

IMPACT OF CAREER CHOICE ON LEARNING OF MEDICAL STUDENTS

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ABSTRACT

Objective: To observe the effect of selection of profession on learning of medical students.

Methodology: It was a cross sectional questionnaire based study conducted from February 2009 till 2012 on first year medical students of Bahria University Medical & Dental College. Students were stratified into two groups on the basis of selection of profession on their own (Group A) and by compulsion as (Group B). The responses in terms of active learning were acquired by participation in group discussions, work based learning, interaction with teachers, and peers. The frequencies of responses were analyzed and both groups compared by chi square test.

Results: Group A (Opted) comprised of 263 (71%) students as compare to 105 (29 %) students in Group B ($p < 0.001$). Group A had 248 (94%) girls whereas 65 (62%) boys were there in group B. Participation in discussions 231 (88%) of Group A was significant as compared to 73 (70%) in group B; $p = 0.01$. Critical reasoning in Group A students; 229 (87%), was more in comparison to 73 (70%) in Group B ($p = 0.04$). Interaction with teachers and peers was in Group A was identical 229(87%) vs. 65(62%) and 81(77%) in Group B respectively; $p = 0.0001, 0.014$. Group A students were confident, explored personal attitudes, worked in group and improved by feedbacks.

Conclusion: Majority of students predominantly the females selected medical profession on choice. This selection was reflected on learning of students and they were found to be active learners.

Key Words: Active learning, Career choice, Medical students.

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INTRODUCTION

Career selection and therefore discipline choice for advanced studies of students after completion of high school is governed by many factors. It includes personal aptitude, scope and availability of jobs in the field, associated respect, appreciation and of course the monetary benefit attached to the chosen field. In this subcontinent, there is yet another factor which is attached to the choice of discipline and that is family and peer pressure. Most of the parents either want to fulfill their own dreams of becoming a doctor or engineer or sometimes have the age old mindset of considering teaching and medicine better choice for girls and engineering or business administration for the boys¹.

In professional institutes, particularly in medical profession students are exposed to a curriculum based learning which needs self-organization, dedication,

commitment, time management and change in study approaches². The interest of student enables him to withstand pressures, make best use of intrinsic capabilities, search means and find resources to improve his learning by reading, writing discussion, or problem solving^{3,4}. It is expected that students who select medicine profession on their own can withstand stress which could otherwise be hazardous to the physical and psychological wellbeing, behavior, learning capabilities and hence overall performance⁴.

It is expected that students who chose career on their own are likely to be proactive, display more enthusiasm, tend to acquire learning styles which adjusts them in the environment and make them productive in their field. We have designed this study keeping in mind the qualities of active learner and questionnaire tries to encompass all the major indicators of the active learn-

ing⁵. The objective of the study is to explore the role of career choice on learning of medical students.

METHODOLOGY

It was a cross sectional questionnaire based survey conducted after approval from Research and Ethical committee of Bahria University Medical & Dental College from February 2009 till 2012. The response of first year MBBS students from four consecutive batches of this college (total of 400) of either gender, all ethnic groups and age range between 20 -23 years were included. Incomplete forms were excluded. The close ended questionnaire evaluated choice of selection of medical profession, and their interest as active learners on the basis of questions tailored with respect to active learning (AL)⁵. Sample size was based on a population of 3,000 with e (margin of error) of 5% and z (confidence interval) of 95%. Data was analyzed by Predictive Analysis Software version 18. "A" group comprised of students who opted medicine themselves whereas students who did not come by their will were included in group "B". Chi-square test was used for comparison of responses. P value less than 0.05 was considered to be significant. Research Questionnaire is given as Annexure 1.

RESULTS

Out of 400 questionnaires, complete responses were obtained from 368 students; 92% response rate. Career selection of medicine was found to be significant ($p < 0.001$); 263 (71%) students opted for medicine as compared to 105 (29 %) who came by compulsion. In

Group A (opted) 248 (94%) females and 15 (6%) boys were included whereas 65 (62%) boys and 40 (38%) girls comprised group B (Fig.1).

