

Challenges and Attitude towards Research among Physicians of Bangladesh: A Cross Sectional Questionnaire Survey.

Jannatul Ferdoush¹, Fatema Johora², Fatiha Tasmin Jeenia³, Afroza Hoque⁴, Halima Sadia⁵, Monirul Islam⁶, Benazir Jahangir⁷, Nagina Sultana⁸, Shagorika Sharmeen⁹, Asma Akter Abbasy¹⁰.

Abstract

In the history of human civilization, research has played a significant role. There is no doubt that meeting the challenges of the 21st century will be tough if we are not world leaders in science and technology. The objective of this study was to assess physicians' attitude about research and the challenges they confront when doing research. From July to December 2020, a cross-sectional questionnaire survey was performed among physicians in Bangladesh.

The questionnaire poll had 626 responses in total. There were 55.6 % female physicians and 44.4% male physicians among them. The majority of physicians (87.6%) felt that conducting research is critical to become a specialist. Research methodology training at the medical colleges are extremely beneficial, according to a substantial percentage of physicians (72.2%). Research methodology should be included in undergraduate curriculum, according to 89% of physicians. Research is beneficial as it aids critical thinking and policy implementation, according to almost all respondents (96.7%). The majority of respondents cited insufficient research training (92%), insufficient funding (92.2%), insufficient time (61%), insufficient familiarity with statistical analysis (88%), insufficient skill to design and conduct a research project and write a scientific paper (90%), as barriers to research. Priority on teaching and clinical practices over research and lack of interest to do research also mentioned by 93.3% and 61% responded respectively.

Consequently, this study identified challenges and attitude of physicians towards research. This finding will guide for further studies to find out effective interventions to address the obstacles raised by research participants.

Keywords: Research, Medical Education, Barriers, Attitude, Bangladesh.

1. Associate Professor, Department of Pharmacology, BGC Trust Medical College, Chattogram
 2. Associate Professor, Department of Pharmacology & Therapeutics, Army Medical College Bogura, Bogura
 3. Assistant Professor, Department of Pharmacology & Therapeutics Chattogram International Medical College, Chattogram
 4. Assistant Professor, Department of Medical Education. Chattogram International Medical College, Chattogram
 5. Assistant Professor, Department of Physiology, Army Medical College Chattogram
 6. Librarian, Army Medical College Chattogram, Chattogram Cantonment
 7. 5th year student, MBBS, Z. H. Sikder Medical Womens Medical College and Hospital
 8. Assistant Professor, Department of Dermatology & Venereology, Marine City Medical College & Hospital, Chattogram
 9. Assistant Professor, Department of Surgery, Marine City Medical College & Hospital, Chattogram
 10. Associate Professor, Department of Pharmacology. Brahmonbaria Medical College, Chattogram
- Address of correspondence:** Jannatul Ferdoush, Associate Professor, Department of Pharmacology, BGC Trust Medical College, Chattogram, email: Jannat_fkh@yahoo.com

Introduction

The human being is the most intelligent creature on the planet. But how did we pull it off? Researchers have contributed significantly to the progress of human civilization by providing the source of our knowledge and science. It has improved our ability to criticize and translate evidence, as well as discover the unknown, innovate, and overcome disease-grief-aging via research [1,2].

One of the best indicators of a country's scientific progress is research. Right today, there are significant global disparities in research capability and productivity. South Asian nations generated fewer than 5% of all scientific papers in 2013, although accounting for 23% of the global population [3]. Nonetheless, the use of oral rehydration therapy in Bangladesh and the treatment of thalassemia in the Maldives are examples of effective implementation of health systems research.[4]

A nation's physical and mental well-being can be enriched by sound research of high-quality and large-scale research. Inadequate awareness of research findings or their clinical implications, sharing and disseminating research findings locally, [5] as well as inclusion in policymaking [6] have all proven challenging. As a result, for many years, the majority of the developing world relied on research findings, interpretation, and implementation from the Western world. Nonetheless, a dearth of research experience also has an influence on the quality of research. [6].

