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Switching Trends in Medical Education: Faculty Perception

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ABSTRACT

Objective: To determine the level of awareness among faculty members of Sindh Medical College regarding switching trends in medical education from traditional to integrated modular system.
Study Design: Qualitative study (Phenomenology).
Place and Duration of Study: Sindh Medical College, Karachi Pakistan, from Nov 2019 to Jan 2020.
Methodology: The perception of 32 faculty members working in Sindh Medical College regarding Integrated Modular System (IMS) was explored through interviews, where participants were asked 12 open-ended questions, responses were coded, and theme and subthemes were drawn.
Results: Based on the participant's view, an integrated modular curriculum offers a more comprehensive approach to teaching. The majority of faculty believed that if only horizontal mode of IMS is implemented, it will be more effective and helpful for students to acquire in-depth knowledge.
Conclusion: The findings of the study suggest that IMS is a better option for medical education with the majority of faculty favoring horizontal IMS.

Keywords: Integrated modular system, Medical education, Traditional teaching.

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INTRODUCTION

In medical education, at an undergraduate level, integrated module systems (IMS) as a curriculum is being adopted, with a holistic approach to teaching basic and clinical sciences.[1] It is a transition from memorizing to more meaningful concepts[2] and connections.[3] IMS exists in two forms: Horizontal integration refers to integration among the basic disciplines only in the initial years and with clinical subjects in the later years while Vertical integration refers to the correlation between basics and clinical subjects and provides a better understanding of applied principles.[4,5] The combination of horizontal and vertical integrated systems refers to Spiral integration, which allows breakage of the traditional divide between preclinical and clinical studies.[5] As a result of this correlation, learners in different disciplines are able to respond to real-life situations and perceive patients holistically.[6] The World Health Organization (WHO) also supports the integration of the medical curriculum and recommends a student-centered approach.[7] IMS requires comprehensive planning for each module, coordination between departments, a large number of committed faculty members, and communication skills, which consumes more time.[3] Another problem, which also needs to be highlighted is the emergence of senior faculty resistance.[8] In Pakistan, IMS was introduced in the past decade and initial evidence from these institutes was of mixed type and identifying factors resisting this change.[9,10] The observations of this study may help to identify the redundancies of the failure of the vertically integrated module system in Pakistan.

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METHODOLOGY

The qualitative study was conducted to explore faculty experiences in-depth, to understand the phenomenon of integration for medical students, as well as its benefits, pitfalls, and challenges. The guidelines of Creswell were followed after organizing the data. For analysis, we did a preliminary exploratory analysis in our research as all the answers were in written form therefore there was no need to transcribe the content. This study was conducted from November to December 2019 at Sindh Medical College (SMC), Karachi, Pakistan, after obtaining approval of Institutional Review Board (letter number JSMU/IRB/2019/-264), where an integrated module system has been implemented since 2011. The participants were included based on their teaching experience in IMS as well as a traditional system for at least two years. A total of 32 participants belonging to different departments were enrolled.

Inclusion Criteria: Faculty members who had experience in traditional as well as an integrated teaching system.

Exclusion Criteria: Faculty members who did not volunteer or only had experience with only one system.

A purposive sampling technique was used. There were 12 open-ended questions for one-to-one interviews. Through a literature review, the content validity of the questionnaire was ensured, and it was vetted by experts to ensure construct validity. Thematic analysis was applied for identifying and refining themes from raw qualitative data without making assumptions about the participants.

RESULTS

Participants comprised 14 males (43.5%) and 18 females (56.25%) from different departments. The themes of the research were classified as benefits, pitfalls, challenges, and suggestions. A list of prevailing themes and subthemes is presented in Table-I.

Table-I: Themes and Subthemes, (n=32)

Theme/Code	Excerpts from the respondents' answers
Benefits	"IMS was a more comprehensive learning approach at the undergraduate level as compared to the traditional system".
Pitfalls	"There is a lack of proper planning and coordination among the policymakers and the faculty."
Challenges	"Most of the participants believed that faculty particularly senior faculty was not in favor of the implementation of this new integrated module system".
Suggestions	"Though this system is a little bit difficult in the initial years, students start to learn this advanced form of an integrated approach''

Theme-1: Benefits

Subtheme-1: Comprehensive Approach of Learning

Most of the participants stated that IMS was a more comprehensive learning approach at the undergraduate level as compared to the traditional system. They accepted the importance of this system:

"Relation of anatomy, physiology, biochemistry, pharmacology, and pathology and how they are related to disease and a link between all those subjects gives a better understanding".

Some of the faculty members did not agree with the idea:

"It puts extraordinary pressure on the students to study all the subjects at a time and correlate with them at the beginning of medical education"

Subtheme-2: Integration of Basic and Clinical Subjects

Most of the faculty members stated that the correlation of basics and clinical subjects at initial levels of medical education is helpful but to some extent, they have some reservations:

"If the students don't have sound knowledge of their basics subjects, then how can they correlate with clinical subjects, particularly in the initial years?"

They stated that the correlation of basics and clinical subjects should be started at least after six months of basic medical education. They said that the correlation of basics and clinical should be of limited material which can be better absorbed by the students:

"How students can understand anti-chemotherapy drugs in the first year of medical education when they don't have even the clear concepts of neoplasia."

Subtheme-3: Focus Learning Approach

Faculty members believe that a student who studies through IMS, particularly vertical IMS, is more focused on their learning approach:

"The student learns contextualization of different subjects and correlates it with disease."

