



Research Activity, Skills and Training Needs of Health-Care Professionals Employed in a Leading Medical Centre – A Reflection of its Eroded Professional Autonomy

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Abstract

Research activities, skills and training needs for Health Care Professionals (HCP) is fundamental to advance the current standards of quality in delivering health care services. The aim of this study is to gain an insight of the level of research activity, research skills and training needs, and the research capacity among a group of healthcare professionals. A universal sampling of healthcare professionals, targeted at the three largest therapy disciplines of Occupational Therapy (OT), Speech Therapy (ST) and Physiotherapy (PT) was utilized. Between October 25th to November 4th 2017, a total of 195 HCP employed in a premier university-based medical center were invited to participate in the study using a designated 33-item survey questionnaire. Out of this, 175 HCP responded, giving a response rate of 89.7%. Speech Therapists reported the most (85.7%) active participation/involvement in research, followed by Physiotherapists (18.1%) and where Occupational Therapists is the least engaged group (15.3%). With research attitude, 51.1% of the respondents are neutral towards research activities, with only 36.2% indicated favorable feelings for research work. For research skills, most of the respondents (60%) revealed that application for research-funding as the most challenging barrier that inhibits them from involving in research activity. Majority of the respondents expressed poor research skills and proposed for a mentorship support system, with 'opportunities for collaboration with other clinicians and academicians, as their preference options for future training. This study found a lack of support system for research involvement, and whereby poor skills and knowledge on research may contribute to the low level of involvement in research activities in these HCPs. It highlights the dire need for postgraduate education, training, and more cost-effective support system as well as support for EBP (Evidence based practice) with implications for the quadruple healthcare aim.

Keywords: Research activities; Skills; Training; Health care professionals (HCPs); Occupational therapy; Physiotherapy; Speech therapy; Evidence based practice (EBP)

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Introduction

The HCPs (Health care professionals) is a large group of health professions comprising of various health disciplines with varying level of research skills that can impede or facilitate evidence-based best practice [1]. Evidence-based practice is about the integration of best research evidence, clinical expertise, and patient values—to make decisions about the best care for individual patients [2]. The best research evidence includes evidence that can be quantified, (i.e., from randomized controlled trials, clinical trials, epidemiological research, outcomes research; and/or from qualitative research; but also from evidence derived from the practice knowledge of experts, including inductive reasoning [3]. There is a growing body of evidence indicating that the cost-effectiveness of any national health care system is strongly correlated with the strength and position of primary health care within that system [4].

Research competencies and positive research values among the professions, is critical to push the EBP movement for better healthcare. Research can improve EBP which can improve the quadruple aim of health care. The quadruple aim in healthcare are- i) improving the patient experience of care (ex. satisfaction), ii) improving the health of populations, iii) reducing the

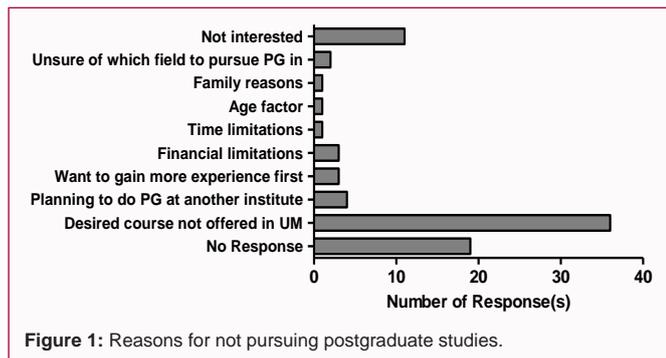


Figure 1: Reasons for not pursuing postgraduate studies.

per capita cost of healthcare, and iv) better working life with less burnout amongst therapists/clinicians [5,6]. Poor research skill, apart from not possessing research self-efficacy nor having postgraduate educational level, are barriers to implementation of good research, and for building a strong research culture within our health system [1]. The need to contribute to the ever-expanding evidence base is critical so that health professionals can consistently rely on best-practices and avoid the underuse, misuse, and overuse of therapy/care [7]. However, there is no study on HCP's preferences on research training skills, attitude, and/or competencies. Therefore, the current study aims to survey the existing level of research activity among HCPs, their attitudes towards research, their research skills and training needs, and their preferred methods to encourage their involvement in research activity.

