Original article

Attitudes of medical graduates of Jimma institute of health sciences towards research programme: A preliminary study

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Abstract: The attitudes of graduates, who had taken the Medical Doctoral (MD) degree at Jimma Institute of Health Sciences (JIHS), were questioned about their retrospective perceptions of the Research Programme (RP), to determine whether the programme had any influence on the research career of the graduates. The results showed that the graduates hold a high impression on RP after regular association with what they encountered in the work situation. The majority of the respondents regarded the contents of the RP as more valuable (76%) and relevant (74%) to their study in relation to the research linked-demand of the courses and invaluable (72%) to their professional career. Eighty-six percent of the respondents credited the RP with changing their attitude towards research. These retrospective perceptions of the RP match with the benefit reported in other studies of similar programme. The more effective a programme is the better the motivation and the more positive the attitude. From the result of this study, it can be concluded that research programme at the JIHS has a substantial effect on the attitudes of medical graduates. [*Ethiop. J. Health Dev.* 1997;11(2):103-108]

Introduction

The tremendous advances made in the health sciences have had an immense impact on all phases of health science teaching and have brought new direction to the medical educational system. The current argument in the health science teaching centers around the need to develop effective and comprehensive programmes that could reach community (1-5). In this regard, health education is broadened to include a social outlook and to involve the community in the health educational system. In response to these innovations, WHO has attempted to apply to the sciences teaching theories in community concepts, taking note of its pervasive influence in the socio-health transformation as a key towards the achievement of "Health for All" (6). To realize these community health concepts in educational settings, a Community-Based Education Programme (CBEP) was conceived by the WHO Study Group in 1987 (7,8). Since then many universities and colleges introduced courses and practices in line with the demand of CBEP (9-12), and developed teaching methods, which conform to it.

It is evident that one of the aims of CBE is produce health workers who are professionally competent and equipped with essential research experiences to advance the knowledge in the practice of medicine or health. The educational strategies of CBE in pedagogical implication is,

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For many years now, RP has been a neglected skill in the medical education since the beginning of formal medical programme in Ethiopia. Recently, RE has, however, been getting recognition as an important integral part of medical education at the JIHS (13). It is evident that for a research to be meaningful, a working knowledge of research is a prerequisite (14). The students have, therefore, to acquire the knowledge and skills to apply them in the research endeavours.

therefore, to induce teaching/learning in Research Education (RE), which aims at building research competence and performance.

The JIHS, which was established in 1983, is beginning to develop a body of knowledge in terms of concepts and theories that supports its educational philosophy and practice that may be observed at the end of the programme with the following specific objectives and rationale in view (13). 1. To maintain the supply of physician-investigators competent enough to conduct research.

2. To contribute to knowledge about the causes and controls of community health problems through the conduct of applied research.
3. To promote interest in career as physician-researchers in order to maintain the quality of medical education and research.

The objectives and rationale encompass the idea that their function to cause learners to acquire new competencies as a result of effective instruction and actively involving in the scientific investigation with hypothesis propositions regarding problems and phenomena that are within the domain of Medicine and Health. The JIHS has, therefore, a special responsibility to foster the training and development of physicians with research competence. To meet its objectives, the Institute employs research design, statistical analyses and research practice that suit the career development pattern of physicians integrating the various course works dealing with community. Here the students observe and participate first hand in the identification of information needs, which are mainly a prelude to a research work.

In their Preclinical years, students in a team, prepare a research-report on community problems and present it in a setting similar to a scientific meeting. Here the students are evaluated on the quality and style of their works and their ability to answer relevant questions in defending their works. This might have an effect on the attitude formation as a first step for research exposure.

In lieu of graduation, the senior medical students are required to produce an acceptable research in partial fulfilment of the requirements for the degree of Medical Doctor (MD). And they become eligible for MD degree after their researches are evaluated for thier quality by external examiners. Thereafter, the graduates are expected to practice effectively and understand their role in the health care delivery system and participate in research endeavours.

The pedagogical novelty of RP is evident and enticing at the JIHS. The key criteria by which the effectiveness of performance of instructional system can be evaluated is how closely the inputs and outputs statisfy the purpose it meant for. Engulfing these two requisite views, the JIHS has to find out how it has prepared the graduates for their chosen career. One feedback source that can be considered valuable is the graduates' attitude towards the programme.

