

STATUS OF RESEARCH-RELATED ACTIVITIES OF SOUTH AFRICA'S UNIVERSITY NURSING SCHOOLS

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Abstract

The development of research programmes is a relatively novel phenomenon amongst nurse researchers in developing countries. Academics and researchers are faced with the demands for postgraduate and publication outputs, but with little or no support. In South Africa, benchmarks have been set for expected research outputs per university and per academic. However, nursing schools are finding it a challenge to meet these targets.

This chapter provides an overview of the status of nursing research in South Africa and determines the overall research outputs for the various South African nursing schools.

The data was collected through a structured self-administered questionnaire. The survey was distributed to all 22 university nursing schools in South Africa of which 17 completed surveys were returned (77% response rate). The nursing dean was expected to verify all information submitted. Data collected reflects the years 2008-2010.

Only 23.54% of nurse academics in South Africa have doctoral degrees impacting on the throughput rates of doctoral and master's degree students. There are high intakes for doctoral and master's degree programmes with limited availability of research supervisors. The results also revealed that almost half (46%) of the academics employed at nursing schools are employed in a full-time contract position. In South Africa, each year 4.7 articles per nursing school per year are published in accredited journals.

It is evident from the results that there is an increase in the output of publications and funding for research, but that the output rate of postgraduate students has shown nominal improvement, especially regarding doctorates. Problems affecting research outputs included writing challenges, a lack of stability or constant change in management in many nursing schools, as well as a shortage of experienced supervisors. Unrealistic workloads were also singled out as challenges that impact on research outputs. However, support programmes have been established to support researchers, and this seems to have had a positive impact.

Keywords: Research in nursing; NRF rating;

Introduction

Nursing research has historically been seen as the responsibility of nurse academics. The role of research within nursing is gaining a higher profile, as nurses move towards advanced practice roles, and concepts such as evidence-based practice and clinical governance are accepted (Richardson 2005: 33). In order to build a sound knowledge base for nursing practice, nurses must be able to evaluate and use nursing research reports as a first step to research-based practice. Research in the nursing profession is being used to change practice, education, and health policy and helps to shape the future of nursing. The importance of research in nursing is particularly evident in the changes to nurse education made in recent years. An increasing number of nurses are involved in research activities such as research supervision, mentoring junior researchers, examining and reviewing research, utilizing research findings in practice and conducting sophisticated quantitative and qualitative studies.

The Department of Higher Education and Training (DHET) (2011) has set benchmarks for research outputs at universities. Each category of university is expected to achieve a certain number of “units” per lecturer at the end of the academic year. These units are related to staff performance levels, but are also designed to encourage the research activities of universities. The following units are expected for the three categories of university:

Table 10.1 Normative ratios of weighted publication units to permanently appointed instruction/research staff members (DHE&T, 2011)

Institution	Normative ratios
Universities	1.4125
Universities of Technology	0.565
<u>Comprehensive institutions:</u>	
University of Johannesburg	1.0961
Nelson Mandela Metropolitan University	1.0509
University of South Africa	1.3108
Walter Sisulu University	0.8249

Staff members can achieve these units by successfully supervising and promoting master’s and doctoral students until completion of their studies.

- PhD – three units
- Masters (Research) – one unit

In addition, and with particular reference to this section, academics can also achieve the required units by having their articles published in accredited academic journals – that is, on an approved list of the Department of Higher Education and Training. Although all accredited journals are peer reviewed, not all peer reviewed journals are accredited.

- Article in DoE accredited journal – one unit
(Ministerial statement on university funding: 2012/13 and 2013/14, September 2011)

It must be pointed out that the total number of units is based on the total number of full-time lecturers multiplied by the units expected of them in their particular university. In addition, it is expected that senior academics (e.g. professors) with a long track record of successfully supervising students and publishing articles should help to “carry” the less experienced staff members until they reach a similar level. Hence, for a department to achieve the required total number of units based on their staff numbers, the lower output of junior staff members should be covered by the greater output of more senior staff members. The units are provided by the DHET as a benchmark, but if an individual university’s overall performance per school is higher than that laid down by the DHET, then staff will be expected to aim for their particular institution’s benchmark based on the previous year’s outputs.

