutions, as well as the willingness of people to be vaccinated, making the matter both a macro and micro concern.

Malaysia began its vaccination drive on February 24, 2021, as it tries to rein in a spike in infections and help revive an economy that recorded its worst slump in more than two decades last year. While considered a late starter (Figure 1) compared to developed countries that began their vaccination drives much earlier, today, the number of doses per 100 people, an indicator of vaccination rate, has surpassed many developed countries. The UK began its immunisation campaign on Dec 8, while the US and Canada administered their first shots of vaccine on December 14, and Singapore on Dec 30.

Malaysia is currently outperforming the global rate in terms of vaccination progress; doing better than other developed countries, as data from Our World in Data shows (Figure 2). By August 30, based on a rolling seven-day average Malaysia was administering 1.14 doses per 100 people, compared to Singapore 0.28 (August 29) and other developed countries. This is a given since these countries started their vaccination drive much earlier. The Malaysian Minister of Health stated in a press conference[1] that at the current rate of vaccination, at least 80% of the country's total adult population will be fully vaccinated by October 31 and as such the COVID-19 pandemic will be downgraded to endemic status.[2]

Image credit: Aizuddin Saad, New Straits Times

[1] "KJ: Malaysia To Enter Endemic Phase By End October", The Star, 1 September 2021

[2] The term endemic refers to "the occurrence of a constant presence of a disease or infectious agent in a particular area or districts at a low and stable rate"

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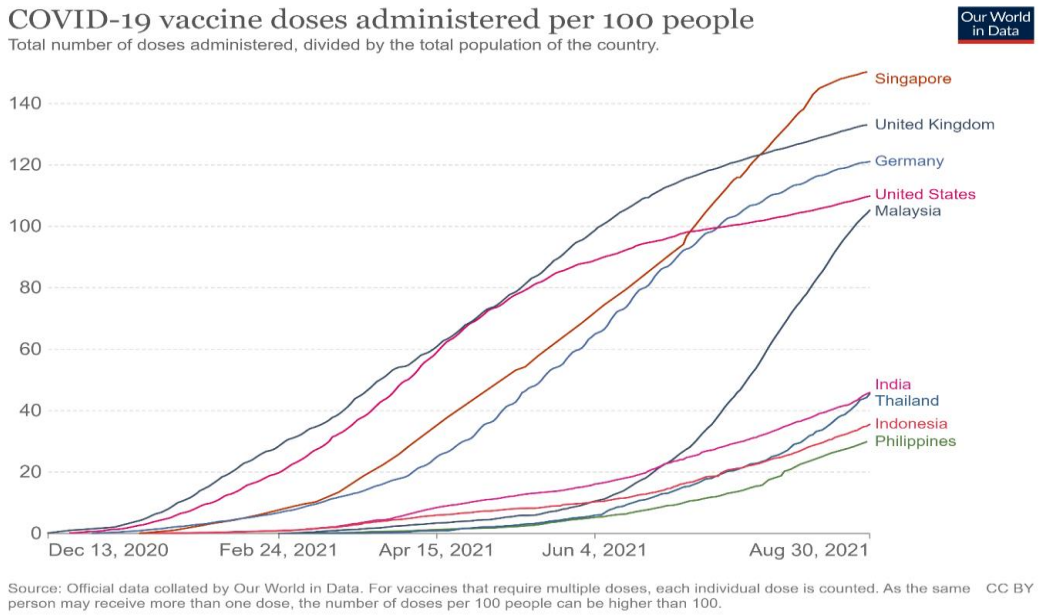

Figure 1. COVID-19 vaccine doses administered per 100 people

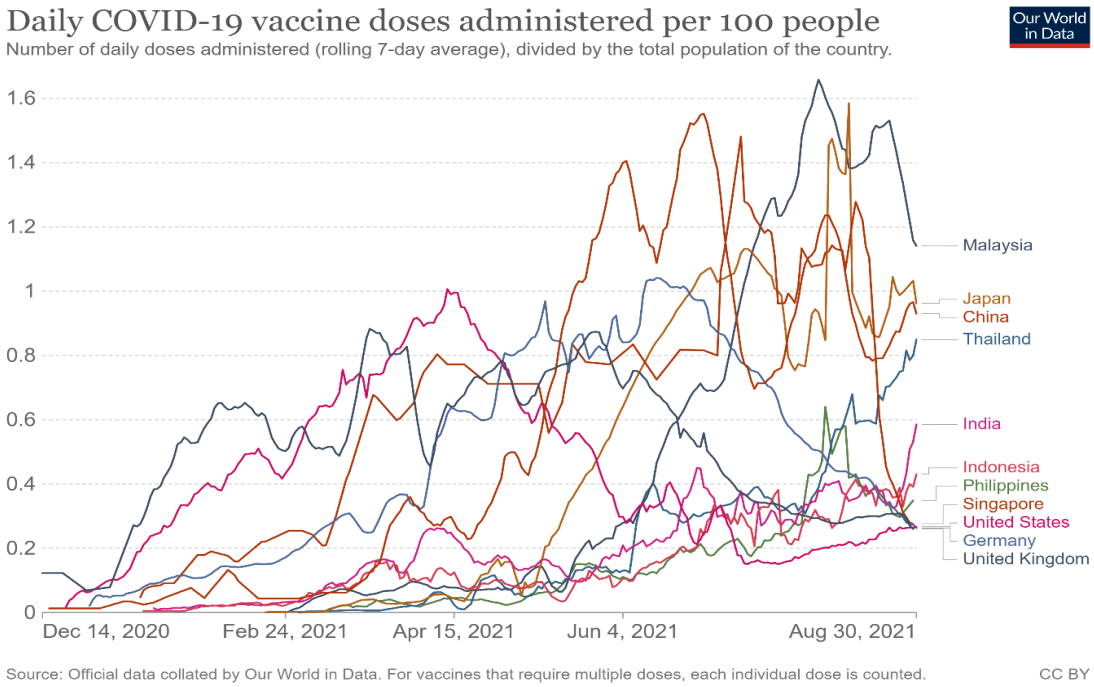

Figure 2. COVID-19 vaccine doses administered per 100 people

By September 1, more than 34 million doses have been administered, with 60.5 percent of the population receiving at least one dose (or 84.3 percent of Malaysia's adult population) and 46 percent received two doses (or 64.2 percent of Malaysia's adult population). The vaccination process in

