
# Literature Review: The awareness concerning ‘Halal Medicines’ in Muslim patients and healthcare providers.

## Introduction

The concept of halal, derived from Islamic law (Shariah), refers to what is permissible or lawful. In healthcare, especially in pharmacology, halal medicine is critical for Muslim patients who seek assurance that their treatments comply with religious guidelines (1). Halal medicines exclude substances such as pork derivatives, ethanol, and other forbidden (haram) ingredients unless conditions for usage are met (2). Understanding Muslim patients' knowledge about halal medicines is vital for religiously and culturally sensitive healthcare delivery. This literature review aims to assess current literature on patient and healthcare provider knowledge of halal medicines.

**Search terms:** ("Muslim patients" OR "Muslim population") AND ("knowledge" OR "awareness" OR "perception" OR "attitudes") AND ("halal medicine" OR "halal pharmaceuticals" OR "halal drugs" OR "halal medication") AND ("healthcare" OR "pharmacists" OR "medication adherence" OR "religious beliefs")

**Sources searched:**

- NCBI + PubMed
- Google Scholar (broad academic research)
- ScienceDirect
- Journal of Religion and Health
- Journal of Islamic Medical Ethics
- International Journal of Islamic and Middle Eastern Finance and Management (for cultural studies)
- Malaysian Journal of Medical Sciences

**Search output: 35**
**Duplicates, irrelevant articles or inaccessible articles: 28**

**Thematic grouping**

| Awareness and Knowledge about Halal Pharmaceuticals | Patient Attitudes, Behaviours, and Experiences | Pharmacists and Healthcare Provider Roles |
|---|---|---|
| • Alserhan et al. (2020)<br>• Butler et al. (2018) | • Huda & Setiawan (2021)<br>• Ang et al. (2024)<br>• El-Banna et al. (2024) | • Rahem et al (2021)<br>• Annabi et al. (2016) |

## Awareness and Knowledge about Halal Pharmaceuticals

Alserhan et al (1) conducted a quantitative research project involving 137 pharmacists as participants gathered in retail pharmacies through convenience sampling methods. Pharmacists completed a questionnaire that is based on open ended questions with some parts measured with a five-level Likert scale. The questionnaire included five parts: requested demographic data, questions that looked into how knowledgeable pharmacists are about the items they sell, the third part investigated pharmacists' assessment of customer's attitudes towards Halal pharmaceuticals, while the fourth asked questions about potential markets for this type of products. The fifth part identified important

variables of a marketing strategy for Halal pharmaceuticals. The research team noted that although questionnaires were simple and inconspicuous, to be used only for academic research purposes – many pharmacists refused to answer. This was deemed a result of the novelty of the subject, although the authors had made no apparent attempt to explore other possible reasons. There was an even split between male and female pharmacists, with 33% being between the ages of 26-34, 19% being 25 or less, 16% being between 35-45 and 8% being over 46. Authors came to the conclusion that pharmacists felt they should know which medicinal products have haram ingredients, and that patients should be informed as such – although the majority of pharmacists could not recount how much of their inventory contains typically haram ingredients such as pork, or alcohol. The participating pharmacists recognised that patients do not ask for halal medicines, and were generally not aware that medicines may not be halal. It is important to recognise this study had taken place in a Muslim majority country, and that results may not be extrapolated and applied to Pharmacists or patients in non-Muslim majority countries. It is possible patients may not request halal medication in Jordan due to the assumption that all medicines would be halal.

Similarly, Butler et al (2) demonstrated out of 121 pharmacists participating in their study, over half were unaware of halal/haram pharmaceuticals, alternatives to haram medications, and resources to educate themselves – although 57% of participants were reported to be working in a retail setting, which contrasts the study discussed above. Other settings included hospital (28.93%), long term care setting (2.48%), clinic setting (3.31%), and 7.44% work in another setting including managed care, mail order, pharmaceutical industry, pharmacy benefit manager, hospice, or academia. Of the percentage of pharmacists in retail settings, only 14% had encountered a patient requesting halal medication – although observations cannot be drawn from this fact, given there is no explicit statement of sampling location within the United States. Overall, out of 120 participants - 62.5% of participants looked at resources online, 21.67% looked at package inserts, 11.67% called the manufacturer, and 4.17% utilised multiple resources. This study had not revealed which online sources were referred to, however pointed to the importance of online resources in educating pharmacists regarding the ingredients of medicines, and revealed only 1.65% were confident in substituting non-halal prescriptions or knew where to find halal alternatives. This may point to the need for resources of a higher quality, although this study does not explore underlying reasons for knowledge gaps or barriers to sourcing halal medications.