Materials and Methods

Upon ethical clearance, universal sampling of healthcare professionals in University Malaya Medical Centre, targeting at the three largest therapy disciplines [i.e., Occupational Therapists (OT), Speech Therapists (ST) and Physiotherapists (PT)] was conducted. The inclusion criteria were- i) informed consent, ii) employed in UMMC, iii) available during period of recruitment. Exclusion criteria: less than 3 months of working in UMMC, trainees/non-salaried staff. A 33-item survey questionnaire was used, after it was piloted and refined. A covering letter and a questionnaire were sent to the three divisional representatives, who circulate the questionnaire in their departments. Respondents were given a week to complete the survey and return it. Anonymity of the respondents was kept.

Results

Demographic

Of the 195 survey forms, 175 returned-giving a response rate of 89.7%. The number of respondents from each group is presented in Table 1. The demographic information of the study respondents is summarized in Table 2. Of the 175 HCPs who responded, 136 respondents were females (77.7%) while 39 were males (33.3%). 90.3% (n=158) of the respondents were of Malay ethnicity. The participant age ranged from 22 to 50 years with a mean of 25 years. Of the total sample, 56.6% (n=99) of the respondents worked in UMMC for a duration of one to three years only. The range of working duration of all respondents was from less than one year to 24 years. Almost all the respondents' first professional degree were at the basic diploma level qualification (94.3%, n=165). Of this, 13.7% (n=24) are currently pursuing their postgraduate studies. When asked if they would consider postgraduate studies, 50.9% (n=81) indicated that they were open towards continuing their studies in University Malaya (UM). However, when asked as to why some of the HCPs were not

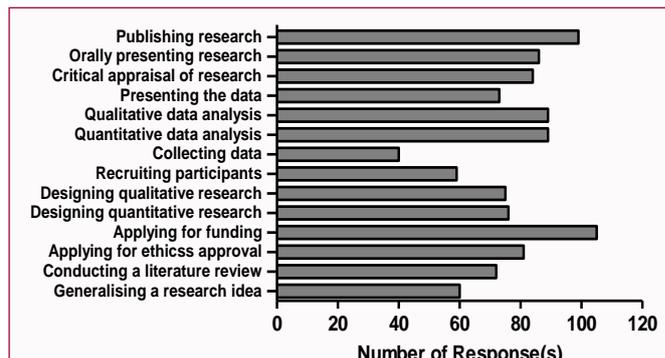


Figure 2: Number of respondents who answered 'weak' or 'very weak' for these research skills.

pursuing their postgraduate studies, 44.4% (n=36) claimed that UM did not offer postgraduate programs for their desired courses, and 13.6% (n=11) revealed that they were not at all interested in pursuing further studies (Figure 1).

Involvement in research activity

During the one year period from October 2015 to October 2016, only 19.4% (n=34) respondents were involved in research activity, i.e., a total of 82 projects. Of the three disciplines, Speech Therapists had the highest percentage (85.7%, n=6) of research active respondents, followed by Physiotherapists (18.1%; n=15) and Occupational Therapists (15.3%; n=15). Among the 82 research projects that they were involved in, 28.1% (n=23) were service evaluations, 52.4% (n=43) were research projects and 19.5% (n=16) were review articles. 64.7% (n=22) of the research-active respondents were involved in at least one to two projects while 26.5% (n=9) were involved in three or more research projects. Within this active group, only 5 percent had some mentorship in research work.

