Challenges and difficulties in research facing by Saudi board postgraduate residents in Aseer region

Amal Abdulkhalig Alhefzi¹, Safar A. Alsaleem², Razan Suliman Al Humayed¹, Mohamme Ali Mosfer Al Khathami¹, Ali Ahmed Ali Alwalan¹, Wael Saad Saeed Al Mufarrih¹, Mohammed Awadh Mohammed Alqarni¹, Bassam Mousa Khalawy Mokali¹, Bassam Mohammad Maghram Assiri¹

¹Family Medicine Resident in Joint Program, King Khalid University, ²Associate Professor, College of Medicine, King Khalid University, Abha, Saudi Arabia

Abstract

Introduction: Research in health care system plays an important role in advancement and development of medicine and is essential in identifying the most optimal management. Progression in medicine depends upon the training and performance of researchers in health science. Training in research activity is an important aspect of post graduate training and has been recognized as one of its key components. It enhances learning and critical thinking of the resident. Methods: A purposely constructed questionnaire was used to gather the data, questionnaire was composed on demographic items, items related to the problems/difficulties regarding research, items related to specialty selection. Questionnaire was composed of by the panel of experts including subject (research faculty of the college) specialist, English language expert, family physician. Results: Mean ± S.D of age = 29.2 ± 8.6. 62.0% of the respondents were belongs to the age group of 25-30 years old, 22.% belongs to the 31-35 years old. 44.1% were female while 55.9% were male. Only 13.0% of the respondents finished the residency program (17.1% in R1, 25.7% in R2, 21.6% in R3, 13.6% in R4 while 2.5% in R5 and 6.7% as an adhoc). 51.6% have experience of healthcare from 1 to 3 years. 31.3% respondents participated in the research as a co-author while 26.3% participated in a research as principal investigator. Conclusion: To conclude, it is necessary to guide the students to conduct studies and keep them motivated. It is also important to reward them so keep their interest intact in research. In this view involving students in research committee and providing them a platform for presentation are very good methods to keep them motivated.

Keywords: Barriers, healthcare, research, residents

Introduction

Research in health care system plays an important role in advancement and development of medicine and is essential in identifying the most optimal management. Progression in medicine depends upon the training and performance of researchers in health science. Training in research activity is an important aspect of post graduate training and has been recognized as one of its key components. It enhances learning and critical thinking of the resident.
requiring time. Inadequate training of the faculty in field of research also affects research process. This poses a problem once the medical graduate starts his profession and affects the quality of research. Studies regarding perception of medical students towards research is limited in the Kingdom of Saudi Arabia. Hence, we conducted this qualitative study to investigate the perception of Saudi Board post graduate medical students towards research. This would help identify the difficulties and problems faced by them during research and plan the curriculum accordingly.

Methods

A purposely constructed questionnaire was used to gather the data, questionnaire was composed on demographic items, items related to the problems/difficulties regarding research, items related to specialty selection. Questionnaire was composed of by the panel of experts including subject (research faculty of the college) specialist, English language expert, family physican. In this cross sectional study data was gathered through the questionnaire. Trend data collector was assigned to get the data. After getting data was entered in the SPSS ver. 20 software for analysis. Mean, S.D. frequencies and percentages were computed. T test and Chi-square test were used to measure the significance differences among the variables. P value less than 0.05 was considered as a significant value. Ethical approval was obtained from the institute. Study duration was January 2020 to July 2020 Cronbach-alpha of the questionnaire was computed. The ethical approval was obtained from King Khalid University. Ethical approval was obtained from REC of the King Khalid university on 08-12-2020.

Results

Table 1 depicted that Mean ± S.D of age = 29.2 ± 8.6. 62.0% of the respondents were belongs to the age group of 25–30 years old, 22.2% belongs to the 31–35 years old. 44.1% were female while 55.9% were male. Only 13.0% of the respondents finished the residency program (17.1% in R1, 25.7% in R2, 21.6% in R3, 13.6% in R4 while 2.5% in R5 and 6.7% as an adhoc). 51.6% have experience of healthcare from 1-3 years. 31.3% respondents participated in the research as a co-author while 26.3% participated in a research as principal investigator. 41.1% attended more than one workshop while 52.9% attended only one research workshop. 76.9% presented research as a poster. 59.2% received research award. 46.4% of the respondents are the member of any research committee. Figure 1 showed that Internal medicine (13.8%), Obs. and Gynae. (10.8%), Family Medicine (12.5%) and pediatric (11.0%) are the demanding specialties. Table 2 depicted the likert scale analysis (work related stress, lack of supervisor/mentorship, lack of facility/ incentive, lack of interest and lack of research ideas are the major barriers in research. Table 3 depicted that we did not observe any significant differences among gender while comparing the problems in research parameters.

