

RESEARCH ARTICLE

Media literacy and parent's acceptance of the COVID-19 vaccination for children

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ABSTRACT

Vaccination is a prevention cure to stop COVID-19 spreading. In early 2022, the Malaysian government encouraged parents from preschool and primary schools to vaccinate their children to protect them from infectious viruses. The Malaysian government encourages parents of pre- and primary-school children to vaccinate their children vaccinated against COVID-19 virus. Although vaccination benefits children, some parents are hesitant about immunizing their children due to the opposite and different types of information they received about the immunization effect. This study attempts to identify the readiness and acceptance of vaccination to children among parents from Selangor state based on the availability of information tools used by parents in accepting or rejecting vaccination. This study employed a survey method. A sample of 200 parents who have children between the ages of one to 12 years old were selected to participate in this study. Convenient sample selection was carried out to reach the targeted and qualified respondents through email, social media and WhatsApp platforms. Data were analyzed using SPSS. The results indicated that most of the selected parents ready to vaccinate their children and in examining the trustworthiness of the information platform covering COVID-19 vaccination content, mostly trusted the content provided by the Ministry of Health (MoH). The findings also demonstrated a significant positive relationship between parent's information-seeking behavior and readiness to vaccinate their kids.

Keywords: media literacy; COVID-19 vaccination; children; parent's acceptance

1. Introduction

The increasing number of deaths and serious social and economic disruptions of COVID-19 has forced the authorities to find the best solutions to fight with these pandemics. Apparently the first global steps were restriction on social movement and social distancing was implemented. Children and families have been deprived of their educational, work, and sport activities, but also from all their friendship and relational contacts. With these steps, this global step has impacted our country education system and the schooling and education coordination. Children among the vulnerable group that need to be protected during this pandemic. By mid-March 2020 COVID-19 thrived in imposing 180 countries to close their schools and universities^[1]. On top of fighting the pandemic through social movement, it is a need to keep children's learning process moving, the Ministry of Education launched an online teaching and learning platform nationwide for schools.

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Online studies is only a temporary steps as concern among society on the consequences of student's learning development as compared to face-to-face learning. Finding imply that students with online learning made little or no progress while learning at home^[2]. With all these disputes, and to bring pandemic to the end, the only solutions plan is for vaccination implementation. Research team trying their best to develop a vaccine that could protect the world from SARS-CoV-2. This was done as early 12 months after the beginning of the pandemic hoping to prevent against COVID-19 effect infection, serious illness, and death^[3,4]. Reasonably, Malaysian government started the implementation of COVID-19 immunisation program in Feb 2022 for adults and continue with children vaccination later. Malaysia kicked off nationwide with Prime Minister Muhyiddin Yassin taking the vaccine. This campaign was widely covered in all media to fashion confidence among citizens to take this vaccination to avoid the spread of the virus. The vaccination for children was then introduced early 2022 by the ministry of health. Media was one of the sources of information about the Covid-19 vaccines. Parents from different age and demographic used different types of media to stay informed about vaccination options and their benefit. Media has become one of the main sources for parents to stay informed about the vaccination options and benefit.

Despite, understanding that vaccination is the only way to achieve the best results in preventing the spread of COVID-19 the worrying impression among parents becoming more widely heard^[5]. In fact, the perceptions regarding COVID-19 vaccines have been around and repeatedly shared on social media platforms even before the release of an effective vaccine. Vaccine hesitancy remains a barrier to full population inoculation against highly infectious diseases^[6]. Parents are becoming more hesitant to vaccinate their children due to the main concern related to familiarity with the vaccines furthermore misinformation and rumors regarding COVID-19 vaccines have been shared on social media platforms^[7].

There were mote acceptance of new born vaccination as compared with COVID vaccination, one of the reason is has been there since the 1960s but the COVID-19 vaccine just started last year^[8]. Parents today are more exposed to information on vaccination that can be obtained through many online platforms including social media. The information that they received has impacted on their decision for children vaccination. The information also up surged the social media platform while parents busy finding the right information about the vaccine. Parents' fears on vaccination have led to a wide spectrum of decisions. Some parents decided entirely not to take the vaccine, some totally refused and some delayed vaccinations to their children.

