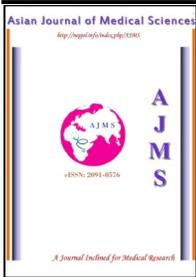


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Evaluation of Pharmacology Didactic Lectures for Graduating Nursing Students: a Questionnaire Based Comparative Study Between Two Colleges in Nepal

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Abstract

Objective: This study was set to obtain the critical appraisal of the graduating nursing students on pharmacology lectures and to compare the students' view on teaching effectiveness and pharmacology course content at two different colleges, Kathmandu Medical College (KMC) and B P Koirala Institute of Health Sciences (BPKIHS), in Nepal.

Materials and methods: Forty B Sc Nursing students studying at two colleges of twenty each at the end of the first year were enrolled in this study. Structured teaching evaluation questionnaire containing 13 close-ended items and two open-ended questions was used. Three items were intended to evaluate pharmacology course content and other ten items to evaluate the teaching effectiveness. Open-ended questions were incorporated to collect the students frank and open views that provided flexibility and reliability. Students were instructed not to disclose their identity in any form so as to obtain genuine, valid and frank responses. Yates corrected Chi square test was applied whenever necessary and P value considered significant at less than or equal to 0.05.

Results: On majority of the students' (60-90%) view existing pharmacology course content was 'just right and useful' and no significant difference between two college students' view exists. Majority of students both at Kathmandu Medical College (KMC) and B P Koirala Institute of Health Sciences (BPKIHS) found the 'clarity of voice (KMC-55%, BPKIHS-70%) and audibility (KMC-70%, BPKIHS-80%)' to be 'fair'. More students at KMC (60%) found the 'student's participation' during lecture than students at BPKIHS (35%). Thirty five percent of students at KMC felt that pace of the lectures was 'about right' whereas 100% BPKIHS students found the same and the difference was significant ($P=0.00005$). Almost all the students both at KMC (95%) and BPKIHS (100%) preferred the liquid crystal display (LCD) mode of presentation has been over head projector (OHP) or board and marker methods. Majority of the students at the both colleges opined that the number of lectures allotted to pharmacology is less. Additionally, from students' perspective, more student-teacher interactions, class assessments and explanation of the subject matter with clinical correlation are necessary for better understanding of the subject.

Conclusion: No major significant differences except pace of the lecture exist in the teaching methodology and pharmacology course content between the two colleges though there are insignificant differences. Students at the both colleges felt that course content of the pharmacology should be increased with more weight to the subject. As per students' responses, student-teacher interactions during lectures along with more explanations with clinical correlation and more frequent assessment may enhance the students' learning process and keep up their expectations. Moreover, clarity of voice and audibility need to be improved on teacher's part during the lectures.

Key words: Critical appraisal; Feedback; Nursing education; Pharmacology

1. Introduction

Pharmacology is included as one of the basic science subjects for Bachelor of Science in Nursing (B Sc Nursing) program. Many medical and nursing colleges in Nepal have been conducting graduation program in nursing education under the different varsities such as

Kathmandu University (KU), B P Koirala Institute of Health Sciences (BPKIHS), etc. Kathmandu Medical College (KMC has nursing course in medical school) is one of colleges affiliated to KU and BPKIHS is autonomous university. Students are taught as per the different curricula based on different universities which the students belong to.

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Students' feedback is an effective medium to evaluate individual for the purpose of facilitating self awareness

and understanding. Effective feedback being nonjudgmental is an integral part of medical and nursing education in helping the students, teachers, mentors and instructors to know their weaknesses and reach their maximum potential. Feedback helps in correcting mistakes, reinforcing good performances and incorporating students' view in teaching methodology. Students' views are indispensable to correct teacher's misperception about his/her didactic methods which, if incorporated in pedagogic practices, may lead to effective teaching and learning exercises.¹⁻³ For instance, many medical and nursing colleges include lectures, tutorials, practical classes and occasionally small group teaching and case discussions as the teaching methodology. So obtaining students' critical appraisal on the pharmacology lectures may be the good source for the improvement of the teaching methodology.³⁻⁵

The curriculum of B Sc nursing students at BPKIHS and KMC is integrated one. Teaching evaluation of pharmacology courses, from student's learning to effectiveness of the course and instructor, becomes important to have the efficient pharmacological classes. This article describes the evaluation of B Sc Nursing students on pharmacology course and teaching methodology at KMC and BPKIHS, and also compares students' views at these two colleges to facilitate pedagogical learning.

