



## EFFECTIVENESS OF ONLINE SEMINAR TO INCREASE KNOWLEDGE AND INTEREST OF POLTEKKES PUTRA INDONESIA MALANG'S STUDENTS TOWARDS HALAL PHARMACY

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### Abstract

To augment awareness of halal pharmaceuticals, there is a need for proactive efforts, such as conducting promotional activities like seminars that delve into various issues related to the concept of halal in the formulation and selection of pharmaceutical products. The objective of this research was to discern the impact of an online seminar on enhancing the knowledge and interest of vocational students at Poltekkes Putra Indonesia Malang in the realm of halal pharmacy. Employing a quantitative approach, an experimental design was utilized with one group pre and post-test, incorporating active and participatory learning methods. Statistical analysis utilized the Wilcoxon sign rank test, focusing on 49 participants of the online seminar who were vocational students at Poltekkes Putra Indonesia Malang. The study revealed a participant demographic of 10 males (20%) and 39 females (80%), with ages ranging from 18 to 22 years. The analysis of knowledge levels indicated a significant increase from 35% to 63%, categorizing participants as having good knowledge of halal pharmacy. The statistical test, employing the Wilcoxon sign rank test, yielded a p-value of  $0.001 \leq \alpha$  (0.05), signifying an increase in interest among Poltekkes Putra Indonesia students regarding halal pharmacy, with 63% expressing strong interest and 39% indicating moderate interest. In conclusion, the online seminar on halal pharmacy at Poltekkes Putra Indonesia Malang effectively enhanced the knowledge of participating students.

**Keywords:** *Halal Pharmacy, Vocational Student, Knowledge, Interest, Online Seminar*

### Introduction

Consuming halal food and products is not just a choice but also an obligation for Muslims. The halal status of a product is a crucial factor that must be known and considered before deciding to consume it. This reflects the importance of understanding and knowledge about the halal nature of products for Muslims. On the other hand, the global demand for halal products continues to increase each year. This trend is driven by the growth of the Muslim population worldwide. It is estimated that the number of Muslims will reach 2.2 billion souls by the year 2030 (Ernawati & Koerniawan, 2023). With the increase in this number, it is reasonable to expect that the halal



industry's economy will also experience a significant growth. This increase indicates that the halal industry holds great potential in the global economy.

The halal industry has now advanced and developed quite rapidly. Initially, the primary focus was on halal food, but it has expanded into other sectors, including pharmaceuticals and healthcare. This growth is driven by the high interest of the community, especially Muslims, in halal medicines, along with the increasing market share of halal drugs in Indonesia. According to data from the Ministry of Industry, the overall market share trend in the pharmaceutical sector in Indonesia has increased from Rp. 65.9 trillion in 2016 to Rp. 88.36 trillion in 2019 (Ministry of Industry of the Republic of Indonesia, 2021). This data indicates an increase in demand and consumption of pharmaceutical products. The main factor driving this increase is the awareness of the Indonesian population regarding the importance of health, prompting them to consume various vitamins and seek medical attention promptly when unwell. Additionally, the rise in income among the middle-class population also contributes to the increased purchasing power for medications and health supplements (Hakim & Anggraeni, 2023).

Halal pharmacy is the production of medicines derived from permissible sources such as animals, plants, organic and inorganic substances that follow preparation, manufacturing, and extraction methods in accordance with Islamic Sharia (Soehardi *et al.*, 2022). The halal drug and herbal industry is expected to continue growing as an increasing number of products are produced using halal ingredients. Halal products increasingly emphasize their functionality, and in the new concept of halal medicine, they attempt to combine spiritual healing with medicines that are guaranteed to be halal. The halal industry is not only focused on names or labelling but encompasses many aspects or considerations, ensuring that the products are truly halal in accordance with Islamic Sharia values (Alfath, 2023).