| Table 1: Characteristics of the respondents | Frequency | Percent |
|---------------------------------------------|-----------|---------|
| What is your nationality?*                  |           |         |
| Non-Saudi                                   | 21        | 4.5     |
| Saudi                                       | 442       | 95.5    |
| What is your age (Mean±S.D=29.2±8.6)       |           |         |
| 25 to 30 Years old                          | 287       | 62.0    |
| 31 to 35 Years old                          | 102       | 22.0    |
| <25 Years old                               | 40        | 8.6     |
| Older than 35 years                         | 34        | 7.3     |
| What is your Gender?                        |           |         |
| Female                                      | 204       | 44.1    |
| Male                                        | 259       | 55.9    |
| Which is your residency level (Now)?        |           |         |
| Currently I finished my program             | 60        | 13.0    |
| R1                                          | 79        | 17.1    |
| R2                                          | 119       | 25.7    |
| R3                                          | 100       | 21.6    |
| R4                                          | 63        | 13.6    |
| R5                                          | 11        | 2.4     |
| Still not in Saudi board program currently  | 31        | 6.7     |
| work as adhoc staff                         |           |         |
| How long is your health care experience ?   |           |         |
| 1 to 3 years                                | 239       | 51.6    |
| 4 to 6 years                                | 138       | 29.8    |
| More than 6 years                           | 50        | 10.8    |
| No experience                               | 36        | 7.8     |
| Have you Ever Conducted or Participated in  |           |         |
| any kind of Research in the past ?          |           |         |
| No at all                                    | 5         | 1.1     |
| Yes ( as data collector )                   | 129       | 27.9    |
| Yes (as a Co- investigator )                | 145       | 31.3    |
| Yes (as a principle investigator )          | 122       | 26.3    |
| Have you ever attended any kind of research |           |         |
| workshops/courses ?                         |           |         |
| No at all                                    | 28        | 6.0     |
| Yes more than one                           | 190       | 41.1    |
| Yes only one                                | 245       | 52.9    |
| If yes attended course it workshop for research, |           |         |
| Have you published your research ?          |           |         |
| No                                          | 89        | 19.2    |
| Yes                                         | 374       | 80.8    |
| Have you participating/presenting your research as poster? |           |         |
| No                                          | 107       | 23.1    |
| Yes                                         | 356       | 76.9    |
| Have you received or gained any rewards or prizes? |           |         |
| No                                          | 189       | 40.8    |
| Yes                                         | 274       | 59.2    |
| Are you a member of any Research Committee ?|           |         |
| No                                          | 248       | 53.6    |
| Yes                                         | 215       | 46.4    |

Discussion

Research is considered as an integral part of higher education. In health care, research helps determine the health care disorders and evaluates the interventions required. It also provides evidence to frame the treatment guidelines. This questionnaire-based
study was done on medical post graduate students. The mean age of the participants was 29.2 ± 8.6 years with about 56% being males and 44 were females. Today, classification of countries is based on its ability to conduct research. Hence, all universities and educational institutes are encouraged to conduct research and contribute to scientific knowledge. Moreover for completing any post-graduation degree, a research work is mandatory. In our study we found some encouraging findings. The post-graduate students had a good research orientation which was evident by the fact that 94% of them had attended at least one workshop on research methodology. Though such workshops are usually compulsory in higher education, almost half of them had attended more workshops. Another positive finding was that almost most of them has published their research work in indexed journal. This is important because if a research is not published it is considered as good as not done. We also found that majority of them had presented their work as a paper or poster with many of them receiving awards for it. Research committees are essential part of an institution which keeps a record of the research done in the institution. Members of this committee are usually senior professor or those with good quality publication. However, we found in our study that almost half of the participants had been a part of the research committee in some capacity. This is a very welcome fact as it exposed the students to the details of research methodology, gives them a hand on experience to work with highly qualified researchers and develop their skills as a researcher. This could also be the reason to explain high interest among research in the students.

However, despite increasing interest in research studies have reported decreasing number of researchers in the field of medicine. Various factors such as the area of training, lack of motivation, time consuming process, lack of researchers, lack of financial benefits are some common reasons reported. The demands of medical profession are very high and stressful. Priority is always given to patient care and with increasing work-load there are chances that medical professional lose interest in research or don’t give them priority.

**Key points**

This research explored the barriers in conducting the research, further in this study we noticed that the lack of facility or

