

Research Article

Research Activity, Skills and Training Needs of Health-Care Professionals, employed in a Leading Medical Centre - Call for Actions

Loh SY^{1,3*}, Khamis K², Lee PC², Lee MH², and Ow KL³

¹Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia

²Department of Rehabilitation, University Malaya Medical Centre, Malaysia

³Living Lab Research Cluster, IPPP, University Malaysia

***Corresponding author**

Loh SY, Department of Rehabilitation, University of Malaya, 50603 Kuala Lumpur, Malaysia, Tel: 79496878;

Email: syloh@um.edu.my

Submitted: 25 October 2018

Accepted: 27 November 2018

Published: 29 November 2018

ISSN: 2578-3777

Copyright

© 2018 Loh et al.

OPEN ACCESS

Keywords

• Research activities; Skills; Training; Health care professionals; Occupational therapy; Physiotherapy; Speech therapy; Evidence based practice

Abstract

Research activities, skills and training needs for health care professionals (HCP) is fundamental for advancing the standards and quality for delivering health care services. This study aims to survey the level of research activity, research skills, training needs, and the research capacity of the healthcare professionals. A universal sampling targeted at the three key therapy disciplines - Occupational Therapy (OT), Speech therapy (ST) and Physiotherapy (PT) was conducted. 195 HCP were approached using a 33-item survey questionnaire.

175 HCP responded, giving a response rate of 89.7 percent. Speech Therapists reported the most active participation in research (85.7%), followed by Physiotherapists (18.1%) and Occupational Therapists (15.3%). With research attitude, only 36.2percent indicated a favorable attitude for research work, but majority (51.1%) are apathetic/neutral towards research activities. A survey on their research skills, showed that majority (60%) cited, fund-application for research as the key barrier, discouraging them from research activity.

This study found undesirable trend of research-interest in a group of young health professionals. With the current lack of financial budget, poor support system and an erosion of professional autonomy amongst HCPs in developing countries; an urgent calls for provision of more university-based education programs with timely policies to speed up progress, is clearly needed across Asia's entrenched medical system governance.

ABBREVIATIONS

HCP: Health Care Professionals; EBP: Evidence Based Practice

INTRODUCTION

The HCPs (Health care professionals) is a large group of health professions comprising of various health disciplines with varying level of research skills [1] that can impede or facilitate evidence-based best practice. 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, and 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 (eg satisfaction), ii)improving the health of populations, iii) reducing the 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 post-graduate 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 staffs. 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 percent (n=158) of the respondents were of Malay ethnicity. The participant age ranged from 22 - 50years with a mean of 25 years. Of the total sample, 56.6 percent (n=99) of the respondents worked in UMMC for a duration of one to three years only. The ranges of working duration of all respondents were 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 percent (n=24) are currently pursuing their postgraduate studies. When asked if they would consider postgraduate studies, 50.9 percent (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 pursuing their postgraduate studies, 44.4 percent (n=36) claimed that UM did not offer postgraduate programs for their desired courses, and 13.6 percent (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 percent (n=34) respondents were involved in research activity, ie 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 percent (n=23) were service evaluations, 52.4 percent (n=43) were research projects and 19.5 percent (n=16) were review articles. 64.7 percent (n=22) of the research-active respondents were involved in at least one to two projects while 26.5 percent (n=9) were involved in three or more research projects. Within this active group, only 5 percent had some mentorship in research work.

Table 1: Demographic (Background Field /disciplines).

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	4.0	7/7 (100%)
Total	175	175	100.0	175/195 (89.7)

Abbreviations: OT: Occupational therapist; PT: Physiotherapist, ST: Speech Therapist

Table 2: Demographic of respondents.

