Gender perspectives on the current application of young responsible pharmacist management competencies

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Abstract

Background: There are five management functions essential to effective management. The South African Pharmacy Council (SAPC) outlines six competency standards relating to management. Pharmacists can become responsible pharmacists (RPs) directly after completion of their internship i.e. in their community service year.

Methods: Quantitative research with a cross-sectional component, which falls into the positivist approach, was used. Questionnaires were sent out to all RPs in South Africa under the age of 35.

Results: Most female RPs were found to be at entry level when measured using the competency standards, while the male respondents were between intermediate and advanced, even though the female respondents had been pharmacists for longer and had more years of experience.

Conclusion: Gender does not play a significant role in the RP's ability to manage a pharmacy, but training does. More research needs to be done to determine if this gender disparity can be addressed by the development of a management training course that is focused on the operation of a pharmacy. Likewise the possibility of introducing a minimum level of training to be registered as an RP, needs to be considered.

Keywords: young responsible pharmacist, management training

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Introduction

Competency is when an individual possesses the required practical and theoretical knowledge, cognitive skills and attributes that enable the individual to perform tasks and duties as effectively as possible. Within the context of pharmacists or the pharmacy profession, the responsible pharmacist's (RP's) competencies would refer to the skills and knowledge base necessary to perform the RP duties as stipulated in the competency standards.[1] There are five critical management functions for effective management: operations, human resources, marketing, finance, and logistics.[2] The South African Pharmacy Council (SAPC) outlined six competency standards related to management that an entry-level pharmacist must understand.[1] The management module in the Bachelor of Pharmacy degree curriculum in most South African pharmacy schools consists of several themes, including basic change, financial management, human resource management, logistics, marketing, quality improvement, risk management, strategic management and policy development, relationship management, and laws and regulations, with an average of 18 credits allocated.[3,4,5] The competency standards expect pharmacists to execute management skills at the intermediate-to-advanced level, which typically takes more than three years of practice to achieve. However, in South Africa, a pharmacist can become a RP in their first year of practice post-internship. In other countries, such as Ukraine and Poland, postgraduate training or further studies in pharmacy management are required to become a pharmacy manager, or RP. In Spain, a pharmacist must have at least five years of experience as a pharmacist in a pharmacy before applying to become the pharmacy manager.[6] Moreover, gender disparity still exists in terms of representation in management in science, technology, engineering, and mathematics (STEM) professions and management roles.[7]

There is an ongoing debate as to whether gender affects management ability. There are arguments that gender does not play a significant role in management ability and that it is dependent on an individual's skills, experience, and education. Women continue to be underrepresented in these fields, with only a small percentage of women occupying leadership positions. According to a report by Catalyst, a global non-profit organisation, women hold only 29% of senior management roles in STEM industries.[7]

The gap that exists is therefore in the area of management where RPs may not be adequately trained and this may impact their ability to effectively manage. This article seeks to investigate the current application of competencies, management areas where RPs may not have adequate training, if this has an impact on their ability to manage, and whether significant differences exist

between gender groups.

Methods

Research approach

Quantitative research with a cross-sectional component, which falls into the positivist approach, was used. Questionnaires focusing on management were sent to all RPs under the age of 35 years who were registered with the SAPC. Analyses and numerical data were used to identify patterns and find averages to make predictions and form conclusions.[7] The data collected from the questionnaires were used to conduct the study and formulate conclusions without resending the questionnaires to the participants over an extended time. Using this method ensured that the study could be correctly and reliably conducted in the period assigned to it.[8] Statistical analysis was carried out using the Statistical Package for the Social Sciences (SPSS). Reliability and validity were determined using exploratory factor analysis and Cronbach's alpha coefficients. Pearson's correlation analyses and hierarchical regression analyses were applied to determine the relationships between the variables in this study. Descriptive statistics (i.e. frequencies, means, standard deviation, skewness, kurtosis) were used to analyse the data. The factor structure of the measuring instrument was determined by using a combination of exploratory and confirmatory factor analyses.[9] The reliability of the questionnaire was determined by using the guidelines of Cohen of $\alpha \geq 0.70$. The four-point Likert scale offers options for "Definitely do not need training", "Do not need training", "Do need training" and "Definitely do need training". This allows for a more accurate measurement of the data received from the participants.