Physicians' interest and engagement in research have dropped in recent years, according to studies [7,8]. Physicians, in general, treat their patients based on prior

information and understanding they have acquired, as they are highly busy in hospitals and private clinics, and they seldom have time to study or search literature related to their specialty. Even though there is a rising need for research, the majority of healthcare professionals find research findings hard to comprehend, according to a number of studies that looked at physicians' views and research interests [9].

The other important research roadblocks are Financial burdens, [8] inadequate mentorship, and inadequate time [10]. In Asia, the crucial barriers to research including low socioeconomic level, cultural issues, managerial issues, and information poverty [11]. The bulk of research papers are occupied by the required necessity of a thesis paper for post-graduate study, which does not represent the actual picture of physician attitudes toward research. [12] Although, inadequate implementation of research findings in medical education is also regarded as a barrier that has a detrimental impact on researchers' desire to do research in the field of education [13, 14]. Furthermore, researchers seldom have access to consistent statistical methodologies or consultants in this field to design studies, making the research process and teamwork more challenging and perhaps resulting in a lack of knowledge and abilities in this area, as well as low quality published publications [15-17].

The goal of the research is to get a better understanding of disease diagnosis, management, and prevention, as well as to instill Evidence-Based Medicine (EBM) practices and enhance clinical competencies [18]. Understanding

Bangladesh Journal of Medical Education 2022; 13(1); Ferdoush et al., publisher and licensee Association for Medical Education. This is an Open Access article which permits unrestricted non-commercial use, provided the original work is properly cited.

scientific concepts and procedures are necessary for doing research efficiently. In light of this problem, physicians should be well-versed in research techniques, which will enable them to evaluate new facts from current data, be up to date on the latest scientific advancements, and be able to perform research effectively.

To understand whether information from diverse sources is created and synthesized, how demand for specific knowledge is fostered, and whether that knowledge is used to boost the efficiency of healthcare systems and promote health, a systems approach is necessary. The notion of a health research system emerges from this viewpoint [19]

Impact of physician teaching, ethics and professionalism, minimizing medical errors, problem-based teaching, evidence-based medical education, Information and communication technology, basic and clinical sciences integration, communication skills, and education management policies should all be research priorities. [20, 21]

It is critical to obtain an understanding of factors that impact research activity both positively and adversely in developing nations like Bangladesh in order to enhance sustainable research capability. Furthermore, recognizing research obstacles can help to strengthen the connection between researchers and users of research findings, streamlining the problem-solving process and strengthen qualitative research. Therefore, the purpose of this study was to assess Bangladeshi physicians' attitudes about research and to

explore the challenges of conducting research.

Materials and Methods:

Study design and population: A cross-sectional questionnaire survey was performed among physicians in Bangladesh during the month of July 2020 to December 2020. Ethical approval was taken from the institutional review board (IRB) of BGC trust medical college, Chattogram. The physicians were informed that their participation was voluntary and that their responses would be anonymous to protect confidentiality.

Study procedure: Based on the literature, a Google-linked questionnaire was created and evaluated for validity by specialists in the field. The questionnaire was tested on 20 people to make sure it was clear and simple to understand. The physician received the questionnaire via several Facebook Pages and Groups, WhatsApp, Messenger, and other social media platforms. To disseminate the questionnaire and appropriately address the study, a few young physician volunteers were recruited from several medical colleges. The response was sent using Google Drive, and it was anonymous to protect confidentiality. To avoid duplicate or multiple responses, the automated Google form only got one response from one email address.

Outcome Measure:

1. To identify physicians' attitudes regarding research
2. To identify physicians' challenges to conduct research.

Result:

Overall, 626 were responded to the questionnaire survey. According to gender in demographic status, 55.6% were female and 44.4% were male physician. (Figure I).

