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Examining The Factors Influencing Malaysian Parents' Intention Toward Human Papillomavirus (HPV) Vaccination For Children

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Abstract

Vaccination is one of the most successful public health strategies for disease prevention and control. In Malaysia, the National Immunization Programme (NIP) was established in the 1950s, and among the vaccines available to students are the Human Papillomavirus (HPV) vaccines. Many developed countries have worked actively to promote immunization among children. Similarly, in Malaysia, such vaccination programs were started a long time ago. However, the number of vaccine rejection cases recorded at government clinics has increased from time to time. Hence, this study examines the factors influencing Malaysian parents' intention to vaccinate their children. The theory of Planned Behaviour (TPB) was employed to underpin the study, and two additional predictors were adopted to enhance the overall regression model. The study found that except for perceived behavioral control (PCB), all independent variables (i.e., attitude, subjective norms, the role of anticipated regret, and trust in health authorities) have significantly influenced parents' intentions to vaccinate their children. It is hoped that this study will be able to supplement the existing information on vaccination in Malaysia and help the government formulate suitable vaccination programs. Nevertheless, the study only analyses the Malaysian parents' intention toward the HPV vaccination. Therefore, future research is needed to study other vaccines available. A longitudinal study might be conducted to establish the cause-effect relationships empirically.

Keywords: Children Vaccination, Immunization, Malaysian Parents, Theory of Planned Behavior, Vaccination

Introduction

Immunization benefits people, particularly children, by lowering the risk of contracting several diseases like asthma and chronic bronchitis (Kennedy & Sheedy, 2011). According to the World Health Organization, immunization prevents between 2 and 3 million deaths each year. Nonetheless, some people do not receive the necessary vaccinations, despite their awareness of their efficacy (Voysey et al., 2018). Rozaimy et al (2022) contend that vaccines are a crucial tool to minimize health disparities, offer the best possible protection of health

and well-being, promote peaceful and inclusive societies, and strengthen the means of achieving the Sustainable Development Goals (SDGs).

Numerous industrialized countries have made significant efforts to increase childhood vaccination rates (Zhou et al., 2018). Malaysia began its vaccination campaign in 1960 (Taib et al., 2017). However, a great deal of misinformation about vaccines has been circulated on social media, and some individuals openly advocate for the public to reject vaccines. The Ministry of Health's efforts has come to a grinding halt, with the number of vaccine rejection cases recorded at government clinics increasing from 637 in 2013 to 1,603 in 2016. Additionally, it was discovered that measles cases increased by 891.8 per cent between 2013 and 2018. In 2018, the ministry reported six measles cases, all cases occurring due to non-vaccination, five diarrhoea deaths with four cases occurring due to non-vaccination, and 22 cases of cough (pertussis), 19 cases were caused by non-vaccination (Zaitie, 2019).

Gallagher & Povey (2006); Cha & Kim (2019); Zhou et al (2018); Caso et al (2019) had previously conducted studies on participants' willingness to vaccinate in a variety of settings, including among older adults as well as, mothers' intention to vaccinate against Hepatitis A and receive the HPV vaccine. It is believed that there is a shortage of research on the intentions of Malaysian parents towards vaccination, particularly against HPV. This study examines factors influencing parents' intentions to vaccinate their children against HPV.

Literature Review

Ajzen (1985) proposed a Theory of Planned Behavior (TPB) to explain the factors influencing human behaviours. The theory emphasized that an individual's intention was the most crucial determinant in predicting individual behaviour. The TPB comprises four key components: attitude toward the behaviour, subjective norm, perceived behavioural control, and intention.

TPB had previously been used to identify predictors and influencing factors in sociopsychology (Lee & Kim, 2010; Park, 2010) and healthcare (Hur et al., 2004; Kim & Nam, 1997). TPB can also be used to explain vaccination intentions, according to Cha & Kim (2019). Caso et al. (2019) pointed out that the TPB model was also valuable for determining vaccination intentions. The TPB model predicted 54 per cent of the variance in Australian female university students' intention to receive vaccination (Juraskova et al., 2012). Some researchers, such as Catalano et al (2017); Priest (2015), have demonstrated the importance of positive attitudes and subjective norms in explaining the vaccination intentions of young American males. Catalano et al (2017) developed an intervention for vaccine-eligible American college students following the findings. Attitude toward behaviour and subjective norm were significant predictors of behavioural intention in this study, accounting for 58 per cent of the variance. Furthermore, Hofman (2014) discovered that Dutch parents who had a positive attitude toward HPV vaccination, high subjective norms and perceived behavioural control had a high intention to vaccinate their children.

