

Teaching Social Issues in Use of Medicines to Pharmacy Students

Pathiyil Ravi Shankar^{1*}, Subish Palaian^{2,3}

¹Department of Pharmacology, Manipal College of Medical Sciences, Pokhara, NEPAL. Department of Pharmacology, Xavier University School of Medicine, Oranjestad, Aruba, Kingdom of the NETHERLANDS.

²Department of Pharmacology, College of Medical Sciences, Bharatpur, NEPAL.

³Department of Pharmacy Practice, College of Pharmacy, Gulf Medical University, Ajman, UAE.

Received: 29 September 2016;

Accepted: 19 November 2016

*Correspondence to:

Dr. P. Ravi Shankar,

Department of Pharmacology,

Xavier University School of Medicine,

Oranjestad, Aruba, Kingdom of the Netherlands

E-mail: ravi.dr.shankar@gmail.com

DOI: 10.5530/jppcm.2017.1.4

Copyright: © the author(s), publisher and licensee Indian Academy of Pharmacists. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

Abstract

Introduction: Pharmacists can help people understand, manage and use their medications appropriately. The subject of social pharmacy is gaining in importance in many countries. In South Asia pharmacy education concentrates on technical drug related aspects. Pokhara University conducts an undergraduate programme in Pharmacy. The students are trained in various aspects of Clinical Pharmacy at the Manipal Teaching Hospital (MTH). **Methods:** The authors conducted a session on 'Social issues in use of medicines' using case scenarios and role-plays. The students were divided into three small groups of 5 or 6 students each. Each group was given three case scenarios and analyzed and presented these using role-plays. The major issues covered were access to medicines/healthcare, aggressive pharmaceutical promotion, misconceptions about disease, brand versus generic medicines, drug regulation, ethical issues in clinical research, etc. The degree of agreement of the participants with a set of 15 statements was noted using a modified Likert-type scale. Free text comments about the session were invited. **Results:** A total of 31 students participated. The median (interquartile range) score was 61 (58-64). The maximum possible score was 75. The students enjoyed the session and felt it would be useful in their future career. **Conclusion:** The overall student opinion regarding the session was positive. We plan to continue the session in future.

Key words: Case scenarios, Nepal, Role-plays, Social issues, Undergraduate pharmacy students.

INTRODUCTION

The profession of pharmacy like many other health professions is undergoing rapid change. Pharmacists have a variety of job options and can serve in hospital or community pharmacies, teaching, research and in managed care.^[1] Pharmacists are increasingly involved in patient care. They can help people understand, manage and use their medications appropriately. In the west, pharmacy education integrates the scientific and interpersonal aspects of care into the curriculum so that students can understand psychosocial aspects of medication management.^[2] The modern pharmacists consider pharmaceutical care as their focus.^[3] With significant growth and development over the past 30 years, the profession of pharmacy has developed a new concept termed pharmaceutical care; the responsible provision of drug therapy for the purpose of achieving definite outcomes that improve the patients' quality of life. These outcomes are cure of disease, elimination or reduction of symptoms, arresting or slowing of disease progression, or preventing a disease.^[3]



Pharmacy education should create caring, ethical professionals and enlightened citizens.^[4] There has been a dichotomy between core scientific knowledge and the necessity to prepare students adequately for practice.^[4] Two British teachers state that science has to be seamlessly welded to practice underpinning pharmacists actions with scientific knowledge.^[5] The subject of social pharmacy is gaining in importance. Currently, all pharmacy schools in the United Kingdom (UK) teach and assess students in social pharmacy.^[6] Teachers were of the opinion that social pharmacy brings an additional perspective to the scientific, drug-focused aspects and emphasizes the clinical and practical aspects of the course.^[6]

An American pharmaceutical educator had written that pharmacy curricula should train students towards reflective practice, be problem-based, and be positioned in collaborative teams.^[7] Educators at the University of North Carolina, United States (US) had used 'Bad blood' as a teaching tool in a pharmacy ethics class.^[8] The students had a favorable opinion regarding the session. A recent survey had shown that social pharmacy has gained acceptance within the pharmacy establishment.^[9] However, a wide range of subjects were taught under the banner of the subject.

