

ORIGINAL ARTICLE

Malaysian Newspapers' Coverage of Anti-vaxxers: Implication on Vaccine Intakes

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ABSTRACT

Introduction: The World Health Organization (WHO) named anti-vaxxers as one of the top ten public health hazards in 2019. Anti-vaxxers are a health danger since they are mostly responsible for the re-emergence of deadly contagious diseases such as measles, which has increased in recent years. The media such as newspapers, are responsible for disseminating messages and public knowledge about health issues, particularly health hazards. To particularly combat anti-vaccine views online, newspaper must provide critical information, such as scientific and verifiable facts. Newspapers need to also take a clear stand against anti-vaccine sentiments. **Method:** A quantitative content analysis was conducted on four newspapers (Harian Metro, Berita Harian, New Straits Times, and The Star) over a three-year period beginning 1 January 2019 and ending 30 September 2021. The 43-month period offered adequate data for analysing reporting trends. **Result:** The findings suggested that newspapers do significantly report about the antivaxxers with 247 news were focused on them. **Conclusion:** However, the newspapers tend to only publish generic information about the antivaxxers and rarely make compelling arguments against them.

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INTRODUCTION

Vaccination, as the World Health Organization in 2019 emphasises, is not only a personal health management strategy but also a collective health duty (1). On a global scale, immunisation has successfully avoided around 3 million fatalities from diphtheria, measles, pertussis, and tetanus (2). On the local front, Malaysia's National Immunization Program (NIP) began in the early 1950s. The Malaysian NIP was developed in accordance with the World Health Organization's (WHO) Expanded Program on Immunization (EPI). The EPI recommends that all countries vaccinate their children against six common childhood illnesses. The Malaysian National Immunization Program (NIP), on the other hand, has expanded protection against 13 main childhood illnesses that includes Diphtheria, Measles, Mumps, Rubella and more.

Despite the immunisation program's enormous success in Malaysia and throughout the world, vaccine-hesitant groups persist in the community. Indeed, vaccine-

averse groups have existed in Europe since Jenner's first introduction of smallpox inoculation in Europe (2, 3). Notably, the first vaccine introduced significant risks, including the possibility of developing the disease it was designed to prevent. Additionally, vaccination was rejected in the 1850s in the United States. Meanwhile, in 1853, England implemented a mandatory vaccination programme for public health purposes, penalising parents who refused to vaccinate their children. Anti-vaccine groups formed during this period because of ignorance, the health risks associated with vaccination, and societal control. Anti-vaxxers contended that mandatory vaccination policies violated their right to make their own health care decisions (4).

Vaccination has significantly improved over the years, with a lower chance of complications than in the 1800s, although anti-vaxxers persist to the present day. Capurro et al. (2015) elaborated further, stating that anti-vaxxers are a vocal segment of the community (4). Meanwhile, Mckinnon and Orthia (2017) noted that while anti-vaccine attitude is not new, it has been more pervasive in recent years as the public has increased access to vaccine-critical information from anti-vaxxers online (3). Anti-vaxxers' social media accounts on Twitter, YouTube, and Facebook have surpassed 59 million followers in recent years, according to experts. By 2021,

all three social networking sites will be the most popular and targeted by anti-vaxxers (5).

The WHO classified the anti-vaccine movement as one of the top ten global health hazards in 2019. The fact that anti-vaxxers are deemed a health concern is mostly due to the re-emergence of fatal communicable diseases such as measles, which has increased by 30% in recent years (1). Despite the WHO's warning, Malaysian media paid scant attention to this problem. As a result, vaccine-preventable illnesses have made a comeback in Malaysia. To demonstrate, a two-year-old boy died of diphtheria, and records revealed that he had never been vaccinated, which was the source of infection (6). Additionally, a chain infection of polio was found for the first time in 27 years, infecting over 23 residents, including a two-year-old boy (7). The examples highlighted the fact that anti-vaxxers and the anti-vaccine movement in Malaysia pose significant health hazards and expose individuals to vaccine-preventable diseases (8). Additionally, Wan Norshira Wan Mohd Ghazali et al. (2020) stated that the primary causes for these occurrences are the growth of the anti-vaccine movement online and a lack of parental understanding about the necessity of vaccination (9).

