

# The Pilot Study of Student's Pharmacy Awareness of Al Quran and Prophet Muhammad Dietary and Practices, And the Coherency of Medicinal Properties Characteristics

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## Abstract

Islam has given the ideas and guidelines to people in all aspects of life such as law, economy, science and social. The Quran has cited many items of health related, while hadeeth and sunnah of Prophet Muhammad were the complement to the Quran. However, the awareness of Al-Quran, hadeeth and sunnah as a healthcare guideline in scientific perspective among people remains uncertain. The objective of this study was to observe the understanding of diploma pharmacy students on the coherency of Quran and Prophet Muhammad dietary (QPMD) knowledge with the medicinal properties characteristics (MPC). A set of self-administrative questionnaire has been distributed to the volunteers among pharmacy students. This questionnaire consists of demographic data, status of respondent's agreement on the QPMD, QPMD knowledge level assessment and QPMD interrelation with MPC. There were 25 male and 106 female students from semester 2 and 4 involved. From our findings, 98.5% of respondents claimed that they were aware of the QPMD and majority of 72 students have high score on QPMD, 58 students have moderate level of knowledge and only one person has low score of the QPMD. A Kruskal-Wallis ANOVA indicated that there was no statistically significant differences between the MPC's answer assigned to the level of QPMD

score. As the conclusion, the student's awareness of QPMD does not reflect ability to correlate the MPC with QPMD. Our suggestion, this can be the first step in preparing the next pharmacist generation and contemporary society educated with Al-Quran and sunnah medicinal comprehension.

**Keywords:** Al-Quran, Prophet Muhammad, Pharmacy, Medicine properties, Dietary.

### **Introduction**

Nowadays, people are very concern about the healthcare system and the quality of life. There are a lot of development and publications of new methodology of health care precaution and remedies. For many centuries, Islam has given the ideas and guidelines to all mankind in all aspects of life such as law, economy, science, health and social. The prophet Muhammad (peace be upon him) (PBUH) said: "Make use of medical treatment, for Allah has not made a disease without appointing a remedy for it, with the exception of one disease, namely old age" [narrated by Abu Daud]. The Quran has cited many items of health related, and those were explained by the hadeeth and sunnah of Prophet Muhammad (PBUH). There are so many books, journals, forums and social media highlighting the matters regarding the Quran and Prophet Muhammad dietary (QPMD) prevalence in routine life and medication practice. Since the accessibility to the information is very wide, here in this study we would like to assess the awareness level of QPMD among students especially on pharmacy students.

Pharmacy is one of the field that provides the services in the healthcare system, such as medicine preparation, patients counselling and medicine information references to public. Pharmacy education system is developing rapidly in Malaysia. Therefore, the pharmacy's students need to be equipped with many theories including medical science, chemistry, mathematics, Islamic study and others. Besides that, natural product also was encountered as a part of the pharmacy line. In this particular cases, pharmacy students which we believe has been educated with pharmacist theory, can they relate the rational of Islamic revelation in healing practices and diet behaviour in perspective of science?

### **Literature Review**

In Islam, Al-Quran is the primary religious text and it is believed be the book of divine guidance and direction for mankind. The Quran is the literal word of Allah revealed to Prophet Muhammad (PBUH) by the angel Jibreel over a period of twenty-three years (Fisher 1997). The text in the quran is viewed in Arabic language, and as God's final revelation (Watton 1993). According to Hassan (2000), hadeeth is the narration of the verbal, actions, and tacit approvals of the Prophet (PBUH), while sunnah is the rule of law conveyed through the hadeeth. Hadeeth is a vehicle which conveys the sunnah of the Prophet. Sunnah is indicated for rule of law and legal issue, practice, or model conduct of the Prophet (PBUH), which is contained in a hadeeth. Interestingly, many sunnah can be included in one hadeeth.

Food plays an important role in an individual's life, as it is required for the survival of a human being. Human depends on food and water for energy supply and nutrients nourishment to the body and mind. Recently, people have started to realise the benefits of natural products such as herbs as a natural precaution and cure of the diseases. Even now, products that are inspired from Al-Quran, hadeeth and sunnah by Prophet Muhammad are easily available in the market. The Quran and sunnah both advocate all people to practice good behavior of food intake including food rich in nutrients. It was stated in Quran surah Al-Baqarah [2:168]. Allah

The Almighty says (what means):“O mankind, eat from whatever is on earth [that is] lawful and good and do not follow the footsteps of Satan. Indeed, he is to you a clear enemy”.

Islam proscribed the human to consume the dangerous substances or whose harms outweigh their benefits. Allah The Almighty says (what means) in surah Al Mai'dah [5:3]. “Prohibited to you are dead animals, blood, the flesh of swine, and that which has been dedicated to other than Allah , and [those animals] killed by strangling or by a violent blow or by a head-long fall or by the goring of horns, and those from which a wild animal has eaten, except what you [are able to] slaughter [before its death], and those which are sacrificed on stone altars, and [prohibited is] that you seek decision through divining arrows. That is grave disobedience. This day those who disbelieve have despaired of [defeating] your religion; so fear them not, but fear Me. This day I have perfected for you your religion and completed My favor upon you and have approved for you Islam as religion. But whoever is forced by severe hunger with no inclination to sin - then indeed, Allah is Forgiving and Merciful”.