However, some of the faculty members did not favor this idea, rather they believe that students are more confused with this system:

"It is not easy for every student to adopt this advance form of the model of medical education because of their weak higher secondary system from which majority of the students belong."

Theme-II: Pitfalls

Subtheme-1: Flaws in Planning and Coordination

The faculty believed that there were flaws in planning and coordination among the policymakers and faculty before implementation as well as during the whole tenure of the vertical IMS program.

Subtheme-2: Deficient in Basic Subject Knowledge

The majority of faculty members agree that students who studied through vertical IMS are found to be deficient in basic knowledge because of the burden of both basics and clinical subjects due to time constraints:

"Because of too much burden of basic and clinical subjects, students try to focus more on the clinical subjects as they are more interested as compared to basics subjects which are a little bit lengthier and a bit boring."

Subtheme-3: Confusing for Initial Years of Medical Education

The majority of the faculty members believed that vertical IMS is confusing for the students in 1st year:

"Majority of the students come from an intermediate background which does not give a strong conceptual as well as integrated knowledge so the students find difficulty in learning the integrated approach."

But one participant said:

"Though it is difficult for the students of 1st year over time, they start learning integrated approach."

Theme-III: CHALLENGES

Subtheme-1: Faculty Resistance

Most of the participants believed that senior faculty was not in favor of the implementation of IMS. The reason was:

"The faculty members believed that this IMS particularly the vertical one is not suitable at the undergraduate level because the competence of the majority of the students was not up to the level of this advanced mode of education."

"Faculty members were not happy with this system because it was more time-consuming and hectic."

Subtheme-2: Untrained Faculty

Faculty members stated that they were not trained before the implementation of IMS and they believe that they should be trained properly.

Theme-IV: Suggestions

Subtheme-1: Only Horizontal Mode of Education at the Undergraduate Level

The majority of the faculty members believed that horizontal IMS should be implemented at the undergraduate level as it is more feasible for the students to integrate easily and it is less burdensome for students as well.

Subtheme-2: Both Horizontal and Vertical Modes Simultaneously

Only some of the faculty members favored that both horizontal and vertical IMS should work simultaneously at the undergraduate level:

"Though this system is a little bit difficult in the initial years, but students start to learn this advanced form of an integrated approach''.

Table II: Frequency Of Emerging Themes After Thematic Analysis (n=32)

S,No	Themes	Frequency
1	BENEFITS	
	Comprehensive learning	12/32
	Integrate approach	12/32
	Focused learning approach	9/32
2	PITFALLS	
	Flaws in planning and coordination	22/32
	Lacking basic science knowledge	25/32
	Confusing for the initial years	22/32
	Lacking an effective awareness program	19/32
3	CHALLENGES	
	Faculty resistance	15/32
	Untrained faculty	15/32
	The communication gap between faculty and policymakers	16/32
4	SUGGESTIONS	
	Horizontal IMS only	19/32
	Both horizontal and vertical simultaneously	7/32

DISCUSSION

Shoemaker defines an integrated curriculum as "education that is organized in such a way that it cuts across subject-matter lines, bringing together various aspects of study."[6] Currently, there is a debate over whether the medical curriculum should be discipline-based or integrated.[11-13], as the ongoing discussion of integration in medical education contributes to dynamic development in the field of teaching and learning process for students.[14-16] In this study, the faculty of Sindh Medical College appreciated IMS at an undergraduate level but at the same time, they highlighted the disadvantages and pitfalls of this system, particularly vertical IMS, which to some extent is not compatible with the system of intermediate education, to which most of the students belong and they also emphasized that before the implementation of a new method, it should first be ensured whether it is compatible with our demographic requirements or not[17-20]. Vertical IMS can be a good system of medical education when the students are already aware of an integrated approach to learning with sound basic knowledge of the subject.[21] The faculty members

emphasized that horizontal IMS is a better option in which the students correlate basic subject knowledge in the initial years and in later years, correlate with clinical subjects. The participants stated that due to persistent changes in community requirements, medical students are required to gain meaningful, organized, and practical knowledge[18,21]. In this study, faculty members give several suggestions. First, they said implementing an integrated curriculum in medical education is not only difficult but challenging as the integration of curriculum may be able to elevate all academic stakeholders to success, if faculty members are familiar with the emerging issues in their own settings. Second, without a clear understanding of this phenomenon, there is a dire need for faculty development/training, and alignment of all stakeholders on the same page.

LIMITATION OF STUDY

Only experienced faculty were included, and most of the newly appointed faculty was not included. Most of the faculty members did not allow recording of their interviews and only the opinion of faculty members was included, not policymakers. Students perceptions were not included.

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CONCLUSION

An integrated modular system is a better option for medical education, if it is implemented in a true spirit, with dedicated and trained faculty and with effective communication among the faculty members and policymakers. The majority of faculty believed that if the only horizontal mode of IMS is implemented, it will be more effective and helpful for the students to acquire in-depth knowledge of the subject and its correlation.

Conflict of Interest: None.

Authors Contribution:

Following authors have made substantial contributions to the manuscript as under:

TS & TZ: Data acquisition, data interpretation, critical review, approval of the final version to be published.

ZI & BAS: Study design, data analysis, data interpretation, drafting the manuscript, critical review, approval of the final version to be published.

GA & YW: Conception, data acquisition, drafting the manuscript, approval of the final version to be published.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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