

Research productivity of academics in a physiotherapy department: a case study

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Abstract

Objective: Research productivity is an important activity among academics. This study was done to document the research productivity of the academics of a physiotherapy department in South Africa.

Method: An archival research design was used to document the research productivity for the physiotherapy department between 2002 and 2009. Data were analysed by two independent reviewers and consensus was reached on the information to be included in the study.

Results: Among the nine academics there were 67 publications, 20 articles in progress, 7 under review and 63 conferences attended. While the overall research productivity of the department seems to be good, the bulk of the productivity rests in the hands of the senior academics.

Conclusion: There is a need to facilitate the acquisition of research skills in academic staff, particularly in upgrading staff to PhD level and improving publication output.

Introduction

Generating and disseminating knowledge through publication is generally considered to be one of the core activities of an academic. Publication of peer-reviewed articles is one of the primary methods of evaluating academic faculty, programmes and institutions.¹ Researchers have concluded that the 'measurement of research output of university academic staff is crucial in determining the contribution of staff to the overall research profile of the university'.² However, the production of research articles among physiotherapy academics was identified as a cause for concern two decades ago.³ This could have been due to the clinical focus within

the physiotherapy profession. There are indications that professions such as physiotherapy were becoming more actively involved in research and evidence-based practice. The past decade has seen considerable growth in physiotherapy schools with regard to research and postgraduate programmes in South Africa.⁴ A literature search indicated that various professions have highlighted the research productivity of their professions and these included professions such as chiropractors,⁵ pharmacists⁶ and medicine.⁷⁻⁹ A few international studies assessing physiotherapy productivity were found.^{3,10} One study assessed the scholarly productivity of 19 physiotherapy programmes in the USA and the other assessed research productivity among physiotherapists in the USA and Puerto Rico between 1998 and 2002. Both studies concluded that research activity among physiotherapy academics was limited and every effort should be made to address this. However, the nature of publication output has not been measured among physiotherapy schools in South Africa.

Research indicated that there is a need to 'assess the impact of physical therapy education on scholarly productivity'.¹⁰ The information of this current study has value for physiotherapy departments because it is the first to provide baseline information of physiotherapy academics research output in South Africa. Thus the aim of this study was to evaluate the research productivity of the physiotherapy department at a local university in the Western Cape between 2002 and 2009. In this study scholarly or research productivity is measured by publications, postgraduate student through, research funding and conference presentations. The hierarchy of criteria (Fig. 1) was adapted and used as an analytic lens through which to evaluate the research productivity of academics currently employed in the department.² A factor that the model does not include was also used, namely the amount of research funding generated by academics.

Background to the study

Setting

The University of the Western Cape is one of the historically disadvantaged tertiary institutions in South Africa. Before 1994, higher education institutions were segregated according to the apartheid vision.¹¹ Institutions such as the University of the Western Cape were under-resourced