In South Asia, the subject of Social pharmacy is still in its infancy. Pharmacy education concentrates on technical drug related aspects. Pharmacists are mainly product oriented than patient oriented.^[10] In India, a few schools have initiated the discipline of Pharmacy practice at the postgraduate level.^[11] In Nepal, drug related material dominates the undergraduate curriculum and pharmacists are considered as persons for dispensing the drugs' and they hardly play a professional patient-oriented role.^[12] Pokhara University conducts an undergraduate programme in Pharmacy. The students are trained in various aspects of Clinical Pharmacy at the Manipal Teaching Hospital (MTH). The total training period of 15 days is divided in to small slots of 2-3 days at the Drug Information Center, Pharmacovigilance Center, In patient Pharmacy, Outpatient Pharmacy, Bulk Pharmacy and the Medication Counseling center. The 700-bedded hospital is attached to the Manipal College of Medical Sciences (MCOMS), Pokhara for teaching purposes. Besides running the hospital pharmacy, the department of Clinical Pharmacy with the help of the department of Pharmacology also run a medication counseling center, a drug information center and a pharmacovigilance center. The Hospital and Clinical Pharmacy department is involved in other patient centered activities that include participation in the Drug and Therapeutics Committee, maintaining the hospital drug list etc.^[13] During their two week posting, the pharmacy students rotate through the different pharmacies

and the centers. During the posting during the month of August 2007 the authors conducted a session on 'Social issues in use of medicines' using case scenarios and role plays. The manuscript describes the session and the participant feedback.

MATERIALS AND METHODS

The undergraduate pharmacy (BPharm) students of Pokhara University undergo a two-week training program at the Manipal Teaching Hospital (MTH), Pokhara. Final year BPharm students have been attending the training program since 2005. During August 2007 we decided to introduce a session on 'Social issues in the use of medicines'. The session was held on a Saturday from 8 AM to around 12.30 pm. Two batches of students attended the session on succeeding Saturdays. One of the batches had 15 while the other had 16 students.

The session was held in the conference room adjoining the drug information center (DIC). We started the session with the introduction of the participants. Students were divided into pairs and one member of a pair had to talk to the other member and then introduce his/her partner to others. The points to be covered were name, nickname, likes, dislikes, hobbies, ambition and secret ambition. The two faculty facilitators (PRS and PS) then introduced each other. The introduction served to familiarize the participants and the facilitators with each other and to 'break the ice'.

The students were explained the objectives of the session and were divided into three small groups of 5 or 6 students each. Each group was given a case scenario and they worked on this as a group. They were given approximately twenty minutes to analyze the scenario, design a role play and work out the setting and the contents of the role play. The groups presented their role plays and each role play was followed by a discussion. Each group was given a set of three case scenarios and a total of nine scenarios were covered during the session.

The major issues covered were access to medicines/ healthcare, aggressive pharmaceutical promotion, misconceptions about disease, brand versus generic medicines, drug regulation, ethical issues in clinical research, breaking bad news, brand substitution etc. At the end of the session, student feedback was obtained using a questionnaire. Basic demographic details of the participants like gender, place of residence, occupation of parents, socioeconomic status were noted. The degree of agreement of the participants with a set of 15 statements was noted using a modified Likert-type scale. Free text comments about the session were invited.

Characteristic		Number (percentage)
Sex	Male	12 (38.7)
	Female	18 (58.1)
Place	Village	3 (9.7)
	Small town	6 (19.4)
	City	22 (71)
Occupation of father	Other than pharmacist	29 (93.5)
	Not written	2
Occupation of mother	Other occupations	6 (19.4)
	Housewife	23 (74.2)
	Not mentioned	2
Socioeconomic status	Lower middle	1 (3.2)
	Middle	29 (93.5)
	Upper middle	1 (3.2)

The scenarios selected deal with the social stigma related to a disease, unethical and aggressive drug promotion and access to medicines and health care. The median total score was calculated for each respondent. Certain statements were negative and their scores reversed while calculating the total score. The median total score was compared among different subgroups of respondents. Mann-Whitney U test was used for dichotomous variables and Kruskal-Wallis test for the others ($p < 0.05$). Permission to carry out the study and conduct educational sessions for the students was obtained from the Dean of the School of Pharmaceutical Sciences.