To date, retrospective, evaluations of the JIHS, in research educational programme, have not yet been reported in the literature. This study, however, can add a measure of credibility to the positive assessment already reported about RP. Since research is a current prevailing instructional strategy of CBE at the JIHS, it would be interesting in practice to know whether it is as effective as it is in theory. This study is thus aimed at providing this premise.

Objective of the study: The survey was designed to answer the following questions:

1. How, in retrospective, do graduates now evaluate the RP?
2. Are the graduates generally satisfied with the RP at the results of their studies?
3. Is the research programme commensurate with the real needs in the development of research knowledge and skills of the interns to satisfy their intellectual and emotional needs?

Methods

An evaluation form was circulated to assess the graduates' reaction to various components of the research courses. Seventy five graduates, who are assigned in Jimma Zone, were involved in the study. The number was dictated by the geographical and research outputs considerations of the graduates. At the time of the study 16% of the graduates were fully employed as faculty members at the JIHS, 15% was employed as physicians in hospitals and health centers in the Jimma Zone, and 69% interns who were fully employed in the internship practice in different health posts. And it was after the interns had defended their research proposals that their opinions regarding the RP were solicited.

Measurements: The questionnaire focused on the back ground material related to the development of conceptual framework of research and utilization in the respondent's area of health and research requirements and the perceived importance of the programme on the susequent learning and future career. The questionnaire has a cognitive, affective and psychomotoric component. The cognitive consists of the theoretical skill (epistemological orientation), which would serve as guides to research practice, the affective components consists of feelings connected with behavioural changes for commitment to research endevour, and psychomotor tendency is the readiness to respond in a practical way, based on the attitude developed (15).

A questionnaire of a-24 items was prepared to draw upon the above mentioned three pedagogical areas to elicit the graduates opinion on the RP, which were adopted, and developed by the investigators to tap the variables, (16), and administered twice for contents, sentence constructions choice of words and ambiguity. A reliability coefficient of .85 was calculated, which ensured some degree of content validity.

The eighty five graduates were invited for the survey. Of the 85 questionnaires sent, 75 were returned completed. The respondent rate is 88.2%. The graduates were asked to rate each of the 24 items using a Likert-type scale ranging from 1 to 5, where 1 was designated as Strongly Disagree, and 5 Strongly Agree.

Data analysis: The data were analyzed first by computing the percentage of respondents who selected each item on a scale 1 to 5. The responses contain the frequency of responses to each statement, and the percentage responding positively and negatively. The class interval-scores were structured around the 5 intervals on the Likert-type scales. A response of 50%, or more was considered positive, or negative. To avoid an intricacy and complication between the of the SA/A and SD/D, the data included in the frequency distribution were combined in the following manners: for each statement, the responses of Strongly Disagree/ Disagree were combined as were those of Strongly Agree/Agree thereby providing the categories, negative and positive responses respectively. A positive response (SA/A) indicated high satisfaction, while negative (SD/D) response indicated low satisfaction. Indicative of high satisfaction was the most acknowledge acquisition of knowledge and skills. Statements which ranked with high percentile were indicators of dissatisfactions or satisfactions. Then, those graduates who reported a high degree of agreement in statements of the questionnaire were assumed to be satisfied with their knowledge and skills acquisition of the programme.

Results

When the responses were analyzed it was found that the majority of respondents agreed that they could identify the objectives of research (83%), state rational (83%), identify essential components for the development of a concept of research, and equally (85%) greed that they can use it in their practice (Table 1).

The relevance of research course content to the graduates' work situation was also noted. eventy six percent of the respondents believe that the courses were more valuable (80%) and relevant (76%)

to upgrade their knowledge and skills to meet their research works requirements. Statements which ranked with high satisfaction were about "motivation" (82%) and "meaningfulness" (73%) of the courses. Eighty four percent of the respondents agreed that the development of a conceptual framework did positively contribute to their professional confidence.

Strong positives were found on the statements, such as: "critically review research findings (89%)", "broaden my scope in my medical career. (89%)" and "keep abreast and informed about the current trends in Medicine/Health (87%)". Eighty-three percent expressed an interest in research, 86% expressed a desire to anticipate research. It is interesting to note that a majority of respondents (83%) stated that they could identify the role of research as part of their professional career, which provided a basis for a unified approach to their practice of research.

