



Undergraduate medical student's perception about an integrated method of teaching at a medical school in Oman

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ABSTRACT

Objective

In recent years, there has been a gradual but definitive shift in medical schools all over the globe to promote a more integrated way of teaching. Integration of medical disciplines promotes a holistic understanding of the medical curriculum in the students. This helps them better understand and appreciate the importance and role of each medical subject.

Method

The study was conducted among the 5th year Pre-clinical students. Questionnaire consisted of 4 questions on the level of integration, 5 questions on various aspects of the assessment and some questions which tested the level of awareness of the integrated method.

Result

Out of a total of 72 students present on the day of data collection, 65 participated in the study giving a response rate of 90.27 %. After primary data cleansing 4 questionnaires had to be omitted. Most of the students opined as "good" or "very good" for the questions on integration and its attributes. Only 27 (44 %) were aware of integrated curriculum being taught in other medical schools in the gulf. Similar findings were observed regarding assessment related questions. Reduction in the number of block exams is unpopular among the students and only 6% have agreed for 3, 4, or 5 non-summative block assessments. Opinion regarding the help of integrated teaching in IFOM based OMSB entrance examination was mixed with a greater variance in the responses. 43% students have indicated that they would like to spend more time with PDCI.

Conclusion

The students of our institution seem to have a favourable opinion regarding the integrated system of teaching. The satisfaction with the conduct of examinations and its related variables is found to be high. A reduction in the number of block exams however is unpopular among the target group and they would appreciate a greater time allocation for subjects of PDCI and Pharmacology.

Keywords: Integrated, Teaching, Medical Education

INTRODUCTION

In recent years, there has been a gradual but definitive shift in medical schools all over the globe to

promote a more integrated way of teaching where the subjects are not compartmentalized. Students who are taught individual subjects with no

GJMEDPH 2015; Vol. 4, issue 6

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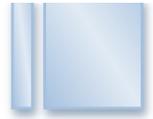
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Conflict of Interest—none

Funding—none



integration with other concurrently taught subjects, have shown to perform not as well as students who experience early clinical exposure and an integrated curriculum.^{1,2,3} Integration of medical disciplines promotes a holistic understanding of the medical curriculum in the students. This helps them better understand and appreciate the importance and role of each medical subject.^{2,3}

Integration of a medical curriculum is indeed a complex process. What creates additional complexity is the fact that it is differentially understood by the various stakeholders of the process.^{4,5} Much research concurs that curriculum integration through the inclusion of problem or case-based learning increases the quality of instruction, improves cohesiveness in sequencing the medical education programs, enhances communication of faculty and invigorates the learning process by developing critical thinking skills in students.^{6,7,8}

Oman Medical College follows a 7-year medical curriculum. The initial 3 years are the Pre-Med years and the later 4 are the Pre-Clinical and Clinical years. The curriculum of the 5th year Pre-Clinical component of the course is being in an integrated fashion since the year 2010. A faculty meeting is held once every week wherein a collective decision on the topics and modalities of teaching is arrived at. The subjects taught in this year are Pathology, Pharmacology, Microbiology, Physical Diagnosis & Clinical integration (PDCI) and Epidemiology & Public health. The list of lectures is prepared so as to achieve maximum organ-based integration of all the lectures planned for the week. This study was conceived to study the perception and satisfaction of the target audience for the integrated method of instruction and to give suggestions viable for implementation in the delivery of the integrated course to better match student expectation.

METHODS

The study was conducted among the 5th year Pre-clinical students in June –July 2015. The ethical clearance for the study was obtained from the institutional review committee of the medical college. After briefing the objectives and the

importance of the study, written consent of all the students who agreed to participate in the study was taken. The questionnaire consisted of 4 questions on the level of integration and its related attributes. This was followed by 5 questions which asked the students to grade various aspects of the assessment technique during the integrated course. Questions in these 2 sections were to be rated as ordinal variables on a scale of 1 to 5 with 1 being poor and 5 being excellent. The last section of the study tool composed of questions which tested the level of awareness of the integrated method of teaching and the students' perception about the appropriateness of the time allocated to each subject in view of the credit hours and the applicability of the subjects in their future career.

Suggestions and critique were invited of the method at the end of the questionnaire by exploratory questions.

RESULTS

The strength of the class was 89 students. The number of students in attendance on the day of the data collection was 72. Out of the present students, 65 consented to be a part of the study. Thus the response rate was 90.27 %. On primary data cleansing it was observed that 4 questionnaires were incompletely filled and hence the analysis of the remaining 61 forms has been used for the generation of results.

Out of the 61 students, only 3 were males and hence gender wise distribution of various aspects of integration were not studied due to the presence of extreme skewness of the distribution. This skewness is representational of the larger gender composition of the class.

