



Data Article

Set of data on consumers' perceived safety and efficacy towards natural health products to control or cure Covid-19 viruses in Malaysia



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ABSTRACT

This study evaluated the level of knowledge of effects, knowledge of safe use, information complexity of natural health products and consumers' perceived safety and efficacy toward natural health products used to control or cure Covid-19 viruses in Malaysia. The validated questionnaires were used to survey randomly selected stakeholders in Malaysia, who were asked to participate voluntarily in an online survey from 1st September 2020 to 31st December 2020. 723 respondents of adults above 18 years old returned completed questionnaires. The survey used for data collection consisted of 5 questions on knowledge of effects, 4 questions on knowledge for safe-use, 9 questions on perception towards safety and efficacy and 4 questions on the information complexity of natural health products. Besides that, 8 questions are being asked on the demography of respondents at the very end of the survey. The Statistical Package for the Social Sciences (SPSS) version 26 was used to analyse the data. The mean score, correlation and regression values were the focus of this study. The findings provide various opportunities to investigate Malaysian consumers' perceptions which facilitates the development of regulation and strategic plans

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related to health, and encourage additional research by other researchers interested in the measures and data given.

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Specifications Table

Subject	Health and medical sciences; Complementary and Integrative Medicine.
Specific subject area	Perceived Safety and Efficacy; Knowledge of Effects, Knowledge of Safe Use; Information Complexity; Safe-Use; Natural Health Products; Quantitative Analysis; Questionnaire Instrument; Covid-19 Viruses; Malaysia.
Data format	Analysed
Type of data	Table, Figure
Data collection	A structured questionnaire was adapted and modified from a previous study, and this was distributed online via WhatsApp and Telegram for four months, from 1st September 2020 to 31st December 2020. By including a survey link and asking respondents to share it with their contacts, a snowball sampling method was used. During that time, a total of 723 respondents were successfully collected. The questionnaires were developed in Malay and consist of three major sections: 1) perceived safety and efficacy of natural health products (9 questions) 2) respondent's knowledge of effects (5 questions), knowledge of safe use (4 questions), information complexity of natural health products (4 questions); and 3) respondent socio-demographic information. The questionnaire includes 22 question items on a 5-point Likert scale, as well as 10 items on the respondent's socio-demographic information. The Statistical Package for the Social Sciences (SPSS) version 26 was used to analyse the data. The mean score, correlation and regression values were the focus of this study.
Data source location	Data was collected in Malaysia; covers all 14 states.
Data accessibility	Repository name: Mendeley Data Data identification number: 10.17632/syn7hggkjk.1 Direct URL to data: https://data.mendeley.com/datasets/syn7hggkjk/1

1. Value of the Data

- The findings are important for assessing Malaysian consumers' acceptance of natural health products used to control or cure Covid-19 viruses.
- The findings highlight the significance of evaluating the level of consumer acceptance and identifying the relationship between perceived safety and efficacy, knowledge of safe use, knowledge of effects, information complexity of natural health products used to control or cure Covid-19 viruses in Malaysia.
- The findings will help government leaders and policymakers make better decisions about natural health products based on the level of perceived safety and efficacy, knowledge of safe use, knowledge of effects, information complexity used to control or cure Covid-19 viruses in Malaysia. Data-driven healthcare is the future for strategic decision making in especially in patient care and critical sectors like health.
- The data are useful for other researchers who want to compare similar studies on the acceptance of natural health products with any predictive factors that influence their acceptance of these products.
- The data can be used for additional research and analysis, such as comparing attitudes and predicting variables across demographic variables and structural equation modelling. Comparison with similar data from other countries is also fully feasible.

2. Data Description

The World Health Organization (WHO) declared Covid-19 a pandemic disease on March 11th, 2020 (World Health Organization 2020). During the outbreak, consumption of natural remedies for health and well-being increased, as many people sought to find alternatives to maintain general health and increase immune systems, as an initiative to prevent infection of the SAR-CoV virus [1]. Many studies are rapidly being published regarding natural products and their potential to help cure and control the pathogenic virus [2–5]. On the other hand, many rumours and false news regarding natural products are also being disseminated via social media as a panic response among consumers, and some manufacturers also ride on the tide and promote their natural health products. Hence, several countries conducted surveys to understand consumers' perceptions, knowledge and practices regarding the use of natural products to either prevent, cure or control symptoms related to Covid-19 [6–9]. Accordingly, this study will report the perception of consumers in Malaysia towards safe-use of natural products, and contribute to the corpus of information available from other countries.

