

# Utilizing Research Findings in Physiotherapy: A call for gap bridging

AI BELLO

*Department of Physiotherapy, School of Allied Health Sciences, College of Health Sciences, University of Ghana.*

Correspondence: AI Bello, Department of Physiotherapy, School of Allied Health Sciences, College of Health Sciences, University of Ghana •Email: badmus@chs.edu.gh

## ABSTRACT

*The relevance of research in clinical sciences is anchored on the notion to improve practice through the implementation of outcomes. However, realization of this goal remains a mirage because the purposes for which research and publication are meant have not been fully met as a result of failure to apply the results in most clinical settings. The increase in the research-practice gap calls for scrutiny with a view to suggesting a better way by which documentation from research works can be utilized effectively in physiotherapy practice. Furthermore as the clamour for evidence-based health care delivery intensifies, there is a need to review the impact of research with regard to physiotherapy practice especially in developing countries where the demands for rehabilitation services have fallen short of supply. The main focus of this paper is to appraise the need for research and the difficulties encountered in its implementation as well as to scrutinize the dichotomy between the drive for research and the utilization of its findings.*

---

**Keywords:** *Research findings, clinical practice, gap bridging*

---

## INTRODUCTION

The transfer of research findings into practice has been a subject of discussion among researchers, practitioners, and policy-makers in many health care professions. Over the last few decades, efforts have been made to ensure effective utilization of research

findings in clinical practice, including the introduction of knowledge-driven and problem-solving models.<sup>1</sup> These include research utilization and evidence-based practice that typically entail a linear, unidirectional, and passive flow of information from research to practice. Bello and Quartey also reinforced the call for research utilization by advocating the use of clinical practice guidelines among physiotherapists in Africa with a view to ensuring effective implementation of the latest research findings whilst taking due cognisance of peculiar situations in our diverse cultures.<sup>2</sup> Although the introduction of evidence-based clinical guidelines in physiotherapy remains a logical step in making useful recommendations explicit for clinical practice generally, the implementation still presents with difficulties.<sup>3</sup> Engaging in research and the publication of clinical findings are meant to enhance the clinical proficiency of health care professionals with the ultimate goal of improving patient care. However, there seems to be a missing link in the realization of this goal in developing countries. Thus, a more plausible approach which embraces the translation of research findings into information that is meaningful to practitioners is necessary.

The growing need to integrate research and practice is reflected in the currently adopted methods of collaboration and partnership being embraced by the research granting agencies in knowledge generation and dissemination.<sup>4</sup> Besides the financial incentives offered by granting agencies to develop partnerships with research consumers, efforts to expand consumers' involvement in research are also driven by a genuine desire to study clinical issues that

are important and relevant to them, and the need for more effective methods of translating research findings into useful policies and practices.<sup>5</sup> The quest to harmonize research and practice remains a prerequisite for professional development in any health care profession, including physiotherapy.

In spite of the huge amount of money and efforts spent on clinical research, it remains unclear however, how much of the research results are implemented in clinical practice in the developing nations. Clinical practice based on evidence from research activities is therefore important for efficient physiotherapy service delivery. This paper appraises the gaps in research participation and implementation, the need for research, the barriers, and presents suggestions to minimize the research-practice gap.

### **THE NEED FOR RESEARCH**

The need to develop scientific bases for various techniques in health care practice is the driving force for promoting research in the clinical setting. Research implies a careful and systematic means of solving problems and connotes the necessity to determine how things are, as opposed to how they might be.<sup>6</sup> The essence of research is its value to ensure high quality, client-centered practice and ultimately showing direction for a given profession.<sup>7</sup> A healthy work environment is therefore necessary for health care providers in which they will be free to critique the principle of practice, maintain an inquiring mind, become cognizant of the research process, generate researchable ideas, assist in research, and incorporate research findings into practice when appropriate. However, there seems to be pitfalls in the actualization of the aforementioned targets among physiotherapists in developing countries.