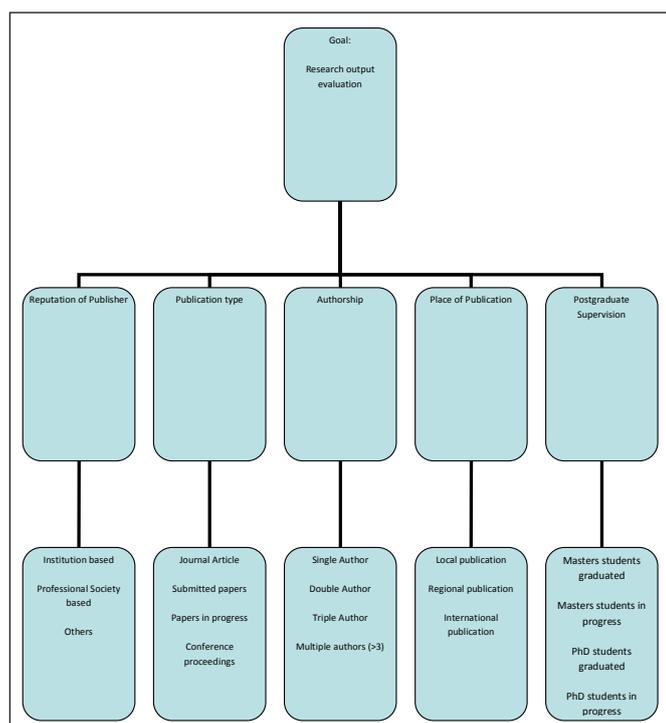


Fig. 1. Hierarchy of criteria (adapted from Uzoka, 2008).

Table I. Demographic data of the participants

Level	Years in academia	Highest qualification	Years on contract at HEI	Years permanent at HEI	Gender	Race
Lecturer 1	2 years	MSc (2008)	2 years	None	Male	White
Lecturer 2	4 years	MSc (2007)	2 years	2 years	Female	White
Lecturer 3	4 years	MSc (2005)	None	4 years	Female	Black
Lecturer 4	4 years	MSc (2005)	None	4 years	Female	Indian
Lecturer 5	12 years	MSc(2005)	6 years	6 years	Male	Coloured
Snr lecturer	9 years	MSc (2002)	1 year	8 years	Female	Coloured
Ass prof 1	11 years	PhD (2006)	3 years	8 years	Female	Coloured
Ass prof 2	11 years	PhD (2006)	None	11 years	Female	White
Ass prof 3	13 years	PhD (2005)	4 years	9 years	Female	Coloured

Table II. Publication output for the period 2002 - 2009 of current staff

Academic	Master's students graduated by current staff	Publications	Publications from student work
Lecturers (5)	6	9	3 (33%)
Senior lecturer (1)	11	10	5 (50%)
Associate professors (3)	33	55	26 (47%)

and offered limited courses. In addition, the research was not uniformly supported across the higher education sector. There are eight physiotherapy schools in South Africa and the physiotherapy department at UWC is located within the Faculty of Community and Health Sciences. At the end of 2009 the department had nine full-time academic staff members of whom 3 were associate professors, 1 senior lecturer and 5 lecturers. The demographic data of current staff members are presented in Table I. Research productivity is one of the areas considered for promotion among academics at the University of the Western Cape.

The academic staff at the department is actively engaged in research activities as the promotion of academic staff is partially dependent on academic publications. At the time of the study (2009), the department had 3 academics with PhD degrees and 5 with Master's degrees. The department currently offers an undergraduate programme, a 2-year course work Master's programme, Master's by thesis programme and a PhD programme. Eighty students have graduated from the Master's by thesis and course work programmes and four students have obtained doctoral degrees in physiotherapy.

Methods

An archival research design was used. Archival research methods include activities used to facilitate the investigation of documents and textual materials produced by and about organisations. This case study drew on contextual information provided through the analysis of documents relating to data on the Master's and PhD graduates between 2002 and 2009 from the archives and the website of a local university in the Western Cape. Research productivity of the academics was determined using document analysis (annual reports, research files, faculty CVs) available at the institution and records indicating research publications. Information recorded included the journal, dissertations, year of publication and authors. Although every attempt was made to obtain accurate information for this study, the possibility does exist that all information might

not have been available as the research design indicates that the original information gathered was not for the purpose of the study. Approval was obtained from the Ethics Committee of the University of the Western Cape and head of the physiotherapy department.

Information was recorded on a data capture sheet based on the hierarchy of criteria mentioned earlier. The documents were reviewed independently by two people and consensus was reached on the information to be included in the study and the additional information that needed to be followed up. Academics and graduates were followed up via telephone or e-mail to identify any publications or other relevant information that could have been missed in the documents that were analysed.