Pharmacy is a specific science of knowledge and technique of preparing and dispensing medicine. The origin word of pharmacy comes from the ancient Greek word “pharmakon” meaning “drug” (Johnston et al. 2009). From the history, in late of eight century, the Arabs were the first who separated the skill of the pharmacy and physician. Currently, pharmacy has been specified into several areas such as pharmaceutical, pharmacology, pharmacokinetic, social pharmacy and many others. Pharmaceutics is a discipline of pharmacy that manages the protocols of compounding a new chemical entity (NCE) or old drugs into a safe and effective medication. It is also known as a science of dosage form design. Pharmaceutics is a science to encompass many steps or area such as isolation and purification, testing for pharmacology effects toxicology detections towards development of drug into medicine. Pharmaceutics correlates the formulation of the drugs to their delivery and disposition in the body (Aulton, 2007). Pharmacology is a study of drugs and their effects on biology processes. It covers drug sources, classification of chemical properties, biological effects and therapeutic uses of drugs.

### **Objective**

The purpose of this study is to observe the understanding of diploma pharmacy students on the coherency of pharmacology knowledge and the Quran and Prophet Muhammad Dietary (QPMD) practices in treating the disease and dietary.

### **Methodology**

A set of self administrative questionnaire has been distributed to pharmacy students who voluntarily participated in this study. This questionnaire consists of demographic data, status of respondents agreement of the Quran and Prophet Muhammad Dietary (QPMD) and interrelation of pharmacology and the QPMD. The questionnaires were randomly distributed to the diploma pharmacy students (in campus).

### **Result And Discussion**

There were 25 male students and 106 female students involved in this study. Pharmacy program consist of 4 semesters of theory and the last 2 semesters of industrial practical in hospital. From the number of participants, 77 and 54 subjects were from semester 2 (first year) and semester 4 (second year) respectively.