2. Material and Methods

A structured teaching evaluation questionnaire was designed to obtain the students' view on the evaluation of pharmacology lectures at the end of the course during first year at KMC and BPKIHS. Both KMC and BPKIHS had enrolled 20 B Sc Nursing students in one batch and fifty lectures (fifty hours) were allotted for pharmacology at KMC and 65 lectures (sixty-five hours) at BPKIHS during the conduction of this study. Institutional ethical clearance and students' consent was taken before starting the study and was conducted in February 20011. Forty students- at the end of the first year when all the pharmacology lectures were involved in this study from two colleges of 20 each. The questionnaire contained 10 close-ended items that evaluated teaching effectiveness and 3 close-ended items that evaluated the pharmacology course.^{3,5} Two open-ended questions were also incorporated to collect students open comments on pharmacology course which was already taught to them and students suggestions for improvement of the

pharmacology subject and course for the future batches which helped to collect the students frank and open views that provided flexibility and reliability. Students were instructed to fill up the forms without disclosing their identity in any form and feel free while responding the questionnaire as it didn't have any bearing with their class performance, student-teacher relationship or future exam scores so as to obtain genuine, valid and frank responses. The teaching evaluation items included lecture content, relevance, presentation, student's participation, questions by students, use and clarity of over head projector (OHP) sheets and liquid crystal display (LCD) slides, pace, clarity of voice, audibility and mode of presentation that the students preferred, and students' understanding about the pharmacology subject.^{3,5} Level of significance (P value) was set at or less than 5% and Chi square test with Yates correction was applied as test of significance wherever applicable by using Epi Info Version 6 StatCalc.

3. Results

Students were 17- 21 years old females. Figure 1 shows students views on course content of pharmacology. 40% of BPKIHS students found relevance of pharmacology very useful whereas only 10 % of KMC students found it the same.

Table-1: Responses on evaluation of teaching effectiveness related to the students

Students' participation	KMC	BPKIHS
Adequate	12 (60%)	7 (35%)
Inadequate	7 (35%)	9 (45%)
Absent	-	3 (15%)
Not answered	1 (5%)	1 (5%)
Questions by students	KMC	BPKIHS
Encouraged	13 (65%)	16 (80%)
Tolerated	4 (20%)	4 (20%)
Discouraged	-	-
Not answered	3 (15%)	-
Modes of presentation you prefer	KMC	BPKIHS
Board & marker	1 (5%)	-
OHP	-	-
LCD projector	19 (95%)	20 (100%)
Not answered	-	-
Your understanding of pharmacology subject	KMC	BPKIHS
A lot	2 (10%)	1 (5%)
To some extent	15 (75%)	17 (85%)
Not at all	-	-
Not answered	3 (15%)	2 (10%)

All the students at BPKIHS found the pace of the lecture to be 'about right' whereas majority of students (60%) at KMC found the pace of the lecture to be 'too rapid' and the difference was significant (P=0.00005) (Fig 2).

More students at KMC (60%) found the 'student's participation' during lectures than students at BPKIHS (35%). Almost all the students both at KMC (95%) and BPKIHS (100%) preferred the LCD mode of presentation over OHP or board and marker methods (Table-1).

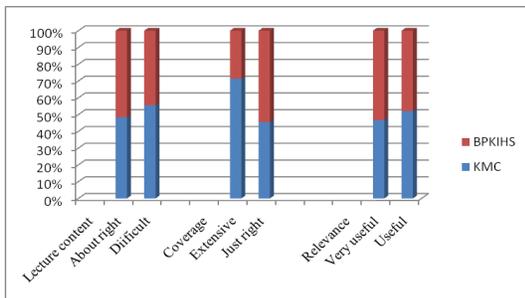


Fig-1: Responses on the evaluation of pharmacology course

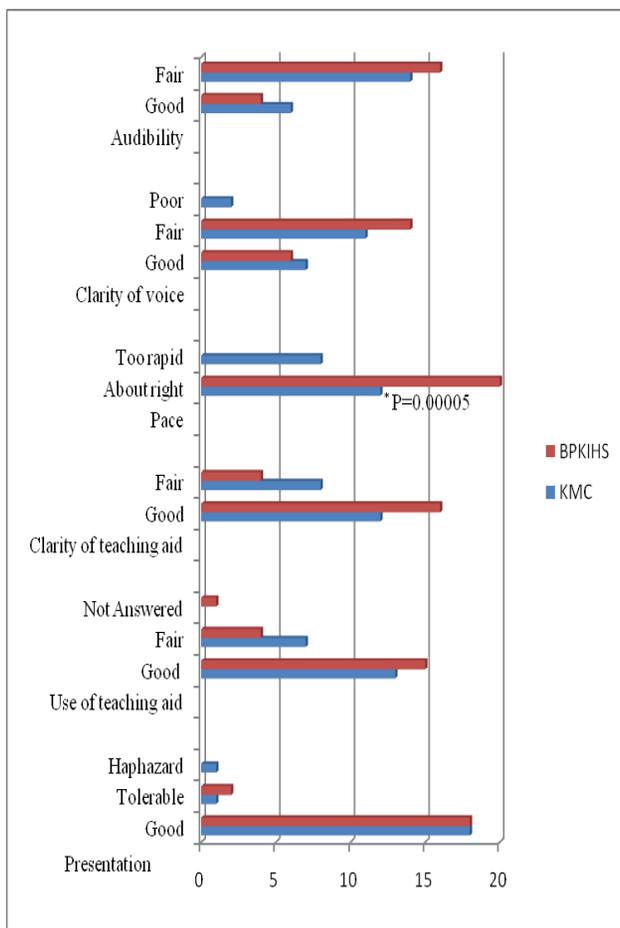


Fig-2: Responses on evaluation of teaching effectiveness related to ways of presentation

Responses to the open-ended questions;

KMC

- Pharmacology is important subject so the number of classes allotted is less. More time and classes should be given (60%).
- More interactions and discussions along with frequent

tests at the end of the chapter should be carried out (15%).

