

HALAL MEDICINE: DO DOCTORS HAVE THE TRUE AWARENESS?

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***Abstract:** With increase in awareness for implementation of Sharia-approved healthcare products, modern lifestyle and rising income levels, the demand for Halal medicines also soared in recent times. Many past research have explored on the consumers and little known on doctors who prescribe the patients on halal medicine. The purpose of this study is to investigate the awareness of halal medicine among doctors and its relationship with the following endogenous variables: attitude, perception, and belief of halal information. Using Smart PLS 2.0 as the statistical tool, results showed that only belief on halal information has a significant relationship with doctors' awareness on halal medication. There were no significant relationships found between perception and awareness as well as attitude and awareness. This finding indicates that doctors really do their work well; they do not simply perceive in prescribing medicine to their patients.*

***Keywords:** Halal medicine, doctor, awareness*

INTRODUCTION

Muslim population is now fast growing. The Pew Research Center has projected the total fertility rate by religion for muslim in 2010 -2015 will be 3.1 billion people. Malaysia is no exception. As of 1st January 2015, the population of Malaysia was estimated to be 30 644 293 people which comprises 60.4% of them are muslims. Schiffman and Kanuk (2009) postulate the impact of culture is so natural and automatic that its influence on behavior is usually taken for granted. Hence, the economy on halal products is also on a higher demand. Lately, there are quite a number of efforts by the curious researchers to gain insight of halal production, halal manufacturing, halal process and halal products. Research has shown that a great interest of halal produce that can be tapped locally as well as globally (Ambali and Bakara, 2014). At present, as the awareness of the Muslims towards Halal ingredients in food and medicines increases, the need for credible information and data is considered a necessity (Nasaruddin, Ricca and Mel, Maizirwan and Fuad, Faizah and Jaswir, Irwandi and Abdul Hamid, Hamidon, 2011).The term halal is

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an Arabic word used many times in Quran which means permitted or acceptable according to Islamic law. It is applied to many aspects of life for instance food products, meat products, personal care products, cosmetics, and pharmaceutical products. As a Muslim, the need of lawful (Halal) and wholesome (*Tayyob*) products (including medicines) is not only a part of *ibadah* to get pleasure of Allah SWT, but it also gives nourishment to the body as well as to our soul due to the permissibility (*Halalness*) and purity of the product. Consuming halal (permissible and pure) products is a must for good muslims as decreed by the Holy Quran and is an important part of Islamic faith. God (Allah) has called attention to the consumption of halal products. These two verses are the examples:

“O mankind, eat from whatever is on earth (that is) lawful and pure”

(Al-Quran 2:168)

“O you have believed, eat from the pure things which we have provided you”

(Al-Quran 2:172)

What about medicine? It is food that is something to be taken when prescribed by doctors. General practitioners or medical doctors normally prescribe medication based on what he diagnosed and best suited for patients. Muslim patients should follow doctors' order. When a doctor prescribes medication, the patient is usually unaware that they may be about to purchase a non-halal product. Nevertheless, they are obliged to the law of Islam that when it comes to purchasing or consuming medicine, it should be halal. As far as it can be ascertained, there is no available data just yet concerning the awareness of doctors on halal medicine in Malaysia. For this reason, the objective of his study is to investigate the awareness of halal medicine among doctors.

What is Halal Medicine?

A medicine is composed of a combination of active ingredients. These substances are obtained from a variety of sources: animals, plants or synthetic origins. In case of animal sources, it may be porcine, dead animal or blood. All these are the opposite of halal. Haram/forbidden for Muslims as mentioned in the translation of the two Quranic verses cited below:

“He hath only forbidden you dead meat and blood and the flesh of swine and that eat on which any other name hath been invoked besides that of Allah, but if one is forced by necessity, without will full is obedience, Allah is forgive rand most merciful”

(Al-Quran, 2, 173)

“Forbidden to you (for food) are: dead meat, blood, the flesh of swine, and that on which hath been invoked a name other than that of Allah.”