The students were asked whether they know of the usage of the integrated method of teaching in other medical colleges in the Gulf region. It was observed that only 27 (44 %) were aware of the fact that integrated methodology has reached the doorsteps of the gulf medical schools.

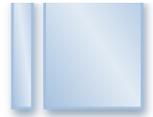


Table 1 Integration and Related Attributes

Integration attributes	Poor	Fair	Good	Very Good	Excellent
Level of integration	2 (3.3)	10 (16.4)	17 (27.9)	21 (34.4)	11 (18)
Overall organization and scheduling	2 (3.3)	5 (8.2)	19 (31.1)	26 (42.6)	9 (14.8)
Success of integrated organ system lectures	1 (1.6)	6 (9.8)	15 (24.6)	29 (47.5)	10 (16.4)
Case presentation and discussion	2 (3.3)	6 (9.8)	16 (26.2)	18 (29.5)	19 (31.1)

* Numbers in parentheses are percentages

Table 2 Assessment Technique Related Questions

Examination attributes	Poor	Fair	Good	Very Good	Excellent
Scheduling and conduct	6 (9.8)	6 (9.8)	16 (26.2)	22 (36.1)	11 (18.0)
Announcement clarity on SOLE [@]	1 (1.6)	2 (3.3)	6 (9.8)	19 (31.1)	33 (54.1)
Help in IFOM based OMSB [#]	2 (3.6)	12 (21.8)	20 (36.4)	16 (29.1)	5 (9.1)

* Numbers in parentheses are percentages

[@] SOLE is the education management system used at the institution from West Virginia University

[#] IFOM: International foundations of medicine, OMSB: Oman Medical Specialty Board, This item had 6 missing responses

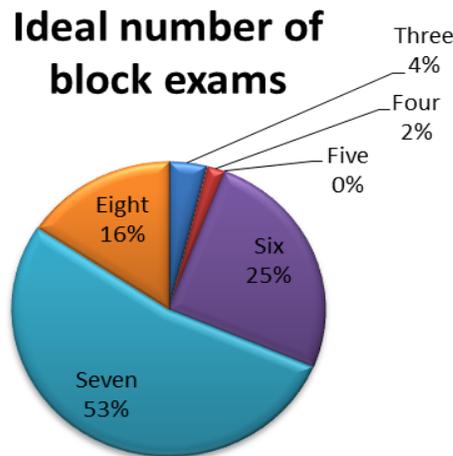


Figure 1 Ideal number of the non-summative block exams

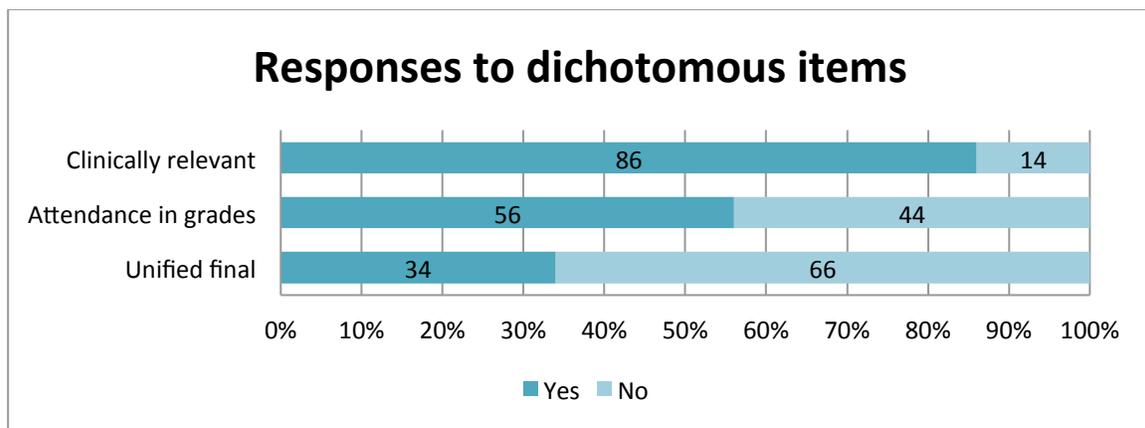
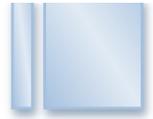


Figure 2 Response of the subjects to dichotomous questions



When asked if the students perceived the integration of pre-clinical curriculum so as to make them more clinically relevant, 50 (86 %) said that they agree with this. 34 (56 %) agree that attendance should be a part of the grades. Currently attendance is not graded with marks. However, the students are expected to have an attendance of over 80 % in the classes to be eligible for appearing in the finals.

The final summative assessment at the college is conducted as a computer based multiple-choice

question exam with single best answer on the SOLE educational management tool. Currently the various departments of the institution conduct a separate final examination of their subject. The opinion of the students on conducting a unified final examination where the questions will be based on integrated knowledge of all the subjects taught in the 5th year was inclining towards refusal of the idea with only 21 (34 %) of the students willing for a unified final.

