



ORIGINAL ARTICLE

Perceptions, attitudes and practices toward research among senior medical students



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Abstract We aimed to explore perceptions, attitudes and practices toward research among medical students. A self-administered questionnaire was distributed among senior medical students at the King Saud University, Riyadh, Saudi Arabia.

Hundred and seventy two students participated in the study, with 97 males (65.5%). The majority of the students agreed that research is important in the medical field (97.1%, 167/172). A total of 67.4% (116/172) believed that conducting research should be mandatory for all medical students. During medical school, 55.3% (88/159) participated in research.

The obstacles that prevented the students from conducting research included lack of professional supervisors (84.7%, 143/169), lack of training courses (88.8%, 151/170), lack of time (72.3%, 123/172) and lack of funding (54.1%, 92/170).

Although the majority of students believe that research is important in the medical field, only around half of the students participated in research during medical school.

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1. Introduction

Health research training has been recognized as an important component of medical education because the rapid expansion

and progress in biomedical research is expected to transform medical care (Scaria, 2004). Physician-investigators play key roles in translating progress in basic science into clinical practice by defining physiological and pathological implications at the molecular level, guiding basic science research into clinically relevant directions and designing and evaluating new therapies based on basic scientific discoveries (Wyngaarden, 1981; Rosenberg, 1999; Zemlo et al., 2000). Studies have shown that research experience during medical school is strongly associated with postgraduate research initiatives (Segal et al., 1990; Reinders et al., 2005) and future career achievements in academic medicine (Brancati et al., 1992). The development of research capacity is imperative at the individual and institutional levels to attain a sustainable improvement

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in health research (Sadana et al., 2004). To fill the void of physician-scientists in developing countries, initiatives are being taken to motivate medical students to undertake careers in research (Bickel and Morgan, 1980). Various strategies are being employed for this purpose, which include mandatory and elective research assignments, student sections in indexed journals, organization of student scientific conferences, molding of medical curriculum to integrate capacity building for research and holding of workshops on different aspects of conducting research (Khan and Khawaja, 2007).

There has been a documented decline in the number of physician-scientists in the medical practice (Solomon et al., 2003). Postulated explanations for the decline include less financial incentive, family, practice philosophy and inadequate exposure to research before career paths are determined (Lloyd et al., 2004; Neilson, 2003).

However, given the demands and competing interests of formulating an undergraduate medical curriculum and the attitudes of other learners during medical training, it appears pivotal to experience research during medical school (Siemens et al., 2010). The objective of our study was to explore perceptions, attitudes and practices toward research among senior medical students.

2. Methods

This was a cross-sectional survey conducted on all male and female fourth and fifth year medical students at the King Saud University (KSU) Riyadh, Saudi Arabia, from March to June 2011. The medical program at KSU is a 5-year curriculum, where the fourth and fifth years are considered senior years. The education system in most Saudi universities, including KSU, permits the students to enter medical school immediately after high school.

2.1. Data collection

The survey questions were collected from previous studies about the attitudes of medical students toward research. The questions were modified to develop a complete version to fit our culture. The survey was pilot tested on 50 students before distribution to estimate the time required to complete the questionnaire and determine the comprehension of the questions by the participants so that it could be refined accordingly. Pilot questionnaires were excluded from the final analysis. The final self-administered questionnaire consisted of 24 questions, which required approximately 5 min to answer. The local ethics committee approved this study.

2.2. Questionnaire

An information sheet was attached to each questionnaire with a short description of the aim of the study and instructions on how to complete the questionnaire.

The questionnaire was subdivided into categories in which the first part included the perceptions of medical students of the importance of research and its impact on their career. The second part highlighted the important obstacles to conducting research. The following section contained questions about practicing research and experiences in this domain. Finally, socio-demographic information of the participating

students including age, gender, income, medical year and residency program of interest was collected.

2.3. Statistical analysis

Version 16 of the Statistical Package for the Social Sciences (SPSS) program was used for statistical analysis. Numerical variables were reported as a mean \pm standard deviation. A Chi-square test was used for assessment of the association between different categorical variables. The statistical significance was based on a p -value < 0.05 .

3. Results

One hundred and seventy-two students participated in the study. The individuals sampled included 97 males (65.5%). The mean age was 23 years (SD = 1.17, range = 21–32). Fifty-two percent were fourth year students. Regarding interest in residency programs, 41.2% (61/148) were interested in a medical specialty residency, 49.3% (73/148) were interested in a surgical specialty residency, and the rest were either undecided or interested in a basic science residency program. The program of interest to the student was regarded as competitive by 74.2% (109/147) of participants, while 25.9% (38/147) stated it that it was not competitive.

3.1. Perceptions about research

The majority of the students agreed that research is important in the medical field (97.1%, 167/172). The majority also agreed that conducting research during medical school is important (87.7%, 151/172). Many students (67.4%, 116/172) believed that conducting research should be mandatory for all medical students, and 91.9% (158/172) believed that research methodology should be a part of the medical school curriculum. Forty-three percent (74/172) agreed that their research experience should be an important criterion for acceptance in residency, while 13.4% (23/172) were neutral about this issue and 1.8% (3/172) disagreed.

The barriers to conducting research stated by the participating medical students varied widely and included lack of professional supervisors (84.7%, 143/169), lack of training courses (88.8%, 151/170), lack of time (72.3%, 123/172) and lack of funding (54.1%, 92/170) (Fig. 1).

3.2. Attitudes toward research

The motives of the students behind conducting research during medical school included the following: research being mandatory in the curriculum (78.5%, 124/158), facilitating acceptance to a residency program (82.9%, 131/158), a positive achievement on their resume (86.7%, 137/158), fulfilling research interests (74.1%, 117/158), improving research skills (93%, 147/158) and attaining a research publication (79.7%, 126/159). The majority of the students (82.3%, 130/158) believed that conducting research reinforces a teamwork spirit.

3.3. Research practice during medical school

Of the participating students, 55.3% (88/159) participated in research during medical school, while 44.7% (71/159) did

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