RESULTS

A total of 31 students participated. All of them completed the questionnaire. Eighteen students were female; one did not fill in the gender while the rest were male. Table 1

Statement number	Median score (Interquartile range)
One	4 (4-4)
Two	5 (4-5)
Reversed Three	4 (4-4)
Four	4 (4-5)
Reversed five	4 (3-4)
Six	4 (4-5)
Seven	4 (4-4)
Eight	5 (4-5)
Nine	2 (1-4)
Ten	4 (4-4)
Eleven	5 (4-5)
Twelve	5 (4-5)
Thirteen	5 (4-5)
Fourteen	5 (4-5)
Reversed fifteen	4 (3-4)

shows the demographic characteristics of the respondents. Majority of the students were from a city and no student had a pharmacist as a parent. Majority belonged to the middle socioeconomic class. Five students (16.1%) wanted to work as a community pharmacist in future, 4 (12.9%) wanted to work as a clinical or hospital pharmacist. Others wanted to go for further studies or did not specify any branch of pharmacy which they wanted to work in.

The median score was 61 (58-64). The maximum possible score was 75. Table 2 shows the median scores for individual statements. The scores of statements three, five and fifteen were reversed. The statements had median scores of 4 or 5 except statement nine which had a median score of 2.

Characteristic		Median score (Interquartile range)	P value
Sex	Male	62.5 (6.75)	0.325
	Female	61 (5.75)	
Place of residence	Village	63	0.753
	Small town	61.5 (8.75)	
	City	61 (5.25)	
Occupation of father	Pharmacist	-	-
	Others	61 (6.5)	
Occupation of mother	Pharmacist	-	0.416
	Others	63 (5.75)	
	Housewife	61 (8)	
Socioeconomic status	Lower middle	63	0.720
	Middle	61 (7)	
	Upper middle	63	

Table 3 shows the median total scores according to demographic characteristics of respondents. There was no significant difference in the score among different subgroups of respondents.

Coming to the free text statements of the respondents, certain of them are reproduced below. A respondent was of the opinion 'Today's session was very interesting as well as informative. I enjoyed the session very much and got to know information about how the pharmacist really works for the community.' Another student wrote, 'This sort of interactive session is really effective and practical situation oriented so they will help pharmacists and other health professionals to prepare for their real life situations which they have to face during their upcoming professional life.' A student wrote 'We are not much advanced in technology and scientific R & D so other than 'clinical trial' case scenarios were relevant. Such group learning is a very effective method of teaching and learning' 'I find this session really informative. I was surprised with all the group discussion program, it was really practical one. I am seeing something new in health promotion.'

DISCUSSION

The overall opinion of the student participants regarding the session was positive. The students were in favor of similar sessions in the future. The students were not exposed to problem-based, interactive, small group learning before attending the session. This can be regarded as a limitation of the educational system. The department of Pharmacology at MCOMS teaches students to use essential medicine rationally. The pharmacology practical are conducted in small groups using clinical problems and student feedback regarding the sessions was positive.^[14] Medical students are taught to communicate drug and non-drug information about common diseases to simulated patients and student attitudes towards communication skills training was positive.^[15] The department has been teaching students to critically evaluate drug promotion by medical representatives using the medium of role plays.^[16]

The department of Medical Education at MCOMS had conducted a voluntary Medical Humanities module for interested students and faculty members.^[17] Literature and art excerpts, case scenarios, role plays and debates were used to explore various aspects of the humanities.

