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Article · January 2022

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Challenges to Medical Research in Iraq

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KEY WORDS
Challenges
Medical research
Iraq
Academia

Abstract: The aim of the study was to determine the research quantitative productivity of medical academics and senior medical service suppliers in Iraq. Conducting and publishing scientific research is one of the vital duties of the academia staff and medical doctors who supply health care services. The qualitative and quantitative variability in research productivity between scientists has been studied since long time. It was explained that such a productivity is a matter of self-prioritizing professional activities. A questionnaire was put on a Google Form and sent to medical academics and professionals in Iraq through a link sent by social media professional groups. A convenience sample was used to collect the required data. Males were more than two thirds of the respondents and about 84% of them held a postgraduate degree. About 94.6% of the respondents have conducted research, usually for the purpose of getting a postgraduate degree or academic promotion. About 93.4% of the respondents stated that they are motivated to conduct research and about three quarters of the study sample mentioned that they have published between 1-10 research articles, more than half published from 1-10 research articles in Iraqi scientific journals and a half published from 1-10 articles in non-Iraqi ones during their career life. Only 6.8% of the study sample achieved the target of publishing one research/year. Around half of the respondents prioritized the top obstacles they face as shortage in support, shortage in the research centers, incompleteness and/or inaccuracy in the routine records in the health institutions, shortage in spare time that can be allocated for research and non-interest of the institutions in research results. The respondents mentioned that the data collection process was the top difficulty they face during conducting research. It is recommended to create of a high level council responsible for planning, monitoring and utilizing medical research; providing sufficient research funding; strengthening the education and training courses on research in undergraduate and postgraduate studies; upgrading the rewards for conducting high quality research and adopting effective efficient marketing strategy.

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INTRODUCTION

All academic institutions agree that there are several duties relevant to the university teaching staff member; the top three duties are giving lectures, supervising postgraduate studies and conducting and publishing scientific research. Usually, academic bodies put and describe specific precise tasks, quantitatively and qualitatively, for each duty. This is true in Iraq where it is determined that the teaching staff member must publish at least one research article per year[1]. Regarding medicine, research is not only mandatory to be conducted at/by the academia, it is vitally needed to be carried out at the healthcare service supply institutions as much as it is required at the academic institutions[2].

The qualitative and quantitative variability in the publication output (scientific productivity) between scientists has been studied since long time. It has been documented that globally, a smaller percentage of scientists add the major output of the scientific publications. It was explained that it is a matter of self-prioritizing professional activities[2, 3]. Productivity is typically expressed as the number of publications a researcher conducted/published during a given period of time. It may be linked to efficiency that is linked to optimal time and resource utilization[4].

This study was carried out to determine the quantitative productivity of medical academics and senior medical service suppliers, difficulties they feel and obstacles they face in Iraq.

MATERIALS AND METHODS

A questionnaire form was structured for the purpose of the study. The Form validity was checked by experts and its reliability was examined through a pilot study. The approved version was put on a Google Form and sent to the targeted population, medical academics and professionals in Iraq. A link to the Form was sent to them via. social media professional groups. Convenience sample was used to collect data from October 14 to November 19, 2020. The responses were automatically collected to an Excel sheet, translated, coded and an SPSS, Version 24, matrix was created and analyzed by percentages. To test for the presence of statistical associations, χ^2 test was applied. A statistically significant relationship was determined by $p \leq 0.05$.

RESULTS

The respondent's characteristics are shown in Table 1. Males accounted for more than two thirds of the sample, more than half of them were from the Iraqi Ministry of Health, about 84% of them hold a postgraduate degree and 71% were specialists/ practitioners in a clinical branch.

Table 2 shows that about 94.6% of the respondents have conducted research, usually for the purpose of getting a postgraduate degree or academic promotion. Table 3 shows that 93.4% of the respondents stated that they are motivated to conduct research.

Only about 13.6% of the participants stated that they received a financial support to conduct research; in most instances the source of fund was the government (Table 4).

About three quarters of the study sample mentioned that they have published between 1-10 research articles, more than half published from 1-10 research articles in Iraqi scientific journals and a half published from 1-10 articles in non-Iraqi ones during their career life (Table 5).