As FUNDISA embarks on strategies to improve the knowledge production and scholarship of nurse academics, it is important that the baseline performance of nursing schools in this area be described. Therefore, a survey was conducted by the Research Portfolio Committee of the Forum of University Deans in South Africa (FUNDISA) to determine the status of research-related activities at university nursing schools in order to identify research strengths and weaknesses and to develop a data base that could be used to facilitate the development of a research strategy for nursing research in South Africa. The research strategies could then be used by all nursing schools as a guide to strengthening nursing research in South Africa. This chapter presents the findings of the survey which took place between July and August 2011 – with later submissions of completed questionnaires arriving between September and October 2011. The term “nursing school” will be used to refer to university nursing schools, departments and divisions and the term “academic” refers to all teaching staff (“faculty”), as opposed to support staff.

Methodology

In the middle of 2011, a structured self-administered questionnaire was initially developed by the members of the FUNDISA research portfolio committee to establish the current status of research-related activities at South Africa’s University nursing schools. Once a rough draft had been assembled, it was distributed amongst various members of FUNDISA for feedback. Valuable information was received and the questionnaire was then finalized after input from a statistician from the Nelson Mandela Metropolitan University. The questionnaire consisted of various sections: Biographical Data; Postgraduate Student Data; Staff Qualifications; Supervision; Publications; Research Projects for Non-degree Purposes; Research Funding and Research Focus Areas. A combination of closed- and open-ended questions was included in the questionnaire. To contextualize the work of nurse academic, factors such as the number of permanent and contract nurse academics were surveyed, together with the number of nurse academics who had completed, or were registered for, doctoral degrees. The questionnaire also addressed the number of masters’ and doctoral students who were registered or who had already graduated over the period 2008-2010, and the number of nurse academics who had successfully promoted doctoral candidates. The number of articles produced by each of the nursing schools was also addressed and the type of article was identified.

The survey was approved by the FUNDISA Research Portfolio Committee as adhering to ethical guidelines. Since the study involved academics from many universities and was conducted within the members of the organization, permission for the study was obtained by the Head of the Nursing

School in each institution. It was decided by the FUNDISA membership to keep individual information confidential, but to use the names of Universities to enhance the usefulness of the data.

The questionnaire was distributed via e-mail to all the nursing schools linked to universities in South Africa (22 in total). Of the 22 nursing schools, 17 submitted completed questionnaires. The Head of School was requested to complete the questionnaire or refer it to the appropriate person. In most cases a group of academics completed the questionnaire, but the Head of School was asked to verify the input before submitting it. Hence, a response rate of 77% was achieved resulting in the collection of a substantial amount of data. The non-responding schools included small Universities with little or no research, as well as a large University who was going through restructuring at the time of the survey.

Full-time, permanent and contract academic staff

The survey results revealed that, in 2011, there were 240 full-time academic permanent staff members and 203 contract staff members in all the participating nursing schools in South Africa. This means there were a total of 443 full-time, permanent and contract academics. The three schools with the largest number of nurse academics were the University of the Western Cape with 96 (22% permanent), University of the Free State with 67 (34% permanent) and the University of Fort Hare with 32 (78% permanent).

Table 10.2 Number of permanent and contract academics per nursing school (N=443)

University	Full-time permanent/tenured academics	Full-time contract academics	Total number of full-time academics (% permanent)
UWC	21	75	96 (21.9)
UFS	23	44	67 (34.4)
UFH	25	7	32 (78.1)
NWU (P)	22	5	27 (81.5)
UNISA	26	0	26 (100)
SUN	4	19	23 (17.3)
DUT	5	17	22 (22.7)
TUT	10	12	22 (45.5)
MEDUNSA	17	4	21 (81)
NMMU	11	6	17 (64.7)
UJ	17	0	17 (100)
UP	13	3	16 (81.3)
NWU (M)	11	4	15 (73.3)
UNIVEN	12	0	12 (100)
UCT	10	1	11 (90.9)
WITS	5	6	11 (45.5)
UL	8	0	8 (100)
TOTAL	240	203	443 (54.2)

The results in table 10.1 indicate that more than a third (35%) of the 17 universities employ more full-time contract, rather than full-time permanent nurse academics.