Demographic (n=175)	% (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 Institution: UITM	94.3 (165) 70.3 (123)
Highest Academic Qualifications: Diploma	70.9 (124)
Currently Pursuing Postgrad Studies	13.7 (24)
Plan To Continue Postgrad. Studies in UM	50.9 (81)

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

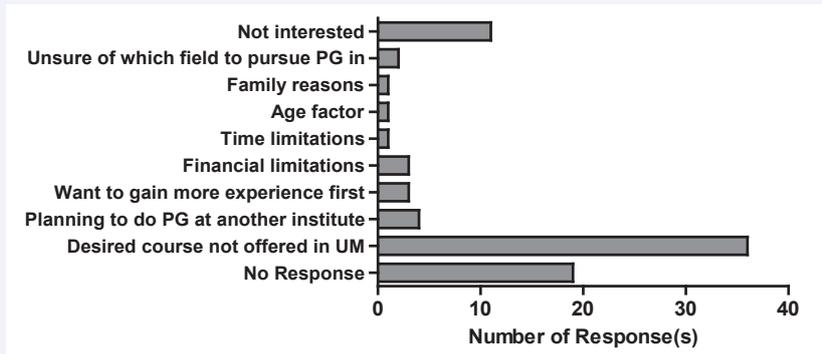


Figure 1 Reasons given for not pursuing postgraduate studies.

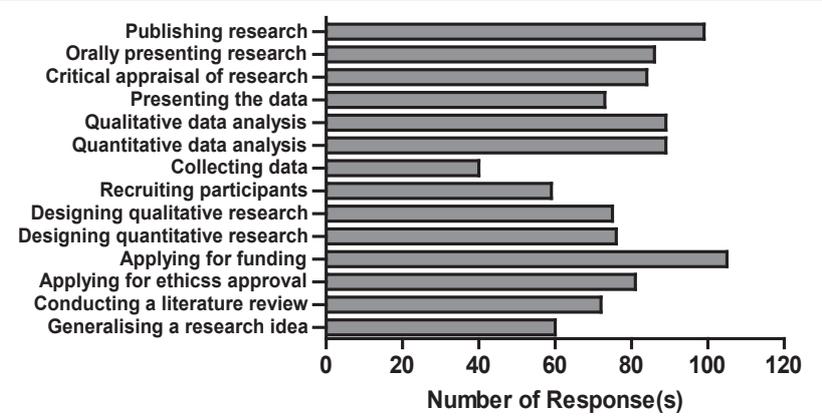


Figure 2 Number of respondents who answered 'weak' or 'very weak' for these research skills.

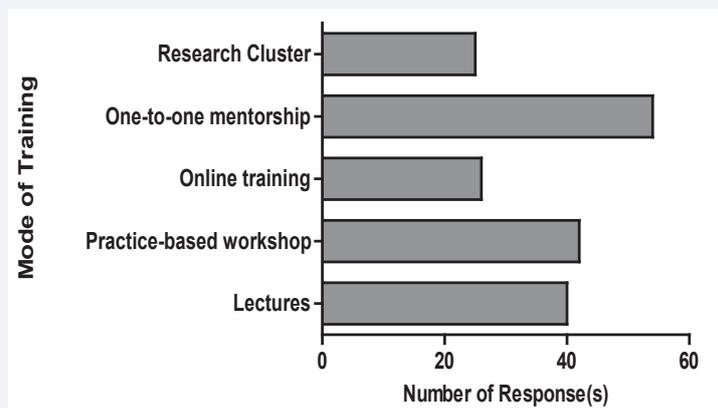


Figure 3 Respondents' preferred mode of training.

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 percent (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 spend on research activity during work, 29.7 percent (n=35) rated 1-10 percent their ideal. More than one fifth of the respondents (21.7%, n=38) rated 11-20 percent, while others (24.6%, n=43) stated more than 20 percent as their ideal percentage of time for research work. Only a mere 1.7 percent (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

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

expressed neutral feelings towards research (51.1%, n=89), while 36.2 percent (n=63) indicated positive feelings. In terms of significance of research, 72 percent (n=126) of the respondents indicated that it was important (or very important) for their profession to be engaged in research and 76 percent (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 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 percent (n=93) indicated 'yes', but funding application was the key discouraging factor (37.6%, n=35) to engage 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 percent (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 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 percent (n=81) felt there were improvements in their research competency, 28 percent (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 [15,17,18,16]. 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 increases confidence [19,21,20,16]. Time and funding factors, cited as barriers are well known factors that can deter HCPs' engagement in research [21,20,8,18]