It is clear from Table 6 that only 6.8% of the study sample achieved the research number/year target determined by the Ministry of Higher Education. There is a significant difference in the percentage of those who

Table 1: Participant characteristics

Variables	Frequency	Percent
Gender:		
Male	296	69.3
Female	131	30.7
Ministry:		
MoH	234	54.8
MoHE	180	42.2
Others	13	3.0
Qualification:		
Bachelor	69	16.2
Postgraduate diploma	41	9.6
MSC	47	11.0
Board	124	29.0
PhD	114	26.7
Subspecialty	32	7.5
Specialty:		
Surgical branch	122	28.6
Internal medical branch	181	42.4
Laboratory branch	65	15.2
Basic medical branch	33	7.7
Dentistry and Pharmacy	26	6.1
Total	427	100.0

Table 2: History of conducting a research and reasons behind it

Variables	Frequency	Percent
Have you ever conducted research?		
Yes	404	94.60
No	23	5.400
Total	427	100.0
What was the purpose behind conducting research?*		
Getting a degree	358	88.6
For promotion purposes	292	72.3
For the sake of research	46	11.4
Was your research a team work?*		
Within a team	250	58.5
Alone	180	42.2

* The respondent can choose more than one answer

Table 3: Frequency of motivated respondents to conduct research

Variables	Frequency	Percent
Do you feel motivated to conduct research?		
Yes	399	93.4
No	28	6.6
Total	427	100.0

Table 4: History of receiving fund for the purpose of conducting research

Have you ever received fund for the purpose research?	Frequency	Percent
Yes:	58	13.6
By the government*	56	96.5
By a non-governmental party*	9	15.5
No	369	86.4
Total	427	100.0

* The respondent may choose more than one answer

Table 5: History of research publication

Variables	Number	Percent
Researches number:		
No research published	26	6.1
From 1-10 researches	317	74.4
From 11-20 researches	51	12.0
From 21-30 researches	19	4.5
More than 30 researches	13	3.1
Publication in Iraqi journals*:		
No research published	183	43.0
From 1-10 researches	221	51.9
From 11-20 researches	15	3.5
More than 20 researches	7	1.6
Publication in foreign journals*:		
No research published	181	42.5
From 1-10 researches	214	50.2
From 11-20 researches	17	4.0
More than 20 researches	14	3.3
Total	426	100.0

* The respondent may choose more than one answer

achieved the target or more between respondents from the Ministry of Higher Education and those from Ministry of Health and other ministries.

Around half of the respondents prioritized shortage in financial and moral support, shortage in the research centers which support researchers, incompleteness and/or inaccuracy in the routine documentation process in the health institutions, shortage in spare time that can be allocated for research and non-interest of the institutions in research results as the top obstacles that they face concerning conducting research (Table 7).

The respondents ranked data collection process as the top difficulty they face during conducting research, followed by statistical data analysis (Table 8).

Table 6: The annual research target achievement

	Ministry		
One year index groups	MoHE	MoH	Total
Below target	157 (87.2%)	240 (97.6%)	397 (93.2%)
Achieved target or more	23 (12.8%)	6 (2.4%)	29 (6.8%)
Total	180 (100.0%)	246 (100.0%)	426 (100.0%)

$\chi^2 = 17.51$, Sig. = 0.0001

Table 7: The obstacles that are usually faced by the respondents

Obstacle*	Frequency	Percent
Shortage in financial and moral support	232	54.3
Shortage in the research centers which support researchers	227	53.2
Incompleteness and/or inaccuracy in the routine documentation process in the health institutions	207	48.5
Shortage in spare time that can be allocated for research	202	47.3
Non-interest of the institutions in my research results	194	45.4
Difficulty in the publication process	142	33.3
Poor experience in conducting research	121	28.3
Difficulty in constructing research team	102	23.9
Difficulty in getting official approval	77	18.0
I do not consider conducting research is something important	30	7.00
Others	29	6.80

* The respondent may choose more than one answer

Table 8: The difficulties faced by the study sample ranked according frequency

Difficulty faced in*	Frequency	Percent
Data collection?	223	52.2
Statistical data analysis?	139	32.6
Choosing the research method?	127	29.7
Referencing?	97	22.7
Discussing the results?	81	19.0
Writing in English?	27	6.3
Others?	58	13.6

* The respondent may choose more than one answer

DISCUSSION

The study was conducted on a convenience sample. This may limit the results and conclusions because of the questionable generalizability. However, this gap might be minimized by the variability of the respondents sample in terms of gender, place of work, qualification level and

specialty aspects. Generally, even with this limitation, the results of this study have generated a hypothesis to be further tested by further research.

