Original Research Article

CHALLENGES TO RESEARCH ACTIVITIES AMONG ACADEMIC CLINICIANS AT THE INTERNATIONAL MEDICAL SCHOOL, MANAGEMENT AND SCIENCE UNIVERSITY, MALAYSIA

Abstract:

Scientific research is the main factor for developing the societies. The qualified university staff are expected to have the biggest share in research work but unfortunately may be distracted by academic work or suffering variable factors that hinder the research activities. The objective of this study was to determine the prevalence of those interested in research and have research activities among staff at the IMS-MSU and investigate the factors that may hinder the research activities among the medical school academicians in order to put recommendations to enhance the research activities. Results showed that 90% of the working staff are interested in research, 35.2% had 1-5 publications and 12.9% had > 30 publications along their working life. 51.6% of the respondents are holding master and 38.7% are holding PhD that gives indication for the qualifications of the school staff that are suitable to perform research but unfortunately those having more than > 15 researches along their work life represented 22.5% which is a small percentage but it can be accepted when it is noticed that 28% only of the working power are working since more than 10 years. 48.4%% of the working power are having 1-5 publications in the last year which mean that the research activities have been increasing in the last year when it is noticed that 35.2% of the staff are having 1-5 publications along their working life. The most challenging factor for research activities from the academicians' perspective was the multifactorial effects (35.4%), research related factors (32.3%) followed by the organizational (19.4%) and the personal factors (12.9%). It is concluded that the research ecosystem has been developing and growing fast in the last 5 years among IMS-MSU staff, yet all the affecting challenges are encouraged to be corrected for more enhancement of research activities.

Keywords: *MSU, Scientific Research, Publication*

INTRODUCTION:

Attention to research and increasing research activities in every country bring about developments [1]. Evidently, research is the only way to achieve triumph and avoid retardation [2]. Understanding and identifying barriers to research can help solve the problem and provide a ground for the use of research findings [3]. Recognizing the restrictions of sciences and

technology in the country can be an effective step to take in order to come up with strategies aimed at endogenous technological advancement [4-5].
Research is the main stimulus in a society to guarantee development and is considered a key growth indicator [6]. It is noticed that developing countries are not paying attention to research [7] and they are only consumers of the scientific research findings from the developed countries that are specifying a great percentage of their income for research [8].
Being the main scientific core of the societies, universities should have the highest participation in research [9] but usually faculty members spent much time in education and have little time for research [10]. The faculty members spend only 1–5 hours per week on research works [11]. Therefore, it is essential to investigate the barriers to research activities among university staff in order to put appropriate plans that counteract these factors and allow the suitable environment to promote the research activities. This research aimed to determine the prevalence of research interest among the academicians and to determine the challenges to research activities in order to put a plan to encourage research activities among the academicians in the International Medical School (IMS), Management and Science University (MSU), Malaysia.

METHODS:

This is a quantitative descriptive cross-sectional study among the staff of the International Medical School (IMS), Management and Science University (MSU), Malaysia, targeting the academicians who were required to be involved in research activities as a key performance indicator (KPI) meanwhile facing some unidentified challenges to fulfil this KPI. The study has adopted a previously verified questionnaire [12] that was distributed to IMS-MSU staff during the period May – July 2019. The questionnaire was composed of three parts, Part A: Social demographic data, Part B: The past experience of the participant in research and Part C: The obstacles for research activities according to the participants' perspective.

RESULTS:

The staff at the International Medical School (no.= 95) have responded to the questionnaire. The age distribution of the respondents is shown in table 1, with 51.6% holding master, 38.7% holding PhD and the rest with Bachelor degree and lecturing in different medical specialties.
It was concluded that 10 % of the participants are not interested in research work and never have publications. Those working in research since about 5 years represented 51.6 % of the respondents. 35.2% of the respondents have 1-5 publications. 48.4% of the participants have 1-5 publications in the last year. The quantitative research represented 51.3% and the qualitative (38.7%). Most of research were in the basic medical sciences (54.5%) while clinical research (32.3%) and case study (3.2%) were less conducted (table 1).
The most challenging factor for research activities from the academicians' perspective was the multifactorial effects (35.4%), research related factors (32.3%) followed by the organizational (19.4%) and the personal factors (12.9%) (table 1). The organizational factors included big workload (67.7%), non allocating time for research (64.7%), lack of research facilities in the organization (51.6%), lack of financial support (29%) or when the academician feel that research is not a priority in the organization (22.6%) (figure 1). The personal factors include lack of time for research (83.9%), financial constraints (38.7%), lack of training (29%), having no research ideas/skills (22.6%) (figure 2). The research related factors include absence of research

administrative assistant (77.4%), limited resources for publication (38.7%), lack of skills to do statistical analysis (32.3%), absence of research team (22.6%) and absence of guidance (19.4%) (figure 3).