- Monthly tests are required (10%).
- Classes should be divided for the every year for four years (10%).
- 100 marks weight age should be given to pharmacology (10%).
- Pharmacology is difficult to memorize (10%).

BPKIHS

- As pharmacology is vast subject, more time and priority should be given (20%).
- More explanation with clinical correlations and different doses of drugs in clinical setting should be taught (20%).
- Some classes are too short whereas others are too lengthy (10%).
- Pharmacology is volatile subject (5%).
- Everything should be taught in the class so that there is no need to revise it (5%).

4. Discussion

Findings on the evaluation of pharmacology course content suggested that majority of students found that the coverage and relevance of the subject was 'just right' and 'useful' respectively. This may act as a guide to the teachers who intend to teach students effectively in details. In undergraduate medical and nursing education, several institutions are switching over from traditional discipline-based curricula to integrated curricula.⁶ However, common student and faculty perceptions of both positive and negative attributes are important in any kind of teaching methodology.⁷

Based on this study, students' views on method of presentation showed that the way of presentation, use and clarity of teaching aids were acceptable though pace of lecture, clarity and audibility of the presenter's voice need to be improved as majority of the students were not satisfied. There was significant difference at the pace of the lectures for KMC classes being too rapid as compared to BPKIHS classes. The difference may be attributed to the faculty's and students' attitudes, feelings, experiences, different number of classes allotted at two colleges and teacher's pressure to finish the course within the given time and number of

lectures. This is the only significant difference between the two college students' view on the whole evaluation of pharmacology subject. So quality of teaching at the different colleges is more or less similar with minor differences (Fig 1 and 2).

Mixed responses on the view of student's participation and interaction during lectures were obtained. Majority of the students were satisfied by the teacher's answers to the students' questions though very few (20%) students thought that the questions by the students were tolerated and not answered effectively by the faculty. Interestingly, almost all the students (95-100%) preferred LCD mode of presentation during lecture hours and the reasons for this need to be explored further. For any system of education to function smoothly, it is said that it should be acceptable to both receiver and provider, this holds true for medical and nursing education as well. The teachers should not only try and innovate teaching learning methodology adopted by them from time to time but should also be a willing partner in introducing newer concepts and methodologies for improving the system of medical education in their respective institutions. However, it is important before advocating any changes that the students of perception to the existing system is obtained. Obtaining a feed back from the students is one of the ways to assess the relevance of the innovations and modifications and also to find out if the objectives were correct and understandable by the students.^{3,8-10} Moreover, this study suggests that it is a challenging job on teacher's part to increase the knowledge level of the student during the end of the session as majority of the students (75-85%) thought that they acquired only some knowledge in pharmacology subject at the end of the subject course (Table-1).

Majority of the students responded to the open ended questions by expressing their views in the favor of more pharmacology classes than the existing ones which should be taught for more than one year with utmost priority. This suggests that students are very much interested in and aware of the importance of pharmacology as nursing students are dealing with drugs and their preparations in their profession. Additionally, students' level of satisfaction is low as far as existing depth and extent of pharmacology taught to them is concerned. More regular class tests at the end of the chapter are necessary from the students' perspective so are explanations of the subject matter with the clinical

correlation and different doses of the drugs required at different clinical conditions. This view of the students is in concordance with the study which showed that it is the quality and effectiveness of instructor and instruction which is associated with students' satisfaction.¹¹

Limitations of this study include small sample size and failure to take the consideration into educators' and students' attitudes, intelligence levels, feelings, perception and experiences¹² though the variables used for the teaching evaluation questionnaire were derived from a model that was developed from nursing and higher education concepts to examine the effect of the use of technology on student outcomes.¹³ Further development of a framework that is useful across nursing programs and common tools to evaluate technology in nursing education should help develop the research in this area.⁵

In conclusion, no major significant differences exist between different nursing colleges as far as the teaching methodology and effectiveness on students' perspective are concerned. Graduating nursing students felt that pharmacology is very much important subject for them. The students' satisfaction level needs to be improved with effective teaching methodology, proper course content, depth and extent, and weight to the subject. More class interactions between students and educators need to be employed along with more frequent assessments on the subject to keep up students' expectation. Clinical correlations of subject matter may help the students understand the course content properly. Findings of this study provide important information to the faculty and authority who want to design and adopt an effective, flexible and convenient nursing course in pharmacology for the graduating nurses.

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