

Do Males and Females Differ in Terms of Their Knowledge, Attitude, Perception (KAP) Regarding Halal Pharmaceuticals?

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ABSTRACT

There is an increasing awareness amongst Muslim consumers to avoid all items containing non-Halal ingredients including medications. Male and female are different both biologically and psychologically; it therefore, needed for a study to compare KAP of males and females regarding Halal pharmaceuticals. This was a cross-sectional study using a structured, self-administered questionnaire to compare the knowledge, attitude & perception regarding Halal pharmaceuticals, among males and females in Penang state of Malaysia. Results revealed that there is no significant difference in the knowledge, attitude and perception of males and females. This is concluded that males and females are equally aware and have same attitude and perception regarding Halal pharmaceuticals. P value of .05 or less was taken as statistically significant.

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1. INTRODUCTION

Halal is an Arabic word which means “lawful”, “permissible” under Islamic law [1]-[3]. The opposite of Halal is “Haram” which means “unlawful”, “prohibited”, “forbidden” [4],[5]. Halal and Haram are universal terms that apply to all facets of life. However, this study will adapt these terms to refer only to pharmaceutical products that are deemed permissible for consumption of Muslims.

Halal is a well known word in the entire Muslim world. However as the Muslim population is expanding in other continents, this word has come to be used so commonly in the day to day life that even the non-islamic world has become cognizant of this terminology. This has resulted in Halal signs, at shops and food products, in America and Europe, catering for the religious beliefs and needs of the Muslim consumers.

Medicines play a pivotal role in the process of human development as their rational use can decrease the morbidity and mortality as well as improve the quality of life [6]. A drug/medicine is composed of a combination of active ingredients, and excipients. These substances are obtained from a variety of sources — animals, plants or synthetic origin [7],[8]. In case of animal source, it may be porcine, dead animal or blood. All these are Haram/forbidden for Muslims as mentioned in the Holy Quran [9]-[11]. It is evident that, not only, consuming Halal food but also consuming Halal medication is important because it forms a major part and behaviour of being a good practicing Muslim.

It is a firm belief of all Muslims that Allah is our creator and He is the best judge of what is right for us to consume and in what shape it should be done. However it is pertinent to mention that all old religions of the world like Hinduism, Judaism and Christianity also command certain religious restrictions and bindings on their followers in the consumption of foods and drinks [12],[13]. They may use other terminologies to define these restrictions but the main sentiment is the same. Therefore it would be pertinent to look into

various items of human consumption, including medicines, and their variants, to determine admissibility according to individual beliefs.

As majority of Malaysian population is Muslim [14], there are many government and non government organizations which are playing an active role to ensure provision of Halal foods and Pharmaceuticals to Muslim consumers in Malaysia. In Muslim society, generally females are responsible for educating their families. Males and females are different in all major traits of their character and thinking process. Moreover their strong and weak points differ drastically [15]. Many studies have been done to compare knowledge, attitude and perception of males and females in different fields, but to the best of our knowledge no study has been done so far to compare the knowledge, attitude and perception of males and females regarding Halal pharmaceuticals. Therefore the main objective of this study is to compare levels of knowledge, attitude and perception among male and female consumers. To achieve this objective, an extensive study was undertaken to reach various cross sections of the society, targeting all variants of the consumers.

2. RESEARCH METHOD

Ethical consideration

Ethical approval to conduct this study was taken from “Joint Ethics Committee of School of Pharmaceutical Sciences, USM and Hospital Lam Wah Ee on Clinical Studies” and Ministry of Health Malaysia.

Study design and site

A cross-sectional study design was adopted by using structured, self-administered questionnaires with a representative sample of general public, in the Penang state of Malaysia from September 2012 to November 2012. Participants were recruited from different shopping malls, bus stations, food courts and markets of Penang state.

Questionnaire design

After extensive literature review, a self administered questionnaire was designed to conduct this study. The questionnaire was validated by the panel of experts which was composed of eight senior academic researchers and was updated according to their recommendations. A pilot study was conducted to evaluate the reliability of the updated questionnaire on 46 consumers (which is 10% of the total study sample [16]. Cronbach's alpha was applied to test validity and internal consistency of the questionnaire [17]. Final modifications were based upon the results of pilot study. The final questionnaire consisted of four parts. The first part of the questionnaire was on respondent's demographic informations including age, gender, race, religion, nationality occupation, level of education, suffering from any chronic disease and frequency of purchasing medicines from pharmacy. Second part had 9 statements to evaluate the knowledge of respondents towards Halal pharmaceuticals. Third part consists of 7 statements for perception evaluation of the respondents towards Halal pharmaceuticals and final part had 7 statements about the attitude of respondents about Halal pharmaceuticals. For knowledge statements respondents were asked to choose “Yes” or “No” options. Correct answer (yes) was scored one (1) while incorrect answer (no) was scored zero. A five point Likert scale was used for perception and attitude statements (strongly agree=5, agree=4, neutral=3, disagree=2 and strongly disagree=1). Hence the minimum and maximum score for knowledge, attitude and perception can be 0 to 9, 1 to 35, 1 to 35 respectively. Total KAP score can be 79.