Nurse academics with doctoral degrees

The total number of nurse academics at the 17 nursing schools who either have, or are registered for a doctoral degree is 184, which makes up 41% per cent of all nurse academics (N=443) (table 10.3). In other words, there are still a high number of nurse academics who have neither obtained nor are registered for their doctoral degrees, namely 59% (n=262). Looking at this situation another way, just 24% of all nurse academics have obtained their doctoral degrees. These figures have implications for both the research output of nursing schools in South Africa and also the throughput of master's and doctoral candidates. While output refers only to the number of students completing a programme (graduating), throughput takes into account how many students initially registered, so throughput refers to the proportion of students who completed in terms of those who registered.

Table 10.3 Nurse Academics per nursing school with doctoral degrees or who are registered to do a doctoral degree (% of total in school in brackets)

University	Academics with doctoral degrees	Academics registered for a doctoral degree	Academics without doctoral degrees and who are not registered	Full-time permanent and full-time contract academics
UNISA	19 (73)	7 (27)	0	26
NWU (P)	13 (48)	4 (15)	10 (37)	27
UFS	9 (13)	3 (4)	55 (83)	67
UWC	8 (8)	9 (9)	79 (83)	96
UP	8 (50)	4 (25)	4 (25)	16
UNIVEN	8 (67)	4 (33)	0	12
UJ	6 (35)	6 (35)	5 (30)	17
NMMU	5 (30)	6 (35)	6 (35)	17
UL	5 (63)	2 (25)	1 (12)	8
NWU (M)	4 (27)	6 (40)	5 (33)	15
UFH	4 (13)	4 (13)	24 (74)	32
UCT	4 (36)	3 (28)	4 (36)	11
MEDUNSA	3 (14)	8 (38)	10 (48)	21
WITS	3 (27)	3 (27)	5 (46)	11
SUN	3 (13)	2 (9)	18 (78)	23
TUTS	2 (9)	3 (14)	17 (77)	22
DUT	1 (5)	4 (18)	17 (77)	22
TOTAL	105 (23)	78 (18)	260 (59)	443 (100)

Table 10.3 reflects that, in 2011, the four nursing schools with the highest percentage of nurse academics with doctoral degrees among their staff were: University of South Africa 73% (n=26), University of Venda 67% (n=12), University of Limpopo 62% (n=8) and North West University (Potchefstroom Campus) 48% (n=27). The nursing schools with the highest percentages of nurse academics who were registered for their doctoral degrees were: North West University (Mafikeng Campus) 40% (n=15), Medical University of South Africa 38% (n=21), Nelson Mandela Metropolitan University 35% (n=17), University of Johannesburg 35% (n=17) and University of Venda 33% (n=12).

At the time of the study, nurse academics at two of the nursing schools (the University of South Africa and the University of Venda) had either qualified with, or were registered for their doctoral

degrees. This is an excellent situation for the University of South Africa which has 26 staff members. In addition, quite a number of nursing schools have a high percentage of their staff members who are either qualified with a doctoral degree or who are registered for their doctorates; namely: University of Limpopo 88% (n=8), University of Pretoria 75% (n=16), North West University (Potchefstroom Campus) 74% (n=27) and University of Johannesburg 70% (n=17). North West University (Potchefstroom Campus) is particularly noteworthy as it has a staff complement of n=27 with just seven of its staff members who do not have, or have not registered for a doctoral degree. A total of 59% (N=443) of all nursing academics in South Africa do not have a doctoral degree and neither are they registered for one.