Attitude is defined as an individual's positive or negative assessment of their performance of a particular behaviour (Ajzen, 1991). The term "attitude" in this study referred to parents' positive or negative attitudes toward vaccination. According to research, parental acceptance and attitudes are critical determinants of a child's vaccination (Zhou et al., 2018). Perceived

behavioural control is defined as an individual's perception of the ease or difficulty of a specific behaviour (Vacchio, 2008). In this study, perceived behavioural control referred to participants' perceptions of how difficult or easy it was to obtain a vaccine. The term "subjective norm" refers to the social pressure that an individual subjectively perceives when engaging in a particular behaviour (Ajzen, 1991). Subjective norms were used in this study to describe the level of pressure perceived by participants from significant people in their lives regarding vaccination. Intention refers to an individual's willingness to engage in a particular behaviour (Ajzen, 1991). This study defines vaccination intention as to how participants would voluntarily have their children receive a vaccination.

Caso et al (2019) added two additional independent variables, such as anticipated regret on failure to vaccinate the children and trust in health authorities, attitude, perceived behavioural control, and subjective norms. The first additional independent variable is the role of anticipated regret in vaccinating children. Anticipated (inaction) regret refers to the negative feeling that arises when a person considers the possibility of not performing a behaviour (Sansberg & Conner, 2008). Factors such as anticipating feelings of regret have increased the prediction of behavioural intentions (Abraham & Sheeran, 2004). Askelson et al (2010) discovered that anticipated regret predicted HPV vaccination intentions in young men, implying that such anticipatory emotions may play a significant role in healthcare decision-making.

In terms of the role of trust in predicting adherence to health-protective behaviours, previous research had found that trust in health authorities predicted people's adherence to recommended behaviours (Capone, 2016). According to Prati et al (2011), during the H1N1 influenza pandemic in 2009, trust in health authorities played an important role in predicting participants' intentions to follow the recommended protective behaviour. The most frequently reported barrier to vaccination was a lack of trust in health officials (MacArthur, 2017). Meanwhile, trust in the healthcare institution regarding vaccination had increased intention and vaccine uptake (MacArthur, 2017).

Based on the discussion above, several hypotheses are offered:

H1: Attitude towards vaccines will significantly influence parents' intention to vaccinate their children.

H2: Subjective norms will significantly influence parents' intention to vaccinate their children.

H3: Perceive behavioural control will significantly influence parents' intention to vaccinate their children.

H4: The role of anticipated regret to vaccinate sons will significantly influence parents' intention to vaccinate their children.

H5: Trust in health authorities will significantly influence parents' intention to vaccinate their children.

Methodology

This quantitative study used a purposive sampling technique, which meant that only parents or caregivers over 18 years old with at least one child under the age of 12 were eligible to participate. The questionnaire was distributed and collected from the respondents in this cross-sectional study. Multiple regression analysis was also used to investigate the factors

that influence participants' decision to vaccinate their children. SPSS version 22.0 was used to analyze the collected data. All continuous variables were measured using 5-point Likert-type scales to ensure that the measurement of different constructs was consistent. This is because most of the instruments used in the study originally included this type of scale, and the number of points in Likert-type scales does not affect their metric properties.

Findings

Demographic Profile

Table 1.1 depicts the demographics of those who took part in the survey. This study included 318 respondents who had at least one child. Before data collection, respondents were informed and explained the purpose of the study and the study's contributions to the community. According to the descriptive statistics, most respondents (72.6 per cent) were female, with males accounting for 27.4 per cent. The 41-year-old and older age group had the highest representation (28.3 per cent), and most respondents had at least one child (35.2 per cent). Furthermore, most respondents' household monthly income (40.9 per cent) ranged between RM 1000 and RM 3999. In terms of ethnicity, the majority were Malays (78.6 per cent), followed by Chinese (10.7 per cent), Indians (8.2 per cent), and others (2.5 per cent).