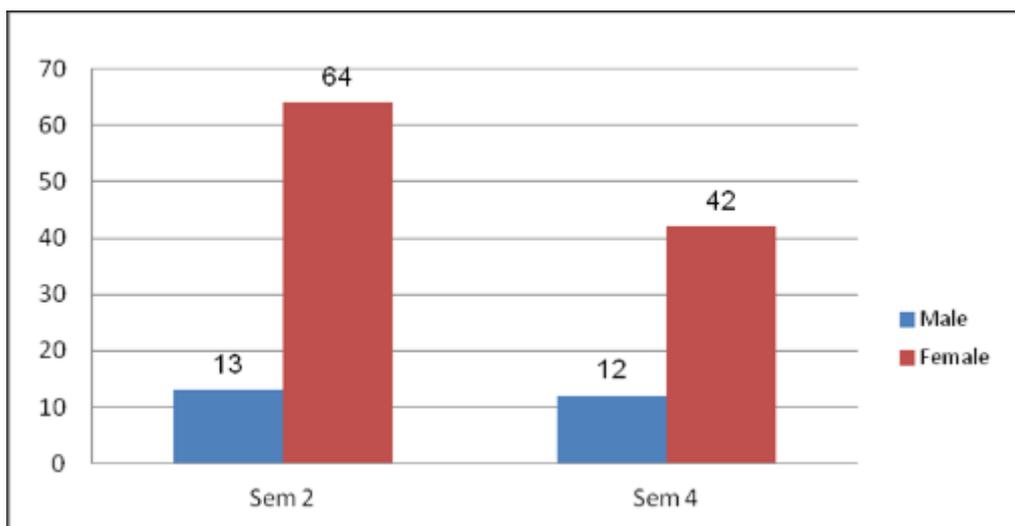


Fig. 1 Number of respondents with segregation of gender and semester level

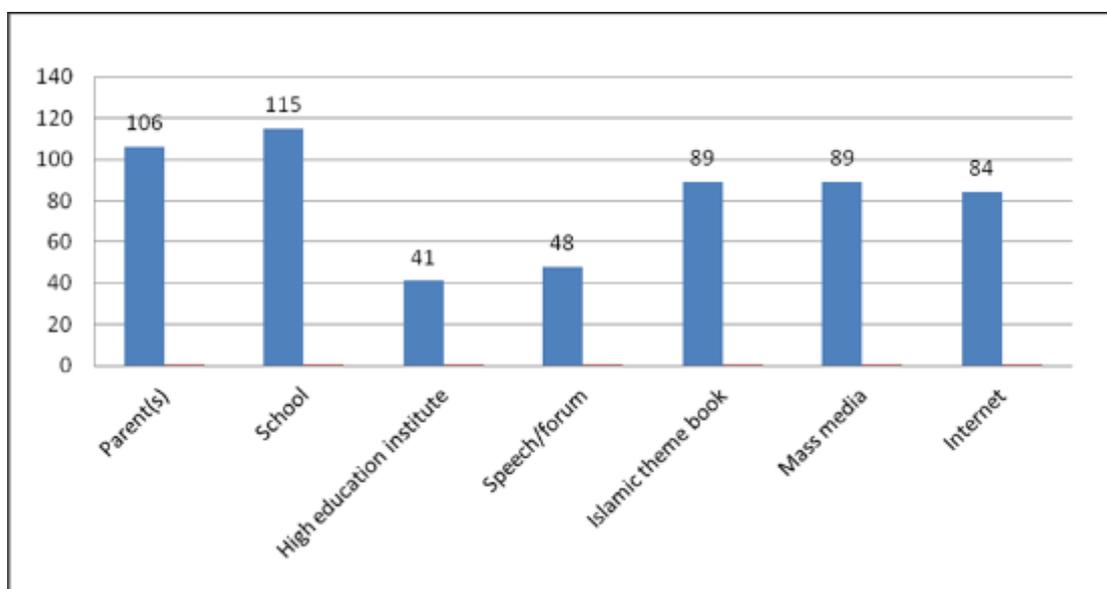


Fig. 2 Frequency of QPMD information sources chosen by respondents

We have listed 7 probabilities of information sources that experienced by the respondents. For this particular question, respondents were allowed to answer more than one option of answer. The total number of answers may be more than 131 at the end. We run multiple response analysis and the result was shown at figure 2. Figure 2 showed that 115 respondents used to be exposed by QPMD knowledge since at school and 106 of respondents were taught by their parent(s). Islamic theme book and mass media shared the same number of frequency, 89 of responses. While 84 respondents indicated that their surfed the internet for QPMD information. Not many from the respondents liked to join the Islamic speech or forum. Only 48 respondents indicated that they understood the concept of QPMD from the Islamic speech and forum. The least preferable choice noted here was QPMD conceptual and education from high education institute. Only 41 respondents noted that they have the idea of QPMD during studying at university or college.

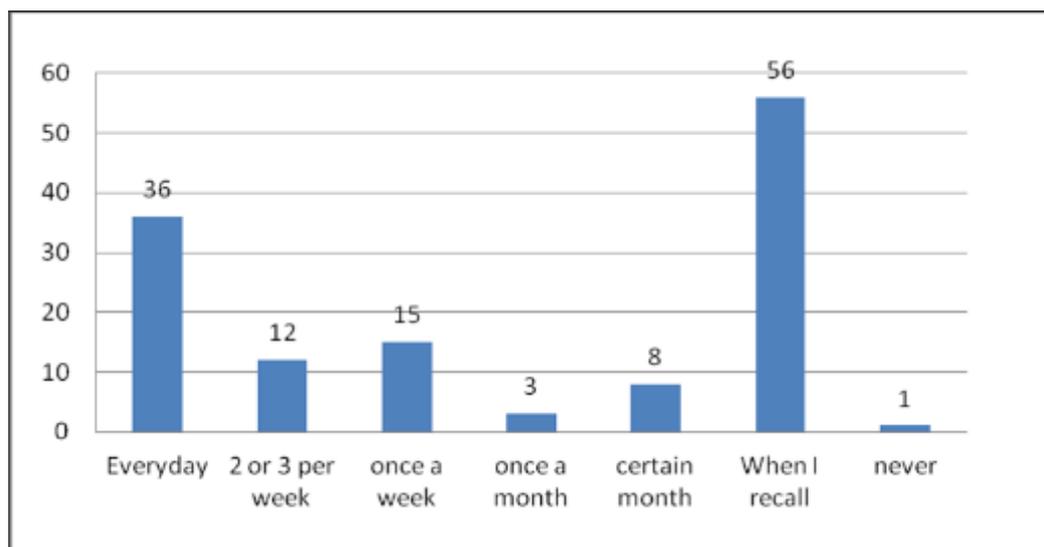


Fig 3. The frequency of respondents practice towards sunnah of Prophet Muhammad diet.

Figure 3 shows the frequency of respondents practice towards QPMD. For this segment, students were allowed to answer the question only once. When we asked the respondents on their practice towards sunnah of Prophet Muhammad food intake behaviour and the respondents might give the response based on their understanding and perception. From the outcomes, 36 of respondents claimed that they do follow the QPMD every day. While the number of respondents who apply QPMD once a week, 2 or 3 times per week and once a month were 15, 12 and 3 persons respectively. The result also showed that most of the respondents, 43% admitted that they only eat according to QPMD when they feel they want to do it.