## Patient attitudes, behaviours, and Experiences

A larger, cross sectional study by Huda and Setiawan (3) aimed to analyse factors impacting 'consumer behaviour and intention to consume halal pharmaceutical products' in Indonesia. Researchers acknowledged the presence of other qualitative studies and noted limitations of small sample sizes. Their study differs from those above by using a quantitative approach through the behavioural framework: theory of planned behaviour (TPB). According to this theory, intentions to consume halal medication would depend on attitude, subjective norms, and perceived behavioural control (3). Researchers therefore prepared the following hypotheses:

- Perceived religiosity has a positive influence on attitude towards consuming halal pharmaceutical products.

- Knowledge of halal products has a positive influence on attitudes towards consuming halal pharmaceutical products.
- Attitude has a positive influence on intention to consume halal pharmaceutical products.
- Subjective norms have a positive influence on intention to consume halal pharmaceutical products.
- Perceived behavioural control has a positive influence on intention to consume halal pharmaceutical products.

This study involved a questionnaire based on the theory above. The questionnaire consisted of two main parts, and included a description of the study scope: information regarding respondents' demographic characteristics and their perceptions of the factors influencing *halal* pharmaceutical product consumption. The products that were referred to within questionnaires were over the counter (OTC) and prescription only medications with a halal logo on their packaging., and a total of 225 valid responses were received. The use of SEM as a statistical test was used to describe the relationship between several latent variables in addition to testing dependency relationships. This was preceded by a factor analysis which ensured validity and reliability of the measurement model, and researchers had also conducted a robustness test and a structural model test to verify. The findings of their study suggested that
Four of the five hypotheses were statistically significant. The intention to consume *halal* pharmaceutical products could have been explained by attitude, subjective norms and perceived behavioural control variables to a degree of 31%, and the attitude variable could have been explained by religiosity and knowledge of halal product variables to a degree of 55%. Attitude was found to be the most significant TPB factor influencing intention, followed by perceived behavioural control - however, the subjective norm variable was insignificant in this study. These results imply that the influence of others is not a significant factor when determining the intention to consume halal medicines, but that intentions are moreso impacted by one's knowledge and dedication to following Islamic law. The more knowledgeable participants appeared to have had more positive attitudes towards buying halal medicines – likely as knowledge regarding halal medicines must exist before the decision can be made to consume them. The intention to consume halal medicines seems to be significantly and positively impacted by the perceived behaviour control variable which implies difficulty of consuming *halal* pharmaceutical products plays an important role in influencing consumer intention to consume these products – and again may point to the need for resources that empower consumers with knowledge of haram and halal medicines.

Ang et al (4) conducted a qualitative study by interviewing 10 Muslim outpatients in a hospital setting in Malaysia. The interviews lasted up to an hour and were semi structured, which did not allow for any quantitative data to be collected, and all interviews were conducted in Malay before being translated into English for a thematic analysis by four independent reviewers. Four themes emerged: Experience with medicines, Concept of Halal pharmaceuticals and Shariah-compliant hospitals, confidence in Halal medicines and acceptance of Halal medicines and vaccines. Researchers noted a gap in awareness of halal medicines among the patients and found that the topic did not trigger their curiosity as they felt it was their doctor or pharmacist's responsibility to provide this information to them. There was also a display of confidence in the Malaysian government's ability to regulate the pharmaceutical industry in order to ensure all medicines

provided by government hospitals were halal, which may explain the lack of awareness. Although researchers had included a few responses to questions in their paper – the questions themselves were not mentioned.

El-Banna et al (5) also conducted a qualitative study involving Muslim dermatology patients in California– although it consisted of both semi structured interviews and surveys. A total of 19 patients participated in both the survey and interview – although a majority of participants (74%) were female. Two patients completed only the survey. This study focused generally on the Muslim patients' experiences, although this involved discussion of unique cultural requirements such as awareness of halal medication ingredients. Due to the scope of this literature review – only this single factor will be discussed. Theme 2.1 of the semi structured interviews was centred around "religious considerations for medication use". A patient reported being on a medication containing gelatine, and had to call the dispensing pharmacy only to find the gelatine was pork derived. The patient was able to get a substitute, but recalled having to conduct this investigation entirely themselves. Overall, participants expressed the need for clear labelling of excipients in medicinal products. One patient mentioned avoiding a product containing ethanol, and other participants explained that their medications were medically necessary and therefore they felt the nature of the excipients did not need to be reviewed.