Sample

The target population for this study was registered RPs under the age of 35 years of age in the South African pharmacy profession. This sample was purposefully chosen based on the age of the population group. A total of 956 questionnaires were distributed; 188 completed questionnaires were received, of which 123 were suitable for further analysis. The response rate was 18%. The demographic characteristics of the participants are presented per gender group in Table I.

From Table I it is evident that both male and female RPs were mostly represented in the 24 to 35 years age group and held an undergraduate qualification. The respondents primarily worked

Table I: Demographic characteristics by gender

	Category	Male		Female	
		F	%	*F*	%
Age	19 to 23 years	5	12,82	12	14,29
	24 to 35 years	34	87,18	72	85,71
Qualification	Bachelor's Degree	32	82,05	71	84,52
	Postgraduate	5	12,82	11	13,10
	Other	2	5,13	2	2,38
Years of work as a pharmacist	0 to 3 years	14	35,90	18	21,43
	between 3 and 7 years	13	33,33	43	51,19
	more than 7 years	12	30,77	23	27,38
Years of work as a RP	0 to 3 years	29	74,36	64	76,19
	between 3 and 7 years	10	25,64	13	15,48
	more than 7 years	0	0,00	7	8,33
Type of pharmacy	Corporate community pharmacy	37	40,22	14	33,33
	Hospital pharmacy private	7	7,61	3	7,14
	Hospital pharmacy public	4	4,35	8	19,05
	Independent community pharmacy	30	32,61	11	26,19
	Manufacturing pharmacy	3	3,26	2	4,76
	Other	4	4,35	1	2,38
	Wholesale pharmacy private	6	6,52	3	7,14
	Wholesale pharmacy public	1	1,09	0	0,00
Business management training received	No	27	69,23	78	92,86
	Yes	12	30,77	6	7,14
Entrepreneurship experience	No	28	71,79	72	85,71
	Yes	11	28,21	12	14,29

between nought and three years as RPs, and between three and seven years as pharmacists They were mostly employed in the private sector in corporate and independent community pharmacy. From their training, it is evident that males were exposed to more training in business management and entrepreneurship than females.

Measuring instrument

A self-developed measurement instrument was used to determine the current application of RP management competencies based on the competency standards of the SAPC. Five competency standards were identified, namely Human Resource Management (four items), Financial Management (four items), Infrastructure Management (six items), Change Management (two items), and Policy Development (one item). In accordance with the competency requirements, the responses were measured on three levels: entry, intermediate, and advanced. The self-developed measurement tool was distributed to subject matter experts to ensure the face and content validity.

Biographical information that was collected included gender, age, the highest educational qualification, years of work as a pharmacist, years of work as an RP, the type of South African pharmacy they were employed in, and any additional training received.

Research procedure

Permission to do the study was obtained from the North-West University Business School. The questionnaires were distributed electronically through a gatekeeper. The questionnaire was accompanied with an informed consent letter explaining the purpose of the study as well the respondent's rights. Participation was voluntary and confidentiality of responses was maintained at all times. Ethical approval for the project was obtained from North-West University (NWU-00729-22-A4) prior to the execution thereof. This research conforms to all ethical rules and regulations pertaining to empirical scientific research.

Statistical analyses

The statistical analyses were done with SPSS (SPSS Inc. 28, 2022). Disruptive statistics such as frequencies were applied. T-tests were used to determine whether significant differences exist between gender based on the pharmaceutical competencies measured in this study. A guideline of $p \leq 0.05$ was used to determine the significance of the results.[10]

Results and discussion

The results of the research are presented in the section below. The analyses were done in line with the main research objective of the study, that is to determine gender perspective of the current application of management practices by RPs.