Table 1.1: *Profile of Respondents for Quantitative Study (N = 318)*

Variable	Frequency	Percentage (%)
Gender		
Male	87	27.4
Female	231	72.6
Age		
20 to 24 years old	36	11.3
25 to 30 years old	47	14.8
31 to 35 years old	89	28.0
36 to 40 years old	56	17.6
41 and above	90	28.3
Number of Children		
1	112	35.2
2	70	22.0
3	67	21.1
4	40	12.6
5	29	9.1
Household Monthly Income		
RM 1000-3999	130	40.9
RM 4000-8099	128	40.3
RM 8100 & above	60	18.9
Ethnicity		
Malay	250	78.6
Chinese	34	10.7
Indian	26	8.2
Others	8	2.5
Educational Level		
School	57	17.9
Diploma/Certificate	105	33.0
Degree	132	41.5
Master	20	6.3
PhD	4	1.3

Multiple Regression Analysis

Multiple regression was used in this study to investigate factors influencing participants' intentions to vaccinate their children. Multiple regression explains the relationship between several independent or predictor variables and one dependent or criterion variable (Field, 2009). According to Sekaran and Bougie (2010), a multiple regression analysis explains how independent variables influence the dependent variable.

This study employed the standard multiple regression method to investigate the relationship between the independent variables (attitude, subjective norms, perceived behavioural control, the role of anticipated regret to vaccinate sons, and trust in health authorities) and dependent variables (intention to vaccinate children). Standard, hierarchical, and stepwise regression models are the three types of regression models. Table 1.2 displays the results of unstandardized regression coefficients or slopes (β), intercepts, standardized regression coefficients or beta weights, and multiple correlation coefficients (*R*), as well as the coefficient

of determinations (R^2). The table depicts the impact of all independent variables on parents' willingness to vaccinate their children.

According to the regression results, the linear combination of the five independent variables significantly predicts parents' vaccination intentions, R^2 =.808, F = 262.144, p =.01. This model explains 80% of the variation in intention to vaccinate children. 262.144 is a statistically significant F ratio at the 1 % level. The model is considered efficient in predicting parents' intention to vaccinate their children.

The regression analysis results revealed that only four of the five independent variables significantly influenced parents' intention toward vaccinating their children. Attitude, subjective norms, the role of anticipated regret to vaccinate sons, and trust in health authorities significantly influenced parents' intention to vaccinate their children. However, parents' intention to vaccinate their children was not significantly influenced by perceived behavioural control, as the p-value was.284, which was greater than.05.

According to the regression results, Malaysian parents used these four dimensions to develop their intentions to vaccinate their children. Among these four independent variables, the beta weights show that parents' intention to vaccinate their children was most strongly influenced by their attitude toward the vaccine (β =.455). As a result, hypotheses 1, 2, 4, and 5 were accepted, while hypothesis 3 was rejected.

Table 1.2: *Regression Results of the Study*

	B	**S.E.**	**β**	**t**	**Sig.**
Constant	.040	.137		.289	.773
Attitude	.489	.064	.455	7.669	.000
Subjective Norms	.113	.047	.102	2.380	.018
Perceive Behavioural Control	.033	.031	.037	1.073	.284
Feel Regret	.200	.046	.215	4.332	.000
Trust Government	.168	.056	.162	2.985	.003
R^2 = .808					
R= .899					
F =262.144					

Note: *** p < .01, ** p < .05, * p < .10

Discussion

The study's findings show that all independent variables significantly influence parents' intention to vaccinate their children except for perceived behavioural control. To summarise, attitude, subjective norms, anticipated regret to vaccinate sons, and trust in health authorities all played a significant role in parents' intention to vaccinate their children.

This study found that parents' intentions to vaccinate their children were significantly influenced by their attitude, which is consistent with the findings of the studies conducted by (Cha and Kim, 2019; Wu et al., 2017; Kennedy et al., 2011; Esposito et al., 2007; O'Leary, 2015; Zhou et al., 2018). According to Wu et al (2017), one of the reasons parents refused to vaccinate their sons was a lack of knowledge about the vaccine and a misunderstanding about

the benefits of having the vaccine. Furthermore, Cha & Kim (2019) investigated the factors influencing mothers' intention to vaccinate against Hepatitis A (H.A.). The study discovered that mothers' positive attitudes toward H.A. vaccination were an essential factor influencing their children's H.A. vaccination. Educating people about the benefits of H.A. vaccination and the vaccination schedule may lead to a more positive attitude toward vaccination. Yoon et al (2013) discovered that participants reported not receiving the H.A. vaccination was a lack of knowledge about the need for H.A. vaccination or its vaccination schedule.