Table 1 shows that group A 231 (88%) students enjoyed to take part in group discussions as compared to 73 (70%) students in group B; $p = 0.01$. They (group A) also applied critical reasoning 229 (87%), in contrast to 73 (70%) students in group B ($p = 0.04$).

Students who joined medical colleges by their own will (group A) were statistically better than Group B in terms of interaction with teachers 229 (87%) vs. 65(62%) $p = 0.0001$ and confident on what was learnt 242(92%) vs. 55(52%) $p = 0.001$. Group A 231 (88%), were inquisitive to explore personal attitudes values and deficiencies as compared to 58(55%) of Group B, $p = 0.001$. Medical students interacted with peers 229(87%) and 81(77%) in group A and B respectively. Group activity 231(88%) shown by Group A was significantly high with respect to 78(74%) in group B. Giving and receiving feedback in 210(80%) of group A was more than 50(48%) in Group B, $p < 0.0001$. The students in both groups had significant similarity to ask questions, coming across with challenging ideas and ability to seek resources in order to achieve the desired objectives (Table 1).

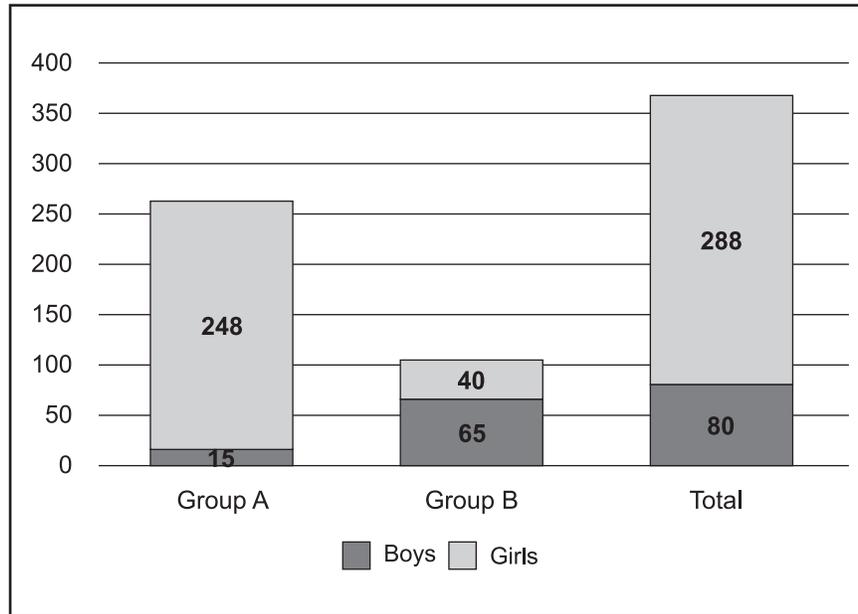
DISCUSSION

Human beings appear to have a tendency to approach, explore and manipulate things and to find this pleasurable; curiosity being a basic human motive⁶. The principle of AL is based on internal motivation which incorporates active participation of learners, detection of available learning resources and configuration of effective learning environment⁷.

Annexure 1: Research Questionnaire

Objective	Yes	No
Selected medical profession on your own		
Ask questions to clarify your objective		
Come across with challenging ideas		
Enjoy participation in discussions		
Fond of working in a group		
Apply critical reasoning		
Enthusiastic to take part in presentation		
Interact with your teacher		
Interact with your fellows		
Feel confident on what you have learnt		
Explore personal attitudes and values		
Enjoy to receive and give feed back		
Seek New Challenges		
Seek Resources to achieve objectives		

Figure1: Representation of students in both groups



Group A: Opted
Group B: Forced

Table1: Comparison of attitude towards Active learning in both groups

Objective	A (Opted) n=263	B (Forced) N=105	P value
Ask questions to clarify your objective	223(85)	80(76)	0.32
Come across with challenging ideas	187(71)	73(70)	0.44
Enjoy participation in discussions	231(88)	73(70)	0.01
Fond of working in a group	231(88)	78(74)	0.000
Apply critical reasoning	229(87)	73(70)	0.04
Enthusiastic to take part in presentation	184(70)	73 (70)	0.76
Interact with your teacher	229(87)	65(62)	0.000
Interact with your fellows	229(87)	81(77)	0.014
Feel confident on what you have learnt	242(92)	55(52)	.000
Explore personal attitudes and values	231(88)	58(55)	.000
Enjoy to receive and give feed back	210(80)	50(48)	.000
Seek New Challenges	208(79)	79(75)	0.216
Seek Resources to achieve objectives	210 (80)	83 (79)	0.855

Values are numbers and percentages in parenthesis

Teachers often use the term self-motivated to refer to these students who become easily provoked to learn, without much external persuasion^{8,9}. These are actually those students who have learnt to identify and implement the principles of AL by self-motivation with cognitive commitment.