Halal awareness is the knowledge that Muslims possess regarding the concept of halal, the halal process, and the belief that consuming halal products is important for them. Muslim awareness is also characterized by an understanding of how the processes of obtaining, packaging, and maintaining the cleanliness of products align with Islamic laws (Ernawati & Koerniawan, 2023). Therefore, it is crucial for manufacturers to ensure that their products meet halal standards. Similarly, for consumers, it is important to enhance their understanding of the halal status of products. Consequently, they can make informed choices that align with their religious teachings. This research gap is that many have researched halal pharmacy but no one has measured the effect of online seminars on increasing students' knowledge and interest in halal pharmacy.

In order to enhance awareness of halal pharmaceutical products, promotive efforts are necessary, addressing various issues related to the halal concept in the formulation and selection of pharmaceutical products. Promotion or socialization regarding specific issues can be conducted in various forms and methods. However, the most effective means of disseminating information to the public in the current era is through online educational media (Abdul & Arif, 2020). One of the methods that can be applied to build awareness of halal pharmaceutical products is through online seminars or virtual conferences. The effectiveness of virtual conferences or online seminars in increasing knowledge and awareness has been directly proven through research conducted by Hendrika. The results of this experimental study successfully escalated respondents' knowledge by 48.75% (Hendrika, 2022). Therefore, based on these considerations, this research is conducted to investigate the impact of online seminars on the increase of knowledge and interest among vocational students at Poltekkes Putra Indonesia Malang regarding halal pharmacy.

## Research Methodology

This study was conducted on 49 students from Poltekkes Putra Indonesia who participated in a seminar. It is a quantitative research with an experimental design using a one-group pre and post-test design, employing active and participatory learning methods, and statistical analysis using the Wilcoxon sign rank test. The design utilized the same questionnaire tested on the same

group of respondents twice (Rifqiyati *et al.*, 2020). This study was conducted on 49 students from Poltekkes Putra Indonesia who participated in a seminar. It is a quantitative research with an experimental design using a one-group pre and post-test design, employing active and participatory learning methods, and statistical analysis using the Wilcoxon sign rank test. The design utilized the same questionnaire tested on the same group of respondents twice (Maulina *et al.*, 2023). The number of questions given was 10 questions which were filled in via Google form to measure the participant's level of knowledge and interest.

## Result and Discussion

### A. Characteristics of respondents

#### 1. Gender

The following is the characteristics of respondents based on gender:

**Table 1.** Characteristics of respondents based on gender

Variable	Category	N (person)	%
Gender	Man	10	20
	Woman	39	80
<b>Total</b>		<b>49</b>	<b>100</b>

The research results indicate that male students accounted for 10 participants (20%), while female students accounted for 39 participants (80%). This shows that the number of female participants is higher than males, with a ratio of 2:8. This gender ratio occurs because females exhibit a higher interest in learning compared to males, which is associated with the attentive and clear-thinking personality and psychology of females (Munawarah, 2021).

#### 2. Aged

The following is the characteristics of respondents based on age:

**Table 2.** Characteristics of respondents based on age

Variable	Category	N (person)	%
Age (years)	18	4	8
	19	14	29
	20	23	47
	21	5	10
	22	3	6
<b>Total</b>		<b>49</b>	<b>100</b>

Character analysis based on the age of the participants shows that the participants' ages range from 18 to 22 years old. One's age influences their comprehension and thought patterns. As age increases, their comprehension and thought patterns also develop, thus leading to better-acquired knowledge (Sembiring & Hartati, 2022).

### B. The level of knowledge of Putra Indonesia Polytechnic Health Sciences students regarding halal pharmacy

The level of knowledge in this research is used to determine the influence of online seminars on Putra Indonesia Polytechnic Health Sciences students' knowledge of Halal Pharmacy. In measuring participants' knowledge level, the design used is pre-test post-test design where participants will be given questions at the beginning and at the end of the seminar. The pre-test post-test design is often used when the intervention (in this case, the seminar material) is applied at two simultaneous time points to all respondents (Hati, 2023). The questions provided are a total of 10, with the following results in Table 2.