Subjective norm is a central social influence factor that describes a person's perception of people vital to them and whether they believe one should or should not perform a particular behaviour (Fishbein & Ajzen, 1975). In this study, subjective norms were also found to significantly influence a parent's intention to vaccinate their child. Brewer & Fazekas (2007) argue that doctor recommendations will result in an effective vaccine program. Doctors' recommendations influenced people's decision to get the HPV vaccine (Jones & Cook, 2008).

According to the findings of this study, the role of anticipated regret in vaccinating sons has a significant influence on parents' intention to vaccinate their children. Although cognitions have been found to predict a young adult's decision to receive the human papillomavirus (HPV) vaccine, emotion-based theories of healthcare decision-making suggest that anticipatory emotions may be more predictive (Christy et al., 2016). The role of emotions, specifically anticipated regret, in an adult's willingness to receive the HPV vaccine has also been considered (Gilbert et al., 2011; Reiter et al., 2010). For example, among U.S. men aged 18–59, anticipated regret if one did not receive the HPV vaccine and later developed an HPV infection was associated with willingness to receive the vaccine (Reiter et al., 2010). Furthermore, receiving at least one dose of the HPV vaccine was less regret if one did not receive the HPV vaccine and subsequently contracted HPV among lesbian and bisexual women aged 18–26 (McRee et al., 2014).

According to a survey of African American parents recruited from community venues, low trust in health information from government health agencies was associated with less favourable attitudes and intentions toward vaccinating their child against HPV (Nan et al., 2019). According to Nan et al (2019), previous research has identified trust in health care providers, the government, or the medical establishment as an essential determinant of vaccine acceptance.

It is worth noting that attitude is the most potent factor influencing parents' intention to vaccinate their children. In a study conducted by Rosso et al (2019), it was discovered that a high level of knowledge was the strongest predictor of positive attitudes toward vaccination, and it influenced the intention to vaccinate for most vaccines with the perception of the benefit of immunization towards disease protection. The findings are consistent with previous research and indicate that attitude is the most crucial factor in behavioural intention (Cha & Kim, 2019; Rosso et al., 2019; Zhou et al., 2018).

Conclusion

Immunization can prevent 2-3 million deaths from diphtheria, tetanus, pertussis, and measles worldwide. Immunization has had a substantial positive impact on children's health and has been a great tool in tackling public health issues worldwide (Taib et al., 2017). Vaccines

protect against various acute infectious diseases and the long-term complications of these infections, including congenital rubella syndrome, Hepatitis B, and cancers caused by the Human Papillomavirus.

This study revealed that attitude, subjective norms, anticipated regret for vaccinating sons, and trust in health authorities all played a significant role in parents' intention to vaccinate their children against HPV. Therefore, the policymakers can utilize all these components to formulate an action plan to encourage parents to vaccinate their children. The government needs to strengthen the immunization programs by organizing more attractive campaigns to improve parents' attitudes towards HPV vaccines. The channels of disseminating information about the importance of HPV vaccines should be varied, precise and exciting to grasp parents' attention. Various organizations and institutions can assist this initiative, including private sectors and civil societies. The role of communities is also vital since their influence will significantly impact parents' decisions to vaccinate their children. Besides that, trust in health authorities played an important role in predicting people's intentions to follow the recommended protective behaviour. Trust in vaccines is critical, and it is heavily dependent on governments' ability to explain the importance of vaccination and deliver vaccines safely and effectively.

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References

Abraham, C., & Sheeran, P. (2004). Deciding to exercise: The role of anticipated regret. *British Journal of Health Psychology*, *9*(2), 269-278.

Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In: Kuhl J, Beckmann J, editors. Action Control. SSSP Springer Series in Social Psychology. Berlin: Springer; 11-39.

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179-211.

Askelson, N. M., Campo, S., Lowe, J. B., Smith, S., Dennis, L. K., & Andsager, J. (2010). Using the theory of planned behavior to predict mothers' intentions to vaccinate their daughters against HPV. *The Journal of School Nursing*, *26*(3), 194-202.

Brewer, N. T., & Fazekas, K. I. (2007). Predictors of HPV vaccine acceptability: A theory informed, systematic review. *Preventive Medicine. 45*, 107–114.