Master's and doctoral degree students

The following section will highlight the situation of master's and doctoral students in South African nursing schools. All Masters and Doctoral students in Nursing Schools are completed in the discipline of nursing.

Registered master's degree students

In 2008, there were a total of 679 students registered nationally for their master's degrees at the 17 universities throughout South Africa. However, there was a sharp increase in student numbers in 2009 to 933 students. The numbers continued to rise in 2010 to 1006. The average number of master's students per nursing school was 59 in 2010. However, there are certain nursing schools that had particularly large numbers of master's students, with averages over three years (2008-2010) showing the following numbers: University of South Africa (283), University of Pretoria (133), Stellenbosch University (100) and University of the Western Cape (77).

Master's degree graduates

In 2008 and 2009, there were 84 graduates in each year from all the nursing schools in South Africa. The year 2010 showed a significant increase of 41 graduates from the previous years, amounting to a total of 125 graduates (table 10.4). Over the three years, an average of 98 student graduated per year with a master's degree in nursing-related studies. There was a 66% average growth in numbers of registered master's students, with three schools recording a decrease in numbers and one university (UNIVEN) recording a 250% growth.

Table 10.4 Registered master's degree students and graduates (2008-2010)

University	2008		2009		2010		% growth of Masters students	Total Masters graduates between 2008-2010
	Registered Masters students	Students who graduated	Registered Masters students	Students who graduated	Registered Masters students	Students who graduated		
UNISA	233	27	335	25	282	29	21	81
UP	97	11	128	12	174	19	79	42
SUN	78	4	99	8	123	26	57	38
NWU (P)	13	5	56	8	33	11	153	24
WITS	6	3	6	5	7	8	16	16
UNIVEN	4	7	5	6	14	2	259	15
UJ	26	4	42	5	41	5	57	14
UWC	52	2	77	7	101	3	94	12
UFH	40	0	43	0	45	10	12	10
UFS	29	4	40	3	46	4	58	11
UCT	21	7	18	1	23	3	9	11
MEDUNSA	15	6	4	1	13	0	-14	7
NMMU	18	2	30	3	38	1	111	6
TUTS	5	0	1	0	4	4	-20	4
UL	11	1	22	0	30	0	173	1
DUT	3	1	0	0	5	0	66	1
NWU (M)	28	0	27	0	27	0	-4	0
TOTAL	679	84	933	84	1006	125		293

There was a nominal increase in students graduating with master's degrees from 84 in 2008 to 125 in 2010.

Registered doctoral students

In 2008, there were 143 students registered for their doctoral degree at the 17 university nursing schools. There was a small increase (to 150) students in 2009 and again another small increase in 2010 to 160. The average number of doctoral students per nursing school was 10 in 2010. However, there are certain nursing schools that recorded a high average of registered doctoral students between 2008 and 2010: the University of South Africa (51), University of Johannesburg (24), Nelson Mandela Metropolitan University (22.67) and North West University (Potchefstroom Campus) (12.67).

Doctoral graduates

In 2008 there were 24 doctoral graduates and in 2009 there were 30, followed by 41 in 2010 which indicates a steady increase in doctoral graduates over the three years. Over this period an average of 32 students per year graduated with doctoral degrees in nursing (table 10.5).

Table 10.5 Registered doctoral students and doctoral graduates (2008-2010)

University	2008		2009		2010		% growth of doctoral students	Total doctoral graduates between 2008-2010
	Doctoral students registered	Doctoral students graduated	Doctoral students registered	Doctoral students graduated	Doctoral students registered	Doctoral students graduated		
UNISA	56	11	51	15	47	19	-16	45
UJ	23	3	24	3	25	8	9	14
NWU (P)	11	3	12	3	15	7	36	13
UNIVEN	7	5	8	4	10	2	43	11
NMMU	16	1	24	3	22	0	38	4
UFS	6	0	7	0	3	3	-50	3
UWC	10	0	11	0	12	2	20	2
UP	4	1	4	1	9	0	125	2
DUT	0	0	0	1	0	0		1
WITS	6	0	6	0	6	0	0	0
MEDUNSA	5	0	4	0	10	0	100	0
UCT	4	0	4	0	5	0	25	0
TUT	4	0	1	0	1	0	-75	0
TOTAL	152	24	156	30	165	41	9	95