Research attitudes

Respondents that indicated that they would like to spend more time for research (28%, n=49) were asked to specify factors that discouraged them from doing so. The most frequently given reason was lack of time due to their heavy work load (14.9%, n=26). Only 2.3% (n=4) respondents cited their lack of knowledge in research activity as a hindering factor. Other factors indicated by the respondents are listed in Table 3.

When the respondents were asked to state their ideal percentage of time that they would like to spent on research activity during work, 29.7% (n=35) rated 1% to 10% their ideal. More than one fifth of the respondents (21.7%, n=38) rated 11% to 20%, while others (24.6%, n=43) stated more than 20% as their ideal percentage of time for research work. Only a mere 1.7% (n=3) gave the highest percentage time of 70 percent as the ideal time to spend on research. With feelings towards research work, more than half of the respondents expressed neutral feelings towards research (51.1%, n=89), while 36.2% (n=63) indicated positive feelings. In terms of significance of research, 72% (n=126) of the respondents indicated that it was important (or very important) for their profession to be engaged in research and 76% (n=133) indicated that it was important (or very important) to have research published.

Research skills

With regards to research skills, respondents found applying for funding to be the most challenging (60%, n=105). Other research skills that more than a half of the respondents indicated to be weak (or

Table 1: Demographic (discipline).

Discipline	No of Staffs	No of Response	Percentage of response (%)	Percentage of response within discipline (%)
OT	85	85	48.6	85/96 (88.5%)
PT	83	83	47.4	83/92 (90.2%)
ST	7	7	4	7/7 (100%)
Total	175	175	100	175/195 (89.7)

OT: Occupational Therapist; PT: Physiotherapist; ST: Speech Therapist

Table 2: Demographic factors of respondents.

Demographic Factors	% (n)
Female	77.7 (136)
Malay	90.3 (158)
Age: 24	19.4 (34)
Marital status: Single	50.3 (88)
No Children	73.7 (129)
Work Duration in UMMC: 1-3 years	56.6 (99)
Graduation - Year 2012	24.6 (94)
First Professional Study	
Level: Diploma	94.3 (165)
Institution: UITM	70.3 (123)
Highest Academic Qualifications: Diploma	70.9 (124)
Currently Pursuing PG Studies	13.7 (24)
Plan To Continue PG Studies in UM	50.9 (81)
Total no. of respondents	175

PG: Postgraduate; UM: University Malaya; UMMC: University Malaya Medical Center; UITM: University technology Malaysia

very weak) at were publishing research (56.6%, n=99) qualitative data analysis (50.9%, n=89) and 'quantitative data analysis' (50.9%, n=89). Figure 2 represents the proportion of respondents that indicated that they were 'weak' or 'very weak' in the listed research skills. When asked whether the respondents' weaknesses in any of the research skills listed would strongly discourage them from research activity, 53.1% (n=93) indicated 'yes'. Among these 93 respondents, applying for funding was mostly cited factor (37.6%, n=35) to discourage them from engaging in research activity.

Preference for training

A third of the respondents (30.9%, n=54) indicated their preference for research training is "one-to-one mentorship" (Figure 3). When questioned about combined mode of research trainings, 22.9% (n=40) of the respondents selected practice-based workshops and one-to-one mentorship followed by 7.4% (n=13) respondents who selected practice-based workshops and lectures as their preferred

Table 3: Factors that discourage respondents from engaging in research.

Factor	Number of Response	Percentage (%)
Lack of time	26	14.9
Lack of knowledge	4	2.3
Lack of funding	3	1.7
Insufficient study subjects	2	1.1
Lack of guidance and encouragement	2	1.1
Lack of cooperation from study subjects	1	0.6
No opportunities	1	0.6
Lack of commitment	1	0.6