Borrowing on the experience of conducting the humanities module, we decided to conduct a session on social issues in use of medicines for the BPharm students. We were pleased to know that despite lack of exposure to social

pharmacy, the students felt that humanities and social issues are of importance to pharmacists. Pharmacy education is a blend of pharmaceutical, clinical and social scientific knowledge and each pharmacy school may have to strike its own balance between the various components.^[5] In Nepal, health services are not easily available in many rural areas and the community pharmacist may have an important role in providing health care to the rural population. A study carried out in Western Nepal had shown that the medical shop is an important source of medicines sought by respondents during health encounters.^[18] Nepalese pharmacy schools have to draw up a curriculum to teach patient oriented skills to pharmacy students.

A pharmacy school in the United States offers students a service-learning elective to promote improved understanding of civic, cultural and social issues in pharmacy.^[19] The students were of the opinion that the case scenarios chosen were of relevance to pharmacists. The case scenarios were developed by the authors keeping in mind what we felt were important issues of relevance to pharmacy practice in Nepal. One of the respondents felt that the scenario dealing with clinical trials may not be particularly relevant. However, we feel that Nepal has the potential to become an important center for clinical trials and in their future practice, pharmacists may act as clinical trial coordinators. Problem-based learning (PBL) is characterized by principles of constructive, contextualized, collaborative and self-directed learning.^[20] The faculty serve as facilitators of the learning process rather than as a source of content.^[21] The group dynamics during PBL thus plays an important role in the learning. We were pleased to know that the participants were satisfied with the group dynamics and were of the opinion that the facilitators fulfilled their roles effectively. However, this was their first exposure to PBL and they may not have the required expertise for the evaluation.

Also the students were of the opinion that the case scenarios were able to capture the social dimensions of the use of medicines. Case scenarios are an effective tool in health education and were used during the voluntary MH module.^[17] Simulated role plays can prepare students for their future role as pharmacists. In the west, multifaceted learning and interdisciplinary learning have been used in pharmacy education. In the United States, students learnt pharmacy health care and behavior by assuming diverse roles.^[22] These roles were of instructors, health educators, presenters, researchers, authors and potential role models. Interdisciplinary learning teams involving pharmacy, medicine, nursing and allied health professionals was found to be successful.^[23] An article published in 2011

has mentioned that an understanding of socio behavioral aspects of the medicine use process is important for achieving good therapeutic outcomes and it is important that pharmacy students have a good understanding of the social sciences and health psychology.¹²⁴ Inter disciplinarily is not common in south Asia or Nepal but can be considered. The study had limitations. Only a single session was conducted on the topic. Social issues in use of medicines are complex and a single session may not be enough to cover various aspects of the topic. Student opinion regarding the session was obtained using a questionnaire. Detailed analysis of the opinion was not obtained. The students had not been exposed to problem based learning in small groups before and this may have influenced their opinions. The number of participants in the session was small.

CONCLUSION

The overall student opinion regarding the session was positive. We plan to continue the session in future. Placing of pharmacy students in community pharmacies similar to the present posting in hospital pharmacy can be considered. We plan to have two sessions on Social issues in use of medicines from the next batch. A greater emphasis on social pharmacy in the undergraduate pharmacy curriculum should be considered.

ACKNOWLEDGEMENT

The authors acknowledge all the students who participated in the study. They acknowledge the support of other faculty members and of the staff of the Drug Information Center.