Questionnaire was initially developed in English language and, was translated into Malaysian national language, Malay due to language fluency and barrier to English language. The translation was done by language experts from School of Languages, Literacy and Translations Universiti Sains Malaysia”. The Malay version of translated questionnaire was back translated into English to ensure for any changes in the meaning of original questionnaire by the language experts other than the translators.

Selection criteria of respondents

Any Muslim having age 18 years and above, able to read and understand Malay language and willing to participate in the study was recruited as ‘study participant’.

Distribution and Collection of questionnaires

Trained data collectors were recruited for data collection under the direct supervision of principle investigator. All questionnaires were labeled with date, time and location of the respondent. A verbal consent

was taken before distributing questionnaires from each respondent and they were assured for confidentiality of their personal information. No incentives were offered to any of the respondent [18].

Data analysis

After collecting questionnaires from data collectors, data was entered in SPSS version 18. After data cleaning, normality of data was checked by Kolmogorov-Smirnov test. Descriptive statistics (mean, standard deviation, frequency, percentage, median, inter quartile range) was applied to summarize the data. As data was not normally distributed, so non-parametric tests were applied. The Mann-Whitney U Test was applied to test for difference between male's and female's knowledge, attitude and perception [19]. $P \geq .05$ was taken as statistically significant.

3. RESULTS AND DISCUSSION

Respondents demographics

A total of 458 respondents participated in the study. A total of 237 (51.7%) respondents were male and 221 (48.3%) were females. Age range was between 18-65 years with a mean of 32.28 years and Standard Deviation of ± 10.998 .

Comparing knowledge regarding Halal pharmaceuticals between male and female respondents

Comparison between male and female knowledge regarding Halal pharmaceuticals is depicted in Table 1 and Table 4. Results revealed that there is no significance difference in the level of knowledge (regarding Halal pharmaceuticals) of males (Md = 6, n = 236) and females (Md = 6, n = 221), $U = 25753.000$, $z = -.237$, $p = .813$.

Comparing attitude regarding Halal pharmaceuticals between male and female respondents

Comparison between male and female attitude regarding Halal pharmaceuticals is depicted in Table 2 and Table 4. Results revealed that there is no significance difference in the level of attitude (regarding Halal pharmaceuticals) of males (Md = 25, n = 236) and females (Md = 25, n = 221), $U = 25034.500$, $z = -.743$, $p = .458$.

Comparing perception regarding Halal pharmaceuticals between male and female respondents

Comparison between male and female knowledge regarding Halal pharmaceuticals is depicted in Table 3 and Table 4. Results revealed that there is no significance difference in the level of Perception (regarding Halal pharmaceuticals) of males (Md = 32, n = 237) and females (Md = 32, n = 220), $U = 25523.500$, $z = -.391$, $p = .696$.

Table 1. Comparison of Knowledge between males and females

Statements	Ranks			
	Gender	N	Mean Rank	Sum of Ranks
Are you aware of the term/ word “Halal”?	male	236	228.56	53941.00
	female	221	229.47	50712.00
	Total	457		
Are you aware of the term/word “Haram”?	male	236	230.13	54310.00
	female	221	227.80	50343.00
	Total	457		
Are you aware of the term/word “Halal medicines”?	male	233	231.95	54044.50
	female	219	220.70	48333.50
	Total	452		
Do you know that Muslim patients need Halal medicines?	male	235	225.45	52980.00
	female	221	231.75	51216.00
	Total	456		
Do you know that dead animals, blood, pork and Alcohol are Haram for Muslims to use in any form (food, medication etc)?	male	236	220.49	52034.50
	female	221	238.09	52618.50
	Total	457		
Do you know that capsules are made from gelatin which may be derived from Pig source?	male	236	229.09	54066.00
	female	220	227.86	50130.00
	Total	456		
Do you know that Syrups and Elixirs contain Alcohol?	male	236	234.34	55304.00
	female	220	222.24	48892.00
	Total	456		
Do you know that Alcohol content in medicines exceeding certain percentage is Haram?	male	236	222.64	52543.00
	female	221	235.79	52110.00
	Total	457		
Do you know that Malaysian National Fatwa Council has stated that “it is permissible to inject the highly purified insulin made from pig in extremely needed situation”?	male	236	233.18	55030.50
	female	221	224.54	49622.50
	Total	457		