Unexpectedly, due to more information send out to reach the parents, these number has increased. More parents started to vaccinate their children. From the launching of these vaccination programs till mid-May 2022 the number of vaccinations has increased to 30% of the population in Malaysia. Social media and internet have become the source of information for parents. This shows that the Internet and social media can be valuable tools in spreading information and restore parents' confidence in vaccines^[9].

This means that there is a likely improvement in the trust among parents in Malaysia. Limaye et al.^[10]. confirm in their research that tailoring messaging to meet the unique needs of specific populations is critical to improving trust among parents on vaccination among children. Loads of information from either traditional or online media are one of the factors of influence on the formation of attitudes in many areas of modern parents today.

The aim of the study is to identify the readiness and acceptance of vaccination to children among parents from Selangor state based on availability of information tools used by parents in accepting or rejecting vaccination. This study also hopes to find the role of media in providing the best information on COVID-19 vaccination among parents that would be able to strengthen the vaccine confidence, and which may further contribute to improvement of public health. Parents may indeed have various concerns and worries when it

comes to COVID-19 vaccination for their children. Hence with the information availability parents able to access, analyze, evaluate, and make the decision for their children.

2. Literature review

An unusual coronavirus, SARS-CoV-2, was first reported in Wuhan, China, in December 2019 and effect the patient with mild to moderate illness and could bring to severe ill and require serious medical care^[11]. Obviously, these restrictions have impacted the economic, social of the society. The pandemic challenged the steadiness and tested the suppleness of many industries globally^[12]. This lockdown also has interrupted the education industry. Since there is still no effective treatment or vaccine at the time, measures implemented for the control of COVID-19 include nonpharmaceutical interventions (including serious curfews in some countries), canceling mass gathering activities, and mandating social distancing, school closures, and travel restrictions.

The World Health Organization (WHO), UNICEF, and GAVI, the Vaccine Alliance have reported that routine immunization programs have been substantially disrupted in at least 68 countries, affecting around 80 million children. Globally, as in May 2022, there have been more than 500,000,000 confirmed cases of COVID-19, including 6,000,000 deaths, reported to WHO. As of May 2022, a total of 11,000,000,000 vaccine doses have been administered^[13]. Malaysia's COVID-19 vaccination programme for children aged five to 12 begin on Feb 3. Parents able to book appointment slots via the MySejahtera contact tracing app beginning on Jan 31 and the process started at the Klang Valley areas.

With the pronouncement of the children vaccination program, parents started to have different views on this step. Traditional and social media stated to be platform to gather information, discuss and discourse about the effect of vaccination. Communications that acknowledge and address those reasons may be better able to engage parents and ultimately enhance the process of decision making about vaccines^[14]. Media outlets has played the major roles in providing information about COVID-19 vaccines, including their development, safety, and efficacy. Parents rely on these sources to stay informed about vaccination options and their benefits. Some parents agree to vaccinate the children, and some seems to hesitate in vaccination of their children.

Why parents have this perception towards vaccinations? The most popular answer will be the confidant from parents comes from the acquaintance and familiarity towards the vaccine itself. If looking behindhand, for years parents appears to agree with other vaccines i.e. the shots to protect against measles, mumps, and rubella as there been around since the 1960s. Parents seems to trust these vaccination and accept the reason on the importance of baby vaccination^[15].

There was a lot of information overload that is available through media on the vaccination facts. It is different as compare with parents of the 1960s, parents today have been overwhelmed with social media and internet messages in promoting either the advantages or the effect of the vaccine.

This could create either agreement or mistrust in vaccines. Social media and internet can be influential in providing information on vaccination^[16]. All the information available helped parents to overcome the worry on the safety and effectiveness of the vaccine. According to the October KFF survey, the primary uncertainties that parents prompt about the COVID-19 vaccination is the worry and fear of the long-term and serious contrary effects, counting future fertility issue. Parents are eager to questions and find the best answer on vaccination. Even the most parents that have taken vaccination have questions, concern and even misperception about vaccination^[17].

A key driver of recent outbreaks is vaccine hesitancy. Vaccine-hesitant individuals may refuse some certain vaccines, agree to others, or refuse altogether; they may delay vaccines; and/or they may accept

vaccines according to the recommended schedule but be uncertain in this decision. Dube et al.^[18] in his article mention that childhood vaccination is accomplished in many countries through voluntary acceptance by parents concerned about infectious disease in the community.