This study distributed a self-administered questionnaire that was based on a validated study by Catublas et al., (2016) and the items were adopted specific for Covid-19 [10,11]. The questionnaire evaluated Malaysian consumers' acceptance of natural health products used to control or cure Covid-19 viruses using four independent variables (perceived safety and efficacy, knowledge of safe use, knowledge of effects, information complexity). The questionnaire was translated to Malay language, and the study was conducted online from 1st September 2020 to 31st December 2020, with respondents from various educational, geographical, and occupational backgrounds. During the data collection period, everyone was in a movement control order (MCO) due to the Covid-19 outbreak, hence contributes as a factor in gaining the responses from consumers via online survey as most as engaged online most of the time. Other external factors that might lead to the responses of the survey is the momentum of health awareness and behavior to sought alternative and natural resources for maintain health and well-being.

The respondents comprised 535 women and 188 men and were aged 18 years and above. The majority of respondents (90.7 %) were ethnic Malay, followed by ethnic Chinese (4.6 %), others (2.5 %), and Indian (2.2 %), which reflects the actual population ratio in Malaysia, where a majority are Malays and Muslims. Approximately 92.9 % of those people surveyed were Muslims, with 88.7 % holding a diploma, bachelor's degree, master's degree, or PhD. About 23.7 % are from the state of Selangor, 16.9 % are from the state of Johor, and the rest are from all over Malaysia. There were approximately 641 respondents who did not have a critical illness and 263 respondents who admitted to using herbal remedies on themselves, their family, and close friends. Table 1 depicts the demographic profiles of the respondents. The Malaysian consumer population i.e., adults above 18 years old is 25 million. Based on Krejcie & Morgan (1970), when the target population is greater than 1 million, a minimum of 384 sample size is required, hence the sample of data collected ($n = 627$), is suitable for analysis for the population [12].

2.1. Social acceptance of the natural health products

2.1.1. Mean score and correlation analysis

Fig. 1 shows that Malaysian consumers (mean score $[M] = 4.01$) had a moderate perception of the safety and efficacy of natural health products used to control or cure Covid-19 viruses. It can also be seen that respondents rated knowledge of effects ($M = 4.62$) and information complexity ($M = 4.83$) as moderate. However, respondents showed positive knowledge of the safe use of natural health products ($M = 5.03$) as high. This finding explains the mean score given by Malaysian consumers which shows the perception of safety and efficacy at a moderate level (middle mean score of 4.01). However, they have good safe use knowledge related to natural health products, and they will refer to experts before using natural health products.

Table 1
Demographic Profiles of the Respondents ($n = 627$).

Item		Frequency	Percentage (%)
Gender	Male	188	26.0
	Female	535	74.0
Race	Malay	656	90.7
	Chinese	33	4.6
	Other	18	2.5
	Indian	16	2.2
Religion	Muslim	672	92.9
	Non-Muslim	51	7.1
State	Johor	122	16.9
	Kedah	51	7.1
	Kelantan	49	6.8
	Melaka	31	4.3
	Negeri Sembilan	54	7.5
	Pahang	46	6.4
	Penang	17	2.4
	Perak	38	5.3
	Perlis	11	1.5
	Sabah	29	4.0
	Sarawak	11	1.5
	Selangor	171	23.7
	Terengganu	42	5.8
	Wilayah Persekutuan	50	6.8
Level of Education	Secondary and below	82	18.3
	Diploma	132	18.3
	Degree	461	63.8
	Master/PhD	48	6.6
Status of Marriage	Married	164	26.4
	Single (Divorced, Complicated and Others)	532	73.6
Have a critical illness?	Critical illness (High blood pressure, heart disease, cancer, diabetes, and others)	82	11.3
	No critical illness	641	88.7

Table 2
Correlation matrix of the factors for consumers' perceived safety and efficacy toward safe use of natural health products.