Table II: Human resource management

		Levels	Male		Female		Total	Gap	*p*
			F	%	*F*	%			
Staff management	Contribute to the effective management of pharmacy personnel.	Entry	13	34,2	39	45,9	52,0	-11,7	0,042
	Effectively manage pharmacy personnel under personal supervision.	Intermediate	7	18,4	32	37,6	39,0	-19,2	
	Identify human resources requirements and manage human resources effectively.	Advanced	18	47,4	14	16,5	32,0	30,9	
Staff training and Development	Undertake continuing professional development.	Entry	10	26,3	26	30,6	36,0	-4,3	0,83
	Participate in the provision of staff training and continuing professional development.	Intermediate	9	23,7	22	25,9	31,0	-2,2	
	Identify staff training needs, facilitate appropriate training opportunities, and participate in continuing professional development.	Advanced	19	50,0	37	43,5	56,0	6,5	
Performance management	Conduct self-assessments or appraisals in line with the performance management policy.	Entry	12	31,6	30	35,3	42,0	-3,7	0,34
	Conduct staff assessments or appraisals in line with the performance management policy.	Intermediate	19	50,0	45	52,9	64,0	-2,9	
	Review performance management policies and processes.	Advanced	7	18,4	10	11,8	17,0	6,7	
Labour relations	Adhere to basic human resources management legislation, e.g. Labour Relations Act and Basic Conditions of Employment Act.	Entry	20	52,6	45	52,9	65,0	-0,3	0,08
	Monitor adherence to relevant human resources management legislation, e.g. Labour Relations Act and Basic Conditions of Employment Act.	Intermediate	10	26,3	31	36,5	41,0	-10,2	
	Develop and train pharmacy personnel in basic human resources management legislation, e.g. Labour Relations Act and Basic Conditions of Employment Act.	Advanced	8	21,1	9	10,6	17,0	10,5	

Human resource (HR) management

The respondents were required to report the current demonstration of management competencies in four areas of human resource management in the South African pharmacy profession and labour relations, namely, staff management, staff training and development, performance management. The results are reported in Table II.

In the HR management needs assessment, when looking at staff management, female RPs mostly functioned at entry level by contributing to the effective management of pharmacy staff. Male RPs functioned mostly at the advanced level by identifying HR requirements and managing HR effectively. In 2019 Charles Summerlin conducted a study on what training was done to prepare pharmacy students to manage a pharmacy effectively. In the study it was found that female students excelled in areas of training, but male students were more likely to embrace the management role when given the opportunity.[11] This is in stark contrast to the findings in this study. When considering the data collected on staff training and development, both male and female RPs displayed behaviours in keeping with entry level when identifying staff training needs, facilitating appropriate training opportunities, and participating in continuing professional development (CPD). When considering performance management and conducting staff assessments or appraisals in line with the performance management policy, both male and female RPs displayed behaviours linked to competency standards at the intermediate level.

Lastly, when considering labour relations, both male and female RPs were still at the entry level of competency, with RPs indicating that they adhered to basic HR management legislation, e.g. the Labour Relations Act and the Basic Conditions of Employment Act.

Financial management

The respondents were required to report the current demonstration of management competencies in four areas of financial management in the South African pharmacy profession, namely medical finance, budgeting, legislative prescriptions and pharma-economic principles and assessments. The results are reported in Table III.

The results in Table III show that male and female participants mainly applied entry-level management competencies relating to medical finance. The focus was mostly on submitting patient prescription claims to health funders to ensure the optimum use of patient benefits. Concerning budgeting, female RPs mostly functioned at the entry level by working according to an approved budget. Male RPs functioned mostly on the intermediate level by monitoring income and expenditure in line with budget prescriptions. Both male and female RPs complied with all the relevant legislative requirements at the entry level. Lastly, both male and female RPs performed cost-benefit analyses at the entry level of financial management. Male RPs, however, also applied the principles of pharmacoeconomic assessments on an intermediate level and not yet on an advanced level.