Results

During the period of assessment, the department had successfully graduated 80 Master's and 4 PhD students from various African countries. In addition, two senior academics (2002 - 2006) left the department and four junior academics joined the department between 2006 and 2007. The document analysis found that the current academics (academics employed in the department at the time of the review) had been fairly productive between 2002 and 2009 in terms of the number of graduated Master's students and publications based on student work (see Table II). A total of 74 articles were published by academics and their Master's or PhD students during the identified period. Of the articles published ($N=74$), 34 (46%) were co-authored with Master's or PhD student graduates. All of the articles that were published had been submitted to peer-reviewed journals and 42 (57%) were published in accredited journals. Accredited journals in South Africa are journals which the Department of Education recognises and rewards the university money for any publications in these journals.

Research productivity as it relates to publications (published, submitted and in progress) of the current staff in the department is reflected in Table III. Records reflected that the academics published from their own

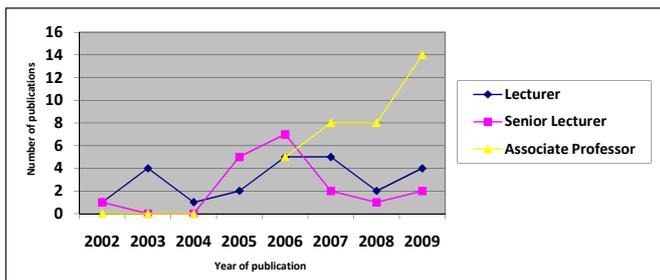


Fig. 2. Publications according to academic level.

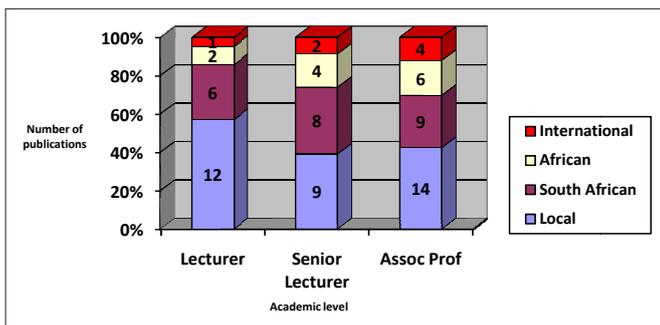


Fig. 3. Academic level v. publisher.

research work (postgraduate studies and projects), as well as being second author to publications of their students work.

A summary of the research productivity of the department according to Uzoka's (2008) evaluation of research productivity is presented in Table IV. The majority of the publications were in local journals, but the academics were also publishing in national and international journals.

Figs 2 and 3 illustrate the number of articles published for the period 2002 - 2009 according to academic rank and the journals commonly published in during this period. Between 2004 and 2006 there were no associate professors in the department. The 8-year output of the physiotherapy department indicates an average of nine articles per year and the increase in seniority of academics increased per year.

The most common journals in which publications featured was the faculty's in-house journal, *The Journal of Community and Health Sciences* (N=35, 47%), *South African Journal of Physiotherapy* (N=21, 28%), *African Journal of Physical Health, Education, Recreation and Dance* (N=10, 14%). The rest were single publications in various journals. Of the journals in which the academics published, only one journal

was a discipline-specific journal, namely the *South African Journal of Physiotherapy*.

Academics over the last 7 years regularly attended and presented at conferences. Of the total number of conferences attended (N=63), 48% were national conferences, 38% were international conferences and 14% were African conferences; 40% of the national conferences were attended by junior lecturers and 96% of the international conferences were attended by the more senior academics.

Discussion

Research plays an important role in helping academics to identify the gaps in knowledge through critical appraisal of available literature. The process of publication allows academics to develop as researchers through a peer-review process that scrutinises their work and acceptance for publication acknowledges the value of the research and the contribution to the area. The aim of the current study was to highlight the research productivity of academics in a physiotherapy department in South Africa.