From this result, we discovered that the prevalence of food intake behavioral among students were not based on QPMD. About 72% of the respondents claimed that they take food and drink based on their own style and feasibility. This is proved by majority of them only take QPMD when they recalled to do that. For other 8 respondents emphasized that they did practised this QPMD on certain month especially during Ramadan or the muslim's fasting month. During fasting month, normally we breakfast by taking the dates. Dates is always related with QPMD as recommended by Prophet Muhammad as mentioned in the hadeeth of Anas bin Malik, (which means): "Prophet Muhammad will break the fast with Ruthab (wet dates) before the prayer, if no Ruthab, then he takes tamr (dry dates) and if there is no tamr, so he drank a few sips of water" [narrated by Abu Daud and At-Tirmithi]. There this could be the factor that the respondents said that follow the QPMD that during Ramadhan only. Finally, 1 respondent stated that he never practiced QPMD.

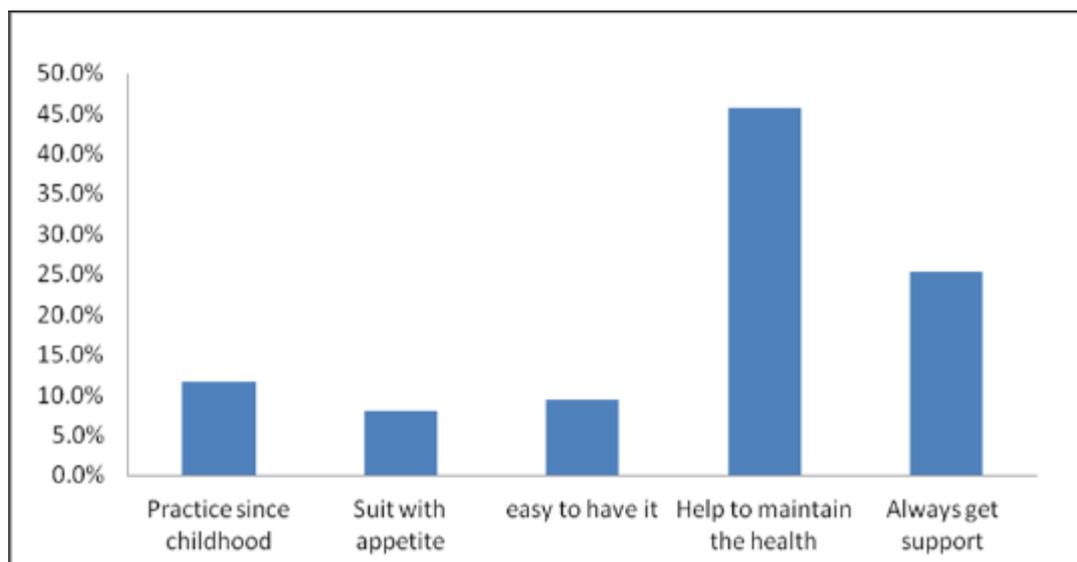


Fig. 4 Reasons of practicing QPMD among respondents.

Observing on the compliance of QPMD among respondents, stated here in figure 4, five possible reasons. The respondents can answer more than one option of answer. The highest reason of choosing QPMD as a part of their food intake behaviour was they believed that it can help in maintaining their level of health. From the multiple response analysis, 45.7% reasons contributed from the believe of healthcare sustainability. 25.4% of the students selected the reason of they always get support and motivation to practice QPMD. From figure 4, not many of the student have been exposed with QPMD since childhood. The percentage showed that only 11.6% of respondents have been exposed with QPMD since they were kid.

While 13 of the respondents were able to practice QPMD because the QPMD is accessible. Nowadays, QPMD such as dates, raisins and others are available at any grocery. This factor can facilitate them to practice QPMD in their life. Finally, 11 respondents commented that QPMD is closed to them and they like QPMD very much. Furthermore the QPMD is really match with their appetite. Typical Malaysian dishes is complex, hot and spicy. Based on the outcomes, we could understand that respondents' perception on QPMD is different from Malaysian food cultural and prevalence. Their perception on QPMD maybe it is simple and mild dishes such as dates, honey, milk and raisins. Therefore, this factor is the least favourite contributing factor to practice QPMD.

