FRAME FACTORS FOR IMPLEMENTATION OF INTEGRATED CURRICULUM IN PUBLIC SECTOR MEDICAL COLLEGE - FACULTY'S PERSPECTIVE

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ABSTRACT

Objective: To prospectively explore the frame factors influencing the planned implementation of integrated curriculum at Allama Iqbal Medical College, Lahore from the faculty's perspective.

Study Design: Qualitative exploratory phenomenological design using constructivist approach.

Place and Duration of Study: Allama Iqbal Medical College Lahore from Sep to Dec 2014.

Material and Methods: Purposive sampling was done and consisted of seventeen teaching faculty members of undergraduate subjects and two qualified medical educationists. Face to face semi structured in-depth interviews were carried out which were audio recorded. The interviews were then transcribed and thematic analysis carried out through manual matrix method and by using software N VIVO 10. Triangulation of themes, subthemes and nodes was done in the content by relating to their respective frequency of quotes and word cluster. Data verification was done through member checking by second and third authors.

Results: The promoting factors were political will, strong leadership, faculty training and development, ownership of new curriculum, teamwork, incentives and communication. The potential impediments to curricular change were fear of the unknown, fixed mindset, faculty resistance due to age and competing agendas. However, to address these impediments besides augmenting promoting factors, piloting of the portion of a curriculum for phase was considered essential.

Conclusion: The faculty's perspective in regard to the frame factors influencing the planned implementation of integrated curriculum at public sector medical college yielded new information which will serve as a road map to the intended implementation of integrated curriculum at public sector medical colleges from the year 2017.

Keywords: Faculty's perspective, Frame factors, Integrated curriculum, Planned implementation, Public sector medical college.

OPERATIONAL DEFINITIONS

Faculty member: A person, generally with a terminal degree, who is often expected to be successful in clinical work, research, teaching and community service[1].

Integrated curriculum: The concepts and key ideas from several disciplines are combined together in a logical manner[2].

INTRODUCTION

Health care has gained a central position among issues concerning the public[3-5].

Governments, public and the medical profession recognize that medical education has not kept pace with the health-care needs of population across the world[6-8]. The responsibility for producing appropriately trained doctors lies with medical schools and this is determined by the curriculum[9].

A number of developments in the last few decades have forced the medical educationalists to critically evaluate the traditional Flexner model of subject and hospital based curriculum[10]. Influenced by these developments medical educationalists have introduced many different curricular models[11]. Examples of different curricula which may coexist include: core and student selected components[12], spiral curriculum[13], problem based learning[14], outcome

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based education[15], task based learning[16], and an integrated system based approach[17].

In an integrated curriculum, the concepts and key ideas from several disciplines are combined together in a logical manner. There are three approaches to integration namely horizontal, vertical and spiral[18]. Research has also established that curriculum organization has an

be easy to identify and may be specific for different settings. Their identification and management is necessary for producing sustainable curriculum reform[23]. In Pakistan very few medical schools have adopted or changed over from traditional to integrated curriculum[24]. Therefore, the need was felt especially keeping in mind the de-recognition of Pakistan's medical undergraduate qualification abroad from the

Appendix A- Matrix table displaying themes and subthemes

Theme 1	Factors promoting curricular change
Theme 2	Factors impeding curricular change
Theme 3	Handling impediments to curriculum implementation

Subtheme 1	Organizational factors
Subtheme 2	Personal factors
Subtheme 3	Student factors

Appendix B- Matrix table with themes, subthemes, nodes and matching verbatim from transcribed interviews

Theme 1	Factors promoting curricular change
Subtheme 1	Organizational factors
Nodes	Verbatim
Political will	Supported by the principal or whoever is in charge and if we have the support of the university, I think this should not be a difficult task.
Leadership	In any institution, in any new program, a strong leader would matter
Ownership	The faculty has to be convinced. Ownership of the change whatever you're planning to take! They must own the entire program
Teamwork	Collaboration with in the departments would be very important
Incentives	Incentive should be in the form of experience certificate, recognition of experience or something like that, not necessarily money motivates you.
Communication	The spine of the matter is communication.
Theme 1	**Factors promoting curricular change**
Subtheme 2	Personal factors
Nodes	Verbatim
Mindset	There are people in the faculty that will push the interests of the students for the betterment of the student and to train them in a better way as good doctors
Faculty training	Formal training especially formal training in teaching
Age	Younger people would be more receptive to this way of teaching
Theme 1	**Factors promoting curricular change**
Subtheme 3	Student factors
Nodes	Verbatim
Small class size	Preferable over large class size

effect on students learning outcomes[19,20]. The degree of integration however varies from treating the disciplines in isolation to transdisciplinary designs[21].