It was in one item related to journal publication that the graduates showed high negative censuses. When they were asked if the research courses provided them with motives to publish their researches in professional journals, the respondents indicated high negative censuses in 84%, 7% gave a positive response while 19% were neutral. Statement which ranked the highest was (85%) in the language use in research. In regard to the perceived importance of the programme, the majority of the respondents indicated the indispensability of the programme in general.

Table 1: **Number and percentages of graduates responds to the survey items on the perceived transfer of knowledge, skills, and the perceived importance of the programme.**

Key =Research Design and Statistical Analyses Courses helped me to upgrade and update my knowledge and Skills and to be important to my subsequent learning and future career to:	RESPONSES				
	SD• n %	A˚ n %	N˚ n %	A˚ n %	SA˚ n %
1. understand the conceptual framework of research	- -	2 3	4 5	34 45	35 47
2. identify the conventional framework of research	- -	2 3	11 15	29 39	33 44
3. identify the goal of research	1 2	2 3	9 12	28 37	35 46
4. articulate the concepts of research	- -	2 3	13 17	28 37	39 51
5. acquire the basic knowledge and skills that facilitate research endeavour possible	- -	- -	4 5	34 45	37 49
6. illustrate how the research organizational framework operates	- -	2 3	10 13	34 45	29 39
7. associate the basic concepts of statistics with research	3 4	1 1	10 13	31 41	30 40
8. generate and evaluate hypotheses	2 3	2 3	15 20	28 37	28 37
9. critically review research findings	- -	5 7	13 17	29 39	29 39
10. identify the various statistical concepts	1 1	7 9	12 16	29 39	26 35
11. apply and compute statistical concepts	3 4	2 3	12 16	30 40	28 37
12. appreciate the advantage and application of research	2 3	1 1	8 11	29 39	35 47
13. demonstrate knowledge and skills in conducting research	2 3	1 1	8 11	36 48	28 37
14. write clear, concise, pertinent and accurate accurate reports based on research outlook	2 3	1 1	8 11	36 48	28 37
15. utilize the reference source	- -	3 4	6 8	38 51	28 37
16. develop attitude and confidence in my self as a physician and researcher	- -	5 7	7 9	35 47	28 37
17. develop confidence to publish my research endeavour in professional journals	28 37	28 37	14 19	2 3	3 4
18. find research education to be invaluable in professional career	5 7	5 7	11 15	27 36	27 36
19. be motivate to anticipate research	1 1	3 4	6 8	37 47	30 40
20. broaden my scope in my medical career	- -	2 3	17 22	35 47	21 28
21. keep a breast and informed about the current trends in Medicine/Health issues	- -	3 4	19 25	28 37	25 33
22. relevant to my needs	- -	5 7	13 18	26 36	31 42
23. meaningful	3 4	6 8	11 15	23 31	32 42
24. motivating	2 3	8 10	11 15	21 38	33 45

* *SD=Strongly Disagree, D=Disagree, N=Neutral, A=Agree, SA=Strongly Agree

Discussion

Adedoyin remarked: "An important component of a programme is the attitude of the students towards the programme "(17). To have any impact on the learner, there must be a change in the learner's attitude. Students can, of course, be quite influential since they have direct connection with the educational system. Their attitudes towards educational philosophy and practice is generally bound to influence their research interest. RP had exerted considerable influence on the students' attitude to get the fresh insight and skills which could enable them to identify and understand its value, and thereby encourage them to proceed with the task. It could, therefore, be concluded that the majority of the graduates surveyed believed they had an understanding of the concepts essential to develop a conceptual model of research.

The respondents agreed that they had acquired the knowledge and skills, which are both important attributes in the sphere of education and could articulate a concept of research. One would hope that they would satisfactorily apply these in their practice of research attempt, when they are encountered in the work situation. "Motivation" and "meaningfulness" of the courses concepts concern cognitive and affective entry characteristics, complex areas which are closely related to the progress of learning. The respondents had shown positive attitudes towards these entries. Research courses seem, therefore, to reinforce this process at the JIHS.

The familiarity with the statistical analysis was the most acknowledged acquisition by the graduates. These skills are important in the higher institutions, where research is frequently conducted, which are essential prequisities for a would-be researcher. In rating their confidence as professional practitioners, the respondents showed positive ideas which could also affect the graduate's ability to apply theoretical knowledge in the clinical and research needs. Few respondents, however, seemed uncertain about their level of confidence as professional research practitioners. Indeed, the responses could be attributed to the limited experience of the respondents. The language figure (85%) showed that the graduates were strongly certain about the value of language as an aid for research work. The investigators believe that their judgments may well be sound in this respect. Otherwise, they will lack the basic literary skill and vital ability to conduct research.