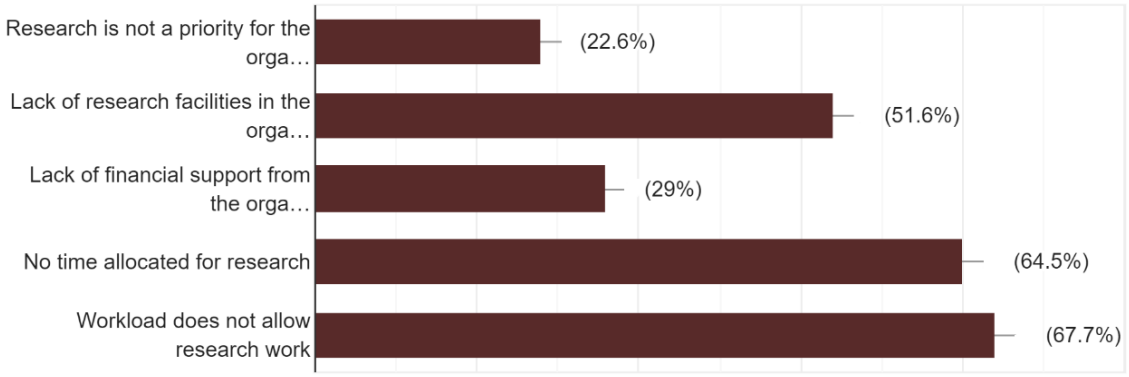

Figure 1: The organizational factors challenging the research activities from the participants perspective

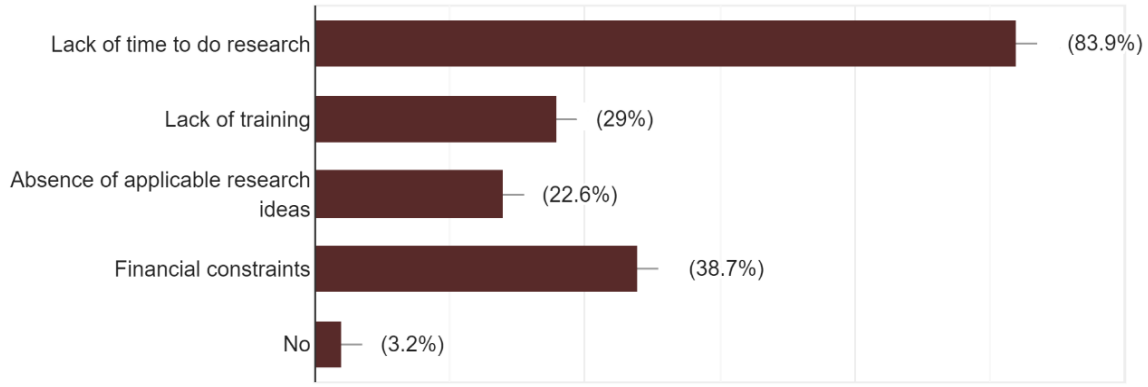

Figure 2: The personal factors challenging the research activities from the participants perspective

TABLE 1: Characteristics of the study participants and their research activities

Age (year)	**30 - 35**	**>35 - 40**	**>40 - 45**	**>45 - 50**	**>50 -55**	**>55 – 60**	**>60**
	19.4%	19.4%	19.4%	19.4%	6.4%	3.2%	12.8%