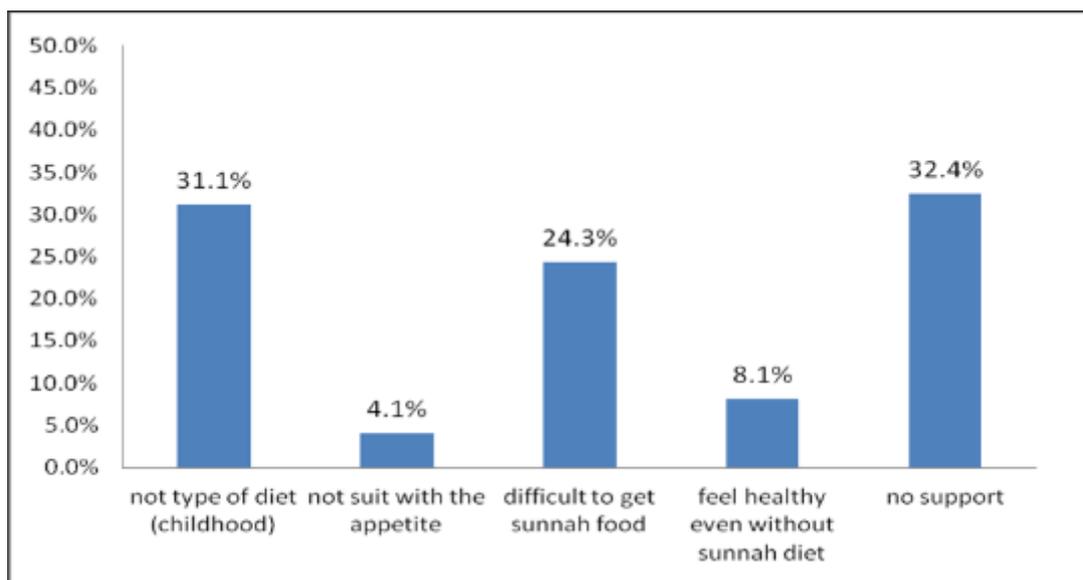


Fig. 5. Frequency of reasons of not practicing QPMD among respondents

To investigate the factors that the respondents might think of not complying to QPMD, we conducted multiple response analysis. In this section respondents could give more than one answer. From figure 5, the reasons of they were not being exposed with QPMD since childhood and no one have supported them to practice with QPMD were the highest selected reasons by the respondents. The second highest reason was they claimed that QPMD food was difficult to be obtained. A lot of questions remain in our mind because in our perception, QPMD food such as dates, honey, black seed, olive and many others are easily available in the market. Our assumption from students perceptive, these type of QPMD are difficult for them get it maybe because of the price of the products, their accessibility to the market or grocery, or it could be from their misconception of the real of QPMD. There were 8.1% represented the reason they maintained healthy even thought their food intake behavioural does not meet the terms of QPMD. While 4.1% represented the reasons of not having QPMD because their appetites are not familiar with type of diet.

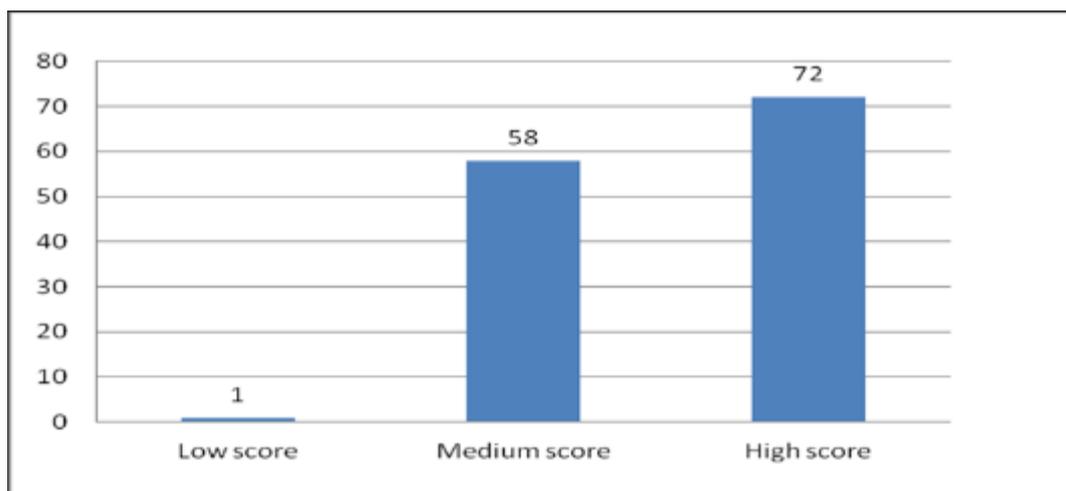


Fig. 6 Distribution score of the Quran and Prophet Muhammad Dietary (QPMD) knowledge among respondents.

In this study, we assessed the respondent's understanding of the QPMD and healing practices from their own perspective. From our findings, 98.5% of respondents claimed that they were aware of the QPMD. Further investigation was made to ensure the reliability of the claim. In the questionnaire, there was 26 questions specifically on the QPMD. We set the multiple types of question such as asking the Prophet's favourite and recommended food. We also put the right and wrong statements, so the respondents need to identify the accuracy and the truth of the QPMD statements. Then we set a range to classify the student's knowledge level. We constructed a rating score categorized by low, medium and high score for the knowledge level of QPMD. Low score was to classify one until 9 correct answers from the respondents. Moderate score was given to 10 until 18 correct answers and high score was allocated for 19 to 26 the right answers.

Figure 6 shows the score level of QPMD knowledge by all respondent regardless their duration/ year of study. Majority of 72 students have high score on QPMD knowledge, 58 students have moderate level of knowledge and only one person has low score of the knowledge. After running the analysis of QPMD knowledge level, we segregated the duration of study time between second semester students and fourth semester students. In order to know whether the duration of study may contribute to the QPMD student's awareness, we run a Mann-Whitney U test analysis. The Mann-Whitney U test indicated that the QPMD knowledge level of first year students (Mean Rank=72.32, n=77) were significantly higher than those of the second year students (Mean =56.98, n=54),  $U=1592$ ,  $z=-2.63$  (corrected for ties)  $p=0.008$ , two tailed. This effect can be described as small ( $r=-0.23$ ) and is illustrated in figure 7.

