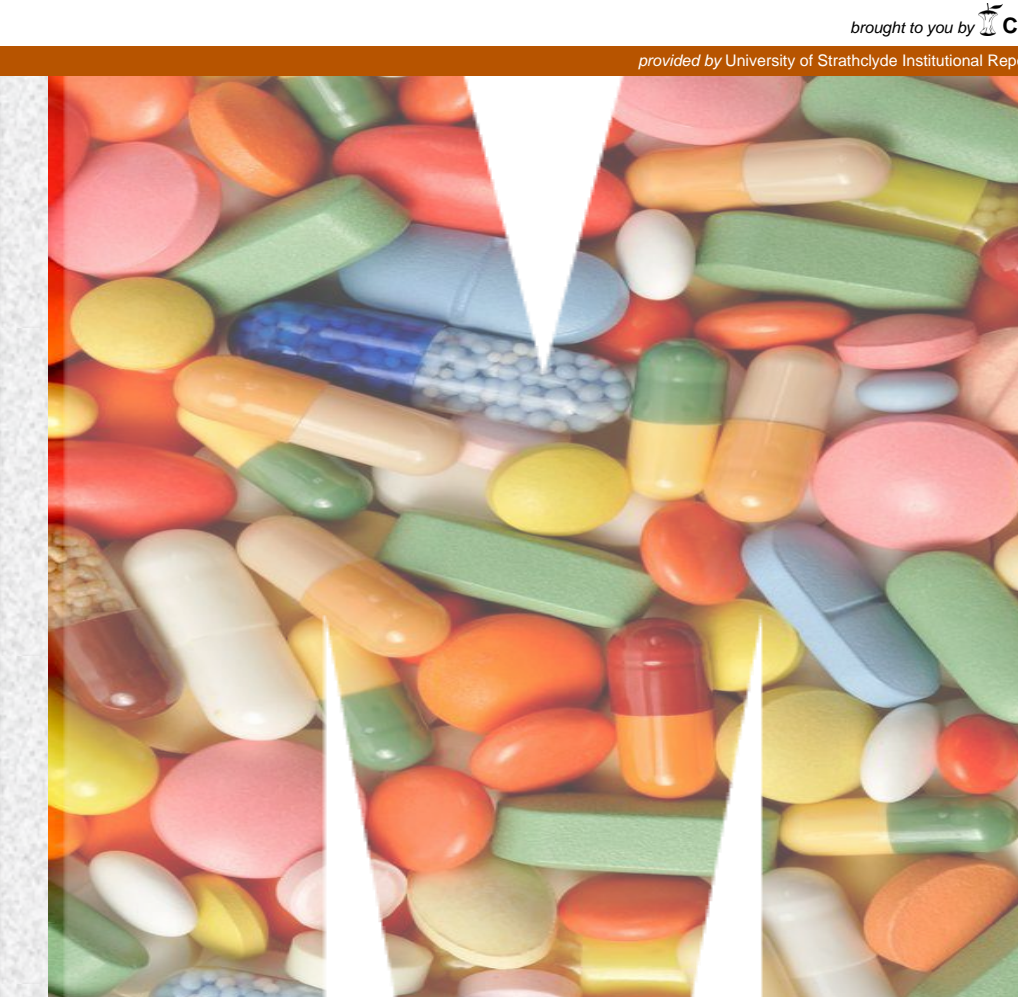


EDUCATIONAL NEEDS AND AWARENESS OF PHARMACY AND MEDICAL STUDENTS TOWARD HALAL MEDICINE

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INTRODUCTION

- Halal pharmaceuticals are medicines permitted by Shariah law, and refers to medicines that do not contain any parts of animals that are categorised as haram (dogs, pigs, and ones with pointed teeth), alcohol, and other substances/preparations/extraction methods that are prohibited as 'haram' under Shariah law.⁽¹⁾
- World's Muslim population is growing at a higher annual rate (~1.6%), as compared to the global population (1.1%).⁽²⁾
- Malaysia → 60.4% of the population are Muslims.
- In a study on patients' and physicians' attitudes on using medications with non-halal ingredients, 84% of patients were not aware that their medications could contain non-halal ingredients.⁽³⁾
- Majority of patients want doctors, and other healthcare professionals such as pharmacists and nurses, to notify them when providing non-halal medications.
- Of the 100 physicians surveyed, about 70% were unaware that several medications contained ingredients that might conflict with their patients' religious beliefs, and agreed that patients should be informed of the prescription of such medications.⁽³⁾
- Increasingly important that healthcare professionals such as doctors and pharmacists are not only aware of the "halalness" of medications, but also have the necessary knowledge to advise their patients on their medications.
- Thus the aim of the study was to gauge pharmacy and MBBS students' educational needs and awareness of Halal medicine

METHODOLOGY

- Design:** Cross-sectional survey
- Subjects:** Undergraduate Bachelor of Pharmacy and Bachelor of Medicine and Bachelor of Surgery (MBBS) students enrolled in Monash University Malaysia. A notice was placed on Moodle inviting all students to participate in the study, with a link provided to access the survey on GoogleDocs.
- Sample size:** Using the response distribution of 85%, a minimum of 100 students from Pharmacy and 100 students from MBBS were required to achieve a confidence interval of 90%, and a 5% margin of error.⁽⁴⁾
- Study instrument:** A modified 32-item questionnaire based on a previous study⁽⁵⁾ was used. The survey took approximately 10-15 minutes to be completed, and was available in English.
- Ethics:** MUHREC (CF15/3553 – 2015001533)
- Data Analysis:** Statistical Package for Social Science version 23[®] was used to analyse the data. Both descriptive and inferential statistics were applied to attain the objectives of the study

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RESULTS

There were 124 (53.9%) MBBS and 106 (46.1%) Pharmacy students, with the majority being females (73.5%) and Malaysians (92.6%).