Capone, V. (2016). Patient communication self-efficacy, self-reported illness symptoms, physician communication style and mental health and illness in hospital outpatients. *Journal of Health Psychology*, *21*(7), 1271-1282.

Caso, D., Carfora, V., Starace, C., & Conner, M. (2019). Key Factors Influencing Italian Mothers' Intention to Vaccinate Sons against HPV: The Influence of Trust in Health Authorities, Anticipated Regret and Past Behaviour. *Sustainability, 11*, 1-12.

Catalano, H. P., Knowlden, A. P., Birch, D. A., Leeper, J. D., Paschal, A. M., & Usdan, S. L. (2017). Using the theory of planned behavior to predict HPV vaccination intentions of college men. *Journal of American College Health*, *65*(3), 197-207.

Cha, K. S., & Kim, K. M. (2019). The factors related to mothers' intention to vaccinate against hepatitis A: applying the theory of planned behavior. *Child Health Nursing Research*, *25*(1), 1.

Christy, S. M., Winger, J. G., Raffanello, E. W., Halpern, L. F., Danoff-Burg, S., & Mosher, C. E. (2016). The role of anticipated regret and health beliefs in HPV vaccination intentions among young adults. *Journal of Behavioral Medicine*, *39*(3), 429-440.

Esposito, S., Tremolati, E., Bellasio, M., Chiarelli, G., Marchisio, P., & Tiso, B. (2007). Attitudes and knowledge regarding influenza vaccination among hospital health workers caring for women and children. *Vaccine. 25*(29), 5283–5289.

Field, A. (2009). Discovering Statistics Using SPSS, Thrid Edition.

Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.

Gallagher, S., & Povey, R. (2006). Determinants of older adults' intentions to vaccinate against influenza: a theoretical application. *Journal of Public Health, 28*(2), 139–144.

Gilbert, P., Brewer, N. T., Reiter P. L., Ng, T. W., & Smith, J. S. (2011). HPV vaccine acceptability in heterosexual, gay, and bisexual men. *American Journal of Men's Health. 5*, 297–305.

Hofman, R., Van Empelen, P., Richardus, J. H., de Kok, I. M., De Koning, H. J., van Ballegooijen, M., & Korfage, I. J. (2014). Predictors of HPV vaccination uptake: a longitudinal study among parents. *Health Education Research*, *29*(1), 83-96.

Hur, T., Han, M., & Kim, Y. (2004). Gender differences of risk-taking decisions in sexual behaviors: Condom use and theory of planned behavior. *The Korean Journal of Woman Psychology, 9*(3), 69-87.

Jones, M., & Cook, R. (2008). Intent to receive an HPV vaccine among university men and women and implications for vaccine administration. *Journal of American College Health. 57*, 23-32.

Juraskova, I., O'Brien, M., Mullan, B., Bari, R., Laidsaar-Powell, R., & McCaffery, K. (2012). HPV vaccination and the effect of information framing on intentions and behaviour: An application of the theory of planned behaviour and moral norm. *International Journal of Behavioral Medicine*, *19*(4), 518-525.

Kennedy, A., Basket, M., & Sheedy, K. (2011). Vaccine attitudes, concerns, and information sources reported by parents of young children: results from the 2009 health styles survey. *Pediatrics. 127*, 92–99.

Kennedy, A. M. B., & Sheedy, K. (2011). Vaccine Attitudes, Concerns, and Information Sources Reported by Parents of Young Children: Results From the 2009 Health Styles Survey. *Pediatrics, 127*, 92-99.

Kim, H. S., & Nam, E. S. (1997). Prediction of breastfeeding intentions and behavior: An application of the theory of planned behavior. *The Journal of Nurses Academic Society, 27*(4), 796-806.

Lee, J. K., & Kim, H. E. (2010). A study on the effects of television viewing on purchase intention for women of environmentally friendly cosmetic products: Focusing on the viewing hours of T.V. program genres, perception of concern about skin health, and the

variables of the theory of planned behavior. *Journal of Communication Science, 10*(3), 463-497.

MacArthur, K. R. (2017). Beyond health beliefs: the role of trust in the HPV vaccine decision-making process among American college students. *Health Sociology Review*, *26*(3), 321-338.