REFERENCES

- Schumann W, Moxley DP, Vanderwill W. Integrating service and reflection in the professional development of pharmacy students. *Am J Pharm Edu*. 2004;68(2):45.
- Greiner AC, Knebel E, eds. *Health professions education: A bridge to quality*. Committee on the Health Professions Education Summit, Institute of Medicine of the National Academies. The National Academies Press, Washington DC, 2003.
- Hepler CD, Strand LM. Opportunities and responsibilities in pharmaceutical care. *Am J Hosp Pharm*. 1990;47(3):533-43.
- AACP Commission to implement change in Pharmaceutical Education: What is the mission of pharmaceutical education. http://www.aacp.org/Docs/mainNavigation/EducationalResources/3586_BackgroundPaper1.pdf.
- Harding G, Taylor K. Pharmacy's strength lies in its blend of clinical, scientific and social skills. *The Pharmaceutical Journal* 2004;273(7310):146.
- Harding G, Taylor KMG. Teaching social pharmacy: The UK experience. *Pharmacy Education*. 2006;6(2):125-31.
- Droege C. The role of reflective practice in pharmacy. *Educ Health*. 2003;16(1):68-74.
- Sleath B, Work D. Using Bad Blood as a teaching tool in Pharmacy Ethics class. *J Pharm Teaching*. 1999;7:47-58.
- Ryan K, Bisell P, Anderson C, Traulsen JM, Sleath B. Teaching social sciences to undergraduate pharmacy students: An international survey. *Pharmacy Education*. 2007;7:1-9.
- Nahata MC. Hospital pharmacy practice in India. *Drug Intell Clin Pharm*. 1984;18:523-4.
- Parthasarathi G, Ramesh M, Nyfort-Hansen K, Nagavi BG. Clinical pharmacy in a South Indian teaching hospital. *Ann Pharmacother*. 2002;36(5):927-32.
- Mozobe M, Basnet NS. Comparative study on the role of pharmacist in Nepal and Japan. Japan international cooperation agency, Nepal office, Kathmandu, Nepal; 2006;23:16-23.
- Bhandari DR, Subish P, Mishra P, Alam K. Do pharmacists have a scope in south asian hospitals? An experience from Nepal. *Pharmacologyonline (Newsletter)*. 2006;3:146-55.
- Shankar PR, Dubey AK, Mishra P, Upadhyay D, Subish P, Deshpande VY. Student feedback on problem stimulated learning in pharmacology: A questionnaire based study. *Pharmacy Education*. 2004;4(2):51-6.
- Shankar RP, Dubey AK, Mishra P, Deshpande VY, Chandrasekhar TS, Shivananda PG. Student attitudes towards communication skills training in a medical college in Western Nepal. *Educ Health*. 2006;19:71-84.
- Shankar PR, Dubey AK, Subish P. Critical evaluation of drug promotion using role plays. *Med Educ*. 2006;40(5):472.
- Shankar PR. A voluntary Medical Humanities module in a medical college in Western Nepal. *Fam Med*. 2008;40:468-70.
- Shankar PR, Kumar P, Theodore AM, Partha P, Shenoy N. A survey of drug use patterns in Western Nepal. *Singapore Medical J*. 2003;44(7):352-6.
- Brown B, Heaton PC, Wall A. A service-learning elective to promote enhanced understanding of civic, cultural, and social issues and health disparities in pharmacy. *Am J Pharm Education*. 2007;71:Article 09.
- Dolmans DH, De Grace W, Wolffhagen IH, van der Vleutenm CP. Problem-based learning: future challenges for educational practice and research. *Med Educ*. 2005;39(7):732-41.
- Wood DF. Problem-based learning. *BMJ*. 2003;326(7384):328-30.
- Odedina FT, Clemmons CD, Dukes N. Multifaceted active learning approach to teaching pharmacy health care and behavior. *Am J Pharm Educ*. 2001;65(3):276-83.
- Borrego ME, Rhyne R, Hansbarger LC, Geller Z, Edwards P, Griffin B, McClain L, Scaletti JV. Pharmacy student participation in rural interdisciplinary education using problem based learning (PBL) case tutorials. *Am J Pharm Educ*. 2000;64(4):355-63.
- Hassali MA, Shafie AA, Al-Haddad MS, Abdulkarem AR, Ibrahim MI, Palaian S, Abrika OSS. Social pharmacy as a field of study: The needs and challenges in global pharmacy education. *Res Social Adm Pharm*. 2011;7(4):415-20.

Cite this article as: Shankar PR, Palaian S. Teaching Social Issues in Use of Medicines to Pharmacy Students. *J Pharm Pract Community Med*. 2017;3(1):17-21.