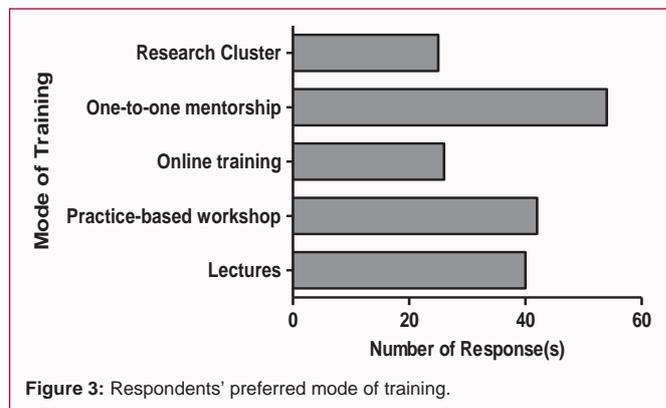


Figure 3: Respondents' preferred mode of training.

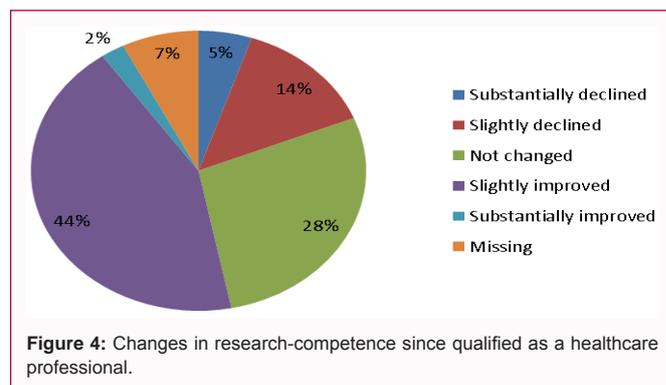


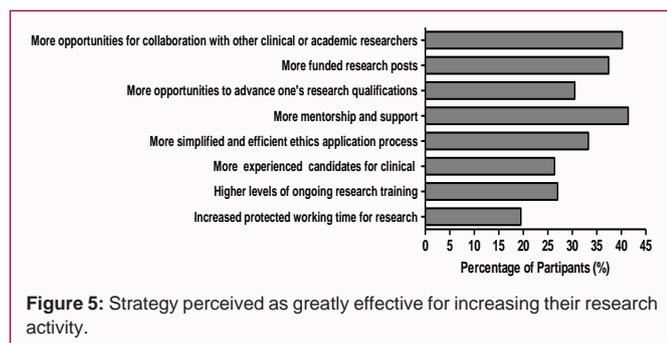
Figure 4: Changes in research-competence since qualified as a healthcare professional.

top two mode for research training. Respondents were asked to rate how their overall research competency has changed since they qualified as a HCP. 46.3% (n=81) felt there were improvements in their research competency, 28% (n=49) indicated that there were no changes, and 18.8% (n=33) indicated a deterioration in research skills (Figure 4). However, we found that more than half of the respondents (56.6%; n=99) had not engaged in any research training to improve their skills at post-graduation, although 37.7% (n=66) had undergone some research training.

In term of a list of possible changes (given in a table), respondents were asked to rate if these changes would have 'no effect', 'somewhat effective' or 'greatly effective' in increasing their level of research activity. Figure 5 shows the proportion of respondents that indicated the proposed change to be 'greatly effective'. The top two most popular proposed changes were 'more mentorship and support' (41.4%, n=72) and 'more opportunities for collaboration with other clinical or academic researchers' (40.2%, n=70).

Discussion

This survey found unfavorably low number of HCPs involved in research, coupled with low interest to engage in research, among the saturated diploma holder therapists. This does not augur well for a premier medical centre for several reasons. Firstly, research



contributing to EBP is essential to upgrade the quality management of their health services [8]; secondly, health services need to be regularly evaluated so that they conform to performance standards and fulfill the timely needs of service users [9,10]; thirdly, failure of healthcare service evaluation may result in operational inefficiencies, higher healthcare cost and treatment failures [11,12]; fourthly, research can also significantly help to refine current theoretical knowledge and in the efficient translation of laboratory research findings as well as contributing to the development of novel knowledge to improve and address clinical expectations [12,13]; and fifthly, research can also have significant economic returns by identifying and correcting service inefficiencies, implementing cost-effective services and other economic benefits by attracting funding and generating employment opportunities [1].