Qualifications	**Bachelor**	**Master**	**PhD**			
	9.6%	51.6%	38.8%			
Speciality	**Medicine**	**Surgery**	**Family Medicine**	**Emergency Medicine**	**Psychiatry**	
	6.4%	6.4%	9.7%	3.2%	3.2%	
	Paediatrics	**Radiology**	**ORL**	**Dentist**	**Forensic Medicine**	
	9.7%	3.2%	3.2%	3.2%	3.2%	
	Anatomy	**Biochemistry**	**Microbiology**	**Pharmacology**	**Nursing**	
	9.7%	9.7%	9.7%	6.4%	3.2%	
	Basic Medical Sciences					
	12.8%					
Duration of working in research (years)	**Zero**	**1- 5 years**	**>5-10 years**	**>10-20 years**	**>20 years**	
	10%	51.6%	10.4%	15.1%	12.9%	
No. of scientific publications	**Zero**	**1- 5**	**>5-10**	**>10-15**	**>15-30**	**>30**
	10%	35.2%	19.4%	12.9%	9.6%	12.9%
No. of scientific publications as a principal author	**Zero**		**>1-5**	**>5-10**	**>10-15**	**>15**
	19.5%		41.9%	16.1%	12.8%	9.7%
No. of scientific publications in the last year	**Zero**		**>1-5**	**>5-10**	**>10**	
	38.7%		48.4%	9.7%	3.2%	
The types of research conducted	**Qualitative research**	**Quantitative research**	**Basic medical science research**	**Clinical research**	**Case report**	**Nil**
	38.7%	51.3%	54.5%	32.3%	3.2%	10%
The most challenging factor that hinder the research activities from the participants perspective	**Organizational factors**	**Personal factors**	**Research related factors**	**Multiple factors**		
	19.4%	12.9%	32.3%	35.4%		

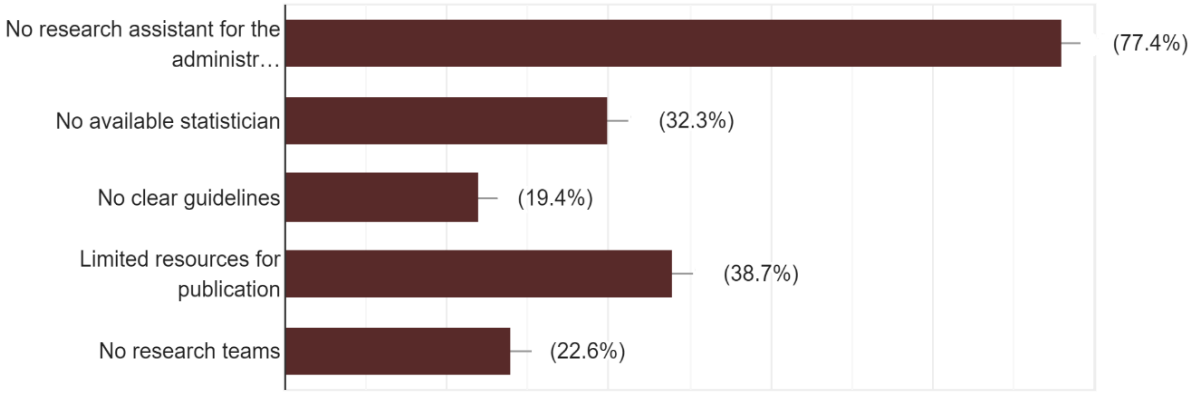

Figure 3: The research related factors challenging the research activities from the participants perspective

Discussion:

The objective of this study was to determine the prevalence of those interested in research and have research activities among staff at the IMS-MSU and investigate the factors that may hinder the research activities among the medical school academicians in order to put recommendations to enhance the research activities. The results showed that 10% of the staff had never participated in research activities. This percentage is not so high if it is compared to the results from a previous study at Kermanshah University of Medical Sciences, IRAN, at 2013 – 2014 and detected that 74.5% are graduated with no history of any research activity [13].

At IMS-MSU, 51.6% of the respondents are holding master and 38.7% are holding PhD that give indication for the qualifications of the school staff that are suitable to perform research but unfortunately those having more than 15 researches along their work life represented 22.5% which is a small percentage but it can be accepted when it is noticed that 28% only of the working power are working since more than 10 years. In same time, results showed that 48.4%% of the working power are having 1-5 publications in the last year which mean that the research activities have been increasing in the last year when it is noticed that 35.2% of the staff are having 1-5 publications along their working life. So it is concluded that the research ecosystem has been developing and growing fast in the last 5 years among IMS-MSU staff.