Malaysia is overseen by the Special Committee for Ensuring Access to COVID-19 Vaccine Supply (JKJAV), co-chaired by the Ministry of Health of Malaysia and the Ministry of Science, Technology and Innovation. The mandate was to ensure immediate and effective administration of the vaccines to as many people as possible. Hence, JKJAV plays an important role as the Main Committee in planning, implementing and monitoring the entire National COVID-19 Immunisation Programme through a comprehensive Whole-of-Government and Whole-of-Society Approaches with various Ministries and Government Agencies, State Governments, Non-Governmental Organisations (NGO), private and community members. The Ministry of Science, Technology and Innovation (MOSTI) is mandated to manage and coordinate the logistical implementation of the National COVID-19 Immunisation Programme (PICK), while the Ministry of Health focuses on matters related to health services in dealing with the spread of COVID-19.

Why Vaccinations for Indigenous Communities should be prioritized?

Within the population, different dynamics are at work in different communities. Indigenous peoples, in particular, are threatened by and respond to the COVID-19 threat dissimilarly from other communities. This is in line with the World Health Organisation's suggestion that governments take a proactive response to vaccine hesitancy 'hotspots' based on social and behavioural insights. While the vaccine hesitancy trend is becoming less prevalent in the general population, it is relatively unknown amongst Orang Asli (OA) communities.

OA communities have been identified as a particularly vulnerable group in the context of COVID-19 virus transmissibility and fatality. Individuals in the OA population generally face higher risks of getting very sick and developing serious illnesses from COVID-19 due to a higher rate of chronic health conditions, and in some cases, crowded-living conditions, which increases the risk of spreading the infection. Studies relating to medical, social, and public health on OA communities show pre-existing wide health inequities between them and the general population. Even amongst OA clusters in different locations, various factors at play may contribute to differences in their health inequity. The factors are pre-existing health conditions and access to healthcare, place of residence, occupation, gender identity/sex, age, social capital, education and literacy, religion and belief systems.

There are approximately 198,015 OAs in Peninsular Malaysia (based on 2019 statistics). According to one independent study, around 33.5 per cent live below the poverty line.[3] OA communities are considered a high-risk group due to the prevalence of child undernutrition[4], exposure to infectious diseases and non-communicable diseases[5]. Over the years, many OA communities have undergone government-assisted relocations to more developed and semi-urban areas in the region. They are provided homes with basic features, social amenities, access to commercially-sourced food and adoption of unhealthy dietary habits. The latter, more often than not, are blamed for the increasing prevalence of chronic diseases, such as hypertension and diabetes.[6] Studies also show that an increasing number of OA adults are overweight and/or obese, with women more likely to be overweight or obese than men.[7]

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[3] Khazanah Research Institute 2017. State of Households II. Kuala Lumpur

[4] Leprince, J. R., Sariman, S., & Mohammed, R. B. B. (2020). Parental child feeding practices and growth status of Orang Asli children in Negeri Sembilan, Malaysia. British Food Journal.

[5] Ithnin, M., Nor, N. A. U. M., Juliana, N., Effendy, N. M., Sahar, M. A., Abdullah, K. H. H., ... & Rani, M. D. M. (2020). Knowledge, attitude and practices towards lifestyle-related non-communicable diseases (NCDs): A cross-sectional study among indigenous orang asli adults in Negeri Sembilan, Malaysia. International Medical Journal Malaysia.

[6] Lim, H.M. and H.L. Chee, 1998. Nutritional status and reproductive health of Orang Asli women in two villages in Kuantan, Pahang. Malaysian J. Nutr., 4: 31-54

[7] Law, L. S., Sulaiman, N., Gan, W. Y., Adznam, S. N. A., & Mohd Taib, M. N. (2020). Predictors of overweight and obesity and its consequences among Senoi Orang Asli (indigenous people) women in Perak, Malaysia. International journal of environmental research and public health, 17(7), 2354.

Hence the proposal that OA communities should be prioritized for the COVID-19 vaccine is one that is based on data and facts, i.e. their higher burden of disease and other socioeconomic factors will make them more vulnerable to the virus. In other words, OA communities are likely to be hit harder if affected by contagious illnesses.

Drawing from OA's understanding of illness and health, the OA communities themselves are very concerned about the COVID-19 threat. Early reactions included setting up barricades and checkpoints to control movement into their villages, performing health maintenance rituals and prayers and retreating deeper into the forest to 'wait out' the pandemic crisis. Indeed, studies have shown that these types of 'isolate-and-retreat' strategy responses did help mitigate the spread of the virus into their villages during the first two Movement Control Order periods.[8] Their adaptation and resilience emphasize the need to respect their traditional knowledge and way of life, as well as the importance of strengthening the OA's control over their traditional territories and environment.

However, mitigation efforts should not be expected to replace nor undermine the importance of a swift and efficient vaccination drive for the OA communities. Due to various supply and demand-driven issues, vaccination rates for OA communities are found to be lagging behind the national mean. The more interior the location of the OA communities, the higher the transmissibility rate given their close-knit social conditions. However, these communities would be more difficult to treat and be supported due to their remote locations.

