Empowering Malaysian Pharmacy Students in a Private University to Counsel for Nonprescription Drug Therapy

Saraswathi Simansalam

Lecturer, Faculty of Pharmaceutical Sciences, UCSI University,
No.1, Jalan Menara Gading, UCSI Heights, 56000 Cheras,
Kuala Lumpur, Malaysia

Research Article

Corresponding Author:

Saraswathi Simansalam
Lecturer, Faculty of Pharmaceutical Sciences, UCSI University,
No.1, Jalan Menara Gading, UCSI Heights, 56000 Cheras,
Kuala Lumpur, Malaysia
E-mail: saraswathi@ucsi.edu.my
Tel. no. +603-91018880

Abstract

Objective. The main objectives of this study were to determine whether the use of structured framework and role-plays improved students' ability and self-confidence to counsel for self-care nonprescription drug therapy.

Methods. The QuEST SCHOLAR framework and 5 sessions of role-play were incorporated into "Nonprescription Drugs" course for the academic year of 2010/2011. Counseling ability of the intervention group was assessed based on their scores of the role-plays and OSCE. Students' pre- and post-intervention self-confidence levels in the intervention group were assessed using 15-item questionnaires. Mean OSCE scores of the intervention group were compared to the control group's mean scores.

Results. The mean scores for the role-play improved from 15.78 for the first role-play to 25.42, 28.62, 28.66 and 27.88 for the subsequent role-plays respectively. Students' mean self-confidence level in the intervention group improved from 2.37 ± 0.11 to 3.73 ± 0.13 (p<0.001), at pre- and post-intervention respectively. The mean scores for OSCE in the intervention group was significantly higher than control group's, 75.49 ± 9.67 vs 56.35 ± 7.06 (p<0.001), respectively.

Conclusion. Incorporation of QuEST SCHOLAR and role-plays significantly improved students' self-confidence and ability to counsel for nonprescription drug therapy.

Keywords: active learning; nonprescription drugs; role-play; QuEST SCHOLAR; OSCE

Introduction

Pharmacists, being trained in non-prescription drug therapy, are committed in assuring safe, appropriate and effective use of non-prescription drugs and nutritional supplements.[1] With these tasks at hand, pharmacists are expected to counsel on the appropriate use of non-prescription drugs to maximize the benefits as well as to reduce the risks. However, research has shown that deficiencies in professional training of self-care had resulted in failure of pharmacists to provide appropriate pharmaceutical care and counselling in non-prescription drug therapy.[2] Since the comfort levels of pharmacists to provide such counselling is highly determined by their experiences as pharmacy students,[3] pharmacy educators are obliged to equip students with the skills and desired comfort levels to provide counselling.

Methodology

Pharmacists, being trained in non-prescription drug therapy, are committed in assuring safe, appropriate and effective use of non-prescription drugs and nutritional supplements.[1] With these tasks at hand, pharmacists are expected to counsel on the appropriate use of non-prescription drugs to maximize the benefits as well as to reduce the risks. However, research has shown that deficiencies in professional training of self-care had resulted in failure of pharmacists to provide appropriate pharmaceutical care and counselling in nonprescription drug therapy.[2] Since the comfort levels of pharmacists to provide such counselling is highly determined by their experiences as pharmacy students,[3] pharmacy educators are obliged to equip students with the skills and desired comfort levels to provide counselling.

'Nonprescription Drugs' course offered in the first semester to the third-year B.Pharm students, is the only course devoted to teaching nonprescription drugs therapy in UCSI. Classroom lectures were the main mode for content delivery and students were assessed by means of quizzes and written examination. As the focus was mainly on assessing students' knowledge and understanding, it lacked performance-based assessment. WWHAM (**W**ho is the patient, **W**hat are the symptoms, **H**ow long have the

symptoms been present, **A**ction taken and **M**edication being taken) and ASMETTHOD[4] (**A**ge/**A**ppearance,

Self/**S**omeone else, **M**edication, **E**xtra medicines, **T**ime persisting, **H**istory, **O**ther symptoms, **D**anger symptoms) were among the self-care counselling methods briefly discussed in the course.

One major issue in Malaysian community pharmacy practice is the lack of access to patients' medical record. For this reason, mastering the skill of eliciting essential information from patients is the key to providing good pharmaceutical care.