As the current study indicated only a low number of HCPs involved in research in addition to their poor interest in research engagement, policies and strategies to encourage research with EBP should include opportunities for interdisciplinary training workshops [8], mentoring by respective health professionals [22,23], disseminating research-related knowledge [8] and also

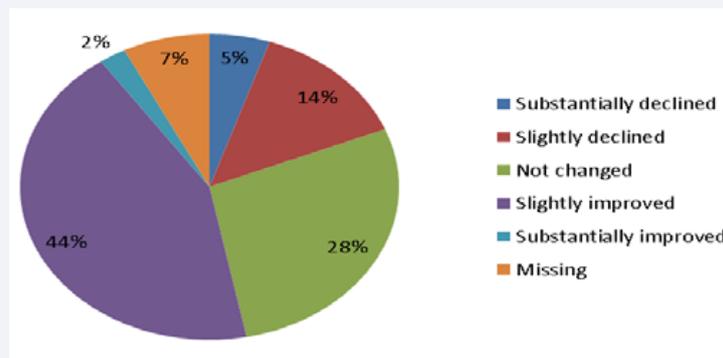


Figure 4 Changes in research-competence since qualified as a healthcare professional..



Figure 5 Strategy perceived as greatly effective for increasing their research activity.

to pursue higher degrees [19,20]. Continuous education promote their competence, enabling individuals to function effectively and autonomously with other health and medical members to provide cost effective therapeutic care [24]. 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 are put in placed. 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, progress in these therapy group remains stagnated. The unprecedented movement of creating a layer of autocratic governance by the rehabilitation doctors to dictate and govern these health disciplines, is further evidence of erosion of job autonomy and an act of occupational injustice.

CONCLUSION

Health care professionals in a large, premier university-based medical centre, governed by a recently created group of rehabilitation doctors, was found to remains largely dis-engaged with research activities, nor motivated to pursue postgraduate education. Contrary to the progress in developed countries, this study highlights the fundamental issues calling for a

government-facilitated shift towards a research-based activities, university-based programs towards, quality service management (reinstalled lost job-autonomy, professional independence and advancement of health profession). The quadruple aim in healthcare which include i) improving the patient experience of care (eg 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 if policy makers do not address the many, fundamental lack of university-program to address these low number and low quality outcomes – especially, occupational therapy, speech and physiotherapy workforce. All universities in developing countries should lead in terms of advocating better professional autonomy, and professional independence status for these newer health disciplines. All forms of occupational discriminations and/or violation of any health professional rights and privileges must be stopped and legal actions enforced for the survival of health professionals.

ACKNOWLEDGEMENTS

Gratitude to respondents from three therapy groups for cooperative participation in the survey.

REFERENCES

1. McHugh P, Byrne M. Survey of the Research Activity, Skills and Training Needs of Health and Social Care Professionals in Ireland. Dublin: Health Service Executive. 2011.
2. Institute of Medicine. Crossing the Quality Chasm: A New Health