AL facilitates comprehension which develops skills of synthesis, integration and analytical thinking leading

to intellectual wellness for transformation of knowledge into practice¹⁰. Active learners are involved in brain-storming, problem solving, group discussions and several other exercises to learn by doing and experiencing². We observed in our study that students, who opted to join medical colleges by their own will (Group A), were confident to take part in all activities of AL like discussions. This has also been emphasized by Rehman et al, who found that medical students preferred all

teaching methodologies which helped in generation of discussions¹¹

Medical educationists apply a number of innovations in teaching methodologies to preserve interaction of students for their AL. Collaborative learning group, problem-based learning, think-pair-share activity, use of case methods and simulations are some approaches that promote AL by interaction with the students^{4,12,13}. Interaction can be achieved by questions and answers, quizzes, giving tasks or clinical scenarios; all aimed to keep students alert, focused and connected with the facilitator¹⁴. It has been observed that interaction in any form improves AL by development of communication skills, confidence, and sense of responsibility besides retention of course objectives¹². The opted group medical students were motivated to interact with teachers, while students who were not interested to join were deficient in this component of AL.

Work based learning is the type of AL based on participation of all students who share their knowledge and experience for improvement in learning. It has been documented that medical students improved their learning capabilities, understood concepts, applied critical thinking and learnt scientific objectives as a result of working in a group during laboratory sessions of Neuro Physiology lab course at BUMDC¹⁵. The motivation to work in a group was observed in opted group of medical students.

Learning by teaching is another example of AL because students actively research a topic and prepare the information so that they explore and share their own capabilities. The opted group was inquisitive to learning through developing communicative skills; listening and collaborating with teachers and peers, hence turned out to be active learners. Group A students were interested to seek new challenges, this finding is in coherence with the quality of active learners by which they actively engage on their own and are triggered or perplexed by new challenges like role-plays, simulations and games¹⁶. Active learners are interested in giving and receiving feedback which further enhances their learning^{17,18,19}. Students who chose medical profession by intellectual curiosity, professional sovereignty and interest in human relationships were good at receiving and giving feedback, active participation by way of involvement and interaction with peers and teachers.

Comparative literature available for assessment of the learning styles of the students in relation to the choice of profession by compulsion has not been found yet literature has proved that selection of career choice prevents from burn out (stress induced syndrome) of medical students²⁰. At the same time AL is dependent very much on the learning environment provided which has to be uniform. The learning strategies and envi-

ronment in BUMDC is favoring this assessment which might not be the case in other environments. However multiple studies keeping in mind the indicators of AL and controlling the learning environment can yield results which can be more generalized. The study is also limited in the sense that validity and reliability of questionnaire was not tested, however this is a unique study and for the first time in Pakistan has pointed towards support of selection of profession as one of the factors that facilitates.

CONCLUSION

Majority of medical students with a greater proportion of females selected medical profession on their own. The individuals who selected career by themselves and not through compulsion turned out to be active learners in terms of motivation to participate in group discussions, receive and give feedback, learn from peers, interact with each other and converse with teachers. These students who adopted medical profession with their own determination reflected greater ownership and responsibility of AL by involvement and commitment to learn and work in a group.

RECOMMENDATIONS

At the end of secondary school students should be encouraged to select their profession on their own instead of pressure from parents, elder brothers and sisters and other family members.

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CONTRIBUTORS

RR conceived the research proposal and supervised the study. TH, SH and AK helped in designing the questionnaire, data collection, result tabulation and write up of the manuscript. All authors contributed significantly to the final manuscript.