A number of NGOs and doctors have raised the alarm over the comparatively low rates of vaccination, particularly double vaccination. In a news report, Federation of Private Medical Practitioners' Associations Malaysia (FPMPAM) president Dr Steven Chow argued that the OA's immunity towards the virus is ' weak because of their poor nutritional and health pre-dispositions, close family-centred living, the communities' low observance of masks-wearing, and social distancing,[9]

[8] Idrus, R., Man, Z., Williams-Hunt, A., & Chopil, T. Y. (2021). Indigenous resilience and the COVID-19 response: a situation report on the Orang Asli in Peninsular Malaysia. AlterNative: An International Journal of Indigenous Peoples, 11771801211038723.

[9] Doctors want govt to ramp up vaccination of Orang Asli'; FMT, 26 August 2021

The government has been urged to ramp up COVID-19 vaccination to counter recent surge in infections and deaths among the community. Some blamed the recent surge in Covid-19 infections among Orang Asli communities on delayed efforts to educate OA communities about standard operating procedures (SOPs) on mitigating COVID-19 risks and the importance of vaccination.[10,11] Founder of Koperasi Pembangunan Orang Asli Ramesh Arumugam Chettiar suggested that Tok Batins (village heads) who flee their villages to avoid COVID-19 instead of staying put and help roll out awareness and vaccination campaigns practices should be heavily penalised.[12]

In a report[13] on COVID-19 infections amongst OA population, the Centre for Orang Asli Concerns (COAC) estimated that between July to August 2021 alone, there had been a ten-fold increase in cases and deaths. The number rose from 287 cases on 20 July 2021 to 3,293 cases on 20 August 2021, and an additional 27 fatalities, bringing the total number of OA COVID-19 related deaths to 49. At least 60 Orang Asli villages have been subjected to EMCO lockdowns since the pandemic began. Certain communities have been placed in quarantine centres. While actual numbers of cases may be difficult to determine due to the lack of frequent testing and hospital visits by sick individuals, it was rather clear that the virus is now widespread in rural and, increasingly, in interior OA villages.

It is interesting to note that the majority of cases are found in OA villages at the urban fringe, where many OA individuals are employed at nearby towns and have contracted the virus. For instance, the report pointed out that OA in agricultural farms or plantations are most at risk[14] as the influx and increased mobility of people in these communities increases their exposure to the virus.

Department of Orang Asli Development (JAKOA) has been credited for a 337% increase in the number of Orang Asli that had at least one dose of the vaccine during the same period. 76,075 Orang Asli having had at least one dose of the Pfizer or Sinovac vaccine, or equivalent to 52.8% of the total number (144,180) of Orang Asli eligible to be vaccinated. JKJAV had also prioritised the Orang Asli for the single-dose CanSino and Johnson & Johnson jabs. This would make it easier to immunise the Orang Asli who live in the interiors and are harder to reach by MOH personnel. In Selangor, most of the inoculations are done on-site at the villages or at the Orang Asli Hospital in Gombak, with the cooperation of the district Department of Health (DOH) and JAKOA. [15, 16, 17]

The collaboration between district DOH and JAKOA included conducting vaccination outreach campaigns, even making house-to-house visits to ensure OA concerns can be answered effectively and personally. The MOH-JAKOA vaccination team organizes transportation for OAs to go to the nearest vaccination centre or at the Orang Asli Mobile Vaccination Program sites. There are also cases where the team would make house visits for OA individuals to administer the injections for those who faced difficulty making the vaccination trips.

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[10] 'Orang Asli activist highlights 'increasingly alarming' spike in Covid-19 cases, deaths", FMT, 22 August 2021

[11] Vaccine education delay caused spike in Orang Asli infections, activists say', The Malaysian Insight, 22 August 2021

[12] Activist wants action against Orang Asli village heads who abandon duties', The Sun, 29 August 2021

[13] "Letting The Guard Down, Orang Asli see spike in Covid cases and deaths, An update on the COVID-19 situation among the Orang Asli", Centre for Orang Asli Concerns (COAC); 22 August 2021. Note: data was derived from the daily updates from MOH, information on JAKOA website, discussions with various Orang Asli groups, as well as direct communication with those dealing with the COVID-19 situation in the Orang Asli communities.

[14] Vegetable farms in Cameron Highlands have been blamed for the Pos Brooke and Terisu COVID-19 clusters.

[15] 'Covid-19: Over 4,000 Orang Asli yet to be vaccinated, says Selangor exco', the Malay Mail, Friday, 27 Aug 2021

[16] "Jakoa giat pujuk Orang Asli terima vaksin," Kosmo", 3 Ogos 2021

[17] "Jakoa optimis 80% Orang Asli akan divaksin akhir Sept", Malaysiakini, August 28, 2021

Figure 3. Vaccination Outreach Programme at OA Village, Lata Kinjang, Batang Padang Perak.
Source: https://www.facebook.com/jakoamalaysia/

Figure 4. OA Vaccination Programme at Taman Desa Kemandol, Kuala Langat, Selangor on August 21, 2021
Source: https://www.facebook.com/jakoamalaysia/

JAKOA has also produced a variety of COVID-19 vaccine campaign materials and had them translated to major OA dialects such as Jahut, Jakun, Mahmeri, Semai, Semaqberi, Semelai, Temiar and Temuan (Figure 5).

Figure 5. Awareness Poster in Jahut Language
Source: https://www.jakoa.gov.my/poster-vaksin-pendinding-diri/

Despite these commendable efforts, can more be done to persuade OA individuals to come forth to receive vaccines? World Health Organization's Strategic Advisory Group of Experts on Immunization has noted, vaccine hesitancy "is complex and context-specific, varying across time, place and vaccines. It is influenced by factors such as complacency, convenience and confidence." This report focuses on the demand side issue of vaccine resistance, or more specifically to examine vaccine hesitancy trends amongst OA individuals. A short survey was administered between July 15 to August 21, on 6 OA clusters across Peninsular Malaysia. The survey was facilitated by Global Environment Centre (GEC), PACOS Trust, Wildlife Conservation Society Malaysia teams through their site offices.