- System for the 21st Century Institute of Medicine (US) Committee on Quality of Health Care in America. Washington (DC): National Academies Press (US). 2001.
3. Higgs JP, Burn AM, Jones MM. Integrating clinical reasoning and evidence-based practice. *Association of Critical-Care Nurses Clinical Issues: Advanced Practice in Acute & Critical Care*. 2001; 12: 482-490.
 4. Glynn LG, O'Riordan C, MacFarlane A, Newell J, Iglesias AA, Whitford D, et al. Research activity and capacity in primary healthcare: the REACH study: a survey. *BMC Fam Pract*. 2009; 10: 33.
 5. Whittington JW, Nolan K, Lewis N, Torres T. Pursuing the Triple Aim: The First 7 Years. *Milbank Q*. 2015; 93: 263-300.
 6. Bodenheimer T, Sinsky C. From triple to quadruple aim: care of the patient requires care of the provider. *Ann Fam Med*. 2014; 12: 573-576.
 7. Chassin MR. Is health care ready for Six Sigma quality? *Milbank Q*. 1998; 76: 565-591.
 8. Miller J, Bryant Maclean L, Coward P, Broemeling AM. Developing strategies to enhance health services research capacity in a predominantly rural Canadian health authority. *Rural Remote Health*. 2009; 9: 1266.
 9. Rosenberg L. Physician-scientists--endangered and essential. *Science*. 1999; 283: 331-332.
 10. McHugh P, Sarma K, Byrne M. Evaluating clinical services within the health care system: An introduction. In M. Byrne (Ed.), *How to conduct research for service improvement: A guidebook for health and social care professionals*. Roscommon: HSE. 2012.
 11. The Health Foundation. *Quality improvement made simple*. London.
 12. Rosenberg, LE. The physician-scientist: an essential--and fragile--link in the medical research chain. *J Clin Invest*. 1999; 103: 1621-1626.
 13. Barkham M, Mellor-Clark J. Bridging evidence-based practice and practice-based evidence: Developing a rigorous and relevant knowledge for the psychological therapies. *Clin Psychol Psychotherapy*. 2003; 10: 319-327.
 14. Byham-Gray LD, Gilbride JA, Dixon LB, Stage FK. Predictors for research involvement among registered dietitians. *J Am Diet Assoc*. 2006; 106: 2008-2015.
 15. Ried K, Farmer EA, Weston KM. Setting directions for capacity building in primary health care: a survey of a research network. *BMC Fam Pract*. 2006; 7: 8.
 16. Finch E, Cornwell P, Ward EC, McPhail SM. Factors influencing research engagement: research interest, confidence and experience in an Australian speech-language pathology workforce. *BMC Health Serv Res*. 2013; 13: 144.
 17. Stephens D, Taylor NF, Leggat SG. Research experience and research interests of allied health professionals. *J Allied Health*. 2009; 38: 107-111.
 18. Pager S, Holden L, Golenko X. Motivators, enablers, and barriers to building allied health research capacity. *J Multidiscip Healthc*. 2012; 5: 53-59.
 19. Jette DU, Bacon K, Batty C, Carlson M, Ferland A, Hemingway RD, et al. Evidence-based practice: beliefs, attitudes, knowledge, and behaviors of physical therapists. *Phys Ther*. 2003; 83: 786-805.
 20. Iles R, Davidson M. Evidence based practice: a survey of physiotherapists' current practice. *Physiother Res Int*. 2006; 11: 93-103.
 21. Zipoli RP, Kennedy M. Evidence-based practice among speech-language pathologists: attitudes, utilization, and barriers. *Am J Speech Lang Pathol*. 2005; 14: 208-220.
 22. Ried K, Farmer EA, Weston KM. Bursaries, writing grants and fellowships: a strategy to develop research capacity in primary health care. *BMC Fam Pract*. 2007; 8: 19.
 23. Reynolds HY. In choosing a research health career, mentoring is essential. *Lung*. 2008; 186: 1-6.
 24. Gunn H, Goding L. Continuing Professional Development of physiotherapists based in community primary care trusts: a qualitative study investigating perceptions, experiences and outcomes. *Physiotherapy*. 2009; 95: 210-215.
 25. Bourne JA, Dziedzic K, Morris SJ, Jones PW, Sim J. Survey of the perceived professional, educational and personal needs of physiotherapists in primary care and community settings. *Health Soc Care Community*. 2007; 15: 231-237.

Cite this article

Loh SY, Khamis K, Lee PC, Lee MH, Ow KL (2018) Research Activity, Skills and Training Needs of Health-Care Professionals, employed in a Leading Medical Centre - Call for Actions. *JSM Health Educ Prim Health Care* 3(2): 1045.