Despite hesitates, there are also amount of trustworthiness among parents towards child vaccination. A study done in Malaysia disclosed growth in the perception of exposure to infection as the COVID-19 pandemic progressed^[19]. This has led towards the acceptance among parents towards vaccination. There are many reasons that headed the reasoning on vaccination decision. The updated information surrounding about the ongoing COVID-19 vaccine rollout may have change the perception about vaccination^[20]. The acceptance of these information also has a relation to parent's background demographic. Parents with higher income and higher education level seem the more willing they are to vaccinate their children^[21]. The health authorities via health care providers, who were identified by the people as the most trust source of information regarding information about COVID-19 vaccines.

Health information portrayed via mass media having potential in influencing the public's health-related knowledge and behaviors in accepting or rejecting to media agenda^[22] for conveying complex information about health issues to community. The health information is an important factor for improving people's health behaviors. On the other hand, media literacy plays an important role in the search and selection of valid information and resources about health^[23].

The public are exposed to many misleading media messages concerning vaccination knowledge that negatively influence their attitudes and behavior. While questions remain and experts continue to conduct additional research, study results indicate that media literacy has potential to help reduce ambiguous meaning. In particular, media literacy can help increase knowledge regarding media, correct misperceptions, and increase critical thinking skills resulting in greater skepticism toward media messages^[24]. As more parents are turning to social media platforms for vaccine information parents seeking information about vaccines online are increasingly encountering misinformation^[25]. In fact, some argue that vaccine misinformation on social media, because of its rapid increase and potential to affect uptake, should be recognized as a global public health threat.

Social media networks are internet-based applications that enable users to interact and share ideas; social media users can reach a large audience in a short period of time. Due to the nature of the information available on social media, many health care providers are increasingly hearing about vaccine myths from parents, and consequently, providers are being pressed to respond to these myths. People's attitudes toward vaccination are changing with increased access to the internet and social media networks, especially during outbreaks of diseases. Although healthcare professionals are the primary source of information on health-related issues, many parents consider the internet an easily accessible source of health-related information, including information about vaccinations^[26]. Online media are a critical factor of influence on the formation of attitudes in many areas of modern society, which is why their proper use plays an important role in strengthening vaccine confidence and which may further contribute to improvement of public health. According to Nurazzura and colleague in 2019, in examining the refusal towards vaccination among Malay parents, they revealed that majority of Malay parent are suspicious to vaccinate their kids despite they are educated and knowledgeable about the importance of vaccines due to their fix perception that vaccination is polluted and unhealthy for their children.

3. Methodology/Materials

A Quantitative method was conducted in getting view from a general group of respondents from Selangor area to examine media literacy and parent's acceptance of the COVID-19 vaccination for children. A total of

200 parents who have children between the ages of one to 12 years old were participated in this study. Data were collected through convenient sampling methods from using online survey technique using google form through email link, social media, and WhatsApp platform. All participants were provided with clear and understandable information on the purpose, nature, duration and the data confidentiality of the survey. They should voluntarily agree to participate without any form of coercion.

The sharing was expanded by researcher’s family members, friends and working colleagues from designated state which is Selangor state. Constructed questionnaire available in both languages which are Malay and English to cater different type of respondents and total of three sections of questions were developed such as section A expose the demographic profiles. Section B probing about the perception of parents in accepting or rejecting vaccination for child and section C consisted question of the media literacy and trustworthiness of media respondent seek for gaining vaccination information. All together questionnaire sections comprised of 18 items asking respondents about their perceptions of vaccinating their children and tools use by them in getting sufficient information about vaccination. The inclusion criteria for approaching eligible respondents are based on any parents with one to 12 years old children from Selangor areas and can read and answer Malay or English language.

The pilot test was conducted by distributing the questionnaire to twenty parents from Selangor areas. Necessary changes and amendment were performed by the researcher prior distributing to the actual respondents. Score of Cronbach alpha was 0.94 indicating a good reliability. Data analyses were analyzed through Statistical Package of Social Sciences (SPSS) for Windows version 24 for measuring descriptive and inferential results. Descriptive analyses were performed for measuring frequency, percentages, mean, and standard deviation (SD) for socio-demographic characteristics. For measuring the normal distribution of data, researcher used Kolmogorov–Smirnov test and parametric test were used for inferential data analysis. A Chi-square test was carried out to determine the significant level of association and the relationship between the independent variables and dependent variables for the statistical significance value at $p < 0.05$.