		PSE	KSU	KE	INCOM
PSE	Pearson correlation	1	-0.194**	-0.066*	-0.290**
	significance (two-tailed)		0.000	0.037	0.000
	N	723	723	723	723
	Strength of the relationship		Negative and weak	Negative and very weak	Negative and weak

Note: * $p < 0.05$, ** $p < 0.01$ (one-tailed); very strong: 1.00–0.80, -0.80 to -1.00; strong: 0.79–0.60, -0.79 to -0.60; moderate: 0.59–0.40, -0.59 to -0.40; weak: 0.39–0.20, -0.39 to -0.20; very weak: 0.19–0, 0 to -0.19.

Table 2 shows that knowledge of safe use ($r = -0.194, p = 0.000$; week) and information complexity ($r = -0.290, p = 0.000$; weak) have a negative correlation with perceived safety and efficacy of natural health products used to control or cure Covid-19 viruses. However, there was a very weak correlation between knowledge of effects ($r = -0.066, p = 0.037$) and the perceived safety and efficacy of natural health products.

2.1.2. Multiple regression analysis

Multiple regression analysis (stepwise) was used to identify the factors influencing consumers' knowledge about the safe use of natural health products (see Table 3). This finding

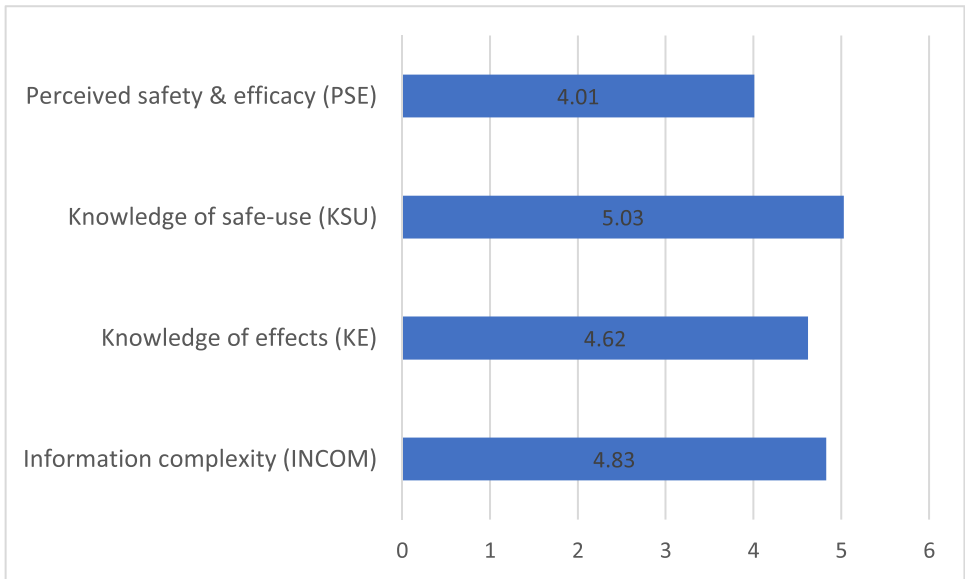


Fig. 1. Mean score of consumers' perceived safety and efficacy toward safe use of natural health products.

Note: Low: 1–2.99; moderate: 3.00–5.00; high: 5.01–7.00

Table 3

Multiple regression analysis.

Model summary				
Model	R	R ²	Adjusted R ²	Standard error of the estimate
1: Perceived Safety and Efficacy (Constant), Information Complexity	0.290	0.084	0.083	0.995
2: Perceived Safety and Efficacy (Constant), Information Complexity, Knowledge of Safe Use	0.303	0.092	0.089	0.992
Coefficients				
Factor	B	Beta (β)	t	Significance value
Perceived Safety and Efficacy (Constant),	5.422		30.895	0.000
Information Complexity	−0.216	−0.252	−6.540	0.000
Knowledge of Safe Use	−0.081	−0.096	−2.476	0.014

$F = 36.313$, $p = 0.000$ ($p < 0.05$).