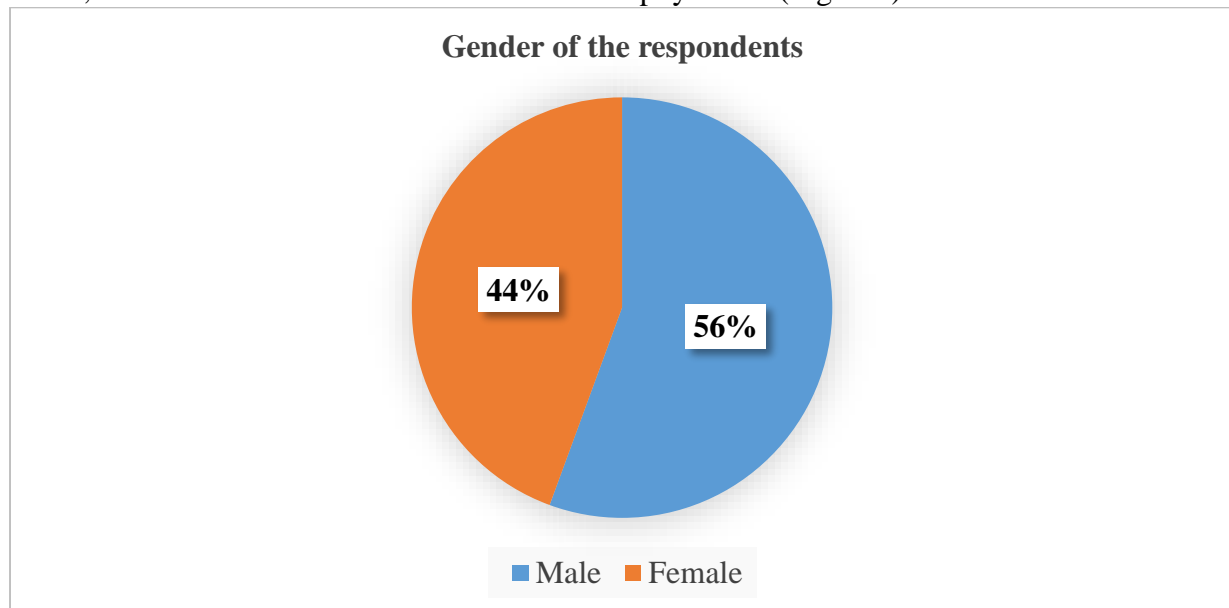


Figure 1: Distribution of the respondents according to gender

Regarding types of medical colleges in demographic detail, participants from government and non-government medical college were 47.2% & 52.8% respectively. (FigureII)

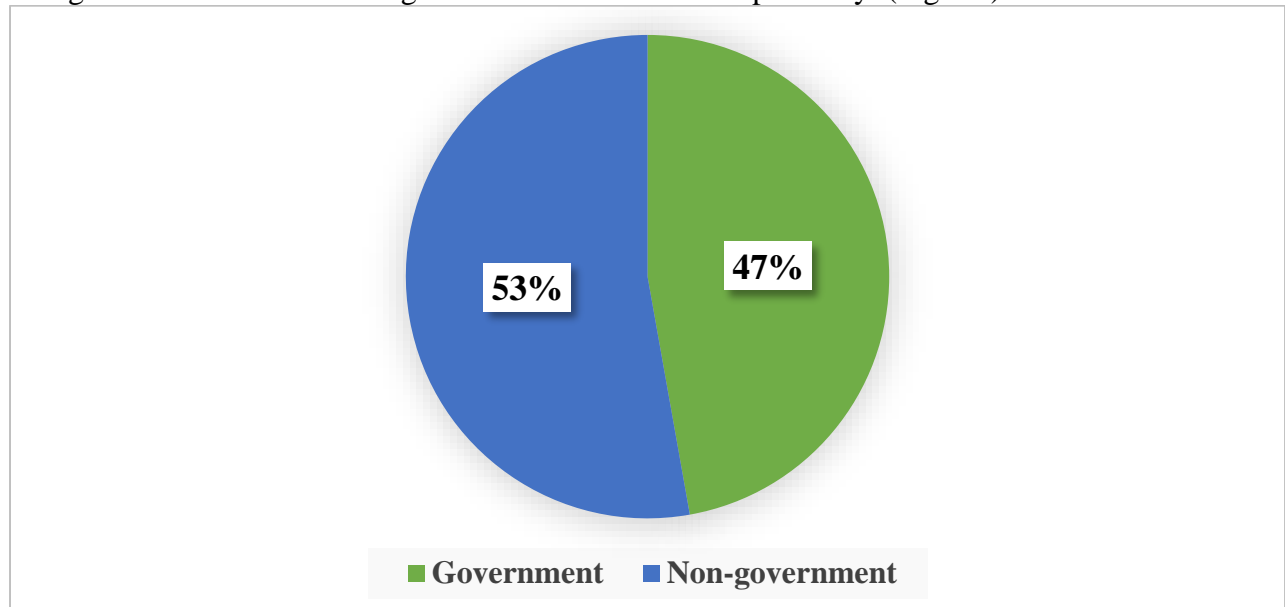


Figure 2: Distribution of the respondents according to types of medical colleges

Table I showed that 87.6% physicians agreed that performing research is important for them to become a specialist.