4. Results and findings

Demographic profiles of respondents as portrayed in **Table 1** showing that the majority (34%) of the participants’ age were above 40 years old. The majority (53%) of the respondents completed degree as their highest education and majority of them are female respondents for (84%).

Table 1. Respondents socio-demographic background.

Socio-Demographic Profiles	N	%
Age (Years)		
20-25	12	6
26-30	30	15
31-35	40	20
36-40	50	25
40 and above	68	34
Level of Education		
SPM and Below SPM Diploma	21	10.5
Degree	60	30
Master	106	53
Phd	13	6.5
Gender		
Female	168	84
Male	32	16

Participated respondent’s perception about vaccinating their child were measured based on ranking scale from lowest (1) till highest rank (5). Majority of the parents had positive perception towards giving vaccination

to their child for (45%) of the parents agreed and interested to vaccinate their child followed with higher rank for (20%) and least of participants selected lowest rank for (9%) (**Figure 1**). In addition, in examining the emotion or feelings of parents in accepting or rejection immunization programme, based on **Figure 2**, from the view of 200 parents regarding emotion and feeling of vaccinating child, figure showed that majority (60%) of the participated parents felt happy and reacted positively in vaccinating their kids based on favorable information injected to them through information seeking behavior. However, minority of participants were suspicious (22%) and worried (18%) in vaccinating their child. It is clearly proven that majority of the parents of one to 12 years old from Selangor state were happy and accepting vaccinating programme positively for supporting government’s initiative and they are aware that vaccination providing benefits to their kids.

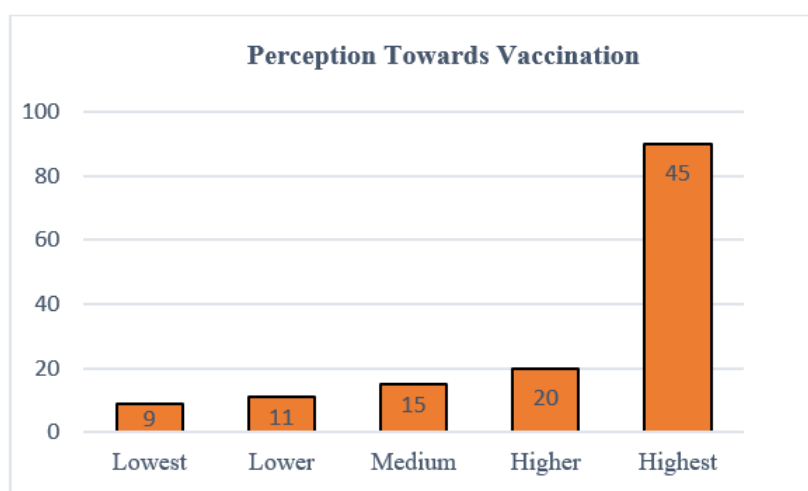


Figure 1. Perception towards vaccination.

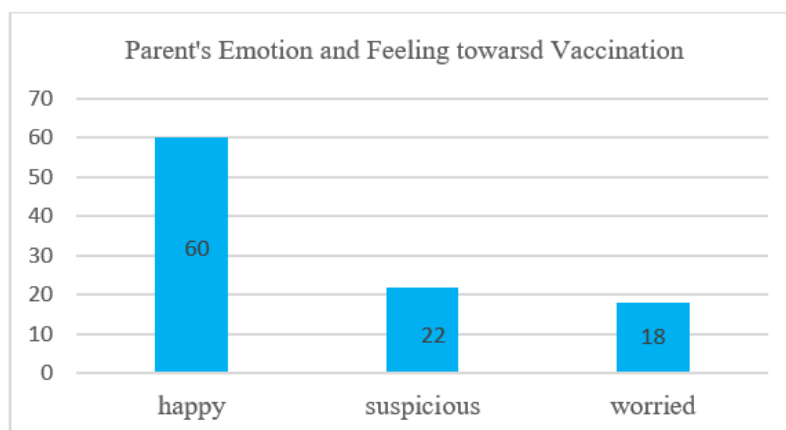


Figure 2. Respondent’s view about vaccination.