As Cadman stated that: research exposure during medical school affects student's subsequent choice to become a clinical investigators (18). As professionals who are committed to the life-long learning, physicians should know something about research. They should not necessarily have to carry it out, but should know how to evaluate current research findings. This can be helpful for many graduates in keeping a research perspective. An this is a positive light for research career development.

Generally, it can be concluded that this programme has been stimulating, in preparing graduates for research direction. The recurring idea is that there is congruity between the behavioural changes and the expectations that will affect the research career. The opinions look convincing because they match with the results already reported earlier in the literature review of this paper. Indeed, learning medical education in the CBEP has a significant effect on research.

The Institute seems to be meeting its objectives in regard to research. In essence, then, it is not how one sees them but what one makes of them.

As a result of this study, it can be concluded that a research Educational Method must be introduced as a Course at the institute rather than making part of the Epidemiological Course. And the Institute should make an endeavour to disseminate the outputs of the graduates to reach readers. This, in turn, would give the MD graduates a greater confidence in their future professional role to pursue research.

Although the total number consisted of seventy five respondents graduates of one the JIHS, no claim is made that the findings of the study are conclusive. The authors have, however, reasons to believe that this group of MD does not differ in any substantial characteristics from other graduates of MD programmes, but in the approach of the programme to the MD.

It is important to mention that this study has evaluated the graduates' attitude to the RP. The authors did not assess the actual impact of the programme on the performance of the graduates, which is the ultimate goal of the programme. This is a prelude for further research.

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References

1. Boelen C. The challenge of changing Medical Education and Medical Practice. World Health forum 1993;14:213-
216
2. Bryant J.H. Educating Tomorrow Doctors. World Health Forum. 1993;14:217-230.
3. Duban S and Arthur K. Community-Oriented Medical Education for North America: A New Consoritm. Annals of Community Oriented Education 1990;3(II):17-118.
4. Fulop JH. New trends in higher education in public health. WHO Chronicle 1977;31:373-376.
5. Mennion S et al. Evaluation Innovative Medical Education Programme Common questions and Problems. Annals of Community Oriented Education 1992;15:123-134.
6. Global Strategy for Health For All by the Year 2000. Geneva, World Health Organization. ("Health For All") Series. 1980;3:2-6.
7. WHO. Community-based Education of Health Personnel. Report on the Community- Based Education. 4-6 November, 1985, Geneva, TRS, 746, 1987:4-29.
8. Kantrowitz, M et al. Innovative Tracks at Established Institutes for Education of Health Personnel: An Experimental Approach to Change Relevant to Health, WHO, Geneva, 1992.
9. Kaufman A. Resistance to change has to be overview in Medical School. World Health Forum 1993;14:231-232.
10. Alausa OK. Strategies for Collaboration between Medical Students and Health Care Systems in Nigeria: The Bayas University Kano Experience. Annals of Community-Oriented Education 1990;3(II):53-62.
11. Buschkens WFL The Somalia Medical Faculty and its Adaptation to Health Care Development. Annals of Community-Oriented Education 1990;3(II):353-369.
12. Soudarsanane MB. Research as a tool for teaching of Epidemiology 1994;15(1):48-50.
13. Woldemariam T and Makonnen Asefa. Historical Perspectives of Jimma Institute of Health Sciences. JIHSBulletin, 1990;1(2):11-19.
14. Fox J. Devid. Fundamentals of Research in Nursing. Norwalk: Appleten-Century-Crofts, 1982.
15. Gorenfflo CW and Gorenflo DW. The Effects of Information and Augmentation communication Technique on Attitude Towards Nonspeaking Individuals. JSHR 1991;34:19-26.
16. Gronlund N. Stating Objectives for Classroom Instruction. London: Mcmillan Publishers, 1978.
17. Adeboyin MA. Attitude of Medical Students towards the COBES Programme Annals of Community-Oriented Education, 1990;3(II):217-220.
18. Cadman EC. The Academic Physician-Investigator: A Crisis Not To be Ignored. Annals of Internal Medicine 1994;120(6):401-410.