(Al- Quran, 5, 3)

From the Quranic verses cited, it would imply that, not only, consuming Halal food but also consuming Halal medicine is important because it forms a major part and behaviour of being a good practicing Muslim. Consuming Halal medicine is a fundamental right of Muslims in terms of using healthcare facilities and services to maintain their health according to their faith and belief. Much has been written on the subject of Halal and Haram in food, but references to Halal/Haram issue in pharmaceuticals especially as to the origin of compounds, are undocumented, scanty and few. Muslims all over the world are always conscious of eating halal food and especially avoiding anything that contain pork or pork fat in it. Even something that is cooked or baked in the same oil which was used to cook pork is firmly avoided by good muslims. The ingredients contained in the products must comply with Islamic law. The official Department that certifies on halal status, Department of Islamic Development (JAKIM) is to ensure the ingredients and the manufacturing process of the medicine follows stringent guidelines as outlined by the industry standard committee of halal standard.

Referring to the perception of Muslim consumers today, the term Halal for them only applies to food. Abdul Aziz et al. (2010) said that Halal does not only applicable to food, but also to non-food product like clothing, business transaction, job, monetary, investment and also relationship between human. The same notion also argued by Shaari and Mohd Ariffin (2010) and Abdul Aziz and Vui (2012) by stating that most of the time, Halal management only associated with food, rather it also covers a lot of areas such as purchase intention, income source, attitude toward advertisement, product, word of mouth and religiosity. In fact, Halal matters covered all consumable products like toiletries, pharmaceuticals, cosmetics and services. This result to the standard setters such as Malaysian Halal Standard (MHS), HACCP and GMP are becoming more stringent toward the food processing plants, hotel operations, pharmacies, cosmetics, and etc. (Abdul Aziz and Vui, 2012). The realms of Halal is becoming more extensive, with the attention and concentrations shift to the other consumption products and services as the new market to be captured by producers and industrial countries (Esfahani and Shahnazari, 2013).

Awareness

Awareness is a relative concept. It can be stated that the term awareness referring to the ability to perceive, to feel or to be conscious of events, objects or patterns which is does not necessarily imply to understanding. Awareness may be focused on internal state, such as visceral feeling or on external events by way of sensory perception. Awareness provides the subjective ideas about their experience. In general, awareness may also refer to public or common knowledge understanding about social, scientific or political issues and hence many movements try to foster

awareness of a given subject. Though the halal-haram rules are clearly stated in the Quran, and the hadith, when it comes to the concept of 'Halalan Thoiiyyiban' where halal is not only permissible but also wholesome, there is lack of awareness and understanding (Mariam, 2008).

Attitude

Attitude is expressed by "the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question" (Ajzen, 1991). Miller (2005) stated that the sum of beliefs about a particular behavior weighted by evaluations of these beliefs. Alam and Sayuti (2011) stated that attitude has a significant and positive effect on halal food purchasing intention. Their finding found out that attitude is an important factor in influencing purchasing of Halal food product because high positive attitudes appeared to have greater intentions to intent to purchase Halal food products. Each attitude is the result of several beliefs. Often, belief and attitude are used as a single concept and interchangeably (Eagly & Chaiken, 1993). Based on expectancy value theory of Fishbein, attitudes are roles of beliefs; in fact, one can consider beliefs as the causes of attitudes. Overall, attitude is defined as a person's positive or negative feeling about an act. An attitude shows relative sustainable evaluations, feelings and tendencies toward a product or thinking. They are attitudes that make people to be interested or hate something and go toward it or refuse it. Regarding such definitions, customers' attitudes toward products with halal brand are ideal. As a result, they will be encouraged toward them or vice versa. So in this study, it refers to the attitude of doctors in their ethical obligation and sensitivity of the ingredients of the prescribed medicine.

Halal Information

The updates from the Halal authorities Department of Halal Development Malaysia (JAKIM), State Islamic Department (JAIN), Halal Development Corporation (HDC) are also important so that consumers can check the Halal status every time the hesitancy of Halal status take place. 98 per cent of the 50 consumers in Klang Valley confirmed that it is very important of getting Halal updates from authorities on each Halal status of a manufacturer (Anir, MdNasir, & Masliyana, 2008).The Halal information and its practices in businesses are growing with the evident increase of number of conferences, trades shows and exhibitions, showcases of Halal products and services through cross-exchange of knowledge. Likewise, the increasing number of research grants and research on Halal logistics and Halal supply chain are also expanding (Sadek, 2012; Tieman and CheGhazali, 2012). The common characteristics among published studies are generation of new information and proposed practical implications and innovations for future research and actions.