Survey Methodology

The OA vaccine survey was carried out through (i) an online platform, where on-site enumerators helped OA respondents navigate through the virtual form or (ii) direct interviews through phone calls or distribution of printed questionnaires passed to OA village representatives. Information including the purpose, target and outcome of the survey has been delivered during the interviews. The survey teams also received assistance from Jawatankuasa Pembangunan, dan Keselamatan Kampung (JPKK).

Direct and assisted responses led to 553 usable responses coming from 6 OA clusters namely, Ulu Kinta (Kg. Tonggang and Kg. Makmur) and Slim River in Perak, Kuala Langat in Selangor (Kg. OA Bukit Cheeding, Kg. OA Busut Baru and Kg. OA Pulau Kempas), Rompin, Mersing and Pekan in Pahang (RPS Runchang, Kg Simpai, Kg Wah-wah, Kg Tanjung Kelapa, Kg Landai, Kg Meranti, Kg Sg Kalong and Kg Seri Bangkong, and Kluang in Johor. The survey sampling strategy ensured that there is a well-balanced representation from both genders. 47.6 percent were male and 52.4 percent female, as well as age groups. Gender responses to the vaccine may be influenced by family members more than any other factor. Different age groups may be affected by different factors. For instance, the elderly are less influenced by social media but are more guided by their traditional knowledge and close social circles. The breakdown of the sample is shown in Table 1.

Table 1. Breakdown of Sample by Age and Gender

Age/Gender	**Male**	**Female**	**Total**
Less than 30 years of age	115	116	231 (41.8%)
Between 30 and 60 years of age	106	134	240 (43.4%)
More than 60 years of age	42	40	82 (14.8%)
Total	**263 (47.6%)**	**290 (52.4%)**	**553 (100%)**

The questionnaire design is as such that it covers two basic questions:

A. What are the barriers to one's decision to receive vaccines?
   1. Vaccine Acceptance: Percentage of respondents that have reported yes to definitely or probably choosing to get vaccinated
   2. Concern about Necessity: Respondents who are hesitant to get vaccinated because they don't believe they need a vaccine
   3. Concern about Side Effects: Respondents who are hesitant to get vaccinated due to concerns about possible side effects of a COVID-19 vaccine

B. Who would have the strongest influence on one's decision to receive vaccines?
   1. Trust in Doctors: Respondents are more likely to get vaccinated if recommended by doctors and other health professionals they go to for medical care
   2. Trust in Leaders: Respondents are more likely to get vaccinated if recommended by community leaders
   3. Trust in Family: Respondents are more likely to get vaccinated if recommended by friends and family

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Findings: Factors contributing to Vaccine Hesitancy

1. Vaccine Acceptance

Survey results suggest that vaccine acceptance is rather high amongst the OA respondents; 44% of male respondents have come forth to be vaccinated, 41% more who have not are open to be vaccinated. Around 16% of the respondents demonstrated vaccine-hesitant tendencies by choosing to answer 'Not yet, but I am unsure if I want to take the vaccine'. Female respondents and those who are more than 60 years old are generally more hesitant than other subgroups (Figures 6 and 7). Breakdown by location shows that the OA communities in Kuala Langat, Selangor are most advanced in vaccination progress, while Pekan, Pahang the least advance. Kuala Langat OA villages are the nearest located to urban growth centres compared to the the rest, which reflects the ease of access to private and public vaccination programmes and high level of awareness of vaccine importance. Vaccine hesitancy responses is highest amongst the Rompin, Pahang OA respondents followed by Pekan, Pahang OA (Figure 8).