Table III: Financial management

	Items	Level	Male		Female		Total	Gap	*p*
			F	%	*F*	%			
Medical finance	Submit patient prescription claims to health funders to ensure optimum use of patient benefits.	Entry	21	55,26	45	52,94	66	2,32	0,59
	Monitor patient prescription claims submitted to health funders to ensure optimum use of patient benefits.	Intermediate	11	28,95	29	34,12	40	-5,17	
	Determine dispensing and professional fees to be charged in line with legislation.	Advanced	6	15,79	11	12,94	17	2,85	
Budgeting	Work according to approved budget.	Entry	11	28,95	40	47,06	51	-18,11	0,08
	Monitor income and expenditure in line withbudget prescripts.	Intermediate	19	50,00	30	35,29	49	14,71	
	Develop and effectively analyse and manage financial data and budgets.	Advanced	8	21,05	15	17,65	23	3,41	
Legislative prescriptions	Comply with all relevant legislative prescripts.	Entry	17	44,74	37	43,53	54	1,21	0,04
	Monitor adherence to allrelevant legislative prescripts	Intermediate	2	5,26	17	20,00	19	-14,74	
	Ensure adherence to all relevant legislative prescripts.	Advanced	19	50,00	31	36,47	50	13,53	
Pharma-Economic principles and assessments	Perform cost benefit analysis.	Entry	20	52,63	52	61,18	72	-8,54	0,74
	Apply the principles of pharmacoeconomic assessments.	Intermediate	14	36,84	25	29,41	39	7,43	
	Apply the principles of pharmacoeconomic assessments.	Advanced	4	10,53	8	9,41	12	1,11	

Pharmaceutical infrastructure management

The respondents were required to report the current demonstration of management competencies in six areas of pharmaceutical infrastructure management in the South African pharmacy profession, namely pharmaceutical infrastructure needs assessment, facilities and equipment assessment, procedures and policies management, time management, pharmaceutical infrastructure management and document and record keeping management. The results are reported in Table IV.

In the pharmaceutical infrastructure needs assessment, female RPs mostly functioned at the entry level by participating in identifying pharmaceutical facility and equipment needs. Male RPs functioned mostly at the advanced level by identifying pharmaceutical facility and equipment needs and developing a plan to achieve and meet those needs.

When looking at the facilities and equipment assessment, the female RPs were on the entry level. They participated in monitoring the suitability of pharmaceutical facilities and equipment. Male RPs were on the advanced level because they showed that they managed pharmaceutical facilities and equipment.

When looking at procedures and policies management, females were on an entry level, with most females indicating that they worked according to the approved workplace procedures and policies. The males indicated that they implemented and monitored workplace procedures and policies, which showed they were on the intermediate level. Both male and female RPs complied with all the relevant time management requirements at the intermediate level.

When looking at the responses for pharmaceutical infrastructure management, females were on the intermediate level, with the

Table IV: Pharmaceutical infrastructure management

	Items	Level	Male		Female		Total	Gap	*p*
			F	%	*F*	%			
Pharmaceutical infrastructure needs assessment	Identify pharmaceutical facility and equipment needs.	Entry	15	39,47	37	43,53	52	-4,06	0,25
	Identify pharmaceutical facility and equipment needs.	Intermediate	6	15,79	19	22,35	25	-6,56	
	Identify pharmaceutical facility and equipment needs and develop a plan to achieve and meet the needs.	Advance	17	44,74	29	34,12	46	10,62	
Facilities and equipment assessment	Monitor the suitability of pharmaceutical facilities and equipment.	Entry	14	36,84	40	47,06	54	-10,22	0,76
	Monitor the suitability of pharmaceutical facilities and equipment.	Intermediate	8	21,05	20	23,53	28	-2,48	
	Manage pharmaceutical facilities and equipment.	Advance	16	42,11	25	29,41	41	12,69	
Procedures and policies management	Work according to the approved workplace procedures and policies.	Entry	13	34,21	30	35,29	43	-1,08	0,58
	Implement and monitor workplace procedures and policies.	Intermediate	14	36,84	26	30,59	40	6,25	
	Develop and review workplace procedures and policies as required.	Advance	11	28,95	29	34,12	40	-5,17	
Time management	Prioritise and organise workflow and demonstrate time management skills.	Entry	8	21,05	21	24,71	29	-3,65	0,67
	Manage, prioritise, and organise workflow and demonstrate time management skills.	Intermediate	17	44,74	34	40,00	51	4,74	
	Develop and review workflow systems to manage, prioritise and organise daily work and demonstrate time management skills	Advance	13	34,21	30	35,29	43	-1,08	
Pharmaceutical infrastructure management	Maintain the existing pharmaceutical infrastructure.	Entry	11	28,95	26	30,59	37	-1,64	0,27
	Contribute to the improvement of the existing pharmaceutical infrastructure.	Intermediate	10	26,32	30	35,29	40	-8,98	
	Ensure pharmaceutical infrastructure is in line with legislative requirements.	Advance	17	44,74	29	34,12	46	10,62	
Document and record keeping management	Work according to the approved document management and recordkeeping systems.	Entry	13	34,21	35	41,18	48	-6,97	0,98
	Implement a system for documentation and recordkeeping for quality assurance purposes.	Intermediate	10	26,32	23	27,06	33	-0,74	
	Develop and update systems for documentation and recordkeeping for quality assurance purposes.	Advance	15	39,47	27	31,76	42	7,71	

