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Original Article

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Abstract

Objective: To assess the satisfaction of medical students regarding community oriented knowledge and skills that are proposed to be part of the current undergraduate medical curriculum.

Methods: Competencies listed in the regulations for medical education designed by the Pakistan Medical and Dental Council (PMDC) were used to develop a self-administered questionnaire. Using the questionnaire 220 final year students of 3 public sector medical schools self-rated the knowledge and skills that should be part of the curriculum. For analysis the questions were grouped into courses of Basic, Clinical and Community Health Sciences. Students ranked their perceptions on a Likert scale of 0-4 for each question. Descriptive analysis was done to calculate the proportion of satisfied and dissatisfied students using the median of the highest possible score as the cut off.

Results: The analysis of knowledge gained found a greater proportion of satisfied students with the Basic (55.9%) and Clinical Sciences (50.9%) courses than the Community Health Sciences course (45.5%). Analysis of skills acquired uniformly showed a low percentage of satisfied students for Basic (39.1%), Clinical (29.7%) and Community Health Sciences (19.1%). The proportion of students dissatisfied with their knowledge and skills for different courses ranged from 38.2-85%.

Conclusion: Students perceive that current medical school curricula are unable to meet the required standards. Proper implementation of community oriented curricula is the first step towards effective health care provision (JPMA 56:313;2006).

Introduction

Medical education is the foundation for establishment of a good health care system. It has undergone major transformation along with the change in concepts of health and disease. The important driving factors for this transformation in medical education are the rising costs and inequities in health care.[1] Production of disease oriented physicians relying on high-tech clinical settings had been attributed to the traditional technology-based western model of medical education.[2] One of the consequences of which is the allocation of a large proportion of meager health resources to curative health care with little improvement in health of the population and ignorance of integral aspects of health promotion and disease prevention. Developing countries bore the major brunt.[3,4] This calls for the redesigning of medical education system to cater for the health needs of the population.

The varying health needs of different nations necessitate the development of locally adapted curricula. Community oriented medical education (COME) came in as

an evolutionary approach to medical education. It lays profound stress on community health needs, socio-cultural aspects of health and disease and work in collaboration with the community for health promotion, disease prevention and cure. Hence promising the production of health oriented physicians equipped with multidisciplinary skills.[5] The Edinburgh Declaration and the World Summit Recommendations of 1995 further reinforced this approach to medical education.[6,7] Thus the educational institutions were urged to restructure curricula to encourage lifelong and self-motivated learning in hospitals and communities, along with government and community partnerships.[1,8]

The Pakistan Medical and Dental Council (PMDC), the national regulatory body of medical education, in its regulations for undergraduate medical training also stressed upon the production of community oriented doctors in accordance with the concept of COME. The section I and III of the PMDC regulations delineate the objectives and the knowledge and skills that should be imparted to undergraduate medical students.[9] This study aimed to assess the perception of COME based knowledge and skills that medical students gain from the current undergraduate medical curriculum. Hence it identifies the gaps in the current medical training.

Methods

There are 14 registered medical/dental colleges in Karachi, 3 of which belong to the public sector[10] and account for almost 70% of the medical student's enrollment in the city every year. This survey, done in October 2004, targets the final year medical students of the three public sector medical colleges of Karachi.

After taking permission from the respective administrations the new batch final year students in each college were contacted by ex graduates of the same college. We intended to include all available final year students in the 3 medical colleges hence no sample size was calculated. Students were approached in lecture halls, library, corridors and even in hospital wards. Verbal informed consent was taken from all those approached. Those who consented to participate were asked to fill a pre-tested questionnaire. A total of 390 final year medical students were contacted in the selected medical colleges of which 220 volunteered to fill the questionnaire.

The questionnaire used in the study was designed primarily in accordance with the proposed knowledge and skills delineated in the section I and III of PMDC regulations, however few additional questions were incorporated. The added questions assessed the student's knowledge about priority health problems, socio-cultural aspects of health, the national health policy and the guidelines for management of common health problems. The additional questions also focused on skills of research and interpersonal communications (Appendix 1). The questionnaire included knowledge and skills pertinent to the concept COME and necessary for development of community oriented medical professionals. Knowledge was considered as the understanding of different aspects of a subject, whilst skills were regarded as the practical demonstration and/or application of knowledge. Before use in the study the questionnaire was pretested and necessary modifications were made. Student's perceptions of the knowledge and skills were graded on a Likert scale of 0-4 (0=extremely poor, 1=below average, 2=average, 3=above average, 4=excellent). Quality of data collected was ensured by immediately checking the questionnaire of completeness and requesting them to answer all questions to avoid missing data.

The data was edited and entered in Epi info version 6.0 and analysis was done using SPSS version 10.0. Responses were sorted as satisfactory or unsatisfactory using the median of highest possible score (that is 2) as the cut off. A subject whose score for a particular question was less than or equal to 2 was classified as dissatisfied. Questions were categorized into Basic, Community Health and Clinical Sciences courses. The Basic Sciences course included questions on Anatomy, Physiology, Biochemistry, Pharmacology, Forensic Medicine and Pathology. The Community Health Sciences course comprised of questions about Community Medicine and Behavioural Sciences whilst the Clinical Sciences course included questions on General Surgery, General Medicine, Paediatrics, Gynaecology and Obstetrics, Ophthalmology and Otorhinolaryngology. Analysis was done to see the proportions of students satisfied and dissatisfied with their knowledge and skills of the three courses and to find out the proportion of students dissatisfied with each of the sciences in the curriculum.