A large proportion of physician (72.2%) opined that Research methodology workshops at the medical college are very

Bangladesh Journal of Medical Education 2022; 13(1); Ferdoush et al., publisher and licensee Association for Medical Education. This is an Open Access article which permits unrestricted non-commercial use, provided the original work is properly cited.

effective. Over 89% respondent opined that education on research methodology should be compulsory in the Undergraduate curriculum. A large number of physicians (95.3%) mentioned that research is

beneficial, because it improves critical thinking. Almost all respondent (96.7%) agreed that research is beneficial as it is helpful for critical thinking and policy implementation.

Table 1: Physicians attitude towards research:

Attitude towards Research	Response(n=626) F=44.4% M= 55.6%		
	Totally agree/agree	Disagree	No comments
Performing research is important for me to become a specialist	87.6%	5.1%	7.2%
Research methodology workshops at the medical college are very effective	72.2%	11.7%	12.5%
Education on research methodology should be compulsory in the Undergraduate curriculum	89%	4.8%	6.2%
Research is beneficial because it improves critical thinking	95.3%	1.1%	3.5%

Majority of the respondent mentioned that inadequate research training (92%), insufficient time (61%), inadequate familiarities with statistical analysis (88%), inadequate skill to design & perform a research project and write scientific paper

(90%) and insufficient fund (92.2%) are the major challenges of conducting research. Priority on teaching and clinical practices over research and lack of interest to do research also mentioned by 93.3% and 61% responded respectively. (Figure III)