There are three stakeholder identified in a newly introduced curriculum - students, course directors (faculty members) and curriculum leaders[22]. The frame factors influencing planned implementation of integrated curriculum may not

year 2023 without integrated curriculum to clearly identify these factors so that a smooth transition can be made from the era of traditional curriculum to integrated curriculum in public sector medical colleges of Pakistan. Rationale of this study was to indentify the frame factors influencing the planned implementation of integrated curriculum at Allama Iqbal Medical College, Lahore, Pakistan from the faculty's perspective.

MATERIAL AND METHODS

This qualitative study was conducted from 01st Sep 2014 to 22nd Dec 2014 in order to

prospectively explore the phenomenon ("essence of human experiences concerning a phenomenon" as described by participants in a

Appendix C-word frequency count

Word	Length	Count
Faculty	7	15
Factors	7	12
Integrated	10	10
Students	8	8
Teaching	8	8
Curriculum	10	7
Feedback	8	7
Experience	10	6
Properly	8	6
Training	8	6
Clinical	8	5
Institution	11	5
Leadership	10	5
Student	7	5
Communication	13	4
Confidence	10	4
Evaluation	10	4
Improve	7	4
Knowledge	9	4
Management	10	4
Resource	8	4
Standards	9	4
Support	7	4
Teachers	8	4
Agendas	7	3
Approach	8	3
Challenge	9	3
Competing	9	3
Conflicts	9	3
Identity	8	3
Involve	7	3
Medical	7	3
Meetings	8	3
Mindset	7	3
Organizational	14	3
Personal	8	3
Previous	8	3
Receptive	9	3
Responsibility	14	3
Structure	9	3
Teamwork	8	3
Trained	7	3
Actually	8	2
Available	9	2
Barriers	8	2
Benefits	8	2
Certain	7	2
Collaboration	13	2
Collaborative	13	2
Compared	8	2
Completely	10	2
Curricular	10	2
Department	10	2

study)[25] of curricular change planned to be implemented through faculty's perspective at the Allama Iqbal Medical College Lahore, using non-probability purposive sampling technique, after approval from the institutional review board and permission from the head of the institution in addition to informed consent of the participants of the study. The sample consisted of seventeen teaching faculty members, one from each subject being taught in undergraduate program of Allama Iqbal Medical College with equal representation of professors, associate professors and assistant professors from both basic and clinical sciences and two qualified medical educationists from among the faculty members. The purpose for selection of these faculty members was to get representative sample from junior to senior faculty and from both basic and clinical sides respectively.

The data were collected through semi structured in-person interviews (pre-determined open-ended interview questions posed in accordance with the logical sequence of the conversation) with the faculty members. All interviews were audio-recorded and field notes were taken to explore and generate a list of the factors positively or negatively influencing the planned implementation of integrated curriculum.

The process of data analysis involved making sense out of the thick description. The phenomenological research uses the analysis of significant statements, the generation of meaning units and the development of "essence" description[26]. Therefore, the data analysis procedure included: Firstly, the transcription of audio recorded interviews and coding to maintain anonymity and confidentiality of interviewees. Secondly, researcher-1 read through all the data and tried to obtain a general sense of the information and reflected on its overall meaning in regard to factors influencing implementation of integrated curriculum. This interpretation was shared with researcher-2 & 3 to verify plausibility of interpretations. Thirdly, researcher-1 organized the factors positively and

negatively influencing implementation of integrated curriculum into separate chunks by coding them through manual matrix analysis and by using software N VIVO 10 for triangulation. Fourthly, I generated a list of themes, subthemes and nodes (attached as appendix 'A' and appendix 'B') through constant iterative approach and sharing them with researcher-2 and 3 to further put my interpretations to the test of confirmability and changes were made accordingly. To validate the embedded sturdiness in data analysis, the respective frequency of quotes is attached as appendix 'C' and word cluster is attached as appendix 'D', which helped me in developing the qualitative narrative in the form of discussion

RESULTS

The three themes that emerged in regard to frame factors influencing the planned implementation of integrated curriculum identified were: factors promoting curricular change, factors impeding curricular change and handling impediments to curriculum implementation and the three subthemes identified under each theme are: organizational factors, personal factors and student factors. The findings revealed that political will, strong leadership, faculty development, ownership of new curriculum, teamwork, incentives and communication were among the promoting factors classified under the headings of nodes in the matrix table whereas, poor leadership, poor teamwork, lack of resources, lack of faculty training, fear of the unknown, fixed mindset, faculty resistance due to age and competing agendas were among the potential impediments to curricular change again classified under the heading of nodes in the table. However, to address these impediments, political will, strong leadership, good resource management, adequate faculty development, promotion of teamwork, open channels of communication with all stakeholders and piloting of the portion of a curriculum for phase-in were considered essential.