To put this in context, experts have noticed that anti-vaxxers' social media profiles have gained a whopping 7.8 million followers in the United States alone since 2019. To underscore the gravity of the situation, the research indicated that these organisations had amassed a combined 31 million Facebook group followers and 17 million YouTube subscribers (10). Additionally, anti-vaxxer mothers have been seen to engage in greater public dialogue on the internet, which has opened the path for a shift in public opinion regarding vaccination (11).

Although there are numerous research completed in recent years on the anti-vaccine movement, these studies still lack an in-depth examination of how anti-vaxxers are presented and disseminated in the media. The media, often known as the fourth estate, serve a critical role in alerting the public about agendas, issues, and threats by serving as a watchdog and surveillance system. Similarly, Mckinnon and Orthia (2017) assert that the media is accountable for delivering messages and public knowledge about health issues (3). However, Ogbodo et al. (2020, 258) stated that "when a message is emitted, it is not only what is said but also how it is delivered, and what is not said but may be said" that has value (12). Thus, the language used to communicate health messages is critical for reaching the intended audience.

Additionally, the news media has been demonstrated to be ineffective at reducing public anxiety and concern about health risks. There is a dearth of reporting on

public health authorities' advice for supporting the public in maintaining their current health, as the media concentrates only on highlighting the dangers associated with specific health concerns (13). As a result, the lack of inclusion has generated worries and issues about the media's perspective on the health hazards posed by anti-vaxxers. As such, newspapers, as the primary source of information, should provide critical information such as scientific and credible data to counter anti-vaccine attitudes expressed online. As a result, this study examines how Malaysian newspapers report on anti-vaxxers.

MATERIALS AND METHODS

Quantitative content analysis is a research technique in which researchers categorise and analyse textual or visual sources in a systematic manner. This research technique is extensively used in communication research and entails the process of coding for the goal of analysis (14). The Star, New Straits Times, Berita Harian, and Harian Metro were used to code news stories published between 1 January 2019 and 30 September 2021 in Malaysia. The 43-month period offered adequate data for analysing reporting trends.

The unit of analysis for data collection is all articles in the internet archive that contain the keywords "anti-vaxxers," "anti-vaccination," "anti-vaccine," "vaccine reluctant," "antivaksin," "anti-vaksin," "anti-vaksinasi," and "keraguan vaksin." This research concentrated exclusively on these terms and keywords in order to avoid a data flood that could jeopardise and damage the study. Reports that made simply a passing reference to anti-vaxxers, such as advertorials or paid stories, have been removed. This is because compensated articles may impair the news media's objectivity when they are published.

Additionally, a codebook with a list of framings was constructed. To ascertain how Malaysian newspapers covered antivaxxers, this study analysed (a) news coverage trends and (b) news coverage categories. Table I shows the operational definition for categorising news items by kind.

Table I: Operational Definition for Coding – Types of Coverage

News type	Definition
News story	News reports from journalists describing occurrences/incidents of anti-vaxxers
Event coverage	A coverage of an external event related to anti-vaxxers such as the officiating of the National Immunisation Plan (NIP)
Editorial	Special coverage of anti-vaxxers, typically a feature item
Issue coverage	Special coverage based on unique cases
Letters/Opinion	Opinion pieces by the public

RESULTS

The trend of the newspaper coverage over the span of 43 months was identified. The findings are presented in a line graph in Figure 1. 287 articles were analysed using the study's data, with 36 publications from Harian Metro, 51 from Berita Harian, 63 from the New Straits Times, and 137 from The Star.

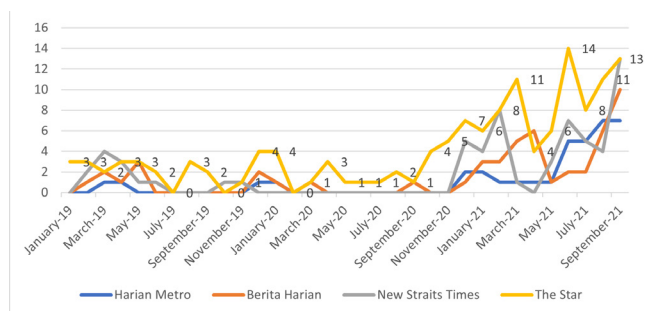


Figure 1: The trend of Malaysian newspapers' coverage of anti-vaxxers

The WHO declared anti-vaxxers a public health hazard in 2019. Despite this, the findings indicated that mainstream Malaysian media coverage of anti-vaxxers remained restricted, averaging roughly two to three pieces per month in 2019. This demonstrated that the Malaysian media considered the country's health concern as being under control, as the NIP level was revealed to be at herd immunity. This self-assurance from the media remained despite two distinct occurrences in West Malaysia in 2019: (a) a set of parents' anti-vaccine attitude resulted in the death of their two-year-old son from diphtheria, and (b) a cluster of polio infection involving 23 patients was detected. Both instances were resolved, and the Health Ministry began stepping up efforts to avoid other infections using acute flaccid paralysis surveillance (acute symptom similar to polio) (15). As a result, the Malaysian media paid scant attention to the anti-vaccine debate in 2019, because it was not yet a significant danger.