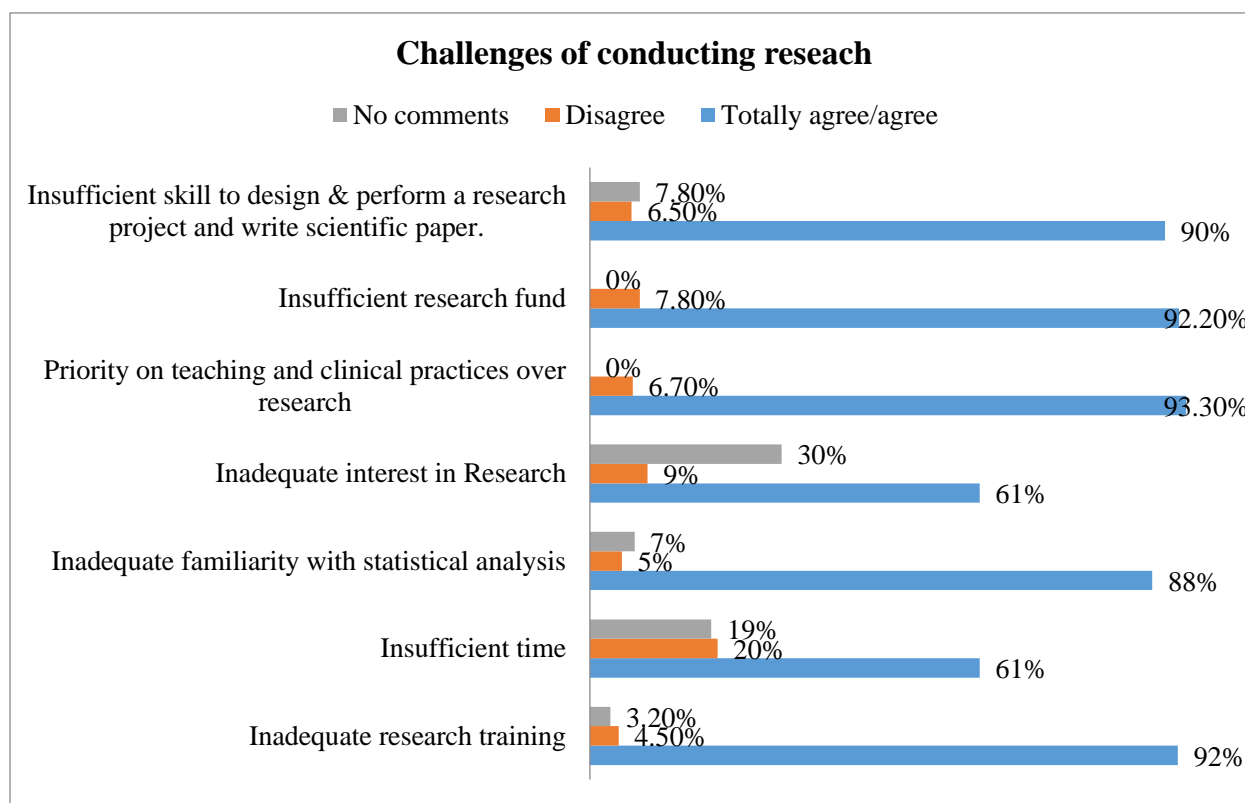


Figure III: Challenges of conducting research by physicians

Discussion

Research is critical for guiding healthcare system advancements and developing policy innovations [3]. This study gives an essential overview of physicians' attitudes toward research and identifies research challenges cited by the physicians.

Overall, physicians in this study had a positive attitude about undertaking research. Their huge interest in setting foot in the world of research is very promising. Most physicians (88%) believe that conducting research is important to become specialists. This was supported by findings from other studies in the United Kingdom [22], Germany [23], Pakistan [24], and other countries [25,26]. According to a survey conducted in the United Kingdom, 90% of general practitioners acknowledged the importance of research and regarded it

to be vital, and 68 % used research to assist them in clinical practice [22].

Almost every physician (96.7%) in this study felt that research is important since it aids critical thinking and policy implementation. A survey of resident physicians found that the vast majority (97.9%) believe research is important and enhances health care, and that 86.9% believe it aids in the development of a future academic career [27]. Another study found that almost half of respondents (37.3 percent) believe research promotes critical thinking and improves patient care (42.9%) [25]. Individuals' critical thinking abilities and capacity building are substantially strengthened because of their participation in research [24].

According to the findings of the current study, research methodology workshops at medical colleges are extremely beneficial,

as 72.2% of physicians agreed, and research methodology education should be made mandatory in the undergraduate curriculum, according to a significant number of physicians (89 %). Introducing the medical student to the fundamentals of medical research at initial phases improve their skills in searching, analyzing and evaluating medical journals, self-directed learning, and drafting [28,29]

In comparison to individuals who did not get training, physicians who got undergraduate research training had a more favorable attitude toward research and faced fewer hurdles [26]. Despite the fact that undergraduate medical students are passionate about performing medical research, they are unable to develop the ability to conduct research due to a number of difficulties, insufficient incorporation of research methodology in the undergraduate curriculum [30].

According to a survey, the most significant research challenges were insufficient research time (76.5%), insufficient financial assistance (63%), and a lack of financial incentives (51%) [31]. These responses are comparable to the current study, as the physician said that insufficient research funds (92.2%) and time (61%) were the research barriers. Another research came up with similar results [32]. It is crucial to invest funding in basic and clinical research in Bangladesh to satisfy the growing health care requirements of our population.

For conduct research, research training skills and statistical support are required [7,8]. In this study, the majority of physicians (92%) stated that a lack of research training is the most significant obstacle to doing research. As they stated, poor familiarity with statistical analysis (88 %), insufficient competence to design and carry out a research project, and insufficient ability to produce a scientific article are all

the results of insufficient training (90%). According to a study conducted in Pakistan, a high proportion of 83.5% of doctors found research difficult to undertake, and 68% of study respondents identified a lack of training as a barrier to research [24]. Health practitioners must invest time and effort to enhance their research knowledge and abilities. Thus, it is vital that physicians have the required abilities to conduct research as well as analyze, critically assess, and implement findings.