DISCUSSION

In an article by Muller et al, perceptions of the students, faculty and curriculum leaders have been described with regard to success and challenges during first year of implementation but without going into details of factors influencing the implementation. Four major themes emerged: interdisciplinary teaching; interdisciplinary faculty collaboration; building curricular links, and sequencing and framing curricular content. Cross-group analysis revealed participant agreement that an integrated curriculum required interdisciplinary teaching, clinical application and careful oversight. Differences among groups were also identified.

administrators, diffuse organization of medical schools, ignorance of appropriate curriculum design and implementation), the interviewees also identified certain facilitative factors (e.g, strong leaders, faculty development programs, and reform of the faculty reward system)[28]. However, in our study the focus was on faculty's perspectives only and the factors influencing the implementation of integrated curriculum were explored in much more detail with elaboration of factors promoting and impeding curricular change. Furthermore, the question of how to handle the impediments was explored in detail thus enlightening us with new dimension of data and providing a road map to successful

Appendix D- word cluster.

Faculty (course directors and curriculum leaders) discussed faculty collaboration and the challenges of faculty buy-in and course implementation. Students highlighted the impact of integration on their learning and the challenges of sequencing and scaffolding content. Both students and course directors focused on course monitoring and conceptual links for student learning[27]. However, in this study we concentrated on just faculty's perspective with more details about promoting factors, impediments and how to handle the impediments in implementation phase.

In another article by Tresolini an integrated health care model in medical education has been discussed with interviews of faculty and administrators. The barriers to integration were identified (e.g, negative attitudes of faculty and

implementation of integrated curriculum.

In still another article by Bland et al a literature review was carried out about contributors to successful curricular change. The frequent reappearance of the same characteristics in the varied fields and settings suggests they are robust contributors to successful change. Specifically, the characteristics are in the areas of the organization's mission and goals, history of change in the organization, politics (internal networking, resource allocation, relationship with the external environment), organizational structure, need for change, scope and complexity of the innovation, cooperative climate, participation by the organization's members, communication, human resource development (training, incorporating new members, reward structure), evaluation, performance dip (i.e., the

temporary decrease in an organization's performance as a new program is implemented), and leadership[29]. However, in our study an original qualitative phenomological research was carried out through semi structured interviews of faculty members with much more in depth analysis of the factors influencing the implementation of new curriculum instead of literature review. Moreover, this study was more specific with regard to implementation of integrated curriculum at public medical colleges instead of overview presented in this article.

RECOMMENDATIONS

The findings of this study are faculty's perspective only and are transferable to a similar context i.e. a public sector medical college in Pakistan with identical circumstances. The following recommendations are made.

1.   Gathering adequate support-Internal support from those with administrative authority (dean's office, hospital administration, departmental chair, program director, division director, etc.), faculty, learners and other stake holders. External support from government, accreditation bodies and professional societies.

2.   Appointment of effective leadership-The effective change leader requires a toolkit of appropriate actions, analyses and competencies in addition to leadership behaviors and values.

3.   Faculty training and development- It is of crucial importance in creating and sustaining curricular change, and could be described as the enhancement of educational knowledge and skills of faculty members so that their educational contributions can extend to advancing the educational programme rather than just teaching within it.

4.   Resource management-the resource limitations can be in the form of financial resources, manpower resources, lack of infrastructure and time in the form of competing demands of the faculty.

5.   Negative Organizational forces-Negative organizational forces need to be manipulated towards the positive side after doing the forcefield analysis to implement the integrated curriculum.

CONCLUSION

Proper planning paves the way for smooth transition through curricular change in any institution and Plan–Do–Check–Act (P–D–C–A) cycle remains the corner stone in the process.

The faculty's perspective in regard to the frame factors influencing the planned implementation of integrated curriculum at public sector medical college yielded new information in the form of prospective promoting factors which included political will, strong leadership and faculty development. The fear of the unknown, fixed mindset, faculty resistance due to age and competing agendas were among the potential impediments to curricular change. However, to address these impediments, political will, strong leadership, good resource management, adequate faculty development, promotion of teamwork, open channels of communication with all stakeholders and piloting of the portion of a curriculum for phase-in were considered essential. This information will serve as a road map to the intended implementation of integrated curriculum at public sector medical colleges from the year 2017.