Studies have shown that lack of research experience, skills and education may act as a barrier for HCPs to be engaged in research [14-17]. Some HCPs may have positive attitude towards research but the inadequacy of the related experience may hinder them from carrying out research efficiently [15-18]. In fact, higher research experience among HCPs is positively correlated with their involvement in research activity [17]. These are supported by studies linking higher academic qualifications and exposure to research or EBP during clinical fellowship, which are linked to increased research participation and confidence [16,19-21]. Time and funding factor which were highlighted as barrier to their research engagements, are well known factors that can deter HCPs' engagement in research [8,18,20,21].

As the current study indicated only a low number of HCPs involved in research in addition to their poor interest in research engagement, there are many strategies that can be undertaken to encourage research and the use of EBP in their clinical practice, i.e., training workshops involving multi-disciplinary health departments [8], mentoring by clinical research experts [22,23], motivating HCPs by disseminating research-related knowledge [8] and actively encouraging HCPs to pursue higher degrees [19,20]. Continuous education and training do not only improve confidence among HCPs, but also promote their competence, enabling individuals to function effectively with other members of their multi-disciplinary teams and provide greater therapeutic care to patients [24]. It's evidently unfortunate that University Malaya, as a premier university for the country, have opted an un-evidence-based action, (and a backward solution) to address the low competencies of these therapists by creating a layer of autocratic governance by the rehabilitation doctors to dictate and oversee these disciplines. There should be provision for more autonomous undergraduate bachelor (and future planning for postgraduate) programs for these disciplines to address both the low quality and low quantity issues of the human resource factor,

within University Malaya. There should also be independent faculty on advancing these therapy profession to be at par with their global counterparts, and ensuring empowerment, job-autonomy, and job promotional prospects to be in place, like the more established medical disciplines. Many studies and finding have highlighted the need for further education, training and support for EBP among HCPs [14,24,25], but also for attaining the quadruple aims in healthcare [5,6]. Without the positive research attitude and the core competencies, the quadruple aims remain elusive since this therapy group is a large group within the health workforce.

Importantly, in many developing countries, like Malaysia, medical governance and medical supremacy rules. Clear evidence is the erosion of professional autonomy of the therapists-with the unevidenced emphasis on producing more consultant rehabilitation doctors to rule over the therapists. With shrinking healthcare budgets, the 'need to have' must take precedence over the 'nice to have' and the cost ineffective frills.

Conclusion

Health care professionals in a large, premier university-based medical centre, with majority diploma-level qualification (and governed by a recently created group of rehabilitation doctors in UMMC), was found to remains largely unengaged with research activities, nor motivated to pursue postgraduate education. This is also largely due to the lack of promotion and higher post, unlike the progress in developed countries. This study highlights the issues that need to be addressed in order to encourage a shift towards research-based activities, skills and training leading to EBP-quality service management. A greater professional autonomy, professional independence may facilitate advancement of health profession, towards better achievement of healthcare aims. The quadruple aim in healthcare covering i) improving the patient experience of care (ex. satisfaction), ii) improving the health of populations, iii) reducing the per capita cost of healthcare, and iv) better working life with less burnout in clinicians will be hard to attain in settings that do not provide for healthcare professionals to advance autonomously. Policy makers especially in developing countries must address the lack of university-based programs to address the grossly low number and low quality of occupational therapy and physiotherapy workforce. Premier universities in developing countries must work on advocacy for professional autonomy and job independence for all health professionals (often termed the 'voiceless disciplines' under the medical governance), instead of facilitating the continuous erosion of their professional rights and privileges.

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Conflict of Interest

The authors declare that they have no competing interests.

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