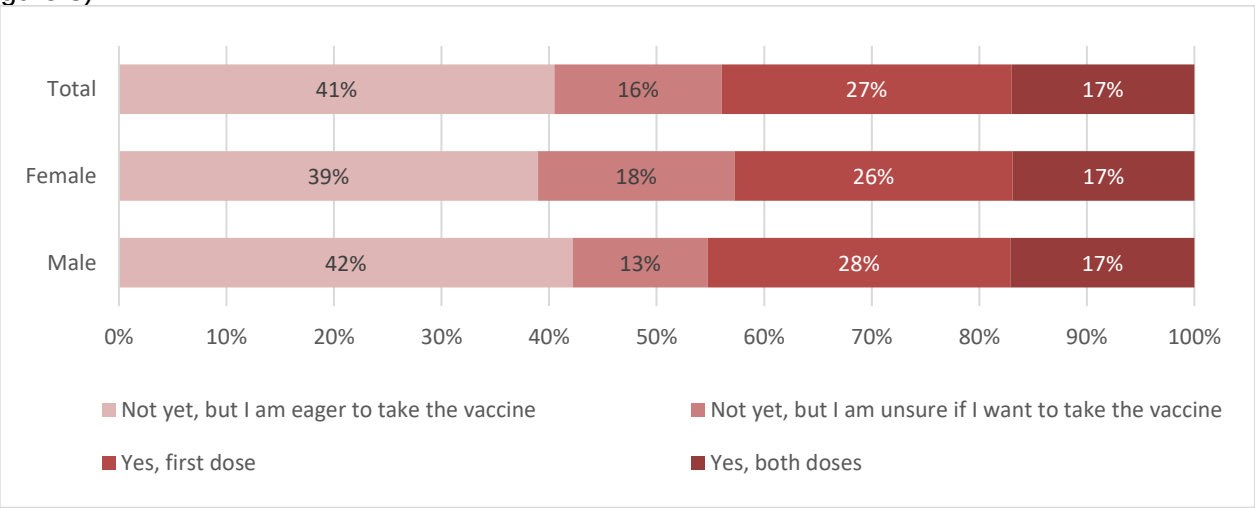

Figure 6. Vaccine acceptance and hesitancy, total and by gender group

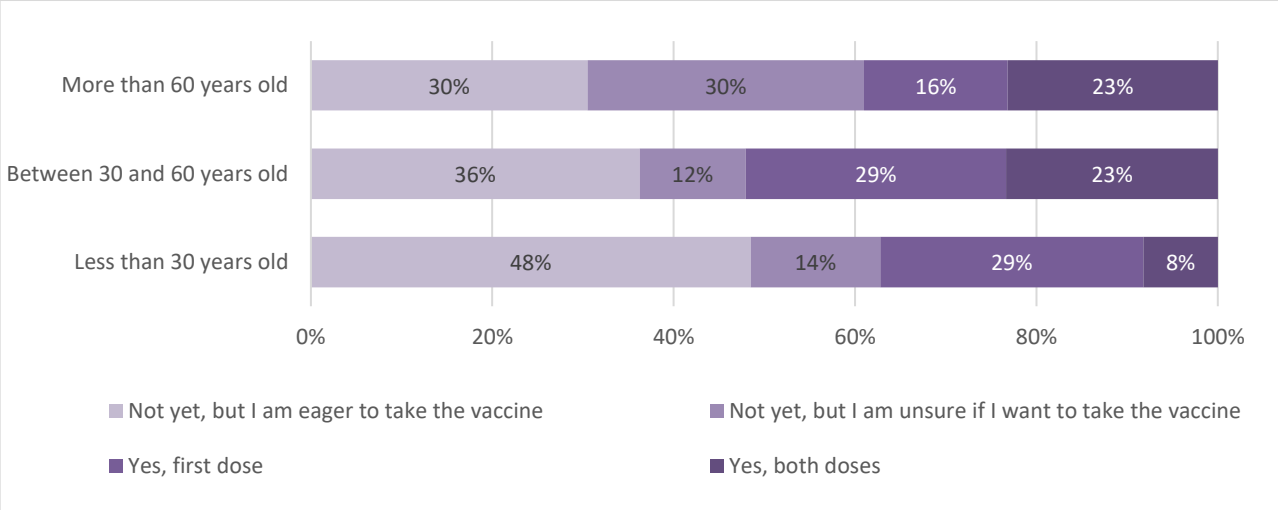

Figure 7. Vaccine acceptance and hesitancy by age group

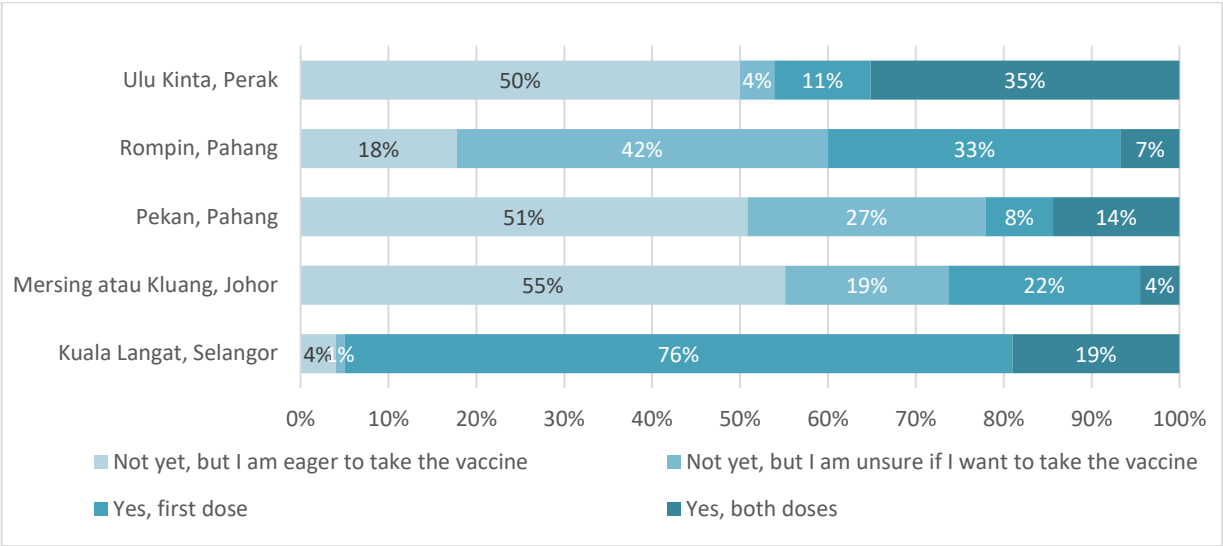

Figure 8. Vaccine acceptance and hesitancy by OA locations

2. <u>Concern about Necessity</u>

Negative perceptions on vaccine effectiveness and necessity can form major hurdles to vaccine acceptance, and together with 'wait-and-see' behaviors, may be influenced by the types of information presented to individuals. Considerations that OA individuals may have arising from their traditional knowledge and lifestyles can also create a barrier to vaccine acceptance. OAs may assume that risks of getting infected is low if they are able to isolate their community from outsiders. Nonetheless, the allegation that OAs are prone to being reckless with their health does not seem reasonable. Instead, many anecdotal evidences show how OA communities took extreme measures to protect their communities from the threat of the virus including to retreat inwards into the jungle or to barricade their villages from visitors.

The vaccine is not considered the most or the only source of protection from COVID-19 to 12% of the total respondents (Figure 9). Again, the female (14%) and the elderly group (21%) of respondents are more confident that the vaccine is not necessary if preventive measures can be exercised well (Figure 9 and 10). OA clusters in Pekan and Rompin have higher vaccine hesitancy percentages on the 'necessity' account as well (graph not shown).