Perception

There is growing literature on Halal Food consumption in Muslim countries. Malaysia is moving towards becoming the hub of “Halal” food industry and a significant portion of research on Halal food consumption. Academicians in other Muslim countries have also done some meaningful researches in the same manner (Wilson & Liu, 2010; Shahrudin, Pani, Mansor, Elias & Sadek, 2010). The concept of Halal food is inviting new horizon and platforms for the marketers and is emerging as a new brand concept (Lada & Tanakinjal and Amin, 2009); using the theory of reasoned action (Fishbein & Ajzen, 1975) they provided the insight into the Halal products selection among Malaysian consumers. Pioneering work extended the concept of brand to Halal food (Wilson & Liu, 2010); religion, beliefs, food preferences gender discrimination, education and women employment are found to have affect food consumption patterns in Arab region (Musaiger, 1993); choice of sensitive products were also in compliance with religious values (Khraim, 2010). The findings show that the religious belief, exposure, certification logo, and health reason are potential sources of Muslim awareness about *halal* consumption. However, health reason is the most contributing predictor of level of *halal* awareness (Ambalia and Bakara, 2014). Similarly, religious beliefs as well as spirituality often have a pivotal role in influencing an individual’s willingness to seek and/or obtain treatment (Daher, Chaar, & Saini, 2015).

Problem Statement

The huge global muslim population is becoming a very large consumer market and the halal economy is now growing. There is undoubtedly tremendous demand for halal pharmaceutical products. Providing such products is providing a service to Muslims. As Muslims need to make decisions within the parameters of what is permissible in accordance with our belief, they have a choice between halal and haram, and of course, they should choose the halal products. Consuming medicine is like consuming any other food. They only consume halal medicine when we have the choice. For that reason, they should strive that medicine is available in the market adequately and easily recognized. Muslims would not drink alcohol, eat pork or meat prepared in a way other than a halal process, so why should medicine be an exception when alternatives are now available. Consuming halal medicine is important because it is part of being a good practicing Muslim. The origin of ingredients in medicine products remain a mystery to many consumers and are thus unknowingly consuming non-halal ingredients in their medications. This can cause confusion for Muslims as we need to stay away from non-halal substances as it may be forbidden to consume, and it may have negative impacts on our bodies and health. Physicians prescribe medication based on what they feel is best suited for patients. There is no doubt that Muslim patients must follow doctor’s orders, however they must also adhere to the laws of Islam and add

another criteria in their decision making process when purchasing medicine. It might be a puzzle there, the public is curious to know whether or doctors who prescribed the medicine are aware of halal medicine?

Research Questions

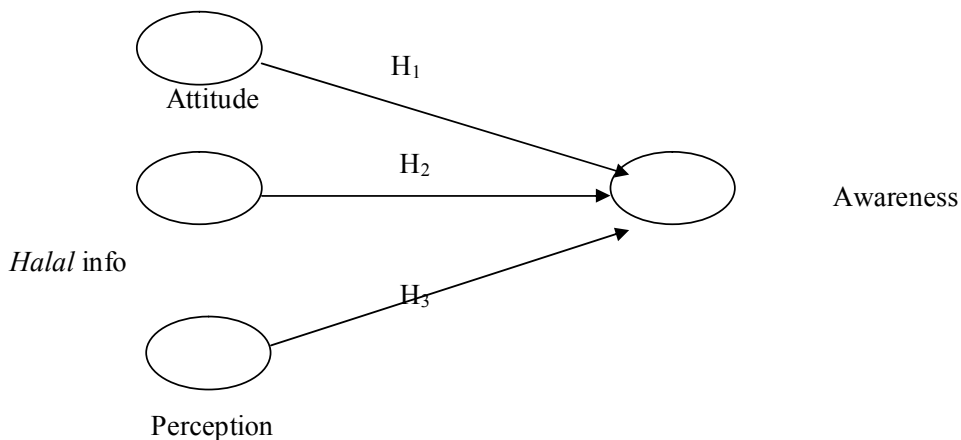
The research questions of this study are:

- (a) Do doctors’ attitudes while prescribing the medicine relates to their awareness of halal medicine?
- (b) Does doctors’ knowledge on halal / non-halal information of the medicine link with their awareness of halal medicine?
- (c) Do doctors’ perception son halal medicine correlate with their awareness of halal medicine?
- d) Among the three endogenous variables, which one has the strongest link with doctors’ awareness of halal medicine?