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CONFLICT OF INTEREST

This study has no conflict of interest to declare by any author.

REFERENCES

1. Wilkerson LA, Doyle LH. Developing teachers and developing learners: Medical Education Theory and Practice: Edited by Dornan T, Mann k, Scherpbier A et al: Churchill Livingstone Elsevier Toronto 2011: 2(19): 317.

2. Dent JA, Harden RM. Integrated learning: A practical guide to medical teachers 3rd Ed: Churchill Livingstone Elsevier 2009: 3(22): 184.

3. Medical Committee of Universities Funding Council. First report of the effects of NHS reforms on medical and dental education and research. London: Universities Funding Council, 1991.

4. Medical Committee of Universities Funding Council. Second report of the effects of NHS reforms on medical and dental education and research. London: Universities Funding Council, 1991.

5. Stocking B. Medical advances: the future shape of acute services. London: King's Fund, 1992.

6. Parry KM. Medical education worldwide. Med Educ 1985; 19: 487-02.

7. Walton HJ, Medical education worldwide: a global strategy for medical education: partners in reform. Ann Community-Oriented Educ 1993; 6: 327-32.

8. Marston RQ, Jones RM, eds. Medical education in transition. Commission on medical education: the sciences of medical practice. Princeton, New Jersey: The Robert Wood Johnson Foundation, 1992.

9. Parsell GJ, Bligh J. The changing context of undergraduate medical education: Techniques in medical education. Postgrad MedJ 1995; 71: 397-403.

10. Flexner A. Medical Education in the United States and Canada: A Report to Carnegie Foundation for the Advancement of Teaching Bulletin No. 4. Boston, MA: Updyke, 1910.

11. Dent JA, Harden RM. New horizons in medical education: A practical guide to medical teachers 3rd Ed: Churchill Livingstone Elsevier 2009: 1(1): 1-3.

12. Harden RM. Davis MH. The core curriculum with options or special study modules. Medical Teacher 1995.17:125-148

13. Harden RM, Davis MH. The continuum of problem based learning. Medical Teacher, 1998. 20(4): 301-306.

14. Harden RM, Stamper N. What is a spiral curriculum? Medical Teacher 21(2): 141-143.

15. Harden RM, Crosby JR, Davis MH. An introduction to outcome-based education. Medical Teacher 1999: (1); 7-14.

16. Harden RM, Crosby JR, Davis MH. Task based learning: the answer to integration and problem-based learning in the clinical years. Medical Education 2000: 34: 391-397.

17. Harden RM. The integration ladder: a tool for curriculum planning and evaluation. Medical Teacher 2000; 34: 551-557.

18. Papa FJ, Harasym PH. Medical Curriculum Reform in North America, 1765 to the present: A Cognitive Science Perspectiv. Jac. Med., 1999; 74: 154- 164.

19. Harden RM, Sowden S, Dunn WR. Educational strategies in curriculum development: The SPICES model. Medical Education. 1984; 18(4): 284–297.

20. Harden RM. The integration ladder: a tool for curricular planning and evaluation .Medical Education 2000: 34; 551-557

21. Gale R, Grant J. Managing change in a medical context: some guidelines for action. London: The Joint Centre for Research and Development in Medicine, British Postgraduate Medical Federation, 1990.

22. Lindquist J. Strategies for change. Berkeley California: Pacific Sounding Press, 1978.

23. Harden RM, Sowden S, Dunn WR. Educational strategies in curriculum development: The SPICES model. Medical Education. 1984; 18(4): 284–297.

24. Sandila MP, Siddiqui NA, Bawa MT. An integrated curriculum for MBBS. Journal of Pakistan Medical Association 2001: 51(60).

25. Creswell JW.A framework for design: Research design: Qualitative, quantitative and mixed method approaches 2 Ed: Sage publications 2003: 1(1): 6.

26. Robson C. Real world research: A resource for social scientists and practitioner-researchers 2 Ed: Blackwell publishing Australia 2002: 2(6): 198-199.

27. Muller JH, Jain S, Loeser H. Lessons learnt about integrating a medical school curriculum: perceptions of students, faculty and curriculum leaders: Med Educ: 2008; 42 (8): 778-85.

28. Tresolini CP, Shugars DA. An integrated health care model in medical education: interview with faculty and administrators: Acad Med: 1994: 69(3): 231-6.

29. Bland CJ, Starnaman S, Wersal L. Curricular change in medical schools: how to succeed: Acad Med: 2000; 75: 575–594.

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