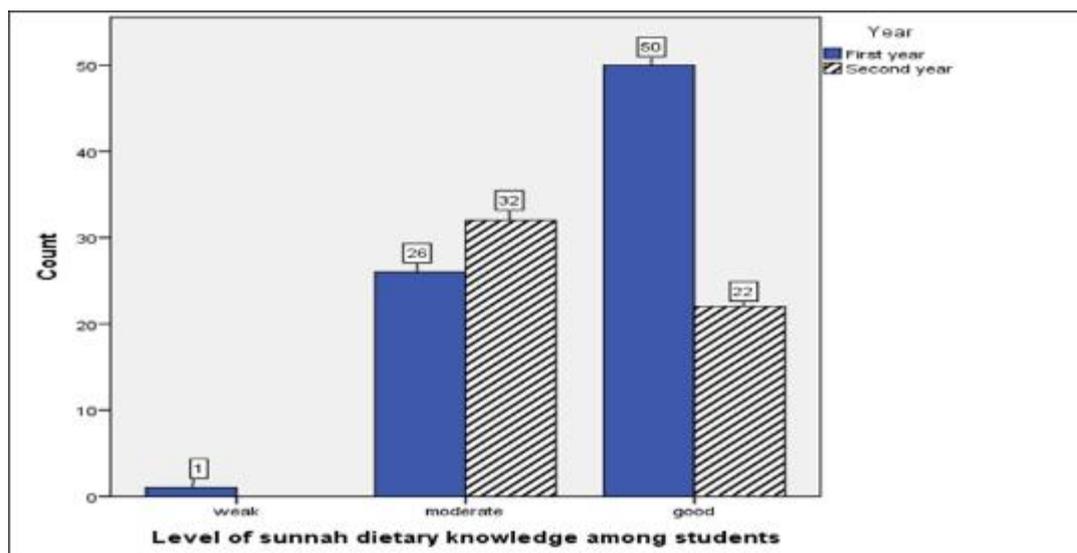


Fig 7. Distribution of respondents' frequency based on QPMD score and level of studied semester.

Based on figure 7, only one respondent from second semester (first year) has a low level of QPMD knowledge. While the moderate score of QPMD knowledge among second semester and fourth semester (second year) students were shown as 26 persons and 32 persons respectively. For the good score of QPMD knowledge level, it was represented by 50 persons out of 77 persons from second semester. 22 persons out of 54 persons from fourth semester was noted to have a good score of QPMD knowledge level.

From this observation, none of the respondents from fourth semester has a weak level of QPMD knowledge. Our expectation, students from semester 4 would have higher percentage of high score than second semester students. This is because during semester four the students have to learn a topic on QPMD in one of the syllabus course. But the result showed that 41% respondents from fourth semester students gained high score of QPMD knowledge level and about 65% of respondents from second semester students have high score on QPMD knowledge level. This result suggested that student's awareness were not depending on the subjects learned at the university but the exposure may be from childhood or at school.

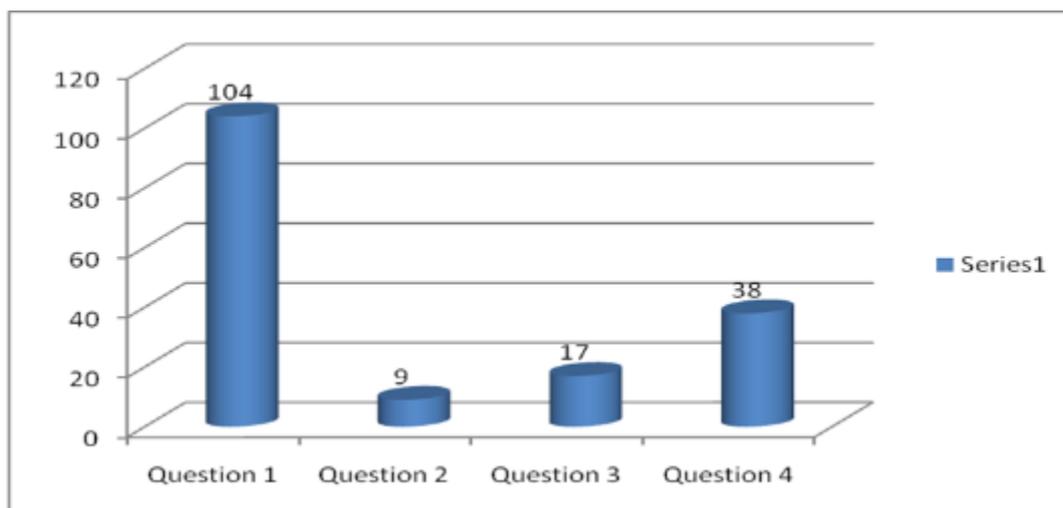


Fig. 8 Respondents ability to answer QPMD and medical properties characteristics.