Although, almost all of the respondents conducted researches, mostly these were for the purpose of getting a postgraduate degree or academic promotion. This reason is totally understandable and logically expected; however, other reasons, like real problem solving (ex: controlling health problems through health promotion and primary, secondary, tertiary and quaternary prevention[5] and social and international recognition, do not seem to be effective! It may show a weakness in teaching research and in perceiving its importance in solving problems. In general, it is conducted to achieve objectives other than the principle main ones! In spite of most respondents mentioned that they were motivated to conduct research (Probably, the was a need to rephrase the question in a better way), again, this motivation was most probably not to seek solutions for real health problems but to hold a degree or the promotion.

It seems that supplying a significant productive financial support, to upgrade the level of research methodology is not a part of the academic and other governmental and non-governmental institution's strategy. This is in spite of the fact that sufficient funding has extremely positive effect and proportional association with quantitative and qualitative research productivity[6]. The positive effect includes but not restricted to enhancing researcher motivation to conduct research, choosing more in-depth real problems, design better productive methodologies and better curative or palliative solutions.

It is clear that there is no special preference held by the researchers towards publishing in national or in foreign journals. This is in spite of the national legislations support publishing in foreign journals. The legislations do not oblige researchers to publish in foreign journal directly but they offer better recognition and scores when research is assessed for the purpose of academic promotion and graduation in postgraduate studies.

The significant statistical difference in medical research productivity between academics and their peers who work in the Ministry of Health, service suppliers, is expected in Iraq. That is because, in the universities, research is an important part of the daily work, used to teach students and graduate them and used as a prerequisite for the 4-stage academic promotion system to end as professor in a scientific discipline. That is why they carry out more research than their colleagues who work in the hospitals or healthcare centers. In the Ministry of Health the professional promotion which needs research, consists of 1-stage only. However, this is not a specific finding to Iraq but it was documented in other places[7].

What really alarming is that, when at least one research needs to be conducted per year was considered as a target, only 6.8% of the population achieved the target during the whole of their professional life! However internationally, this figure lies between variable productivity averages per researcher per year. Different studies showed a range from 0.25-7.64 researches/ researcher/year with a median of 2.06 researches[8]. The low research productivity was not consistent with the high motivation mentioned by the respondent to carry out research. This is probably due to the fact that it is not the motive solely which determines the productivity and although, there was high motivation but there may be other hindering factors that played a role in reducing it.

The obstacles that are usually faced by the respondents as they stated do not differ largely from those documented internationally. These obstacles are mainly linked to the official aspects, like shortage in material and non-material support, deficiency of routine data, low institutional interest and complicated paper work; technical aspects, like difficulties in the publication process and research team construction and personal aspects like shortage in time management and in research conduction experience. These subjective difficulties have been objectively diagnosed since a longtime in many places[9-11]. The official aspects reflect the community and official culture of the way they see the importance of research. It seems that it is a real obstacle as it was stated by more than a half of the respondents. It is supported by the statement that only 13.6% of the researchers received financial support to conduct research during their whole research productivity life. The other two aspects, the technical and personal, reflect complicated factors relevant to the education and research institutions and the individual's culture and capabilities which may not see research as a vital life activity.

The difficulties relevant to the research methodology, mentioned by the respondents, showed a real considerable problem as half of them feel difficulties in data collection process; one third feel difficulties in choosing the suitable research method and handling references and one fifth feel difficulties in discussing the results. When putting in mind on average, each respondent mentioned that they face >1.76 difficulties of the ones stated above, it can be concluded how much the gap in their produced research is. This gap can

negatively affect both the productivity number and quality. It may refer to a weakness in handling, teaching and training, of the research methods topic in the under and post-graduate studies curricula.

CONCLUSION

Relatively, there is a low medical research productivity among the Iraqi academics and other medical doctors. There is a considerable shortage in funding medical research. Actually, funding is both scarce and sporadic. Institutionally, there is a considerable shortage in education, training and other kinds of support. Personally, there is a low efficiency in both, time management and research conduction experience.

RECOMMENDATIONS

A systematic integrated comprehensive medical research support strategy is, urgently, needed to be put and followed. This strategy is supposed to include but not confined to, the following measures:

- Creation of a Supreme National Council in-charge of planning for, monitoring and utilization of medical research
- Sufficient reasonable research funding policy needs to be adopted by the governmental and non-governmental parties to upgrade the level of research in terms of number and quality
- Strengthening the education and training courses on research in undergraduate and postgraduate studies
- Upgrading the rewards for conducting high quality research and not merely link high quality to publishing in SCOPUS indexed journals as it happens at the time of conducting this study
- Adoption of effective efficient marketing strategy by the ministries of Higher Education and Health, universities and colleges and directorates of health. Moreover, the researchers themselves need to be trained on marketing their research

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