The nursing school producing the highest number of doctorates over the three year period (2008-2010) was UNISA with 11 graduates in 2008, 15 in 2009 and 19 in 2010, averaging 15 doctoral graduates per year. Hence, UNISA produced 47% of all the doctorates (N=95) in the country each year over the three-year period. The other top producers of doctoral graduates were the University of Johannesburg (14), North West University (Potchefstroom Campus) (13) and UNIVEN (11).

Doctoral Supervisor-Student Ratios

The supervisor-student ratio for doctoral studies in 2010 ranged from 1:0.8 to 1:11 (number of qualified academic supervisors to number of doctoral students). The University of South Africa, which had the highest number of doctoral graduates, also has the highest number of staff members who are able to promote doctoral candidates, namely 16. Clearly, doctoral candidate throughput rates are affected by the number of experienced promoters in a particular nursing school. Based on the figures received, nursing schools where the candidate-supervisor ratio is low have a higher throughput rate (See table 10.6). Three of the four nursing schools with the highest numbers of doctoral graduates appear to have candidate-supervisor ratios of less than 3:1. Table 9.6 indicates the number of staff members in each nursing school who have successfully supervised doctoral students per institution, as well as the supervisor-candidate ratios for 2010. Again, it is clear from the data presented in the table that the University of South Africa has the highest number of successful supervisors.

Table 10.6 Staff members who have supervised doctoral candidates successfully and supervisor-student ratios

University	Staff members who have promoted doctoral candidates successfully	Candidates registered for doctorates 2010	Promoter- Doctoral candidate ratios for 2010	Doctoral throughput rates 2008-2010
NMMU	2	22	1:11	4
WITS	1	6	1:6	0
NWU (P)	3	15	1:5	13
UP	2	9	1:4.5	2
UWC	3	14	1:4	2
UNISA	16	47	1:2.9	45
UJ	9	25	1:2.8	14
UCT	3	5	1:1.7	0
UNIVEN	8	10	1:1.3	11
UFS	4	3	1:0.8	4
TOTAL	51	156		95

Research outputs

With respect to publications in accredited journals, the UNISA School of Nursing has produced the highest number of publications over the period 2008-2010, with 22 articles published in 2008, 16 in 2009 and 17 in 2010, averaging 18 peer-reviewed articles per year. The school of nursing at the University of Johannesburg produced the next highest number of articles that were accepted by accredited journals – 10 articles published in 2008, 13 in 2009 and 13 in 2010 or an average of 12 articles per year from 2008- 2010. Other nursing schools that are consistently producing high numbers of articles are North West University (Potchefstroom Campus) and Tshwane University of Technology, each with approximately 9 articles per year, and the University of Pretoria with 8 articles per year. None of the nursing schools reaches the target publication rates set by the Department of Higher Education and Training (2011), which range from 1.4125 per academic at Universities to 0.565 publications per academic at Universities of Technology.

There appears to be a relationship between the number of articles published per nursing school and the number of staff members at the school who have successfully supervised doctoral students. Both UNISA and the University of Johannesburg, the top producers of peer-reviewed articles, are also the two nursing schools that have the highest number of staff members at the school who have successfully supervised doctoral students – namely, 16 and 9 respectively. Perhaps a correlation exists between the production of articles and the number of doctoral candidates graduating. It also appears as though universities with fewer full-time contract academics do better in the publication arena, e.g. UNISA, UJ, UNIVEN and UCT (Table 10.7).