This tendency remained for the most of 2020, but the data indicated a surge in the trend of publications beginning in November 2020, coinciding with the launch of the COVID-19 vaccine. COVID-19 is a highly contagious and fatal infectious disease that has been declared a pandemic for 2020. Infected individuals with the airborne virus frequently exhibit flu-like symptoms. However, because the virus is unusual, some individuals who are infected also get respiratory ailments, and some symptoms are severe enough that the infection could end in intubation or death (16). As new viral variants with increased infection rates emerge, like as the Delta variant, scientists have stated that vaccination is the world's best option for avoiding the spread of the disease; however, this prevention will be harmed if there are anti-vaxxers (17). Malaysia's government took the first step toward vaccination in November 2020, when it signed a

contract to purchase the Pfizer vaccine (18). To support the Government, a rush of articles has begun to ensure that the community is safeguarded from the threat posed by anti-vaxxers, as Malaysia's fourth wave reaches a peak of 21,888 new daily infections in November 2020 (19). From June to September 2021, the media increased its coverage of the government's initiative to expand vaccination access. Anti-vaxxers continue to be a problem in Malaysia, as just 60% of the overall population had received their vaccine doses by the end of September 2021 (20). Thus, the media released a variety of pieces to promote vaccination and to educate the public about anti-vaxxers as a public health issue. Additionally, there appeared to be a disparity in the number of articles published on anti-vaxxers by the four publications. The Star topped the list with 137 items, followed by the New Straits Times (n=63), Berita Harian (n=51), and Harian Metro (n=36) (Figure 2). Regardless of the distinctions, the pattern of coverage remained consistent, with an increase in coverage to support the Government's initiative to safeguard the community from health hazards. Thus, it can be accepted that Malaysian newspapers fulfilled their responsibility of informing and enlightening the people, which is consistent with Tejedor et al.'s (2020) definition of the media's role: Newspapers are the primary source of information that most of the public regards as trustworthy, as newspapers adhere to a consistent agenda for the better good of the community (21).

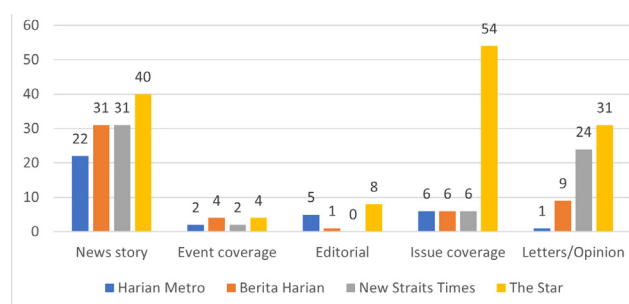


Figure 2: Types of news coverage opted by Malaysian newspapers in reporting on anti-vaxxers

The study also found that Malaysian newspapers tend to present stories on antivaxxers in term of news stories (43.2 percent, n=124), followed by issue coverage (25.07 percent, n=72), letters and opinion (22.65 percent, n=65), editorial (4.9 percent, n=14), and event coverage (4.16 percent, n=12). According to the study's findings, the Malaysian media appear to adopt a straightforward approach in reporting on the problem of anti-vaxxers. Additionally, the outcome indicates the news media's commitment as a source of information for the people, as it encompasses a broad spectrum of news pieces from all four newspapers.

It should be noted, however, that The Star takes a more serious approach to reporting on anti-vaxxers, as the publication published the most articles on the subject overall. This indicates that The Star viewed anti-vaxxers

as an issue that needed to be highlighted and discussed widely to draw the public's attention to a potential threat. Additionally, The Star targets urban high-income audiences that are more likely to reject vaccinations due to their exposure to online anti-vaccine messages. This pushes The Star to conduct in-depth reporting by framing anti-vaxxers as a potentially dangerous issue. This finding is corroborated by a study conducted by Morisson, Castro, and Meyers (2020) which indicated that higher-income, urban and sub-urban, and tertiary-educated Texans are more likely to reject vaccination (22). Thus, to meet the audience's demands, The Star reports extensively about anti-vaxxers to demonstrate that refusing vaccination is a public health problem that puts the entire population at risk.