McRee, A. L., Katz, M. L., Paskett, E. D., & Reiter, P. L. (2014). HPV vaccination among lesbian and bisexual women: Findings from a national survey of young adults. *Vaccine. 32*, 4736-4742.

Nan, X., Daily, K., Richards, A., Holt, C., Wang, M. Q., Tracy, K., & Qin, Y. (2019). The role of trust in health information from medical authorities in accepting the HPV vaccine among African American parents. *Human Vaccines & Immunotherapeutics*, *15*(7-8), 1723-1731.

O'Leary, S. T., Barnard, J., Lockhart, S., Kolasa, M., Shmueli, D., Dickinson, L. M., ... & Kempe, A. (2015). Urban and rural differences in parental attitudes about influenza vaccination and vaccine delivery models. *The Journal of Rural Health*, *31*(4), 421-430.

Park, H. R. (2010). Internet purchase behavior based on anticipated emotion induced theory of planned behavior: Focused on gender difference. *The Korean Journal of Consumer and Advertising Psychology, 11*(4), 661-686.

Prati, G., Pietrantoni, L., & Zani, B. (2011). Compliance with recommendations for pandemic influenza H1N1 2009: The role of trust and personal beliefs. *Health Education Research*, *26*(5), 761-769.

Priest, H. M. (2015). Development and Validation of a Theory of Planned Behaviour-Based Instrument to Predict Human Papillomavirus Vaccination Intentions of College Males at a Southeastern University. Ph.D. Thesis, University of Alabama Libraries, Tuscaloosa, AL, USA, 2015. Available online: https://ir.ua.edu/handle/123456789/2403.

Reiter, P. L., Brewer, N. T., McRee, A. L., Gilbert, P., & Smith JS. (2010). Acceptability of HPV vaccine among a national sample of gay and bisexual men. *Sexually Transmitted Diseases. 37*, 197–203.

Rosso, A., Massimi, A., De Vito, C., Adamo, G., Baccolini, V., Marzuillo, C., Vacchio, M. R., & Villari, P. (2019). Knowledge and attitudes on pediatric vaccinations and intention to vaccinate in a sample of pregnant women from the City of Rome. *Vaccine, 37*, 1954-1963.

Sandberg, T., & Conner, M. (2008). Anticipated regret as an additional predictor in the theory of planned behaviour: A meta-analysis. *British Journal of Social Psychology*, *47*(4), 589-606.

Sekaran, U., & Bougie, R. (2010). Research methods for business: A skill-building approach (5th ed.). Haddington: John Wiley & Sons.

Vacchio, M. N. (2008). Incidence of hepatitis A in Argentina after vaccination. *Journal of Viral Hepatitis,15*(s2), 47-50.

Voysey, M., Fanshawe, T. R., Kelly, D. F., O'Brien, K. L., Kandasamy, R., Shrestha, S., ... & Pollard, A. J. (2018). Serotype-specific correlates of protection for pneumococcal carriage: an analysis of immunity in 19 countries. *Clinical Infectious Diseases*, *66*(6), 913-920.

Taib, W. R. W., Yusoff, N. A. M., Hussin, T. M. A. R., & Ahmad, A. (2017). Issues in vaccine hesitancy in Malaysia: A countering approach. *Journal of Biomedical and Clinical Sciences (JBCS)*,*2*(1), 42-46.

Wu, D., Lam, T. P., Lam, K. F., Zhou, X. D., Sun, K. S. (2017). Challenges to healthcare reform in China: Profit-oriented medical practices, patients' choice of care and guanxi culture in Zhejiang province. *Health Policy Plan. 32*(9), 1241–1247.

Yoon, S. H., Lee, H. Y., Kim, H. W., Kong, K. A., & Kim, K. H. (2013). Adolescents' and parental knowledge, health beliefs toward hepatitis A vaccination. Korean *Journal of Pediatric Infectious Diseases, 20*(3), 147-160.

Zaitie, S. (2019). Tolak vaksin ancam kesihatan global. Retrieved on 25 March 2022 from https://www.hmetro.com.my/sihat/2019/02/424051/tolak-vaksin-ancam-kesihatan-global.

Zhou, M., Zhao, L., Kong, N., Campy, K. S., Wang, S., & Qu, S. (2018). Predicting behavioral intentions to children vaccination among Chinese parents: An extended TPB model. *Human Vaccines & Immunotherapeutics*, *14*(11), 2748-2754.