To access the student's capability to correlate the QPMD with medical properties characteristics (MPC), we conducted four questions and the students were asked to state including correct and incorrect statement. Figure 8 has shown the result for this section. For question 1, we asked the respondents based on hadeeth narrated in saheeh that Abu Sa'id Al-Khudri said "A man came to Prophet and said that his brother is suffering from stomach ache and diarrhea. The Prophet Muhammad said "give him some honey". the man went back and came back later, saying "I have given him some honey and it did not help" or he said "the diarrhea worse" He repeated this twice or three times all the while the prophet continued saying to him "give him some honey". In the third or fourth time, the Prophet Muhammad said "Allah has said truth and your brother's stomach has lied". (Ibn Qay'em, 2003)

We asked the respondents whether they could give the rational of giving honey in treating diarrhea. 104 of respondents were able to relate the pharmacology effects of honey as a cure such as honey contains of antitoxic agent, anti-oxidant properties (Al-Mamary et al. 2002; Escuredo et al 2013), and antimicrobial agent (McLoone et al. 2015). Almost of 80% of students were able to answer this question correctly, and actually our expectation was more than this. This is because during semester 4, there was a subject on QPMD taught in the syllabus especially on honey. There were few of students from semester four who admitted they did not know the answer.

Question number 2 was based on hadeeth narrated by Al-Bukhaari and Muslim. Some people from tribe of Ukl and Uraynah came to Madeenah and fell sick (having dropsy). The Prophet Muhammad (PBUH) told them to drink the milk and urine of camels, and they recovered. Dropsy is a disease that occurs when a harmful cold substances penetrate the organs in additional other than organ used in digestion system. It causes the organ to swell. Remedy for dropsy used was fresh, warm camel's milk and small amount of she-camel urine because it consists of mild laxative agent and diuretic properties (Ibn Qay'em, 2003).

Most of the respondents did not aware of this hadeeth and they cannot guess the biochemical composition of camel urine and milk. This subject was rarely discussed in the diploma pharmacy level. But during second semester, all of the students have been exposed by the function of diuretic and anti-diuretic agent properties and laxative agent properties. Only 9 persons out of 131 respondents were able to give a brilliant guess based on the statement

from the hadeeth and choice of answers given. From Asmaa Bint Umair, she said: Prophet Muhammad asked "with what do you relieve constipation?" she said: with the shubrum. She then said "I also relieve it with the Senna, so he said "if there was a thing (which) cures from death indeed it would be the Senna." [Ibn Maajah]. This hadeeth was in the question 3. To treat constipation, one of the Prophet Muhammad colleague Asmaa Bint Umair used the shubrum (*Euphorbia piteous*) but Prophet Muhammad suggested senna as substitute of the shubrum. Senna is a mild medication that does not give any bad side effects. Many physicians do not advise the people to use shubrum. It was because the characteristic of shubrum was "hot and strong laxative agent" (Ibn Qay'em 2003). These extreme characteristics may cause other adverse effects to the patients if they use the shubrum. In our question, we asked the characteristic of shubrum and only 17 of respondent are able to give the correct answer or guess. In this case, majority of the students were under estimating the adverse effects of the hot and strong laxative properties in treating constipation. In the hadeeth of Prophet Muhammad, a mild medication such as senna was proposed.

The last question, was question 4, we asked the respondents on their knowledge of nutritional value of lipid. We took an olive as an example. Olives are also mentioned both in the Quran and sunnah. For example, in the Quran verse (which means): {And He it is who causes gardens to grow, [both] trellised and untrellised, and palm trees and crops of different [kinds of] food and olives and pomegranates, similar and dissimilar. Eat of [each of] its fruit when it yields and give its due [Zakah] on the day of its harvest. And be not excessive. Indeed, He does not like those who commit excess. } [Al An'am 6:141]"And a tree (olive) that springs forth from Mount Sinai, that grows oil, and (it is a) relish for the eaters." [Surah al-Muminoon 23:20]. The Prophet Muhammad, advised us to: "Use olive oil as a food and ointment for it comes from a blessed tree" [At-Tirmithi].

The benefits of olive oil are quite common among student's health related. Olive oil consists of oleic acid and unsaturated fatty acid. Oleic acid and unsaturated fatty acid help to lowering the level of low density lipoprotein (LDL) and increase the high-density lipoprotein (HDL) in resulting low level of blood cholesterol greater susceptibility to triglycerols oxidation (Perona et al 2004). Olive oil also contains vitamins E and K, and polyphenols, which provide a defense mechanism that delays aging and prevents carcinogenesis, atherosclerosis, liver disorders and inflammations (Amamou et al. 2015). For this part 38 respondents were able to relate the composition of the olive oil and interpreted its functions in blood cholesterol level. From our assessment, many of the respondents overturned their answers between the function of oleic acid in lowering the LDL and increase HDL or oleic acid can increase the LDL and decrease the HDL level.