CONCEPTUAL FRAMEWORK

Previous studies documented several important indicators of the awareness of halal/ Non-halal medicine (Daher, Chaar & Saini, 2015). Specifically, we proposed attitude (Asadollah, Hossein, & Alireza, 2013 and Kodrnaeij & Asakiropoor, 2013), halal information (Teng & Wan Jusoh, 2013); and perception (Swidi, A., Wie, C., Hassan M. G., Al-Hosam, A. & MohdKassim, A. W., 2010) to relate with doctors’ awareness of halal medicine.

Figure 1: Conceptual framework



Thus based on this framework, we hypothesized:

- H₁: There is a significant relationship between attitude and awareness of halal/non-halal medicine among doctors.
- H₂: There is a significant relationship between *halal* information and awareness of halal /non-halal medicine among doctors.
- H₃: There is a significant relationship between perception and awareness of halal/non-halal medicine among doctors.

Significance of the Study

Based on this study, it is hoped that doctors whose work focusing on medication will be more aware and alerts in prescribing the halal or non-halal medicine to their patients. Indirectly, this may encourage all the pharmaceuticals and hospital involved to be more particular in terms of the awareness of giving the halal certification. This study is also taking forward the outcomes of the Kuala Lumpur roundtable, the Global Islamic Economy Summit 2015 in Dubai will offer a platform for over 2,000 policymakers, thinkers, and business leaders to engage in critical dialogue on the main pillars of the Islamic economy: Islamic finance, halal food and ingredients, halal lifestyle, standards and regulations, and digital economy. It is hoped that the results from the paper would provide another avenues for government and policy makers to improve their policy decisions and mechanisms of making Muslims in Malaysia to be more aware of *halal* foods and products.

RESEARCH METHOD

This is a cross sectional study which is only held once at a time, and quantitative study on doctors' awareness on halal medicine in Malaysia. A purposive non-probability based sample of practicing medical doctors all over the states in Peninsular Malaysia e.g. Selangor, Kuala Lumpur, Penang, Perak, Terengganu and Kelantan were recruited. These states serve doctors following a wide variety of faiths and religious practices. The target population is doctors of their respective areas in medical such as Surgeon, Dentist, and General Practitioners. A total of 150 questionnaires were distributed and we received back 105 questionnaire making the response rate as 70%.

Research Instrument

A set of questionnaire is formulated and adapted from previous studies on the related variables:

- (a) Awareness of halal/ Non-halal medicine (Daher, Chaar & Saini, 2015),

- (b) Attitude (Asadollah, Hossein, &Alireza, 2013 and Kodrnaeij, Asakiropoor, 2013),
- (c) Halal information (Teng & Wan Jusoh, 2013 and Norafni, Zurina & Syahidawati, 2013), and
- (d) Perception (Swidi, A., Wie, C., Hassan M. G., Al-Hosam, A. & Mohd Kassim, A. W., 2010).

The questionnaire was divided to five (5) sections: Section A-Respondent's profile, Section B-Attitude, Section C-Halal Information, Section D-Perception, and Section F-Awareness.

Analysis

Structural Equation Modeling - Partial least square (SEM-PLS) method was used to maximize the independent variables in a model rather than fit. In this analysis, a preliminary test was done onto the model by checking the value of the construct loading. A value that is greater or equal to 0.70 indicates that, the variable is strongly related to its construct. Table(1) show the value of construct loading and it is observed that, each of the variable are strongly related to its own construct since the value of factor loading are approximately and higher than 0.70.

Table 1
Item Loading for each construct

Attitude	Ethical obligation	0.912070	0.371317	0.031481	0.303711
	Sensitivity of pharmaceutical	0.735492	0.212521	-0.023238	0.183804
Halal Info	Consent from patient	0.186138	0.736267	0.023886	0.438592
	Non Halal believe	0.374682	0.823577	-0.040062	0.523262
Perception	Halal alternative	-0.034586	0.059510	-0.652310	0.055483
	Patients right	-0.006587	0.021950	0.860347	-0.082504
Awareness	Awareness	0.234585	0.406089	-0.020693	0.740798
	Ingredients awareness	0.264694	0.582893	-0.114682	0.884151