Table 10.7 Relationship between doctoral and master's graduates, staff with doctorates and articles produced

University	Avg. no. of doctoral graduates per year (2008-2010)	Avg. no. of masters graduates per year (2008-2010)	Staff members with PhDs	Avg. no. of articles produced per year (2008-2010)	Publication per FTE academic (only permanent faculty)
UNISA	15	27	19	18	0.69
UJ	4.7	4.7	6	12	0.7
NWU (POTCH)	4.3	8	13	9.33	0.35 (0.42)
TUT	0	4	2	8.67	0.39 (0.87)
UP	0.7	14	8	8.33	0.52 (0.64)
UNIVEN	3.7	5	8	6	0.5
UWC	4	0.7	8	6	0.06 (0.28)
UCT	3.7	0	4	6	0.55 (0.6)

It seems that nursing schools with high numbers of doctoral and master's graduates, together with high numbers of staff with doctoral degrees, appear to produce higher numbers of research articles. Tshwane University of Technology appears to be unique in that it did not produce any doctoral graduates and only 1.3 master's graduates per year from 2008 to 2010, and yet it produced an average of 9 articles per year over the same period.

NRF ratings

The National Research Foundation (NRF) is a South African government research funding agency that operates an evaluation and rating system for all researchers applying for funding. The rating serves as a peer-based benchmarking system of each applicant's recent research outputs and of the impact of these outputs. The NRF considers that the evaluation and rating system provides independent and objective information on the quality of an individual's research and South Africa's research capacity in different fields, reinforces the importance of internationally competitive research, stimulates competition between researchers, and can be used by the universities to position themselves as research-intensive institutions. Some universities use the system for the promotion and recruitment of staff (Pouris 2007: 439). Due to high workloads, nursing schools are struggling to place their staff members in positions where they can focus on research activities in order for them to become NRF-rated.

Only three nursing schools out of 17 have NRF-rated nurse researchers amongst their staff. The total number of NRF-rated nurse researchers in this sample is four; namely two in the C2 category and one in the L and Y categories respectively. According to the definitions of NRF rating categories and sub-categories, a C2-rated researcher must be an established researcher with a sustained recent record of productivity in the field and who is recognised by his/her peers as having produced a body of quality work, the core of which has coherence and attests to on-going engagement with the field. The majority of reviewers need to be firmly convinced that the applicant is an established researcher. Researchers who qualify for the Y category are younger researchers (40 years old or younger), who have held the doctorate or equivalent qualification for less than five years at the time of application, and who are recognised as having the potential to establish themselves as researchers within a five-year period after evaluation, based on their performance and productivity

as researchers during their doctoral studies and/or early post-doctoral careers. The L category rated researchers are persons (normally younger than 55 years) who were previously established as researchers or who previously demonstrated potential through their own research products, and who are considered capable of fully establishing or re-establishing themselves as researchers within a five-year period after evaluation. Candidates should be South African citizens or foreign nationals who have been resident in South Africa for five years, during which time they have, for practical reasons, been unable to realize their potential as researchers. Candidates who are eligible in this category include:

- black researchers;
- female researchers;
- those employed in a higher education institution that lacked a research environment;
- those who were previously established as researchers and have returned to a research environment.

The L category was introduced to attract an increased number of promising researchers from disadvantaged backgrounds, as well as women, into research. It also caters for persons previously established as researchers who have returned to a research environment after periods in industry or elsewhere. Applicants must demonstrate that they could not realize their potential or sustain their research ability by virtue of a lack of a research environment, time spent in industry or on maternity leave, or raising a family. For candidates to qualify for this category, the employing institution must have demonstrated its financial commitment towards a development strategy for the staff member concerned. The L category is now no longer in existence.

Academics who have been on editorial boards

A small percentage of the total number of staff members (443) at all university nursing schools sit on editorial boards, although some serve on the editorial boards of international journals. The results revealed that 6% (n = 27) of the staff members sat on editorial boards in 2008, 7% (n = 30) in 2009 and 9% (n = 32) in 2010.

Academics who have been reviewers

The percentages of nursing academics who are acting as reviewers for accredited journals are more encouraging than the percentages of academics who sit on editorial boards. This is evident in the survey results which revealed that 14 % (n=62) of the nursing academics were acting as reviewers in 2008, 19 % (n=76) in 2009 and 21 % (n=88) in 2010.