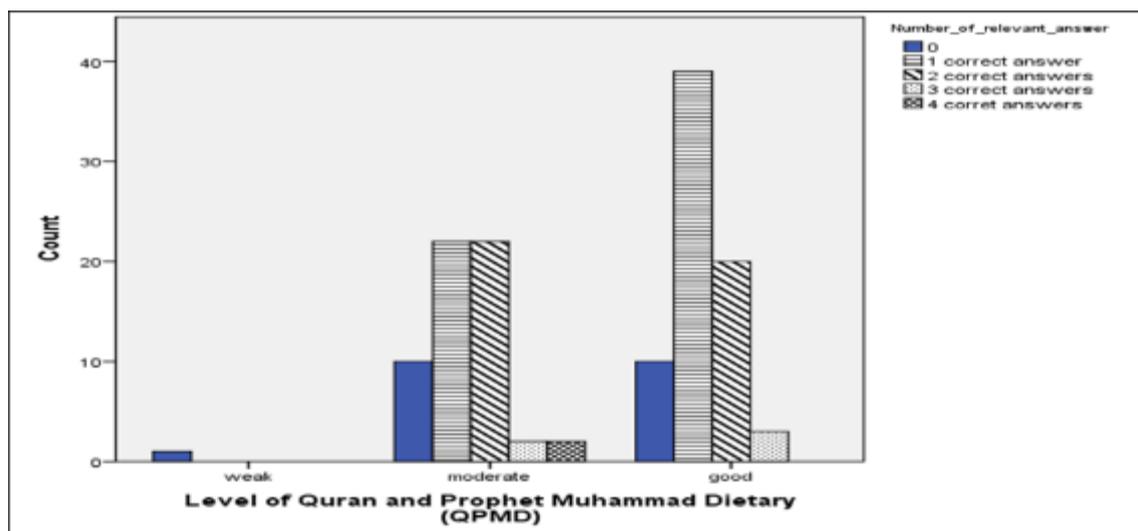


Fig. 9 Distribution of respondent's frequency based on score level of QPMD and their ability to answer medical properties characteristics (MPC).

Figure 9 shows the distribution of QPMD knowledge level among respondents in conjunction with the number of right answers given for medical properties characteristics (MPC). From this graph, generally most of the students were able to provide only one correct answers out of four questions. To compare these three score levels of QPMD knowledge affecting the ability to respond the MPC questions, a Kruskal-Wallis ANOVA was generated. A Kruskal-Wallis ANOVA indicated that there were no statistically significant differences between the pharmacology relevant's answer assigned to the low score (mean rank=11.0 ), the moderate score (mean rank=69.76 ) and the high score (mean rank= 63.74),  $H$  (corrected for ties) = 3.392,  $N=131$ ,  $p=0.183$ , Cohen's  $f=0.16$ .

Islamic teaching in dietary or eating behavioral is very wide. It covers in many aspects such as what type of food and drink, how to take the food and drink and the frequency of it. In QPMD, food and beverages also can be used as a remedial substance. As a pharmacy student, they might be aware of QPMD but the practices of the QPMD is not a prevalence among them. The questions that we asked to assess their level of knowledge of QPMD were slightly on type of food that recommended by QPMD and Prophet Muhammad (PBUH) manners towards the food and his deeds. While the QPMD questions which consist of MPC element that we asked, were more on biochemical contents and pharmacology effect to human body. From our observation, there is no specific the pattern of student's ability to answers the QPMD and pharmacology related question as shown in figure 9.

The majority of high score or good score of QPMD knowledge level group of respondents were able to give one correct answer from 4 questions asked. From the same group, the persons who were able to give 2 correct answers only 20 persons. This figure was lower than moderate level of QPMD cohort figure. Surprisingly, none of the good score cohort member could answer all four questions correctly. But at least 2 persons from the moderate score cohort were able to answer all four questions excellently. As the same time, also from these three level of QPMD knowledge level (low, moderate, good) there were a few of respondents that could not state even one correct answer.

## Conclusion

From the results, we came into a conclusion that even though students were aware of Prophet Muhammad practices in diet and healing, their ability to correlate the QPMD with medicinal properties characteristic is still indistinct. There were many gaps in understanding of the QPMD that need to be identified. Imbalance performance between second semester students and fourth semester students may be influenced by many factors such as early age exposure, encouragement from family and people surrounding and the most important element is their faith to Allah, Prophet Muhammad (PBUH) and Islamic teaching. As a global society, modern and QPMD approaches should be run parallelly. Even though this matter is not the main requirement to pass in the diploma pharmacy, but this can be a part of step in preparing the next pharmacist generation and contemporary society and towards halal pharmaceuticals. We hope that our education system can lead to a balanced way of living and provide realistic understanding of what have been revealed in the Al-Quran and sunnah and also as Islamiah da'wah mission.

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