However, including clinicians in research is difficult. Priority on teaching and clinical practices above research was indicated by 93.3% of physicians in the current survey, as well as lack of interest in doing research by 61% physicians. A study of US Clinicians [33] revealed the significant pressure they faced to maximize the number of patients seen in their practices. Another study also showed a similar effect [10,32]. However, due to time restrictions and excessive administrative labor, financial incentives must be used to promote involvement [34]. As a result, we propose that effective interventions be developed to address the gaps and barriers highlighted by research participants. The current study had a limitation in that it did not make a link between physician's designation and postgraduate degree with attitudes and barriers to research.

Recommendations

Various needs must be considered at multiple levels to strengthen and encourage physician research engagement and improve physician research output.

1. Facilitating training programs and expanding educational and practical training opportunities for physicians at the academic level.
2. Creating awareness of the academic, professional, and scientific value of research.

3. A strategy should be established to operationalize the numerous research topics and to highlight the gaps in our research.
4. At a higher level, policymakers should review research budget allocation.
5. Faculty should have access to some protected research time as well as involvement in research methodology workshops and courses, as well as statistical support.
4. Ministry of Communication, Science and Technology, WHO South-East Asia Advisory Committee on Health Research. Report to the regional director. New Delhi: WHO SEARO, 2003.
5. Rehan N. Medical research in Pakistan. *J Coll Physicians Surg Pak.* 2003 Nov;13(11):617. PMID: 14700484.
6. Hennink M, Stephenson R. Using Research to Inform Health Policy: Barriers and Strategies in Developing Countries. *Journal of Health Communication.* 2005;10(2):163-180.

Conclusion:

The identified research challenges indicated by the current study should be addressed. More research of higher quality is needed in this area. This study will have an impact on physicians as well as policymakers in terms of evaluating if further training is necessary and developing methods to address barriers faced by physicians doing research.

Acknowledgment:

We are grateful to the members of the Research wings of Platform Organization of Medical and Dental Society (Largest physician Facebook group of Bangladesh) who assisted us in gathering data from a wide number of physicians.

References:

1. Liew SM. Why research in primary care is important. *Malays Fam Physician.* 2017 Aug 31;12(2):1.
2. De Maeseneer J. Why Research in Family Medicine? A Superfluous Question. *The Annals of Family Medicine.* 2004;2(suppl_2):S17-S22.
3. Sadana R, D'Souza C, Hyder AA, Chowdhury AM. Importance of health research in South Asia. *BMJ.* 2004;328(7443):826-830.
doi:10.1136/bmj.328.7443.826.
7. Bakken LL, Sheridan J, Carnes M. Gender differences among physician-scientists in self-assessed abilities to perform clinical research. *Acad Med.* 2003;78(12):1281-6
8. Lloyd T, Phillips BR, Aber RC. Factors that influence doctors' participation in clinical research. *Med Educ.* 2004;38(8):848-51.
9. WHO South-East Asia Regional Office. Review of national health research systems: Bangladesh, Bhutan, India, Maldives, Nepal, Sri Lanka. Background documents for the 27th Session of WHO South-East Asia Advisory Committee on Health Research, 15-18 April 2002, Dhaka.
10. Gill S, Levin A, Djurdjev O, Yoshida EM. Obstacles to residents' conducting research and predictors of publication. *Acad Med.* 2001;76(5):477.4.
11. Majumder MAA. Issues and priorities of medical education research in Asia. *Ann Acad Med Singapore.* 2004;33(2):257-63.
12. Farooq S: Needed a research agenda. *J Ayub Med Coll Abbottabad* 2003, 15:1-2.
13. Yadollahi M, Shamsedini N, Poostforooshfard A, Roosta S. Obstacles to Research in Medical Sciences in Iran,