In the current study there is evidence of a consistent annual publication output within this physiotherapy department. This annual output by academics in the department of physiotherapy could assist in increasing the academic standing of the department in South Africa and even Africa. The consistent output of this department could possibly be attributed to the existence of the postgraduate programmes within the department which graduates Master's students annually and the commitment to convert these theses into publications. This idea could be supported by the fact that many of the articles published were co-authored by Master's and doctoral graduates and their supervisors. Other researchers have highlighted that the presence of doctoral degrees and a thesis component in training programmes assists academics with publication output.¹² In a study among academic nurses the lack of scholarly publications among the nurses at a Malawian university could be due to the lack of Master's degree programmes at the institution.¹³ This was confirmed by another study which reported that the strategic recruitment of dedicated PhD academics does assist in increasing research productivity.¹⁴ It is evident from the current study that the academics who had a PhD had an increased number of publications in relation to the more junior academics. Thus the presence of postgraduate programmes and staff members with PhDs seems to have a positive effect on departmental academic research output.

Another reason for the increased research output in this department could possibly be the availability of a local in-house journal. The limited number of physiotherapy journals in South Africa and even Africa would

Table III. Publications among academics

Level	Years in academia	Highest qualification	Publications	Submitted	In progress
Lecturer 1	2 years	MSc (2008)	3	1	3
Lecturer 2	4 years	MSc (2007)	2	2	1
Lecturer 3	4 years	MSc (2005)	2	2	1
Lecturer 4	4 years	MSc (2005)	0	1	2
Lecturer 5	12 years	MSc(2005)	2	1	1
Senior lecturer	9 years	MSc (2002)	10	2	1
Associate prof 1	11 years	PhD (2006)	15	2	3
Associate prof 2	11 years	PhD (2006)	17	3	5
Associate prof 3	13 years	PhD (2005)	36	5	5

Table IV. Research productivity

		<i>N</i>
Reputation of publisher	Institution based	32
	Professional society based	21
	Other (SA/African/international)	21
Publication type	Published journal articles	74
	Submitted papers	7
	Papers in progress	20
Authorship	Single author	17
	Double author	34
	Triple author	14
	Multiple authors	9
Place of publication (published papers)	Local (institution)	32
	Regional (South African)	23
	International (African/international)	19
Conference presentations	National	30
	African	9
	International	24
Students graduated	Mini-thesis	50
	Full Master's thesis	17
Research funding generated	Local university research funding	9
	NRF funding	2
	MRC funding	2
	International funding	2

make it difficult for physiotherapy academics to publish. This could be the reason for the increased number of publications in journals not directly linked to the physiotherapy profession. This idea was supported by other studies which indicated that professional journals did not commonly publish articles from other professions.¹³ However, the low number of articles published in international journals could be that the research conducted by the academics was not of interest to a global audience.

It is however evident from the current study that a higher level of research productivity was more prevalent among senior academics. This is highlighted in the statistics for publication output as well as the conference attendance. Studies conducted among chiropractors reported that academics with higher qualifications and also more senior status tended to produce more publications.⁵ In addition, the average number of articles per staff member per year in this current study is approximately one article, with the average among senior staff members being two articles per year. This was similar to other studies⁶ which reported an average of two articles per year among only 5% of their staff. It would thus be impera-

tive for this department to ensure that all academics, especially younger academics, obtain doctoral degrees in order to ensure an increase and steady growth in the departmental publication output. 'Success in scholarly productivity is based on a complex interaction between individual faculty members and the departmental culture in the context of the global institution.'¹⁰ Thus the success within this department could be enhanced by a good interaction between senior and junior staff as well as a culture of research evident from the successful postgraduate programme and publication output.

Conclusion

Research productivity among physiotherapy academics is important for the physiotherapy profession. The three pillars of evaluation among academics include teaching, research and administration and it has become imperative that all academics find a balance. If the research productivity among junior academics is to be improved, strategies need to be put in place that will encourage this. Strategies that could assist in this process are mentoring of junior academics by senior academics in the form of joint publications, dedicated time for research and writing for publication workshops.

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