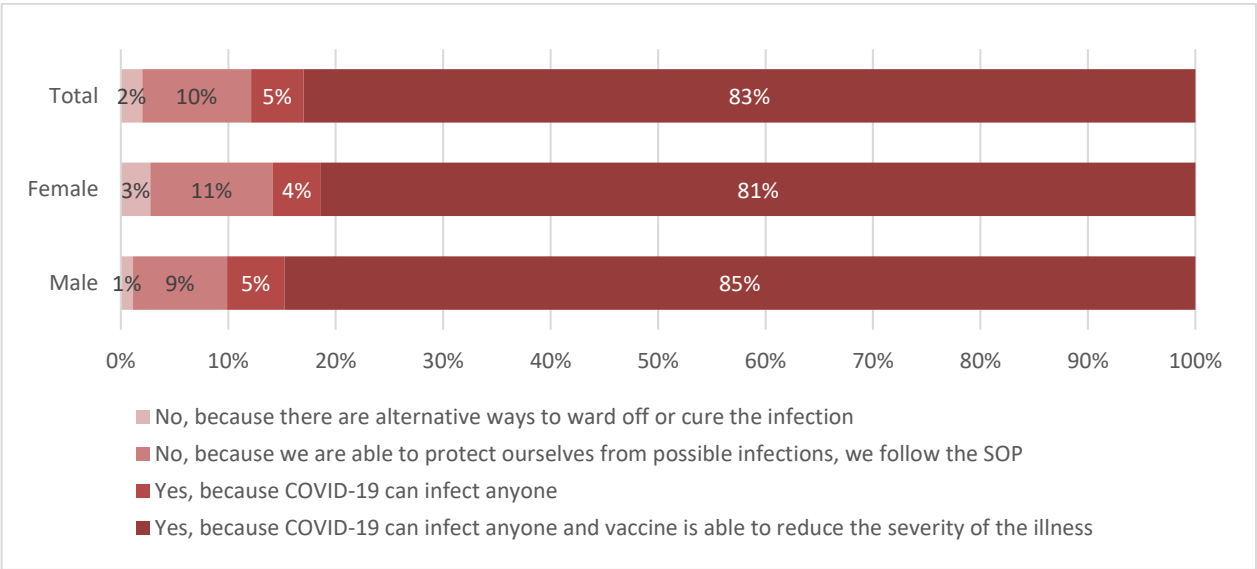

Figure 9. Perception on Vaccine Necessity, total and by Gender

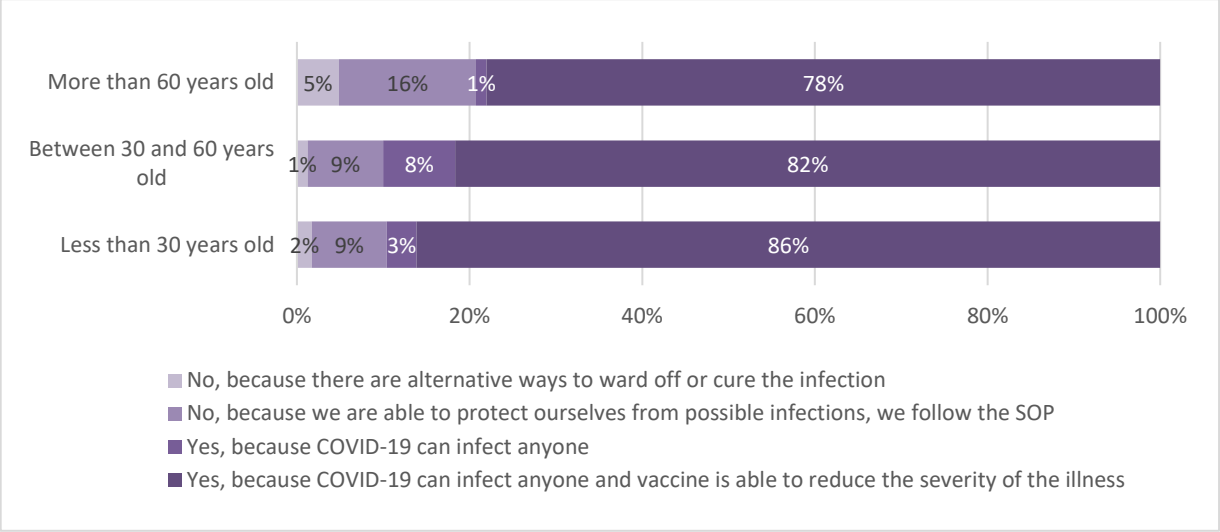

Figure 10. Perception on Vaccine Necessity by Age group

3. <u>Concern about Side Effect</u>

To the question 'Are you concerned that the vaccine could bring unwanted side effects?', more than half of the respondents answered in the positive. It means that the fear of side effects is the single most important barrier to vaccine acceptance within the OA respondents. This is true across all sub-groups except amongst female respondents (48%) and the elderly (59%). Even the younger age group registered a 55% "Yes" response, which could mean that they may be influenced by side-effect debate in the social media (Figure 11 and 12). OA respondents in Rompin (69%), Mersing and Kluang (68%) areas demonstrated substantial concern about side effects of the vaccine (Figure 13), as opposed to Kuala Langat (24%).