## Pharmacists and Healthcare Provider Roles

Rahem et al (6) conducted a study in 2018 on 206 pharmacy professionals with at least 5 years of working experience. Data gathered was found to be not normally distributed and therefore underwent the spearman's correlation test to determine the relationship between the pharmacists' knowledge and their attitude towards producing halal medicines / halal certification of medicines. the majority of the respondents (65.5%) were 35 years old or less, 2% of respondents aged 56 years old or more and 2.9% had 31 years or more of work experience. Their knowledge about halal drug certification was graded according to three categories: low, medium and high. These categories did not seem to be well defined.
Responses revealed 48% of participants had "low" category knowledge in regards to halal drug certification, only 9.22% of participants disagreed with the halal certification of drugs and only 4.85% of participants stated they were not ready to produce halal-certified drugs. Based on the outcomes of kolmogorov-smirnov statistical test - gender, age, and length of work did not affect the knowledge, attitudes, and readiness of respondents towards the certification and production of halal drugs. Despite this study measuring the 'preparedness' of pharmacists towards producing halal medicines, without observational follow-up the real preparedness remains uncertain.

Annabi et al conducted a qualitative study involving 15 patients, 15 doctors, and two pharmacists in a medical centre in Abuja (Nigeria), regarding their perspectives on and awareness of halal medicines. The study involved the use of semi structured interviews and a ratification interview with each participant. Examples of the types of questions used were:

- “Explain the prescribing decisions you make with a patient”,
- “Do you consider the patients’ religious background when prescribing and if so, what considerations are made?”

- “As a patient, do you consider what ingredients are used in your medicines? If you do consider ingredients, how is that consideration expressed?”

The interviews were conducted remotely as the interviewers were located in the United Arab Emirates. Researchers considered this method to be less time consuming, and that it would place less pressure on interviewees. Of the patient group, 40% seemed to be aware of halal pharmaceuticals, and 53% of doctors. Both Pharmacists were aware of halal pharmaceuticals - but had never been asked for halal medicines. When asked whether they were aware that some medicines were derived from haram sources, 53% of patients, 93% of doctors and both pharmacists reported being aware. This study highlighted that Pharmacists felt manufacturers did not supply accurate ingredient lists for their products. All doctors had stated they had never been asked to prescribe halal medicines, and only two patients had stated they had requested halal medications from their doctors. When asked whether they felt patients would be responsive to halal pharmaceuticals, 93% of doctors replied in the affirmative. It is important to note that all participants believed  the lack of awareness of halal medicines prevented them from being available in Nigeria.

## Limitations

This review was only able to compare studies qualitatively, often excluding an analysis of questions used in interviews/surveys, and was not able to access one of the studies included in the final search output that would have .

| Study | Summary of key Limitations of studies included in review |
|---|---|
| Alserhan et al. (2020) | Limited generalizability (regional focus)<br>Small or non-diverse sample<br>Self-reporting bias<br>Cross-sectional design limits causal insight |
| Butler et al. (2018) | U.S.-based pharmacists only (not generalizable globally)<br>Potential response bias<br>Small sample size<br>Limited qualitative depth |
| Huda & Setiawan (2021) | Measures intention, not actual behaviour<br>Cultural/contextual limitations (Indonesia-specific)<br>Self-reporting and hypothetical bias<br>Cross-sectional data |
| Ang et al. (2024) | Single hospital setting<br>Focuses only on outpatients<br>Potential response bias<br>Lacks qualitative depth |

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|---|---|
| | Translation from Malay to English may have led to warped esults. |
| El-Banna et al. (2024) | Specialty-specific (dermatology)<br>Limited generalizability to other clinical contexts<br>Qualitative design limits statistical inference<br>May not fully reflect diverse Muslim experiences in the U.S. |
| Rahem et al. (2021) | Focused on industry pharmacists only<br>Self-assessed knowledge (subject to bias)<br>Country/context-specific<br>Limited applicability to other healthcare roles |
| Annabi & Wada (2016) | Conceptual/qualitative study<br>Early-stage research with limited data<br>Nigeria-specific context<br>Broad focus, not directly pharmacist-centred |

## Conclusion

Overall, there was a lack of awareness - particularly from patients - regarding the concept of halal medicines, although patients have expressed a willingness to follow a halal diet concerning medicines based on their devotion to religious beliefs. Healthcare professionals demonstrated greater awareness of the concept of halal medicines, although there is lack of knowledge concerning not only whether a medication may be considered halal, or which alternatives should be recommended, which may point to a lack of resources that provide clarity on the subject. This lack of knowledge was not significantly associated with sex, age or years of experience in their professional role. Additionally, both healthcare professionals and patients felt that the responsibility to inform patients of medication ingredients that may not be halal fell on the healthcare professional– although these findings were derived from studies in Muslim majority countries. Ultimately, further investigation is needed to determine whether results remain consistent in Muslim minority locations.

# References


## Awareness and Knowledge about Halal Pharmaceuticals

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