| Table 2: Barriers in research |
|-----------------------------|
| **Cronbach's Alpha**        |
| **n of Items**              |
| 0.81                        |
| 30.00                      |
| **Mean**                   |
| **Std. Deviation**         |
|-----------------------------|
| **Item Statistics (5points likert scale)** |
| Identification of researchable issue and idea ? | 2.59 | 1.31 |
| Formulating the research title ? | 2.94 | 1.04 |
| Collecting and Reviewing the related studies in the literature to support your Research. | 2.83 | 1.13 |
| Building Your Research Methodology | 2.98 | 1.14 |
| Making a Research Questionnaires | 2.94 | 1.12 |
| Writing the research proposal | 2.96 | 1.11 |
| Getting the research ethics board approval ? | 3.09 | 1.13 |
| Cooperation between your research partners ? | 2.85 | 1.10 |
| Your patience to complete your research ? | 2.85 | 1.12 |
| Patient of your research supervisor to complete supervising your research project ? | 2.92 | 1.15 |
| Your Research Inexperience as a difficulty in conducting your research project ? | 2.90 | 1.13 |
| Cooperation of respondents to your research procedures ? | 2.99 | 1.06 |
| Counting the responses and Data entry ? | 2.92 | 1.10 |
| Using the appropriate statistical tools to analyse Your Data ? | 2.85 | 1.11 |
| Interpreting the results and finding of Data analysis ? | 2.79 | 1.08 |
| Finding a Non-Busy statistician to help you in your data analysis ? | 2.97 | 1.14 |
| Writing and editing the manuscript ? | 2.91 | 1.08 |
| Reporting the study discussions and recommendations ? | 2.83 | 1.08 |
| Choosing the appropriate journal to publish your research findings ? | 3.00 | 1.13 |
| Manuscript submission ? | 2.89 | 1.13 |
| Managing your time to conduct your research ? | 2.93 | 1.09 |
| Managing the stress while conducting your research ? | 2.91 | 1.06 |
| Receiving funds and financial resources to complete your research project ? | 2.96 | 1.09 |
| Lack of research training, skills, and knowledge | 2.79 | 1.29 |
| Lack of allocated research time/protected time | 2.93 | 1.03 |
| Work related stress | 3.10 | 1.16 |
| Lack of supervisor/mentorship | 3.11 | 1.11 |
| Lack of facility/incentive | 3.22 | 1.13 |
| Lack of interest | 3.07 | 1.11 |
| Lack of research ideas | 3.09 | 1.09 |
Alhefzi, et al.: Challenges and difficulties in research

Journal of Family Medicine and Primary Care 1488
Volume 10 : Issue 3 : March 2021

incentive, lack of supervisor or mentorship, work‑related stress, lack of research ideas and lack of interest were the common reasons opined by the students.

**Conclusion**

To conclude, it is necessary to guide the students to conduct studies and keep them motivated. It is also important to reward them so keep their interest intact in research. In this view involving students in research committee and providing them a platform for presentation are very good methods to keep them motivated. However, more such studies should be carried out at different universities and compile the data in order to plan research-oriented curriculum.

**Financial support and sponsorship**

Nil.

**Conflicts of interest**

There are no conflicts of interest.

**References**

1. Wood E, Kronick JB; Association of Medical School Pediatric Department Chairs, Inc. A pediatric residency research curriculum. J Pediatr. 2008 Aug;153(2):153‑4, 154.e1‑4. doi: 10.1016/j.jpeds.2008.02.026. PMID: 18639723.

2. Albanese MA, Mejicano G, Mullan P, Kokotailo P, Gruppen L. Defining characteristics of educational competencies. Med Educ 2008;42:248‑55.

3. Abramson M. Improving resident education: What does resident research really have to offer? Trans Sec Otolaryngol Am Acad Ophthalmol Otolaryngol 1977;84:984‑5.

4. Rosenberg LE. Young physician‑scientists: internal medicine's challenge. Ann Intern Med 2000;133:831‑2.

5. Bocar AC. Difficulties Encountered by the Student ‑ Researchers and the Effects on Their Research Output [08/08/2020]. Available from: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1612050.

6. El Achi D, Al Hakim L, Makki M, Mokaddem M, Khalil PA, Kaafarani BR, et al. Perception, attitude, practice and barriers towards medical research among undergraduate students. BMC Med Educ 2020;20:195.

7. Moraes DW, Jotz M, Menegazzo WR, Menegazzo MS, Veloso S, Machry MC, et al. Interest in research among medical students: Challenges for the undergraduate education. Rev Assoc Med Bras 2016;62:652‑8.

8. Al Dalbhi S, Alodhayani A, Alghamdi Y, Alrasheed S, Alshehri A, Alotaibi N. Difficulties in conducting clinical research among healthcare practitioners in Saudi Arabia: A cross‑sectional survey. J Family Med Prim Care 2019;8:1877‑83.

9. Jahan S, Al‑Saigul AM. Primary health care research in Saudi Arabia: A quantitative analysis. Int J Health Sci 2017;11:9‑15.

10. Dadipoor S, Ramezankhani A, Aghamolaei T, Safari‑Moradabadi A. Barriers to research activities as perceived by medical university students: A cross‑sectional study. Avicenna J Med 2019;9:8‑14.

11. Houlden RL, Raja JB, Collier CP, Clark AF, Waugh JM. Medical students' perceptions of an undergraduate research elective. Med Teach 2004;26:659‑61.

12. Mowla A, Nabavizadeh SA, Bajestan MN, Tavakoli A, Seifi A, Tavakoli A. Payment as motivator in Iranian medical students' attitudes toward research. South Med J 2006;99:1403‑4.

13. El Achi D, Al Hakim L, Makki M, Mokaddem M, Khalil PA, Kaafarani BR, et al. Perception, attitude, practice and barriers towards medical research among undergraduate students. BMC Med Educ 2020;20:195.

14. Amin T, Kaliyadan F, Al Qattan EA, Al Majed MH, Al Khanjaf HS, Mirza M. Knowledge, attitudes and barriers related to participation of medical students in research in three Arab Universities. Educ Med 2012;4. doi: 10.5959/eimj.v4i1.7.