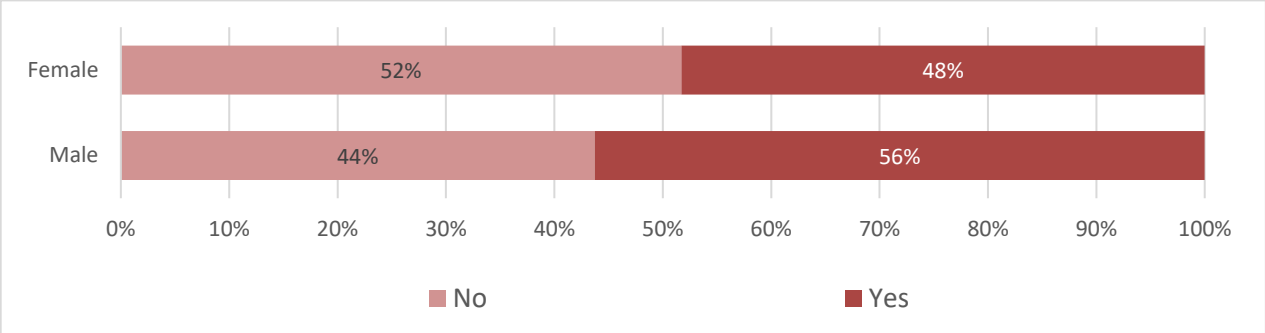

Figure 11. Vaccine Hesitancy due to Fear of Side Effects, total and by Gender

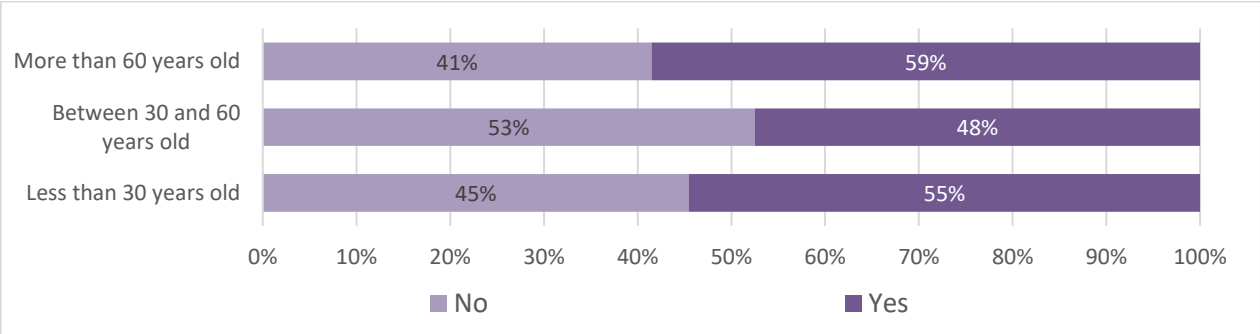

Figure 12. Vaccine Hesitancy due to Fear of Side Effects by Age group

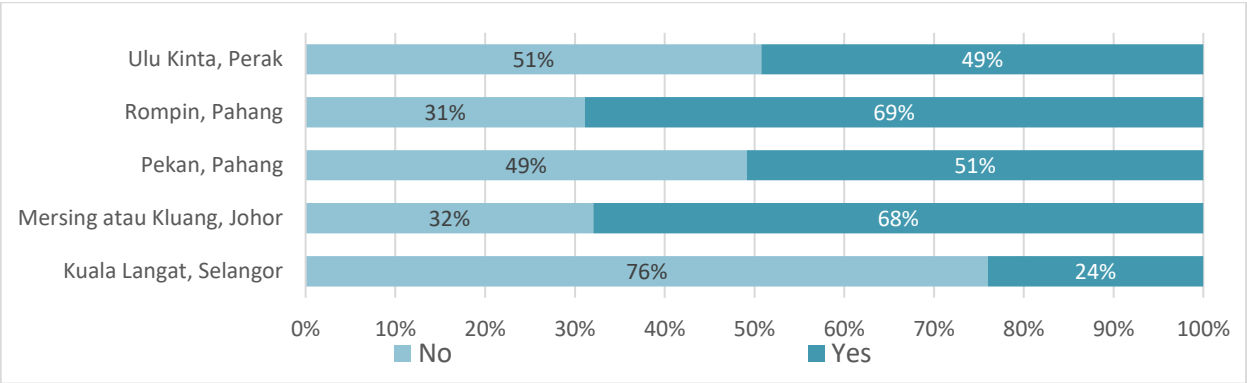

Figure 33. Vaccine Hesitancy due to Fear of Side Effects by OA Location

4. <u>Who would have the strongest influence in one's decision to receive vaccines?</u>

The survey asked several questions to gauge which party or agent, that the respondents trust most with respect to their vaccination decision. For example, 150 respondents (27%) of total respondents say that they will only agree to get vaccinated after someone from their family have gone through the vaccination or if they were advised by their family. This type of 're-assurance' and first-hand testimonials is most important across all subgroups except for the 'between 30 and 60 years old' group where family and government authority (JAKOA) are equally influential in their vaccination decisions (Figure 15). In almost all age groups, peer pressure plays a role as well. One will consider getting the vaccine if only all their friends are vaccinated at about the same time.