Table 2. Comparison of attitude between males and females

Statements	Ranks			
	Gender	N	Mean Rank	Sum of Ranks
I prefer to purchase Halal medicines.	male	236	230.56	54412.00
	female	221	227.33	50241.00
	Total	457		
I talk to the doctor about the sources of ingredients of medicine before accepting the prescription.	male	236	236.44	55800.50
	female	221	221.05	48852.50
	Total	457		
I talk to the Pharmacist about the sources of ingredients before accepting the medicines.	male	236	228.80	53997.50
	female	221	229.21	50655.50
	Total	457		
I am comfortable if pharmacist changes the prescription because of Halal/Haram issue.	male	236	233.86	55190.00
	female	221	223.81	49463.00
	Total	457		
I used to get information about the sources of my medicine.	male	236	225.55	53230.00
	female	219	230.64	50510.00
	Total	455		
I used to take Halal medicine without considering cost issue.	male	236	214.77	50685.00
	female	221	244.20	53968.00
	Total	457		
I like to see ‘Halal logo ‘on my medicine.	male	236	218.83	51645.00
	female	221	239.86	53008.00
	Total	457		

Table 3. Comparison of perception between males and females

Statements	Ranks			
	Gender	N	Mean Rank	Sum of Ranks
The patient has a right to ask information about sources of ingredients in medicine.	male	237	221.81	52569.00
	female	220	236.75	52084.00
	Total	457		
The drug companies should clearly mark medication packaging with 'Halal' or 'non Halal' logo.	male	237	223.14	52883.00
	female	220	235.32	51770.00
	Total	457		
Patient's religious beliefs should be considered while doctors decide medication for them.	male	237	228.93	54256.00
	female	220	229.08	50397.00
	Total	457		
If people are provided with relatively more expensive Halal alternatives, majority will be reluctant to use Halal ones.	male	237	231.95	54972.00
	female	220	225.82	49681.00
	Total	457		
Public should be educated about halalness of medicines.	male	236	216.32	51052.00
	female	218	239.60	52233.00
	Total	454		
Doctor or Pharmacist should inform the patients about Haram ingredients according to their religion.	male	237	221.32	52453.00
	female	220	237.27	52200.00
	Total	457		
We should seek guidance from religious leaders, as to the correct interpretation of laws with regard to the use of medicines considered Haram.	male	237	220.03	52148.00
	female	220	238.66	52505.00
	Total	457		

Table 4. Comparison of KAP scores between males and females

Variable	Gender	N	Median	U*	z	p
knowledge scores	Male	236	6	25753.000	-.237	.813
	female	221	6			
Attitude scores	Male	236	25	25034.500	-.743	.458
	female	221	25			
Perception scores	Male	237	32	25523.500	-.391	.696
	female	220	32			

* Mann-Whitney U , Note: N =observed values; missing values are excluded

The study was aimed to evaluate and compare the knowledge, attitude and perception of males and females in Penang state of Malaysia. A total of 458 respondents participated in the survey. Intensive literature review found no such study which is conducted to compare the knowledge, attitude and perception of males and females on the issues surrounding Halal pharmaceuticals among general public. Men and women, in spite of a few variations, may not really be that different from each other. Though many studies have been done to compare attitude and perception of males and females in other fields. In almost all societies it seems to be a certain cultural belief that males and females are different [20]. Some of the studies point out differences in the biological functioning of the two genders, such as the recent report from the University of Indiana proposed that while women use both sides of their brain while listening, men use only the left side of theirs in similar situations (LA Times), or the newer article in the Neurobiology of Learning and Memory, claims that male and female process their emotional memories in opposite sides of the amygdale region of the brain [21]. Other studies focus more on finding different patterns of behavior among males and females. These studies generally argue that there are different patterns of leadership behavior [22]-[24]. This study tried to explore the knowledge of males and females about Halal pharmaceuticals. Study findings showed that both categories had a good knowledge and positive attitude and perception towards issues surrounding Halal pharmaceuticals. Their level of awareness, their attitude and perception are almost the same.

4. CONCLUSION

It can be concluded that there is no significance difference in the knowledge, attitude and perception of males and females. They are equally aware and have same attitude and perception regarding Halal pharmaceuticals.

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Conflict of Interest

Authors have disclosed no conflict of Interest

Key points

- Study evaluated knowledge, attitude and perception of males and females regarding Halal pharmaceuticals.
- Study compared the knowledge, attitude and perception of males and females regarding Halal pharmaceuticals.
- Study explored the idea of Halal pharmaceuticals among males and females.

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