Encouragingly, the increasing pursuit of postgraduate studies by clinicians in physiotherapy has begun to change the perception of research and publications by physiotherapists. Through this advancement in knowledge, there has been an improvement in writing skills, making it easier to document findings in clinical practice. Despite this

development, there is still a need for more improvement in order to achieve the desired results. Goran opined that mentoring may help to build and maintain a professional network among academic and clinical staff, and increase competence and confidence in publishing and reviewing articles, thereby allowing for professional development.<sup>8</sup> Admittedly, writing and disseminating research findings that are acceptable to scientific communities remains a daunting task. Thus, collaborative efforts between clinicians and academics become imperative to attain a high quality of research that will be relevant to practice.

### **THE RESEARCH-PRACTICE GAP**

The apparent disconnect that exists between research and practice, stems in part, from the fact that researchers and practitioners operate in vastly different worlds. Incidentally, most researchers have been academics while most consumers of the research findings have been clinicians. The two groups seem to be further apart as a result of their parallel stands in which clinicians generally perceive researchers to be out of touch with reality in the field, while the latter are also of the notion that the former's activities are mostly outmoded thereby falling short of current trends in practice. Whilst this debate continues to generate apparent rivalry between the two, it also raises questions about where knowledge comes from, who is responsible for generating and sharing knowledge and with whom? A little respite being currently obtained is in the demand for evidence-based practice in health care practice which has challenged physiotherapists to step up efforts in the areas of research and publication with more physiotherapists now moving into academics.<sup>9</sup>

In spite of the aforementioned however, there are still stumbling blocks to the acts of writing and publication of quality research and clinical findings. The identified factors include time constraints, poor writing skills, academic pressures, inadequate mentoring, as well as apparent preference for publications by researchers for personal benefits, other than quality intervention papers that are worth implementing in clinical practice.<sup>10</sup> On the contrary,

clinicians are also overwhelmed with the workload arising from inadequate staffing thereby making it practically impossible to partake in research activities. The situation of clinicians is compounded by lack of interest, as no direct benefits are attached publication of research papers.

### **IMPLEMENTATION BARRIERS**

Several scholars have sought to overcome the barriers to the uptake of nursing research in practice. Lack of participation in research activities as well as the presence of an organizational structure and/ or work culture that does not value or promote research utilization have been identified as factors that are inimical to research utilization in the nursing profession.<sup>11-13</sup> The situation in physiotherapy cannot be any different as is evident in the usual disparities between clinical practice and reported research evidence of effective interventions. Anecdotally, whilst the use of aeroplane splints in the management of a child with Erb's palsy is well embraced by clinicians owing to satisfactory outcomes, there seems to be dearth of evidence-based literature supporting its use. Similarly, in spite of the wide use of ultrasound in the management of soft tissue disorders and pain by the clinicians, systematic review of the literature showed that common selection of parameters in terms of frequency and insonation time, is usually suboptimal to yield the desired ultrasound energy ( $\geq 720$  J) in clinical practice.<sup>14</sup>

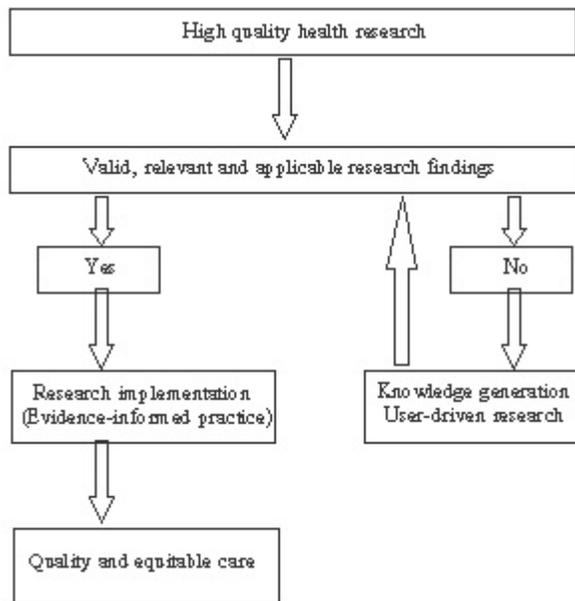
Further, passive dissemination of health information through the publication of consensus conferences in professional journals or the mailing of educational materials contributes little or no change to clinical practice.<sup>15</sup> There is also growing awareness that conventional continuing education activities such as conferences and courses which focus largely on the passive acquisition of knowledge have little impact on the performance of health care professionals.<sup>16</sup>