Results

Analysis of questions on the knowledge of the Basic Sciences course showed that 55.9% students were satisfied with the knowledge (core concepts of anatomy, physiology, biochemistry, pharmacology, forensic medicine and pathology) they acquired from the curriculum. However, only 39% students were satisfied with the acquired skills (practical demonstration of knowledge like identification of anatomical structures, elicitation of physiological phenomena, collection of human samples, etc.) of Basic Sciences. Moreover, acquired knowledge and skills for the Community Health Sciences course showed only 46.8% and 19% satisfaction proportions respectively. This included the additional questions pertaining to knowledge of priority health problems, national health policy and socio-cultural

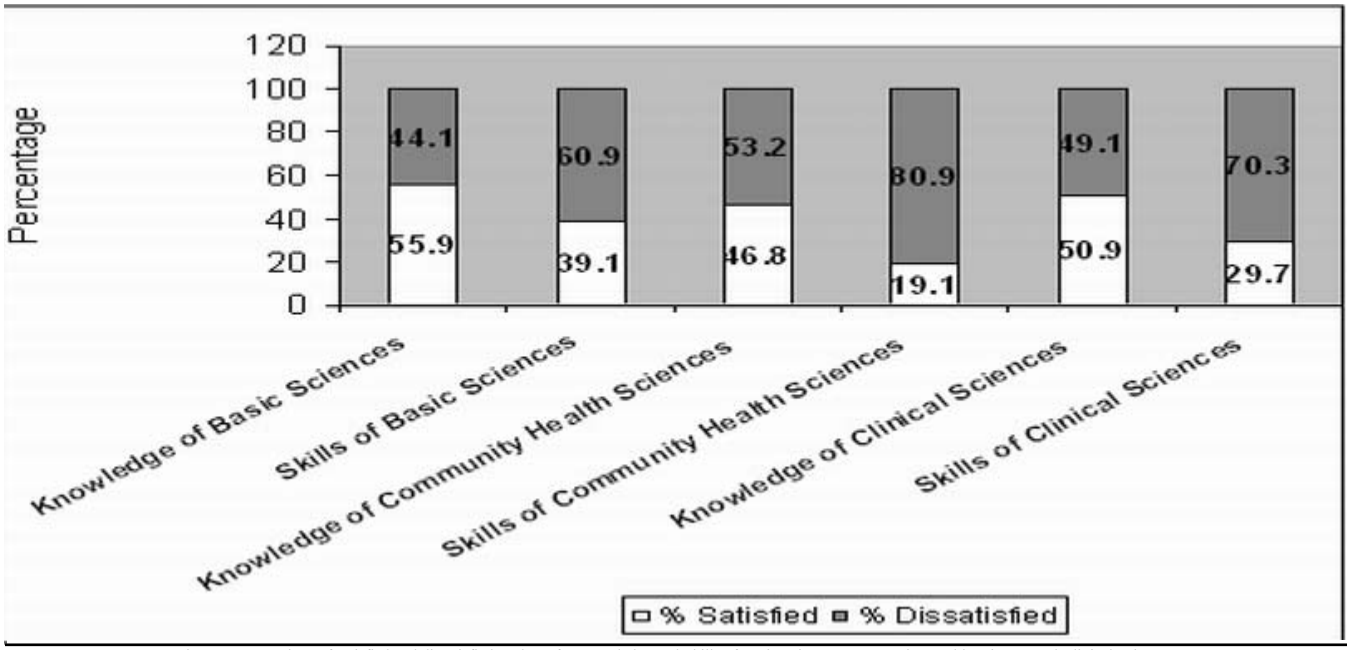

Figure 1. Proportions of satisfied and dissatisfied students for Knowledge and Skills of Basic Sciences, Community Health Sciences and Clinical Sciences.