Figure 1: Lecture Topics and Placement of the Role-plays

LECTURE TOPICS AND PLACEMENT OF THE ROLE-PLAYS
Course briefing
Basic of self-care and non-prescription drugs
Triage, assessment and referral system in pharmacy practice
A system of case recording and monitoring drug therapies
Painful conditions
Role-play 1
Home test kits and simple diagnosis
QuEST SCHOLAR
Role-play 2
Vitamins and minerals
Obesity
QUIZ
Fever
Respiratory conditions
Role-play 3
Gastrointestinal conditions
Dermatological conditions
Role-play 4
Women's health
Ophthalmic conditions
Otic conditions
Role-play 5
OSCE
FINAL EXAMINATION
ASSESSMENT
Quiz   : 15%
OSCE   : 15%
Final examination   : 70%

QuEST SCHOLAR process is considered one of the most comprehensive self-care counselling process which guides the pharmacist to ask a series of questions with subsequent analysis in order to assess the patient's problem, establish that the patient is a self-care candidate, select the most appropriate nonprescription product along with general care measures, and counsel the patient on few aspects of the nonprescription drug.[5] Buring and colleagues reported that the QuEST SCHOLAR process was an effective tool to teach students to counsel self-care patients systematically.[6]

Figure 2: Case Scenario for Role -play 1
JM, a second year student in UCSI, is suffering from headache. The pain is across his forehead. He also feels some tension on his shoulders. He does not have any other related symptoms. He claims that he has good eyesight and does not have sinusitis. He has not taken any medication. He admits of being stressful about his upcoming exam. He needs something for his headache so that he can study for his exam.

In this study, QuEST SCHOLAR was incorporated as part of the 'Nonprescription Drugs' course syllabus. Role-plays have been proven to actively engage students in their own learning process and problem solving in addition to being an excellent tool for them to practice empathy, professional values and communication skill.[7,8] Students, unless actively engaged in their own learning process, will eventually lose interest and potentially miss opportunities to understand the concepts introduced during lectures.[9] Case scenarios which were prepared for the role-plays in this study, were embedded with certain concepts or issues taught in the classroom and needed the students to explore further these concepts on their own. Students in the intervention group were also engaged in a five sessions of role-plays to provide them the opportunities to practise the self-care counselling methods. The main objective of this research was to determine whether the use of the structured framework (QuEST SCHOLAR) for self-care counselling and role-plays improved students' ability to counsel and their self-confidence regarding nonprescription counselling issues.

Results
Majority of the students was female from Chinese ethnicity (Table 1). The sociodemographic differences for both the groups were insignificant.
Intervention Impact
Paired sample t-test was conducted to compare 57 students' self-ratings of their confidence level for each of

Table 1: Participants characteristics

	Intervention Group (n=77)	Control Group (n=60)
Average age (SD) years	22.2 (0.7)	22.1 (0.7)
Gender		
Female (%)	57 (74%)	50 (72%)
Male (%)	20 (26%)	17 (28%)
Ethnic		
Chinese (%)	62 (80.5)	54 (90)
Indian (%)	14 (18.2)	6 (10)
Malay (%)	1 (1.3)	0 (0)

the fifteen items regarding nonprescription counselling which increased significantly from pre- to post-intervention (all p < 0.001; Table 2). The major theme of the qualitative question was that the role-plays were

the subsequent role-plays, respectively. A one-way ANOVA revealed significant improvement in the mean scores of the role-plays F([4], [380]) = [462.41], p <0.001. Comparisons of the mean scores were statistically
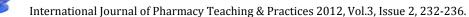
Items	Pre-test Mean (SD)	Post-test Mean (SD)	Change	t*
Identify a patient's problem	2.33 (0.81)	3.79 (0.64)	1.46	10.72
Ask about a patient's medical conditions, allergies & medications	2.21 (0.75)	3.91 (0.68)	1.70	12.74
Determine whether a patient can self-treat or should be referred	2.49 (0.71)	3.72 (0.62)	1.23	9.95
Recommend product(s) that will address all of a patient's symptoms	2.47 (0.76)	3.78 (0.69)	1.30	9.91
Counsel a patient on a nonprescription product.	2.30 (0.60)	3.91 (0.63)	1.62	14.12
Counsel a patient on what a specific nonprescription product is for	2.28 (0.62)	3.83 (0.63)	1.55	13.08
Counsel a patient on how to take a specific nonprescription product.	2.19 (0.64)	3.71 (0.56)	1.51	13.49
Counsel a patient when they should start seeing a benefit	2.44 (0.73)	3.67 (0.58)	1.23	9.89
Counsel patient on the adverse effects of the nonprescription product	2.46 (0.68)	3.69 (0.60)	1.23	10.15
Counsel a patient on when to follow up	2.25 (0.74)	3.81 (0.63)	1.56	12.2
Identify drug allergies that affect product selection for a self-care patient.	2.53 (0.60)	3.50 (0.57)	0.97	8.92
Identify medications a patient may be taking that affect product selection	2.39 (0.65)	3.55 (0.63)	1.17	9.82
Identify concomitant disease states that affect product selection	2.53 (0.73)	3.55 (0.57)	1.03	8.39
Describe patient specific factors that influence the selection of a product	2.33 (0.69)	3.66 (0.58)	1.32	11.14
Recommend the appropriate product for any patient with pain	2.33 (0.66)	3.90 (0.58)	1.56	13.42
Average item score	2.37 (0.11)	3.73 (0.13)	1.36	23.31

"fun way of learning".