**Table 3.** The Respondents' Knowledge Results

Level of Knowledge	Results of respondents' knowledge	
	Pretest	Posttest
	N (%)	N (%)
Good (76-100%)	17 (35)	31 (63)
Moderate (56-75%)	28 (57)	18 (37)
Low (0-55%)	4 (8)	0 (0)
<b>Total</b>	<b>49 (100)</b>	<b>49 (100)</b>

The analysis of participants' knowledge before the seminar revealed that some participants had knowledge about halal pharmacy, amounting to 35% of the participants. After attending the seminar, there was an increase in participants' knowledge, with 63% of participants having good knowledge. This indicates a difference in understanding before and after the seminar, which is attributed to the effective delivery of seminar materials using lecture and question-and-answer methods. The lecture method has a positive impact on increasing participants' knowledge because it typically provides the essence of the material, making it easier for participants to understand and remember (Handayani *et al.*, 2022). Knowledge measurement on a scale of 76-100% for level good knowledge, 55-75% for moderate knowledge level, and <55% for low knowledge level (Agustika & Ruslan, 2021).

### C. The interest of vocational students at Putra Polytechnic Health Science in halal pharmacy

Interest in this study is defined as students' response to Halal Pharmacy. In measuring students' interest uses a numerical score of 1-4. Scale 1 is to say strongly disagree, scale 2 is to say disagree, scale 3 is to say agree and scale 4 is to say strongly agree (Candraning & Muhammad, 2017). The list of statements in the questionnaire in this study was taken from several existing and tested literature. Here are the results of students' interest in Halal Pharmacy.

**Table 4.** Interest in choosing halal pharmaceutical products

Interest level	Results of respondents' knowledge	
	Pretest	Posttest
	N (%)	N (%)
Strongly agree (32.5-40)	15 (31)	31 (63)
Agree (25-32.5)	31 (63)	19 (39)
Disagree (17.5-25)	3 (6)	0 (0)
Strongly disagree (10-17.5)	0 (0)	0 (0)
<b>Total</b>	<b>49 (100)</b>	<b>49 (100)</b>

Based on Table 4, statistical testing using the Wilcoxon signed-rank test yielded a p-value of  $0.001 \leq \alpha (0.05)$ , indicating the distribution of interest among Putra Indonesia Polytechnic Health Sciences students regarding Halal Pharmacy before and after the seminar. The results showed an increase in students' interest in Halal Pharmacy based on the intervention's corresponding percentage values. The number of students who strongly agreed or were very interested increased from 15 students (31%) to 31 students (63%), the category of agree or interest decreased from 31 students (63%) to 19 students (39%), while those who disagreed or were not interested decreased from 3 people (6%) to none (0%). Thus, from these results, it can be seen that all participants have an interest in Halal Pharmacy. The increase in students' interest in Halal Pharmacy is attributed to the role of the seminar and the effectiveness of the materials provided to the students.

Seminars can provide perspectives and education that are suitable for the characteristics and education of participants, in this case, education that impacts students' interest in Halal Pharmacy (Maerani *et al.*, 2021). The results of the increased interest of students in Halal Pharmacy become an important part of upholding Islamic law because the majority of Indonesian society is Muslim. The knowledge and interest of students in Halal Pharmacy will also have an

impact on *ijtihad* (independent reasoning) in conducting research, leading to the realization of halal and *thayyib* (wholesome) medications (Hijriawati *et al.*, 2018)..

## Conclusion

Based on the results of the online seminar on Halal Pharmacy at Putra Indonesia Polytechnic Health Sciences in Malang, it can be concluded that the respondents' level of knowledge experienced a significant increase after the seminar. This indicates that the online seminar activity was deemed effective. As a follow-up to this activity, it is imperative to collaborate with relevant academic stakeholders to monitor the continuous implementation of Halal Pharmacy among students.

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