As mentioned earlier, due to the selected participants accepting vaccinating programme effectively. Researcher keen to know how the media play a role in educating and influencing parents towards accepting or rejecting the vaccination initiative by the Ministry of Health (MoH) because media are playing a huge impact to everybody’s life. Thus, trustworthiness on how public perceive media is crucial in disseminating and influencing opinion of publics. Therefore, researcher in this study aimed to examine the trustworthiness of the media in educating and updating citizens regarding COVID-19 vaccination details. Based on **Figure 3**, result showed that majority of the parents in this study trust mostly the Malaysian Health Ministry website for (30%), followed by news from television and newspaper for (21.5%) to get updated information about COVID-19

vaccination details for their child. Details in **Figure 3** also concluded that parents participated in this research chosen You Tube sharing (7%) and information shared through WhatsApp (6%) were scores less for the trustworthiness of the content about COVID-19 vaccination information to child. Interestingly, this research proved that even WhatsApp is an immediate platform for immediate sharing tools, but parents from Selangor state were smart enough in identifying which types of media they should depend in gaining important updates^[27]. The main reason why content and sharing from family and friends scored lower compared to Ministry of Health (MoH) website.

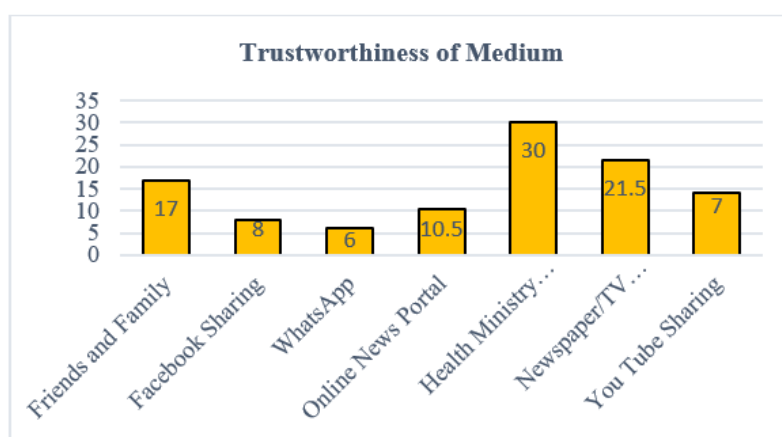


Figure 3. Trustworthiness of Medium.

Inferential data analysis was used in this study to show the relationship and association between dependent and independent variables. Tests conducted for requirement of the needs of the statistical test. The significant level is important to prove the statement in hypotheses. Therefore, if a hypothesis is not proven, then respective hypothesis will be rejected. 95% confidence is acceptable in social science research. Thus, this study has the 5% possibility of making type-1 error and researcher followed the level of significance or alpha at 0.05 or 5%.

Table 2 shows perception of parents about their information seeking behavior towards vaccination based on the value of mean. The highest mean score of 3.60 was found for the statement, “I will follow the advice/information that I gained about COVID-19 vaccination from media” and second highest score 3.20 for the statement of “I get updated information from Ministry of Health regularly”. These two statements with highest mean indicated that parents participated in this study aware that the information portrayed by Ministry of Health (MoH) via website were effective in convincing and educating parents for giving vaccination to their child from preventing COVID-19 effect. Furthermore, mean for the item “I get a lot of information on COVID-19 vaccination from different source of media” proven that variety of media from Malaysian media and other sources played a crucial role in educating parents about the benefits of vaccinating their children. Lowest mean value scored for “I’m worried and suspicious with too many overloaded information about vaccination for my child” and “I always crossed checked information from media with my family and friends” proved that parents from this study satisfied with the media literacy and they were having a positive relationship between their information seeking behavior and readiness to vaccinate their kids.

The chi-square test indicated a significant difference between parent’s education qualification with the acceptance of vaccination programme due to the significant value of .003 ($p < 0.05$). Result indicated that, parents from degree and higher than degree education qualification aware about the benefits of vaccination and reacted positively in vaccinating their child compared to parents from SPM or diploma level of education. A significant difference was found in the perception towards vaccinating programme and the age of parents

participated in this study based on the significant value of .027 ($p < 0.05$). This is proven that parents from age of above 35 years old were positively accepting vaccination for kids compare to parents from the age of below 30 years old. In understanding the relationship between media literacy and information seeking behavior with perception towards vaccinating programme, result from this study indicated that no significant difference between all selected media tools in influencing parents for vaccinating their child because of the significant value of 0.112 ($P > 0.05$).