Table 2: Students' Self-confidence in the Intervention Group (n=57) * All p < 0.001

significant (p<0.001; Table 3) among all the role-plays except for role-play 3 vs. role-play 4, and role-play 3 vs. role-play 5.

The mean scores for the role-play improved from 15.78 for the first role-play to 25.42, 28.62, 28.66 and 27.88 for

The mean OSCE scores for the intervention group was significantly higher as compared to the mean OSCE scores

Table 3: Comparison for Mean Scores of Role-plays (n=77) *p<0.001

Comparisons	Mean Score Differences		95% CI	
		Std error	Lower Bound	Upper Bound
Role-play 1 vs Role-play 2	-9.64*	0.27	-10.17	-9.11
Role-play 1 vs Role-play 3	-12.84*	0.42	-13.67	-12.02
Role-play 1 vs Role-play 4	-12.88*	0.36	-13.60	-12.17
Role-play 1 vs Role-play 5	-12.10*	0.26	-12.61	-11.60
Role-play 2 vs Role-play 3	-3.21*	0.40	-3.99	-2.43
Role-play 2 vs Role-play 4	-3.25*	0.30	-3.83	-2.66
Role-play 2 vs Role-play5	-2.47*	0.23	-2.91	-2.02
Role-play 3 vs Role-play 4	-0.04	0.20	-0.43	0.36
Role-play 3 vs Role-play 5	0.74	0.39	-0.02	1.50
Role-play 4 vs Role-play 5	0.78*	0.33	0.14	1.42

for the control group, 75.49+9.67 vs 56.35+7.06 (p<0.001) respectively (Table 4).

Discussion and Conclusion

In this study, it was evident that QuEST SCHOLAR served as a tool in improving students' self-confidence and ability to counsel on nonprescription issues. Students in the intervention group were given the freedom to use their preferred self-care counselling method for the first role-play. After the introduction of QuEST SCHOLAR process, the scores for their role-plays improved significantly. This cohort also performed better in their OSCE as they were more systematic in eliciting the necessary information using QuEST SCHOLAR which they had practised repeatedly during their role-plays. Our findings are in agreement with Buring's that QuEST SCHOLAR process improved the students' ability to elicit information with QuEST SCHOLAR process.[6]

Although QuEST SCHOLAR were taught along with other counselling self-care counselling methods during the academic year to the control group in this study, emphasis was not placed on any particular counseling strategy and students were free to use their preferred methods for OSCE. From the observation made during the OSCE for the control group, it was concluded that many students appeared 'lost' as they did not know the sequence of questions to be asked, therefore missed essential information which was necessary for making appropriate recommendations for the given case. A possible explanation for the lower scores obtained by the control group in their OSCE is the lack of reinforcement of a particular self-care counseling method.

Students' self-reported mean self-confidence level in the intervention group improved significantly. Our findings were also consistent with Buring's[6] findings that students were most confident to ask a patient about their medical conditions, allergies, and concurrent medications although their confidence levels improved significantly in all the domains.

Table 4: Comparison for OSCE Mean Scores

Group	Intervention (n=77)	Control (n=60)	t
Average	75.49	56.35	13.40*
Station 1	83.79	57.75	9.84*
Station 2	63.87	63.53	0.46
Station 3	78.82	49.12	13.09*

*p<0.001

Previous study emphasized that incorporating active learning techniques such as role-play improved participant's confidence and skill in providing nonprescription drug therapy counselling.[10]

In our study, the scores obtained by the intervention group improved across the 5 sessions of role-plays translating the improvement in their counseling ability with each role-play. No significant difference was observed between role-play 3 vs. role-play 4 and role-play 5, as the scores for these role-plays were reaching the maximum score of 30 points. The mean score for the fifth role-play declined slightly due to the nature of case scenarios given for the particular role-play besides students were asked to counsel in Malay. Since the majority of these pharmacy students were from Chinese medium schools, counseling fluently in Malay remains as a difficult task for many of them.

The questionnaire items were limited to fifteen and did not include students' confidence to recommend appropriate products other than for 'painful conditions'. This was designed such because the other topics were yet to be covered when the first sets of the questionnaires were distributed. Having an external examiner for the role-plays assessment was not feasible and this might have introduced bias in awarding marks for each role-play although care was taken to strictly adhere to the rubrics. Since the sample was obtained from one institution, the generalisability of these findings is limited. Considerably more work will need to be done to determine students' self-confidence and ability to counsel for nonprescription drug therapy at different settings.

Incorporating role-play sessions to reinforce the QuEST SCHOLAR significantly improved students' self-confidence and ability to counsel for nonprescription drug therapy. In future, such practice-relevant and competency-based curricula opportunities should be widely incorporated to improve students' competency and proficiency in providing counseling for nonprescription drug therapy comfortably.

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AUTHORS' CONTRIBUTIONS

Authors contributed equally to all aspects of the study.

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CONFLICTS OF INTEREST
The authors declare that they have no competing interests