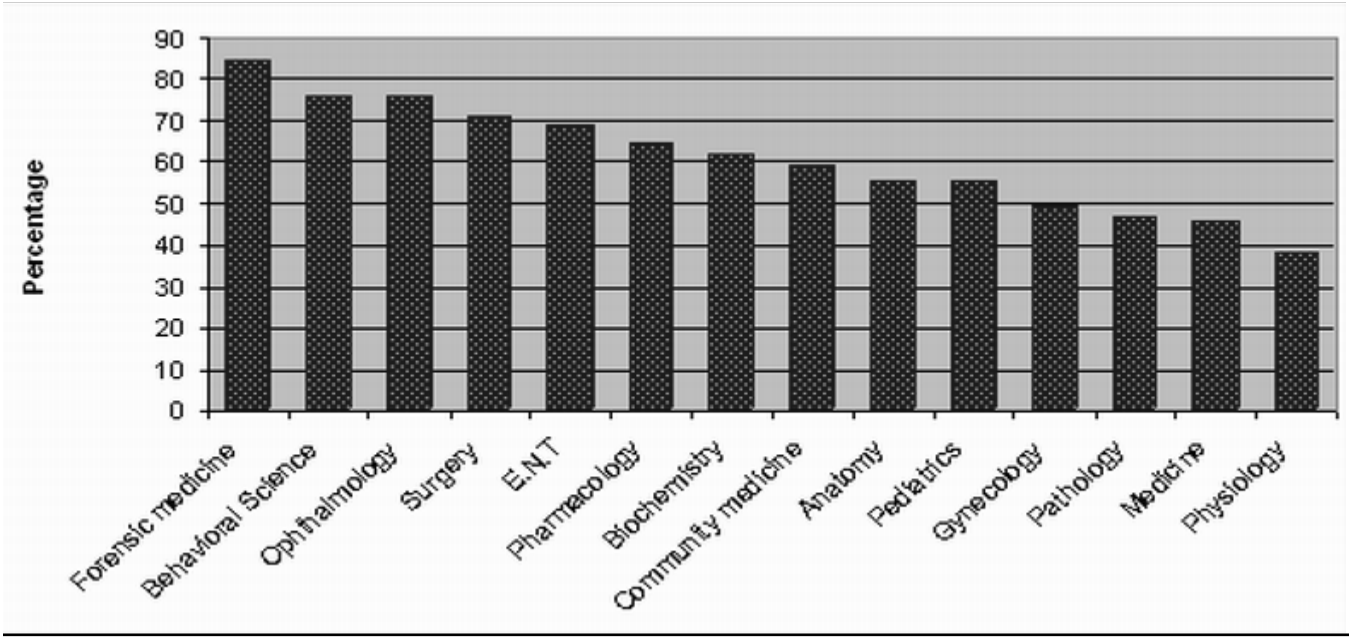

Figure 2. Proportion of dissatisfied students for each science.

factors related to health and skills of interpersonal communications and research. Questions concerning the guidelines for management of common health problems were not analyzed. The acquired knowledge for Clinical Sciences course showed a student satisfaction proportion of 50.9%, while that of skills related to clinical sciences illustrated a satisfaction proportion of 29.7% (Figure 1).

Analysis of each of the sciences taught in the curriculum showed a wide range for the proportions of dissatisfied students (38 to 85%). More than half of the students were dissatisfied with the knowledge and skills of Forensic Medicine, Behavioural Sciences, Ophthalmology, Surgery, Otorhinolaryngology, Pharmacology, Biochemistry, Community Medicine, Anatomy and Paediatrics. Nonetheless a higher percentage of students were satisfied with the knowledge and skills of Gynaecology and Obstetrics, Pathology, Medicine and Physiology (Figure 2).

Discussion

Results of the study showed that of the 14 subjects taught in the medical curriculum, more than 50% of the stu-

students were dissatisfied with 10 (71.4%) subjects. The results also established that majority of the students had satisfactory opinion about the acquired knowledge of Basic and Clinical Sciences, but most of them were dissatisfied with their knowledge of Community Health Sciences. The reason for this may be the traditional low importance given to the subject or the teaching style. The students might not be provided an opportunity to learn the working and issues of primary care instead their training is entirely hospital based and focused exclusively on tertiary care.[11] Proper knowledge of Community Health Sciences could provide trainees an insight into the socio-cultural aspects of health and disease and would enable them to manage problems in the local scenario using cost effective strategies. Medical graduates trained in curricula indifferent to community needs and available resources are inapt to work in local settings resulting in the disappointment and massive brain drain witnessed by the nation.[12-14] The approach of COME provides a solution to all these problems by redefining the role of medical schools and advocating the provision of a balanced training focusing on research, education and services.[8,15]

Furtheron, the study results highlighted that the students ubiquitously perceived their skill acquisition as unsatisfactory for each of the three groups of sciences. Skills in medical training need to be taught by demonstration and supervised practice and subsequently evaluated. However, students of the selected medical colleges recognized that the present curriculum is inadequate in provision of skills. These findings are consistent with a similar study done in one of the public sector medical college of Karachi in 1985.[16] This indicates that over the years there has been no significant change in the training at public sector medical colleges inspite of the obvious transformation in disease pattern and health care needs of the community.

This study has limitations including ignorance of several factors that may influence student's perception of knowledge and skills. We presumed that respondents of the same batch would have similar exposure to capacity building opportunities in the respective settings, although personal and situational factors may have differed. The students who participated in the study included only those who were present at the time of data collection. However, we believe that those who were present and agreed to participate would have better evaluated the curriculum. Therefore, there may be some over estimation in satisfaction proportions.

Community based educational strategies have proved to be mutually beneficial for physicians and the community in developed and developing countries.[17,18]

The findings of this study are not generalizable to all medical colleges of the city/country but indeed reflect a unanimous call for an effective curricular change. Such transformation is not an impossible event and some medical colleges in Pakistan have been the torch bearers of community based education even in face of all odds.[19-21]

Implementation of COME based undergraduate medical education curriculum stands as our hope for integrating medical education with community health care.

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