### **THE WAY FORWARD**

One strategy that has been recommended to close the gap between research and practice is the engagement of clinicians in research. For example, considerable

energy could be put into establishing models for research utilization whereby frontline professionals and supervisors collaborate to identify research-based answers to specific practice problems.<sup>17, 18</sup> Although, this is widely believed to be capable of changing clinical practice, it also presents with imminent challenges emanating from time factors in view of low manpower in the health sector. With the recognition of these ongoing challenges and critiques, many scholars have now redirected their efforts to the notion of knowledge translation, which involves interactions between potential users of knowledge for clinical application, such as policy makers, decision makers, and researchers, with timely responses by researchers to knowledge needs identified by the users.<sup>19</sup> Moreover, the knowledge translation process occurs within a complex social system and this requires researchers to tailor their activities to the needs of the potential users.<sup>20</sup> Successful knowledge translation, therefore, is a function of the relationships among the nature of the evidence, the context of the proposed change, and the mechanisms by which change will be facilitated.<sup>21</sup> The relationship among the components is not linear, instead all dimensions are active simultaneously. Thus, knowledge translation has the potential to address the research-practice gap by bringing together researchers, who are typically academically based, and clinically-based practitioners in a dynamic process.

Other specific interventions that had been identified include the use of clinical guidelines and computerized decision support systems, specially developed educational programmes, research findings communication with the patients, and strategies' designing for organizational changes.<sup>15</sup> At a local level, greater attention needs to be given to active coordinated dissemination and implementation to ensure that research findings are implemented. The choice of intervention should be guided by the evidence on the effectiveness of dissemination and implementation strategies, the kind of clinical information, identification of external barriers to necessary changes, as well as the preparedness of the clinicians to change (fig.1).



**Figure 1.** Framework for bridging the gap between research and practice.

Local professional associations should accept the responsibility for professional education and quality assurance evaluation so as to determine the results of implementation of research findings, develop expertise in the principles of the management of change, and accept the need for local experimentation.<sup>21</sup> In view of the many difficulties arising from implementation strategy, it is vital that dissemination and implementation activities should be rigorously evaluated whenever possible. Publications should focus more on studies that evaluate two or more interventions in a specific setting or help clarify the circumstances that are likely to modify the effectiveness of an intervention. Economic evaluations should be considered an integral component of research in health care services so as to evolve comprehensive clinical audits. Researchers should as well have greater awareness of the issues related to cluster randomization, and should ensure that studies have adequate power and that they are analysed using appropriate methods.<sup>22</sup>

Owing to the strong influence of national and cultural differences on research issues with regard to practice and financing of health care, appropriate attention needs to be paid to cultural factors as a determinant of the implementation process. These

may include the beliefs and perceptions of the public patients, healthcare professionals, and policymakers.

In conclusion, the desire to match physiotherapy practice with rapid developments in clinical sciences has led to the paradigm shift of increasing involvement in research activities by clinicians. However, the utilization of the outputs of such efforts have not met the desired target owing to various factors that are militating against its implementation. Pragmatic strategies are thus suggested to guarantee the integration of research findings into clinical practice with the ultimate goal of achieving better care.