Table 1. Characteristics of respondents (n=230)

Characteristics		Number of patients, (%)
Mean age (± SD)		21.02 (± 1.41)
Religion	Muslim	23 (10)
	Buddhist	110 (47.8)
	Hindu	10 (4.3)
	Christian	70 (30.4)
	Others	10 (4.3)
Ethnicity	Malay	13 (5.7)
	Chinese	184 (80)
	Indian	15 (6.5)
	Others	2 (0.9)
Year of study	1	114 (49.6)
	2	42 (18.3)
	3	28 (12.2)
	4	36 (15.7)
	5	10 (4.3)

Students generally had a good awareness of Halal medicine, and more than 80% felt that knowledge about Halal products is important to them as future health professionals, and that they should be educated on sources of medicine. More than 50% of students also agreed that this should be included in their curriculum. Most believed that the inclusion of contents on Halal medicines will assist healthcare professionals in providing better care to their patients. Majority of respondents also felt that academic staff should be prepared to impart knowledge on Halal medicine (Table 2).

Table 2. Perception of respondents

Statement (Perception)		MBBS		Pharmacy	
		n	%	n	%
Pharmacists/doctors should be educated about the sources of medicines.	Strongly disagree	3	2.42	0	0
	Disagree	2	1.61	2	1.89
	Neutral	18	14.52	6	5.66
	Agree	49	39.51	51	48.11
	Strongly agree	52	41.94	46	43.40
	Missing	0	0	1	0.94
Knowledge about Halal/Haram medicines is important to me as a future healthcare professional.	Strongly disagree	5	4.03	1	0.94
	Disagree	6	4.84	4	3.78
	Neutral	19	15.32	26	24.53
	Agree	49	39.52	49	46.23
	Strongly agree	43	34.68	24	22.64
	Missing	2	1.61	2	1.89
I think that a list of the most commonly used animal-derived drugs and their alternatives, should be developed and included in the curriculum of Pharmacy/Medical Education.	Strongly disagree	4	3.23	2	1.89
	Disagree	9	7.26	4	3.78
	Neutral	27	21.77	28	26.42
	Agree	52	41.94	47	44.34
	Strongly agree	32	25.81	25	23.58
	Missing	0	0	0	0
I think that knowledge of Halal/Haram medicines and their sources should be included in Pharmacy/Medical curriculums.	Strongly disagree	7	5.65	2	1.89
	Disagree	10	8.06	9	8.49
	Neutral	34	27.42	31	29.25
	Agree	46	37.10	43	40.57
	Strongly agree	27	21.77	18	16.98
	Missing	0	0	3	2.83
The academic members in health sciences need to be well prepared to teach topics related to Halal/Haram medicines.	Strongly disagree	7	5.65	1	0.94
	Disagree	4	3.23	4	3.78
	Neutral	33	26.61	29	27.36
	Agree	54	43.55	49	46.23
	Strongly agree	26	20.97	22	20.75
	Missing	0	0	1	0.94

CONCLUSIONS

- Halal education in healthcare is relatively non-existent. There is an immediate need to educate healthcare professionals regarding halal medicines, particularly in large Muslim populations like Malaysia.
- Educating healthcare students on halal medicine will contribute toward developing professionals who are culturally and ethnically sensitive, while providing an impetus for informed decision making.

REFERENCES

- Islamic Food and Nutrition Council of America. (2010). A Guide to Halal Food Selection. Available from: <http://msa.students.mtu.edu/wp-content/uploads/2010/09/A-Guide-to-Halal.pdf>
- Pew Forum on Religion & Public Life, The Future of the Global Muslim Population, Projections for 2010-2030. <http://www.pewforum.org/2011/01/27/the-future-of-the-global-muslim-population/>
- Sattar, S. P., Ahmed, M. S., Madison, J., Olsen, D. R., Bhatia, S. C., Ellahi, S., ... & Wilson, D. R. (2004). Patient and physician attitudes to using medications with religiously forbidden ingredients. *Annals of Pharmacotherapy*, 38(11), 1830-1835
- Raosoft (Producer). (2004, 21 November 2015). Online sample size calculator. Retrieved from www.raosoft.com/samplesize.html
- Sadeeqa, S., Sarriff, A., Masood, I., Farooqi, M., & Atif, M. (2013). Evaluation of knowledge, attitude, and perception regarding Halal pharmaceuticals, among general medical practitioners in Malaysia. *Archives of Pharmacy Practice*, 4(4), 139.