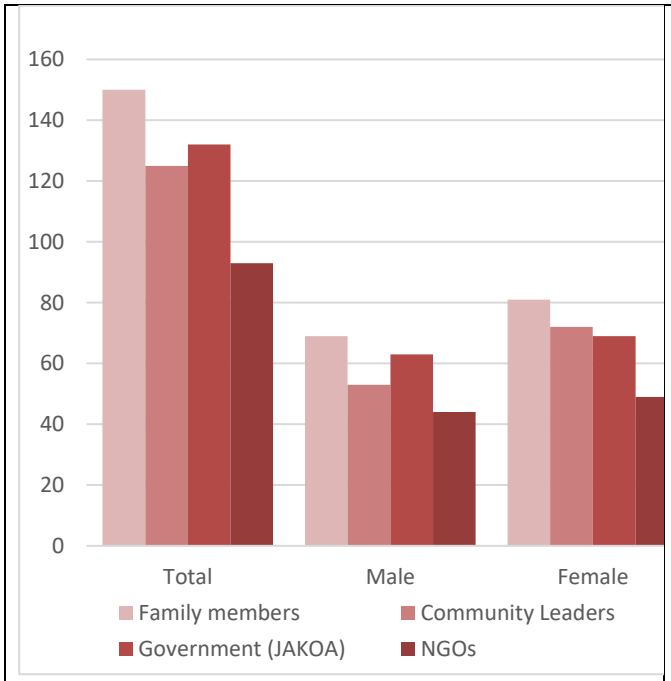

Figure 14. Influence on Vaccination Decision, total and by gender

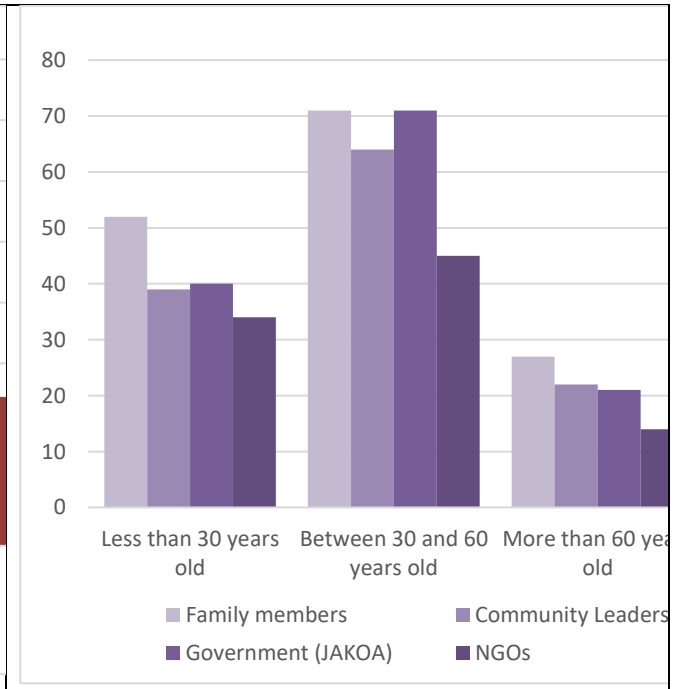

Figure 15. Influence on Vaccination Decision by Age group

Battling Vaccine Hesitancy

As with any community, public health experts' advice is to vaccinate between 70% to 90% of the population to achieve herd, or population, immunity. Getting to that level will ensure that the community receives the full benefits of the vaccines. Although, three issues can get in the way of achieving this: supply, access, and a public that is confident in, and eager to receive, the vaccine. From the survey

and qualitative information processed from news reports and statements, these issues can be broken down as follows:

Supply and access factors:

- Unavailability of vaccine or lack of vaccine supply
- Inconvenience of vaccination process for OAs in remote or interior locations
- Rate of vaccine registration via MySejahtera is not high, given online access and awareness of digitized processes are relatively low compared to non-OA population.

Demand-side factors (Vaccine Hesitancy):

- Concerns about adverse reactions to vaccine or that injections are painful
- Misinformation by primary care provider for individuals with comorbidities to not to get vaccinated
- Perception that vaccines are only moderately safe, and also the 'microchip' theory
- Concern about vaccine effectiveness / efficacy
- Perception that the community has a low COVID-19 risk
- Lack of trust in modern medicine relative to traditional and trusted herbal medicines

Analyzing data regarding vaccine hesitancy, the government will be able to create micro-targeted positive vaccine messaging campaigns for diverse groups.

i. Rather than leveraging aggregate vaccination statistics, OA vaccine promotion campaigns should be designed to amplify the positive influence of each person's vaccination across that individual's social networks. Discuss why vaccination is important to protect one's family, establish the threat of COVID-19 entering the household and the importance of herd immunity for everyone.

ii. Illustrate happy and healthy family's post-vaccination pictures or testimonials, because most adopts a 'wait and see' approach before becoming convinced about taking the vaccine.

iii. Deploy medical staff (e.g., doctors, nurses to medical assistants or paramedics) from the same tribe to help vaccinate the communities. Alternatively, train relevant professionals to understand the culture of OA, especially to understand their traditional knowledge and lifestyles which could be adopted in managing Covid 19 risks and vaccination issues.

iv. It is important to give information that creates the right *perception* on vaccine effectiveness and necessity. Hence, focus people's attention on the percentage occurrence of side-effects vs. No side-effects vs the risk of death from the virus.

v. Illustrate examples of OAs with co-morbidities taking initiative to protect themselves and their loved ones.

vi. Create narratives that speak to different segments of the OA communities. Frame the narratives in a positive way. For example, to convince young people to get the vaccine, public health messaging can emphasize the importance of getting vaccinated for the benefit of older friends and family members.

vii. Information accessibility is key to reduce uncertainty and anxiety by consistently and effectively considering things like literacy level, word choice and relatable images in order to provide accurate and detailed descriptions about vaccination sites, procedures and possible side effects to help people manage their expectations

viii. Focus on emotions that drive action such as pride, parental love, hope. Leverage on peer pressure, by encouraging families or close friends to take the vaccine at the same day and location.

ix. Engage well-known Elders, 'influencers' and community spokespeople to do short videos for social media encouraging others to get vaccinated, where the message is built around limiting the virus's exposure to elderly folks and children by getting the younger generation vaccinated.

x. Ballarat and District Aboriginal Corporation (BADAC) in Australia created vaccination wrist bands to inspire vaccine-related conversations in the community.

xi. Collaboration to develop messages and interaction platforms that are age-segregated or gender-segregated with leaders, health agencies, community leaders, schools, NGOs or influencers. For instance, BADAC has also teamed up with its youth services team to create a music video (e.g. rap song or jingles) targeting young people. The song encourages the community to listen to medical advice from their doctors and government authorities, not the social media.

xii. Focus on successful vaccination efforts such as diphtheria, measles and meningococcal diseases and show that COVID-19 is not dissimilar in that it protects the community from infectious diseases.

SUMMARY of KEY FINDINGS:

OA females are less likely than males to opt for vaccination, and more likely to be hesitant. Those who were older (60 years old and above) are also found to be more vaccine hesitant. The survey also found neighbourhood or locational differences, OAs living in areas closer to urban areas are more likely to get vaccinated or intend to get vaccinated when compared to those living in interior, rural areas. The most important cause for vaccine hesitancy is safety of COVID-19 vaccine and its longer-term side effects. Family members and peers are the most trusted set of people when one is deciding whether to get vaccinated, followed by the government authorities (JAKOA).

Concluding Remarks

The potential uptake rate of COVID-19 vaccine among OAs is currently suboptimal to achieve herd immunity. Our findings suggest that vaccine hesitancy, which accounts for a significant proportion of the population can be addressed by more effective public health messaging. For a significant minority of the population with strongly held beliefs, alternative carefully tailored measures may well be needed to achieve sufficient vaccination coverage in the OA communities.

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