The most challenging factor for research activities from the academicians' perspective was the multifactorial effects (35.4%), research related factors (32.3%) followed by the organizational (19.4%) and the personal factors (12.9%) in contrary to other research that recognized the personal factors to be the most influential barrier, followed by organizational then the research related factors, to performing research activities [13]. In another study, Faculty members confirmed that although all barriers affected research activities, organizational–managerial barriers had the greatest and scientific barriers had the lowest effect [12]. Other research arranged the most prevalent barriers to research activities among researchers as organizational then personal barriers [14-16].

The organizational factors that hinder research included big workload (67.7%), non-allocating time for research (64.7%), lack of research facilities in the organization (51.6%), lack of

financial support (29%) or when the academician feel that research is not a priority in the organization.

The most important organization barrier was limited access to information sources that was identified in a study on an Iran university [17], Egyptian medical school [18], in three Arab universities [16] and in Asian universities [19]. Another research [20] reported failure in increasing the knowledge as the main disaster in research institutes. It seems that the high publication cost, lack of training and good mentorship, and research budget shortage are some of the underlying reasons [18, 21, 22].

It is obvious also that availability of resources has much effect on the research activities everywhere [23]. Moreover, the the private sector to play a key role in providing funds for research works [24]. Lack of funding from the institutions was reported as a main cause hindering the research activities [11, 21, 25]. In developing countries for example in Africa, unavailability of research funds is one of the adverse factors experienced by academics in higher education institutions [26-28].

The personal factors that may hinder research activities include lack of time for research (83.9%), financial constraints (38.7%), lack of training (29%), having no research ideas/skills (22.6%. Hence, reinforcing research skills by holding workshops on promoting research capabilities as well as eliminating and minimizing the burdensome administrative regulations of the process of getting research projects approved and providing material and spiritual incentives can be helpful in this regard [13]**.** In fact, the relation between university students and research is a mutual beneficence. University students play a key role in the research activities, and they are the future researchers [29]. They enrich the universities research and research activities of university students can lead to the development of critical thinking, enrichment of group works, promotion of research evaluation capabilities, and gaining the experience and skills needed in different health-related domains [30-32] so, the staff should encourage the students to share in research that can subsequently help the staff in more production of research. Many of the students' practice are known to affect their academic performance e.g., smoking [33], cell phone usage [34], acceptance to Mobile-Learning [35-36] that are believed to affect also their participation in research. Unfortunately, 70% of medical students are not willing to carry out research because of the lack of access to information sources, lack of linguistic skills, administrative regulations, insufficient budgets, and inability to write formal research proposals [17, 22, 37] which can be a factor that add to factors hindering research activities in IMS-MSU. To remove this research barrier, it was recommended to introduce summer research courses in the students' curriculum [38]. A successful example in this regard is the experience of the undergraduate research committee in Saudi Arabia in giving national and international research opportunities to the undergraduate students during the summer of 2010–2013 with substantial qualitative (learning) and quantitative (publication) outcomes [39].

According to a document entitled "Being a faculty member in the 20th century," each faculty member is active more than he/she is capable of (i.e., 40h a week). In an informal survey, the working hours of the faculty members were reported to be as high as 60h per week [40]. However, the faculty members spend only 1–5h per week on research works with students because of the intensive work schedules, teaching, and clinical practices [11]. High workload is recorded as a key barrier to research [14, 22, 37, 41, 42, 43] even when there are enough research facilities [44].

The research related factors that can hinder research was identified in this study to include absence of research administrative assistant (77.4%), limited resources for publication (38.7%), lack of skills to do statistical analysis (32.3%), absence of research team (22.6%) and absence of guidance (19.4%).

There is no correlation between research related factors and academic levels [13] which means that the younger researchers may have good research related skills e.g., dealing with the new software facilitating research. It is recommended to encourage collaborative research that may be horizontal or vertical collaboration, horizontal collaboration takes place among peers, while vertical collaboration is about junior academics working with more senior academics. This will allow sharing information and efforts to achieve goals [45].

CONCLUSIONS AND RECOMMENDATIONS

It is concluded that the research ecosystem has been developing and growing fast in the last 5 years among IMS-MSU staff, yet all the affecting challenges are encouraged to be corrected for more enhancement of research activities. Most of the staff are interested in research and most of them are qualified to share in research activities. Factors hindering the research activities are mostly multifactorial. It is recommended to encourage students' research and collaborative research beside enhancing the research skills by holding training workshops to the staff.

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