Additionally, Harian Metro reports the least on anti-vaxxers, with most of their coverage being in the form of news stories. This is understandable given that Harian Metro is a type of tabloid newspaper that provides just a limited amount of coverage on subjects. Despite this, Harian Metro is the most widely distributed newspaper in the country, reaching every segment of society, even rural areas, and this is enhanced by the fact that it is written in the national language. Harian Metro appears to focus mostly on news articles to ensure that rural residents obtain adequate and correct information regarding anti-vaxxers, thereby fulfilling their role as the primary source of information for the public. Kosec and Wantchekon (2019) emphasised the critical necessity for knowledge to reach rural communities to promote good governance (23). Concerning anti-vaxxers, it is critical for rural communities to understand that they are a public health hazard and should not be swayed by their movement, which could result in the re-emergence of communicable illnesses. Harian Metro provides an outlet for rural residents to obtain reliable information, however being a tabloid daily, the newspaper only publishes news, not lengthy feature articles.

Additionally, there appears to be a distinction in the types of coverage provided by Malay and English newspapers. Both Malay publications appear to devote less space to anti-vaxxers than English newspapers do. Malay newspapers are perceived to inform the audience simply on current events, as they are primarily comprised of news stories with limited issue coverage and editorial articles. This indicates that Malay newspapers are effectively communicating to the public that anti-vaxxers constitute a threat to public health by citing recent happenings in the country. On the other hand, by allowing experts and specialists to discuss their concerns, English newspapers are dedicated to informing the public that anti-vaxxers are a public health problem and why. This is seen by the breadth of their editorial and topic coverage pieces. Additionally, because both types of newspapers (Malay and English) serve to distinct audiences, it is more critical for English newspapers to educate the public, as their audience, the urban and sub-urban community, is

more receptive to online information spread by the anti-vaccine movement.

By and large, the newspapers significantly reported about anti-vaxxers, covering a diverse array of news. As a result, this fosters public conversation, as evidenced by the publication of various opinion articles and letters by members of the public. This is consistent with Pan and Meng's (2016) assertion that the media will repeatedly cover events deemed important, particularly those involving communal health hazards, to fulfil their position as the major source of information (13).

DISCUSSION

Chuen, Michael, and Teh (2016) asserted that the media plays a critical role in public health as a "health educator." Malaysian newspapers' coverage of anti-vaxxers reflected this trend, as they boosted their coverage of vaccination-related problems in response to the rise of vaccine-preventable diseases and the following arrival of the COVID-19 pandemic (24). This is consistent with Pan and Meng's (2016) research, which found that the media primes health hazards to persuade the public to change their behaviour and avoid exposure to certain health threats (13).

While the media promotes a pro-vaccination narrative in which immunizations are portrayed positively, they stop short of depicting anti-vaxxers as a health concern. This is a major issue that requires immediate attention. Ogbodo et al. (2020) emphasised the critical nature of not just the health messages conveyed, but also the language used to convey them and what is not mentioned (12). This reminder is required since what is not reported in the newspapers has an effect on the public's perception of anti-vaxxers. This emphasis on the unsaid is consistent with Diedong's (2013) conclusion that, in comparison to education and politics, there is a shortage of in-depth reporting on health issues (25). Even though there are multiple pieces about anti-vaxxers, the absence of a description of who they are and the risk they bring indicates that the media must be more aggressive in educating the public.

Anti-vaxxers are regularly cited towards the conclusion of reports without providing any counterarguments against them, albeit they are typically conveyed in a single word or between the lines; anti-vaxxers are rarely mentioned or depicted directly. On the one hand, this is a positive finding because it supports Greenberg et al's (2019) conclusion that media coverage of previous outbreaks fosters vaccine optimism (4). On the other hand, the absence of concentrated and comprehensive scientific as well as factual arguments against antivaxxers presents a challenge, as it may allow this group of vocal health hazards to remain a vague and mysterious group of people who confuse the public (4). Thus, a more firm stance against antivaxxers is necessary to educate the

public about the threat they bring.