Table 2. Mean value for information seeking behaviour from media.

Items	Mean	SD
I get updated information from Ministry of Health regularly	3.20	1.447
I get a lot of information on COVID-19 vaccination from different source of media	3.05	1.466
I'm looking for alternate information about COVID-19	2.80	1.401
I will follow the advice/information that I gained about COVID-19 vaccination from media	3.60	1.500
From the information that I received, I know that COVID-19 vaccination is effective for my kids	3.18	1.420
I'm worried and suspicious with too many overloaded information about vaccination for my child	2.85	1.402
I always crossed checked information from media with my family and friends.	2.90	1.418

5. Conclusion

This research has shed the lights on issues of vaccination readiness and acceptance among parents in Selangor. Perceptions regarding COVID-19 vaccines have been around and repeatedly shared on social media platforms even before the release of an effective vaccine. The information that is available and accessible significantly effects parents' decision Parents are becoming more hesitant to vaccinate their children due to the main concern related to familiarity with the vaccines. Misinformation and rumors regarding COVID-19 vaccines have been shared on social media platforms during the initial period. Parents are more exposed to information on vaccination that can be obtained through many online platforms including social media. The information that they received has impacted on their decision for children vaccination. The information has upsurged the social media platform while parents busy finding the right information about the vaccine. Parents' fears on vaccination have led to a wide spectrum of decisions. Some parents decided entirely not to take the vaccine, some totally refused and some delayed vaccinations to their children.

Academic qualification and education play impact in parents' decision on children vaccination. Researcher found out most of the participants' age were above 40 years old and completed their degree as their highest education and mostly female participants. Majority of the parents had positive perception towards giving vaccination to their child without any hesitation. Participated parents felt happy and reacted positively in vaccinating their kids based on favorable information injected to them through different sources of information.

In concluding the trustworthiness of information tools, result showed that majority of the parents in this study trust mostly the health ministry website followed by news from television and newspaper to get updated information about COVID-19 vaccination details for their child. This study concluded that even WhatsApp is an immediate platform for immediate sharing tools, but parents from Selangor state were smart enough in identifying which types of media they should depend in gaining important updates. In concluding the

inferential results, finding indicated that, parents from degree and higher than degree education qualification aware about the benefits of vaccination and reacted positively in vaccinating their child compared to parents from SPM or diploma level of education. In addition, parents from age of above 35 years old were positively accepting vaccination for kids compare to parents from the age of below 30 years old and there is no any significant difference between all selected media tools in influencing parents for vaccinating their child. Furthermore, the highest result depicted that the statement of “I will follow the advice/information that I gained about COVID-19 vaccination from media” and “I get updated information from Ministry of Health regularly” scored high mean. These two statements with highest mean indicated that parents participated in this study aware that the information portrayed by Ministry of Health via website were effective in convincing and educating parents for giving vaccination to their child from preventing COVID-19 effect. Furthermore, mean for the item “I get a lot of information on COVID-19 vaccination from different source of media” proven that variety of media from Malaysian media and other sources played a crucial role in educating parents about the benefits of vaccinating their children. From this research, it can be concluded that information plays important roles in spreading information about children vaccination among parents. Government and authority’s information were considered among the most reliable information for these parents. Due to that, in future more information should be design and disseminate thorough government source and platform. This study also indicates that even what’s app application is the most shared platform for information but they still looking for a reliable and credible information for their trustworthiness. In addition, this study recommended that for upcoming crisis communication and in achieving government agenda, government as a policy maker should use variety of ministries website for promoting and educating citizens in achieving government’s objectives. Thus, research is crucial in recommending to government about what types of information tools should be consider by them in achieving policy agenda. Ultimately the finding of the research able to broader the conversation of readiness and acceptance emphazising the role of information tools in shaping parental decision.

Author contributions

Conceptualization, MKAH and MA; methodology, MA; software, MA; validation, MKAH and MA; formal analysis, MA; investigation, MKAH and MA; resources, MKAH; data curation, MA; writing—original draft preparation, MKAH and MA; writing—review and editing, MKAH and MA; visualization, MKAH and MA; supervision, MKAH and MA; project administration, MKAH and MA. All authors have read and agreed to the published version of the manuscript.

Conflict of interest

The authors declare no conflict of interest.

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