## REFERENCES

1. Baumbusch JL, Kirkham SR, Khan KB, McDonald H, Semeniuk P, Tan E, Anderson JM. Pursuing Common Agendas: A collaborative model for knowledge translation between research and practice in clinical settings. *Research in Nursing & Health* 2008; 31: 130-140.
2. Bello AI & Qaurtey JNA. Clinical practice guideline: A good pathway for African physiotherapists. *Ghana Journal of Physiotherapy* 2009; 1 (1): 3-5.
3. van der Wee JP, Jamtvedt G, Rebbeck T, de Bie RA. Multifaceted strategies may increase implementation of physiotherapy clinical guidelines: A systematic review. *Australian Journal of Physiotherapy* 2008; 54: 233-249.
4. Garland AF, Plemmons D, Kontz L. Research-practice partnership in mental health; Lessons for Participants. Administrative police on mental health and mental health service research, 2006; DOI10.1007/s10488-006-0073-z. Accessed from <http://www.who.int/hinari/en> January 24, 2011.
5. Buysse, V. Sparkman KL, Wesley PW. Community of practice connecting what we know with what we do. *Exceptional Children* 2003; 69: 46-50.
6. Thomas JR, Nelson JK ed. Overview of the research process. In: *Research methods in physical activity*. 4th ed. Human kinetics, 2001.
7. Smeltzer CH, Hinshaw AS. Research: Clinical integration for excellent patient care: Agencies-and individuals –benefits when research is integrated in practice settings. *Nursing Management* 1988; 19: 38-44.
8. Goran S. Mentorship as a teaching strategy. *Critical Care Nursing Clinics of North America* 2001; 13 (1): 119-129.
9. Frantz J. Challenges facing physiotherapy education in Africa. *The Internet Journal of Allied Health Sciences and practice* 2007; 5(4): ISSN1540-58x.

10. Frantz JM, Rhoda A, Rowe M. Mentoring and coaching in promoting publications in the department of physiotherapy at a local university in South Africa. *South African Journal of Physiotherapy* 2010; 66 (2): 35-41.
11. Ohlsson A. Knowledge translation and evidence-based perinatal/neonatal health care. *Neonatal Network*, 2002; 21: 69-74.
12. Retsas A. Barriers to using research evidence in nursing practice. *Journal of Advanced Nursing* 2000; 31: 599-606.
13. Sitzia, J. Barriers to research utilization: The clinical setting and nurses themselves. *Intensive & Critical Care Nursing*, 2002; 18: 230-243.
14. Alexander LD, Gilman DRD, Brown DR, Brown JL, Houghton PE. Exposure to low amount of ultrasound energy does not improve soft tissue shoulder pathology: A systematic review. *Physical Therapy* 2001; 90 (1): 14-25.
15. Haines A, Donald A. Making better use of research findings. *British Medical Journal* 1998; 317:72-76.
16. Bero LA, Grilli R, Grimshaw JM. Closing the gap between research and practice: An overview of systematic reviews of interventions to promote the implementation of research findings. The Cochrane Effective Practice and Organization of Care Review Group. *British Medical Journal* 1998; 317 (7156): 465.
17. LoBiondo-Wood G & Haber J. *Nursing research: Methods, critical appraisal, and utilization* (5th ed.). St Louis, MO: Mosby, 2002.
18. Stetler CB. Updating the Stetler model of research utilization to facilitate evidence-based practice. *Nursing Outlook* 2001; 49: 272-279.
19. Lavis J. Research, public policy making, and knowledge translation processes: Canadian efforts to build bridges. *The Journal of Continuing Education in the Health Professions* 2006; 26: 37-45.
20. Graham ID, Logan J, Harrison MB, Straus SE, Tetroe J, Caswell W1. Lost in knowledge translation: Time for a map? *The Journal of Continuing Education in the Health Professions* 2006; 26: 13-24.
21. Davies B. Sources and models for moving research evidence into clinical practice. *Journal of Obstetric, Gynecologic, & Neonatal Nursing* 2002; 31: 558-562.
22. Eng J. Sample size estimation: How many individuals should be studied? *Radiology* 2003; 227: 309-313. Cited from Google scholar, available at <http://www.who.int/hinari/en> Accessed April 24, 2009.