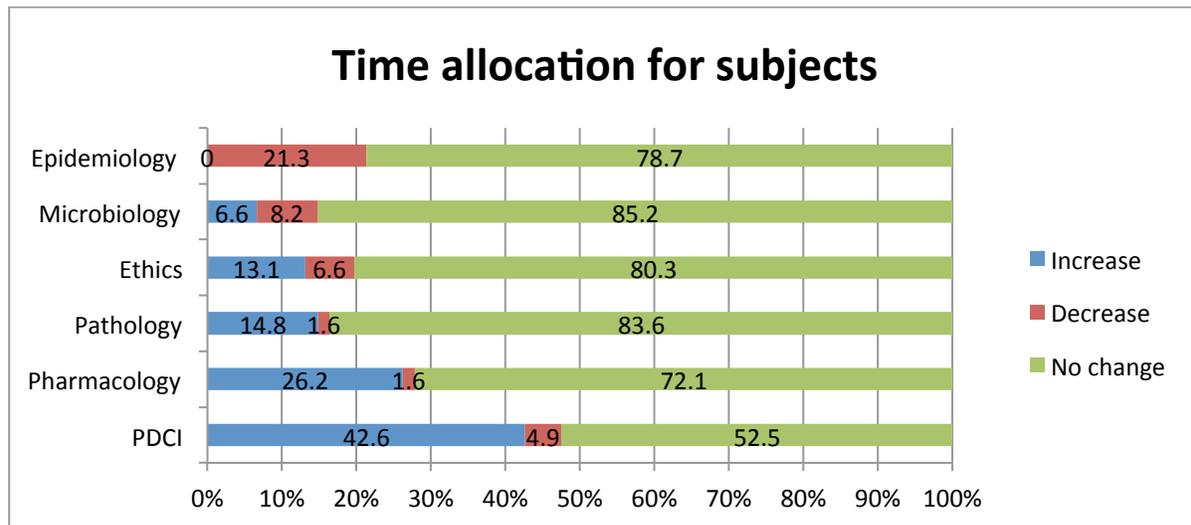


Figure 3 Appropriateness for time allocated for each subject in the Pre-clinical year

The figure 3 shows that subject students want more time to be allocated was for PDCI followed by Pharmacology, Pathology, Ethics and Microbiology. It is worthwhile to note that nobody in the sample wants an increase in the number of hours Epidemiology, Preventive Medicine and Biostatistics is taught. Any increase in the time allocation for PDCI thus could be accommodated by Epidemiology to a large extent followed by Microbiology. Based on the experience of the qualitative component of the study, it would be mentionable that the students have asked for an increase in duration of the course based on the level of difficulty they perceive for the subject.

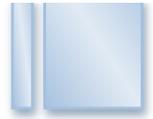
DISCUSSIONS

The overall feedback of the students regarding the integration of the curriculum was found to be very positive. For all the 4 questions regarding integration and its attributes in table 1, majority of respondents

have either sided with "Good" or "Very good". Similar findings have been also observed in other parts of the world where this methodology of education delivery is used.^{1,2,4,9,10}

In the examination section of the study, most of the study participants have reported that the scheduling and conduct of the examination is "very good". The examinations being held online, this is a major achievement. Good logistics and connectivity would have had a positive impact on the students' perceptions about the conduct of the exam. Care is taken to make all the announcements regarding examinations unambiguous and before adequate time. This item has received the most favourable response with more than half of the respondents rating announcements as excellent.

Presently the number of block exams conducted in the year is 3 for minor subjects and 6 – 7 for the



majors. This entails a huge layout in terms of time allotment for conduct of the exams. Keeping this in mind, the authors were interested in knowing the opinion about the number of non-summative block exams the students might want for the courses. The results show that most of them are satisfied with the current number of examinations as majority of them have opted for 7 block exams. Additionally, it is worth mentioning that reduction in the number of block exams is unpopular among the respondents. A miniscule number of them wanted to have 3, 4 or 5 block exams.

CONCLUSION

Keeping in line with the global experience of opinion and feedback regarding the integrated method of delivery of medical education, the students of our institution seem to have a favourable opinion regarding this system. The satisfaction with the conduct of examinations and its related variables is found to be high. A reduction in the number of block exams however is unpopular among the target group and they would appreciate a greater time allocation for subjects of PDCI and Pharmacology.

ACKNOWLEDGEMENT

The authors would like to state that they have no conflict of interest with regard to the study. There has been no external funding for the study. We extend our thanks to the students who have kindly consented to participate in the study and offer us an opportunity to study their perceptions and opinions about the teaching method and review its lacunas.

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