- Shiraz E-Med J. 2014 ; 15(2):e20584. doi: 10.17795/semj20584.
14. Malek Afzali H. Methodology of Applied Research in Medical Sciences. Tehran: Tehran University of Medical Sciences; 2004.
15. Torgerson C. Educational research and randomised trials. Medical Education. 2002;36(11):1002-1003.
16. Prideaux D. Researching the outcomes of educational interventions: a matter of design. BMJ. 2002;324(7330):126-127.
17. Norman G, Schmidt H. Effectiveness of problem-based learning curricula: theory, practice and paper darts. Medical Education. 2000;34(9):721-728.
18. Foy R, Eccles M, Grimshaw J. Why does primary care need more implementation research?. Family Practice. 2001;18(4):353-355.
19. Pang T, Sadana R, Hanney S, Bhutta ZA, Hyder AA, Simon J. Knowledge for better health: a conceptual framework and foundation for health research systems. Bull World Health Organ. 2003;81(11):815-20. Epub 2004 Jan 20. PMID: 14758408; PMCID: PMC2572351.
20. Cooke M, Irby DM, Sullivan W, Ludmerer KM. American medical education 100 years after the Flexner report. N Engl J Med. 2006 Sep 28;355(13):1339-44. doi: 10.1056/NEJMra055445. PMID: 17005951.
21. Amini M, Kojuri J, Lotfi F, Karimian Z, Abadi ASH. Research priorities in medical education in the Eastern Mediterranean Region. EMHJ - Eastern Mediterranean Health Journal, 2012;18(7),687-692.
22. Rosemann T, Szecsenyi J. General practitioners' attitudes towards research in primary care: qualitative results of a cross sectional study. BMC Fam Pract. 2004;5(1):31
23. Robinson G, Gould M. What are the attitudes of general practitioners towards research? Br J Gen Pract. 2000 May;50(454):390-2. PMID: 10897538; PMCID: PMC1313705.
24. Sabzwari S, Kausar S, Khuwaja AK. Experiences, attitudes and barriers towards research amongst junior faculty of Pakistani medical universities. BMC Med Educ. 2009 Nov 16;9:68. doi: 10.1186/1472-6920-9-68.
25. Al-Abdullateef SH. A survey of the attitude and practice of research among doctors in Riyadh Military Hospital Primary Care Centers, Saudi Arabia. J Family Community Med. 2012 Jan;19(1):38-42. doi: 10.4103/2230-8229.94012.
26. Jahan F, Maqbali A. Attitude and Barrier towards Research amongst Health Care Professionals Working in Primary Care Service of Oman. Journal of Health Education Research & Development. 2015;03(03):144.
27. Mitwalli H, Al Ghamdi K, Moussa N. Perceptions, attitudes, and practices towards research among resident physicians in training in Saudi Arabia. Eastern Mediterranean Health Journal. 2014;20(2):99-104.
28. Aslam F, Shakir M, Qayyum MA. Why medical students are crucial to the future of research in South Asia. PLoS Med. 2005;2(11):e322. doi: 10.1371/journal.pmed.0020322.
29. Khan H, Khawaja MR, Waheed A, Rauf MA, Fatmi Z. Knowledge and attitudes

- about health research amongst a group of Pakistani medical students. *BMC Med Educ.* 2006;6:54. doi: 10.1186/1472-6920-6-54.
30. Ferdoush J, Johora F, Khan IU, Hossain SMT, Sadia H, Jeenia FT, Chowdhury SS, Sultana N, Sharmeen S. Attitude and Perceived Barriers towards Research among Undergraduate Medical students of Bangladesh. Preprint, 2021. medRxiv 2021.04.30.21256373; doi: <https://doi.org/10.1101/2021.04.30.21256373>
31. Khalaf AJ, Aljowder AI, Buhamaid MJ, Alansari MF, Jassim GA. Attitudes and barriers towards conducting research amongst primary care physicians in Bahrain: a cross-sectional study. *BMC Fam Pract.* 2019;20(1):20. doi: 10.1186/s12875-019-0911-1.
32. Ibn Auf A, Awadalla H, Ahmed ME, Ahmed MH. Perception, barriers, and practice of research among teaching staff at five Sudanese medical faculties. *J Public Health Emerg* 2018;2:22.
33. Unertl KM, Fair AM, Favours JS, Dolor RJ, Smoot D, Wilkins CH. Clinicians' perspectives on and interest in participating in a clinical data research network across the Southeastern United States. *BMC Health Serv Res.* 2018 Jul 20; 18 (1):568.
34. Giveon S, Kahan E, Kitai E. Factors associated with family physicians' involvement in research in Israel. *Acad Med.* 1997 May;72(5):388-90. doi: 10.1097/00001888-199705000-00020.