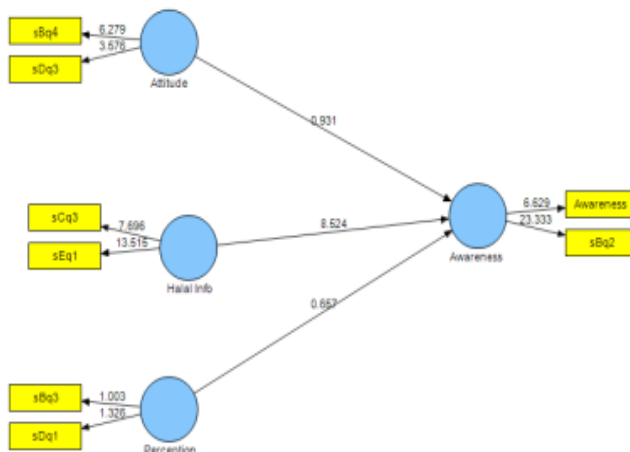
After examining the item loadings for each construct, a reliability analysis for the model was evaluated by looking at the value of Average Variance Extracted (AVE) and composite reliability. The value of AVE for more than 0.50 indicates that all items are strongly correlated to their own construct and the value of composite reliability for more than 0.70 indicate a high level of internal consistency reliability

among all the variables. Table (2) shows the summary of construct loading, value of AVE and composite reliability.

Table 2
Summary for Outer Model

Construct	Variable Indicator	Loading	AVE	Composite reliability
Attitude	Ethical obligation	0.912070	0.68	0.81
	Sensitivity of pharmaceutical	0.735492		
Halal info	Consent from patient	0.736267	0.61	0.75
	Non Halal believe	0.823577		
Perception	Halal alternative	-0.652310	0.58	0.04
	Patients right	0.860347		
Awareness	Awareness	0.740798	0.66	0.79
	Ingredients awareness	0.884151		

Figure 1: Path Coefficients



Once the measurement model was confirmed to be reliable and valid, the next step was focusing on the building of the structural model and examination of the capabilities for the model which include the value of coefficients of determination (R^2) and significance of path coefficients. Figure below shows the path coefficients and R^2 for the dependent variables.

The path coefficients with three endogenous variables and eight measured variables show that the relationship between attitude and awareness is 0.931, relationship between halal information and awareness is 8.624 and relationship between perception and awareness is 0.657. Using a two-tailed t-test, with a significance level of 5%, the path coefficients will be significant if the t-statistics value is greater than 1.96. Based on the value of path coefficients, only halal information variable is significant since the value is 8.624 which is greater than 1.96. In this path model, the reported value of R^2 is 0.80254, which mean that 80.254% of the exogenous variable which is awareness is explained by the independent variable which is halal information. Table (3) shows the summary of the value for path coefficients and coefficients of determination (R^2).

Table 3
Summary for Structural Model

	Path Coefficient (t-statistics)	Coefficients of determination (R^2)
Attitude- Awareness	0.931	
Halal info - Awareness	8.624	0.80254
Perception- halal info	0.657	

DISCUSSION

This personal behavior survey-based research focused on doctors' awareness in Malaysia to determine factors influencing their awareness on halal/ non-halal medicine using the conceptual framework to identify attitude, halal information and perception that generate the respondents' awareness. It filled a gap within non-professional consumers and professional consumers, addressing the scarcity of information on doctors' awareness on halal/ non-halal medicine. Results will help guide the professionals, public and marketer to target efforts to increase awareness on halal/ non-halal medicine.

The variable of Halal information is the only variable that has significant relationship with doctors' awareness in halal medicine. The items "*I take consent from patients for the last resort, if I know the medicine is non-halal*", and "*I believe that non-halal medicine is not appropriate for patients.*" It shows that doctors are aware of and considerate in giving halal medicine to their patients.

On the contrary for the variable perception, the items, it is found that it does not have any significant relationship with awareness which provides evidence that perception is not accounted for in creating awareness of halal medicine among doctors. Doctors are really careful and professional in their work. In other words,

they do not just simply prescribe without having cautious and decision-making.

The attitude construct is also found that it does not have a significant relationship with awareness. So, we can conclude that doctors' attitude does not affect their awareness in prescribing their patients halal medicine. What matters is their knowledge and expertise on prescribing halal medicine.

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