Additionally, the study discovered disparities in how English and Malay newspapers cover the anti-vaccine movement. English newspapers typically cover anti-vaccination problems more extensively because their readers are more susceptible to anti-vaccine propaganda, with anti-vaxxers being vocal members of social networking sites that are almost always accessible to English newspaper readers. However, it is worth noting that this lopsided distribution will continue to shield the Malays, the low-income earners, and the rural populace who read Malay Malay newspapers from information about the threats and dangers posed by the anti-vaccine community. It should be emphasised that anti-vaxxers lack a face, which means that the public may not quickly recognise them. Additionally, the anti-vaccination movement stretches all the way back to the 1800s, suggesting that anti-vaxxers do not only propagate their message via social media channels. As a result, the rural Malay newspaper readers are almost certain to encounter anti-vaccination messages as well. As such, the Malay newspapers' sparse coverage of anti-vaxxers as a serious issue will do little to aid the Government in assuring the success of the NIP. This means that the Malaysian media is only meeting a portion of its obligation to inform and educate the public about this phenomena.

Furthermore, in terms of types of coverage, the four publications consistently used the news reporting framework which are merely objective reports. As such, the newspapers just publish antivaxxers as news articles, rather than giving strong and extensive arguments against them, which would normally come from editorials or focused issue coverage. This was especially visible in Malay newspapers, implying that the media is not providing a clear message to the public about the dangers of antivaccine movements, as well as a word of warning to anti-vaxxers, who pose a significant threat to the community.

CONCLUSION

Based on the discussion above, it can be determined that Malaysian media outlets are performing their function of informing and educating. However, there is still potential for improvement in the ways the media can contribute to the success of the Malaysian National Immunization Program, namely by taking a more clear and concrete stand against the antivaxxers and provide more scientific and convincing approaches when informing the public about the threats brought by the antivaccine movement. When there is a strong coverage such as depicted by the daily reports on the Malaysian COVID-19 vaccine intakes and its importance, antivaccine sentiments can be challenged and even silenced. This is proved by the success of the National COVID-19 Immunisation Programme which

went into full swing in February 2021. It was Malaysia's largest immunization program which saw 83.8% of the Malaysian population becoming fully vaccinated in just under a year (26). In addition, the media also needs to focus on writing to the antivaxxers rather than simply writing about them. Articles that highlights the scientific and human aspects of vaccination can be used to trigger the antivaxxers to re-evaluate their stand on vaccination and even reconsider the importance of the National Immunization Program for themselves, their loved ones and the society as a whole.

REFERENCES

1. Ten Threats to Global Health 2019, World Health Organization, Dec. 2019, <https://www.who.int/news-room/spotlight/ten-threats-to-global-health-in-2019>.
2. Taib WRW. Issues in vaccine hesitancy in Malaysia. *Journal of Biomedical and Clinical Sciences*. 2017;2(1):42–46.
3. Mckinnon M, Orthia LA. Vaccination communication strategies: What have we learned, and lost, in 200 years?. *Journal of Science Communication*. 2017;16(3):1–16. doi: 10.22323/2.16030208
4. Capurro G, Greenberg J, Dubé E, Driedger SM. Measles, moral regulation and the social construction of risk: Media narratives of “anti-vaxxers” and the 2015 Disneyland outbreak. *Canadian Journal of Sociology*. 2018;43(1): 2483–2493. doi: 10.29173/cjs29301
5. Ghazali WNWM, Idris H, Mohamed S, Nasir NSM. Typology of vaccine refusals on Facebook in Malaysia. *SEARCH Journal of Media and Communication Research*. 2021;13(3):55-70
6. Death of a 25-month-old-boy in JB due to diphtheria. *Bernama* [Internet]. 2019 Feb 2 [cited 2021 Dec 14]. Available from: <https://bernama.com/en/general/news.php?id=1697878>
7. Chung C. Polio case reported in Malaysia – first in 27 years. *The Star* [Internet]. 2019 Dec 8 [cited 2021 Dec 14]. Available from: <https://www.thestar.com.my/news/nation/2019/12/08/polio-case-reported-in-malaysia--first-in-27-years>
8. Wong, L. P., P. F. Wong, and S. Abu Bakar. Vaccine hesitancy and the resurgence of vaccine preventable diseases: the way forward for Malaysia, a Southeast Asian country. *Human vaccines & immunotherapeutics* 2020;16(7):1511-1520. doi: 10.1080/21645515.2019.1706935
9. Ghazali WNWM, Mohamed S, Nasir NSM, Yusoh MH. The coverage of vaccination in the Malay newspapers: An exploratory study. *Asian Journal of Applied Communication*. 2020;9(1):1689–1699.
10. Burki T. The online anti-vaccine movement in the age of Covid-19. *The Lancet Digital Health*. 2020;2(10): E504–E505. doi: 10.1016/S2589-7500(20)30227-2