Challenges that impact on research outputs

The nursing schools were asked what challenges they could identify which impacted on their research outputs. One of the main reasons listed for low research outputs was the low number of research supervisors relative to student numbers. This situation was exacerbated by the lack of experienced supervisors, as many schools indicated that although staff members might have the qualifications, they were not experienced supervisors. Hence, the staff-postgraduate student ratios were largely incongruent. In turn, such a situation reduced the capacity of staff members to undertake research activities. It was stated that a further related factor was the lack of research mentors for neophyte researchers and academics.

Another factor was a lack of stability or the constant change in management in many nursing schools. Furthermore, a serious lack of expertise in the form of contract lecturers to relieve staff so that they can access research leave was identified by most nursing schools.

Time was also listed as a problem for nursing schools. Staff members complained of having unrealistic, heavy clinical workloads on top of their teaching duties in their respective nursing programmes. Leading on from this, it was argued that academics lack the necessary time to focus on their research and their writing. Linked to the issue of time was the need for staff to make careful career-path choices, i.e. teaching versus research. Hence, a lack of capacity on the part of staff to write and a high workload are common issues mentioned by many schools.

Issues related to writing skills included a lack of funding for support in the form of language practitioners, editors, statistical support and critical readers. Furthermore, it was noted that postgraduate candidates often struggled to write and work independently, and often appeared to lack commitment, and also that most postgraduate students were studying part time. In addition, most of the nursing schools commented on the limited academic competence of their students, as well as the additional support that these students require. It was also mentioned that many of the staff members joined academia later in their careers as they were clinicians beforehand, and were therefore not comfortable with the research output requirements of higher education institutions.

An important factor which was raised and which is related to the need to increase research outputs at South African nursing schools, is the lack of a clear research programme for each nursing school and, more particularly, the lack of individual research programmes for nurse academics.

Actions implemented to facilitate publication of research articles and grant applications

The various nursing schools that completed the questionnaires were also asked a number of open-ended questions. One of the questions concerned the description of strategies or actions that the nursing schools had implemented since 2008 to facilitate the publication of research articles by staff members.

Writing for publication mentoring

Nursing schools indicated that they had established writing retreats and writing teams. They had also introduced "buddy systems" for writing, whereby individuals surrounded themselves with peers who could advise and support them through the writing process. Some nursing schools have allowed staff members time off work to give them an opportunity to write their articles. However, many nursing schools indicated that they did not have adequate staff to allow staff time off to focus on publishing. In addition, workshops on writing for publication have also been introduced with a view to strengthening staff members' chances of having articles accepted for publication. Several nursing schools have made use of the services of language editors and critical readers to assist their staff with academic arguments. Related to the development of a research culture is that some nursing schools have introduced brown-bag sessions to provide their staff members with an opportunity to debate research and be provided with feedback.

Available support systems for writing grant proposals

Across all the nursing schools in the country there has been an average of one ongoing research project per school over the period 2008-2010. The top schools with current research projects in 2010 were NWU (POTCH) with seven (7) clearly identified research projects, UFS with four (4) research projects and UWC with three (3) research projects. Seven schools had no research projects underway in 2010.

Discussion

The finding that a third of academic staff are appointed in contract rather than permanent positions could be a reason for concern. According to Omar (2010: 145) contract staff have been regarded as less committed and less satisfied than permanent staff. However, the high level of doctoral degrees, especially in some universities, is a positive finding. A number of readers of *Times Higher Education* in the United Kingdom insist that doctoral degrees should be set as a minimum requirement for academics and senior managers within the university. This is because students would like to be helped with their learning by people with doctoral degrees, as such people are viewed as having the competence to do this (Jones, 2009). In most countries a doctoral degree is a basic requirement for a career in academia. It is an introduction to the world of independent research—a kind of intellectual masterpiece, created by a novice in close collaboration with a promoter (*The Economist*, 2012).