*Predictors: Perceived Safety and Efficacy (Constant), Information Complexity, Knowledge of Safe Use.

demonstrated that knowledge of safe use and information complexity contributed negatively to the perceived safety and efficacy of natural health products used to control or cure covid-19 viruses. Information complexity was the most important predictor of perceived safety and efficacy about the safe use of natural health products ($\beta = -0.216$, $t = -6.540$, $p = 0.000$). These variables make the strongest unique contribution to explaining perceived safety and efficacy. The R² value for information complexity was 0.084; information complexity explains 8.4 % of the variance in perceived safety and efficacy. This finding shows that when consumers become more complex on information about natural health products, they will have less perceived

safety and efficacy on natural health products for controlling or curing the Covid-19 viruses. A study done by Paliwal et al., (2019) recommended the need for clear information about non-prescription medicine (OTC) medication safety to be developed and implemented among senior citizen communities [13].

The second predictor of perceived safety and efficacy toward safe use of natural health products was knowledge of safe use ($\beta = -0.081$, $t = -2.476$, $p = 0.000$). The R^2 value for knowledge of safe use was 0.008. This means that these factors explain 0.8 percent of the variance in perceived safety and efficacy.

From this result, we can conclude that two factors that affect the perception of safety and efficacy only contribute 9.2 %. This means the other 90.8 % are other factors that are not discussed in this study. In fact, we can see that there is no correlation between knowledge of the effects of natural health products and the perception of safety and efficacy.

3. Experimental Design, Materials and Methods

Based on previous validated research of Catublas et al., a structured questionnaire was developed to measure the Malaysian consumers' acceptance of natural health products used to control or cure Covid-19 viruses [10,11]. The questionnaires were translated to Malay language from the original questions in English, and questions were specifically adapted for Covid-19 situations from the general questions. The survey consists of three major sections: 1) perceived safety and efficacy of natural health products 2) respondent knowledge of effects, knowledge of safe use and information complexity of natural health products; and 3) respondent socio-demographic information. The questionnaire includes 22 question items on a 5-point Likert scale, as well as 10 items on the respondent's socio-demographic information. This study used a snowball sampling method and involved 723 respondents which voluntarily participate to answer a Google form via WhatsApp and Telegram for four months from 1st September 2020 to 31st December 2020. To ensure no bias of using the snowball techniques to recruit respondents, online responses (live data) were monitored to have responses from all the 14 states from time to time. The data collected correlates with the two highest states which have the highest population (Selangor and Kuala Lumpur), but limitations were observed with responses from East Malaysia i.e., Sabah & Sarawak due to the snowballing technique used. To analyse the data, the Statistical Package for the Social Sciences (SPSS) version 26 was used to analyse descriptive analysis, correlation, and regression. Multiple submission was also avoided by making the online survey settings to only accept one response from one specific email address.

Limitations

Data collected are self-perceived and respondents answers all questions according to individual understanding.

Ethics Statement

Respondents consented voluntarily and ticked the consent box in the online survey, and all was done following the Declaration of Helsinki and the Malaysian Ministry of Health's Medical Review & Ethics Committee (MREC). Therefore, ethical approval was not required for this study since under the Guidelines for Ethical Review of Clinical Research or Research involving human subjects, Medical Review and Ethics Committee [2006] [14], research involving questionnaires with no collection of identifiable private information is exempted from review by the Medical Review and Ethics Committee. The privacy of the respondents' personal information was kept secret and the participation was entirely voluntary and non-participation was an option.

CRedit Author Statement

Wardah Mustafa Din: Conceptualization, Methodology, Writing and Supervision. **Ahmad Firdaus Arham:** Data curation, Original draft preparation, Writing, Software and Validation. **Yusnaini Md.Yusoff:** Writing & Reviewing.

Data Availability

Set of data on Consumers' Perceived Safety and Efficacy Towards Natural Health Products to Control or Cure Covid-19 Virus in Malaysia (Original data) (Mendeley Data).

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Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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