11. Mavragani A, Ochoa G. The internet and the anti-vaccine movement: Tracking the 2017 EU measles outbreak. *Big Data and Cognitive Computing*. 2018;2(1);1–18. doi: 10.3390/bdcc2010002
12. Ogbodo JN, Onwe EC, Chukwu J, Nwasum CJ, Nwakpu ES, Nwankwo SU, et al. Communicating health crisis: A content analysis of global media framing of Covid-19. *Health Promotion Perspectives*. 2020;10(3);257–269. doi: 10.34172/hpp.2020.40
13. Pan PL, Meng J. Media frames across stages of health crisis: A crisis management approach to news coverage of flu pandemic. *Journal of Contingencies and Crisis Management*. 2016;24(2);95–106. doi: 10.1111/1468-5973.12105
14. Coe K, Scacco JM. Quantitative content analysis. In *The International Encyclopedia of Communication Research Methods*. Hoboken, New Jersey: John Wiley & Sons, Inc; 2017.
15. WHO declares polio outbreak ended in Malaysia. *The Star* [Internet]. 2021 Sep 11 [cited 2021 Dec 20]. Available from: <https://www.thestar.com.my/news/nation/2021/09/11/who-declares-polio-outbreak-ended-in-malaysia>
16. World Health Organization. Coronavirus Disease (COVID-19) [Internet]. [cited 2021 Dec 20]. Available from: https://www.who.int/health-topics/coronavirus#tab=tab_2
17. Howard J, Talley N. It is a race - and the vaccine is our only hope. *The Sydney Morning Herald* [Internet]. 2021 May 23 [cited 2021 Dec 20]. Available from: <https://www.smh.com.au/national/it-is-a-race-and-the-vaccine-rollout-is-crucial-20210530-p57wei.html>
18. In a First For Southeast Asia, Malaysia Signs Deal With Pfizer for Vaccine. *NDTV* [Internet]. 2020 Nov 27 [cited 2021 Dec 21]. Available from: <https://www.ndtv.com/world-news/in-a-first-for-southeast-asia-malaysia-signs-deal-with-pfizer-for-12-8-million-vaccine-doses-2331132>
19. Covid-19 (Nov 24): Another record with 2,188 new cases. *Malaysiakini* [Internet]. 2020 Nov 24 [cited 2021 Dec 21]. Available from: <https://www.malaysiakini.com/news/552321>
20. Covid-19: Over 60% of population fully vaccinated as of Sunday (Sept 26). *The Star* [Internet]. 2021 Sep 27 [cited 2021 Dec 21]. Available from: <https://www.thestar.com.my/news/nation/2021/09/27/covid-19-over-60-of-population-fully-vaccinated-as-of-sunday-sept-26>
21. Tejedor S, Cervi L, Tusa F, Portales M, Zabolina M. Information on the Covid-19 pandemic in daily newspapers' front pages: Case study of Spain and Italy. *International Journal of Environmental Research and Public Health*. 2020;17(17);1–16. doi: 10.3390/ijerph17176330
22. Morrison M, Castro LA, Meyers LA. Conscientious vaccination exemptions in kindergarten to eighth-grade children across Texas schools from 2012 to 2018: A regression analysis. *PLOS Medicine*. 2020;17(3). doi: 10.1371/journal.pmed.1003049
23. Kosec K, Wantchekon L. When information leads to better governance in rural areas—and when it doesn't [Internet]. Washington (USA): International Food Policy Research Institute (IFPRI); 2019 [cited 2021 Dec 21]. Available from <https://www.ifpri.org/blog/when-information-leads-better-governance-rural-areasand-when-it-doesnt>
24. Chuen, Michael, and Teh (2016) Chuen EM, Michael E, Teh BT. The role of media socialization agents in increasing obesity health literacy among Malaysian youth. *Malaysian Journal of Communication*. 2016;32(2);691-714.
25. Diedong AL. Covering health issues: The role of newspapers in Ghana. *International Journal of Humanities and Social Science*. 2013;3(12);46 – 51.
26. Malaysia's COVID-19 Vaccine Tracker. [cited 2022 June 10]. Available from: <https://covidnow.moh.gov.my/vaccinations/>