From the overall perspective of nursing knowledge production in South Africa, approximately 80 articles are published in accredited journals each year. This equates to 4.7 articles per nursing school per year (in this sample). However, five nursing schools produced one or fewer articles per year between 2008 and 2010. If one includes these schools, together with those that only produced 2 or fewer articles per year, then the number of nursing schools with poor output rates increases to 7: i.e. 7 out of 17 schools appear to be struggling to produce articles or 41% of all the nursing schools only produced 2 or fewer articles per year.

If UNISA is removed from the equation, then the total number of articles over the three-year period is reduced from 241 to 186. UNISA may not have the same clinical component to their programmes as other universities, thus enabling them to focus more energy on research. In addition, they have 19 staff members with doctoral degrees which could mean they have more staff members who are better prepared for writing articles. Furthermore, they had more doctoral students than any other nursing school over the period 2008-2010, as already indicated above.

"Publish or perish" is a phrase used to describe the pressure in academia to rapidly and continuously publish academic work in order to sustain or further one's career. Frequent publication is one of the only methods at the disposal of academics in order for them to demonstrate their academic talent. Successful publications bring attention to academics and their sponsoring universities, which can facilitate continued funding and an individual's progress through their field. Academics who publish infrequently or who focus on activities that do not result in publications, such as instructing undergraduates, may find themselves out of contention for available promotions.

It is clearly quite a challenge to become NRF-rated, and for nurse researchers it is possibly a greater challenge owing to their high lecturing and accompanying clinical workload. Nurse researchers

therefore need various kinds of support to help them to write more articles with a clear focus over a sustained period of time so as to put them in a strong enough position to apply for an NRF-rating.

Although an increase in masters and PhD graduates on average was noticed at university nursing schools, the numbers do not appear to be adequate. South African universities currently only produce 28 PhD graduates per million members of the population, compared with 48 in Brazil, 187 in Korea and 264 in Australia. The National Development Plan (NDP) proposes that the number of PhD graduates per year, which was 1421 in 2010, be increased to 5000 per year by 2030. This implies that South African universities would require a greater number of suitably qualified academics. In 2010, only 36% of academics at universities had a PhD (Goolam, 2012).

The evidence or lack thereof of research projects in the schools could reflect the lack of a research culture in the nursing schools in South Africa and the limited ability of nurse academics to write grant proposals. However, in order to access the funding for research, it is important that nursing school staff members have the necessary skills to compile convincing proposals addressed to potential funders. The nursing schools indicated that they have institutional workshops to help them in this regard. They also noted that individual mentoring by senior staff members with relevant experience was, unfortunately, very limited. They indicated, too, the need for expertise to assist them in overcoming this limitation. Hence, a need identified by many schools was to be given assistance in the writing of well designed research grant proposals.

A limitation of the study was that five nursing schools did not take part, of which at least one is a large school. This does not allow for a complete picture to emerge.

Conclusion

In conclusion, this survey highlighted various aspects relating to the status of nursing research at 17 university nursing schools in South Africa. The survey results revealed that almost half (46%) of the academics employed at higher education institutions are employed in a full-time contract position and only 23.54% of nurse academics in South Africa have a doctoral degree. The latter findings appear to have an impact on the throughput rates of doctoral and master's degree students. The majority of the universities indicated that they have large intakes for doctoral and master's degree programmes, with very few mentors for novice researchers and limited availability of research supervisors.

The nursing schools with high numbers of doctoral and master's degree students, together with high numbers of nurse academics with doctoral degrees, appear to produce higher numbers of research articles in accredited journals. From the overall perspective of nursing research in South Africa, approximately 80 articles are published in accredited journals each year, equating to 4.7 articles per nursing school per year.

The various universities also highlighted several challenges that impact on research outputs. The problems experienced by the nurse academics include, among others, writing challenges, a lack of stability or constant change in management in many nursing schools, as well as a dearth of experienced supervisors. A serious lack of expertise in the form of contract lecturers to relieve nurse

academics so that they can access research leave was also mentioned. Unrealistic workloads were also singled out as challenges that impact on research outputs.

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