Table V: Change management

	Items	Level	Male		Female		Total	Gap	*p*
			F	%	*F*	%			
Management participation in change	Participate in change management processes within the team.	Entry	14	36,84	37	43,53	51	-6,69	0,25
	Manage a change management process for the team.	Intermediate	7	18,42	24	28,24	31	-9,81	
	Contribute to and lead a change management process beyond the team/workplace or across disciplines.	Advance	17	44,74	24	28,24	41	16,50	
Overcoming barriers to change	Overcome internal barriers and self-limiting beliefs to change by analysing the climate and the readiness for change followed by measures to improve personnel growth and contribute to organisational success and outcomes.	Entry	7	18,42	37	43,53	44	-25,1	0,41
	Motivate staff to overcome barriers to change to drive organisational success and outcomes.	Intermediate	17	44,74	24	28,24	41	16,5	
	Develop strategies to inspire and motivate staff to overcome barriers to change to drive organisational success and outcomes.	Advance	14	36,84	24	28,24	38	8,6	

majority indicating that they contributed to the improvement of the existing pharmaceutical infrastructure. The male respondents showed that they were on an advanced level, with the majority indicating they ensured pharmaceutical infrastructure was in line with legislative requirements.

Lastly, female RPs performed document and recordkeeping management at the entry level, with the majority indicating that they worked according to the approved document management and recordkeeping systems. Male RPs, however, showed they were on an intermediate level, with the majority indicating that they developed and updated systems for documentation and recordkeeping for quality assurance purposes.

Change management

The respondents were required to report the current demonstration of management competencies in two areas of change management in the South African pharmacy profession, namely management participation in change, and overcoming barriers to change. The results are reported in Table V.

In the change management needs assessment, when looking at management participation in change, female RPs mostly functioned at the entry level by participating in change management processes within the team. Male RPs functioned mostly on the advanced level by contributing to and leading a change management process beyond the team/workplace or across disciplines. When considering overcoming barriers to change, the female RPs were on the entry level, indicating that they overcame internal barriers and self-limiting beliefs to change by analysing the climate and the readiness for change, followed by measures to improve personnel growth and contribute to organisational goals. Male RPs were on the intermediate level, with the majority indicating that they motivated staff to overcome barriers to change to drive organisational success and outcomes.

Table VI: Policy development

	Items	Levels	Male		Female		Total	Gap	*P*
			F	%	*F*	%			
Apply, implement, develop and monitor polices	Apply policies and SOPs.	Entry	10	26,32	31	36,47	41	-10,15	0,59
	Implement and monitor policies and SOPs.	Intermediate	17	44,74	37	43,53	54	1,21	
	Develop a policy framework and SOPs	Advanced	11	28,95	17	20,00	28	8,95	

Table VII: Summary of results

	MALE			FEMALE		
	Entry	Intermediate	Advanced	Entry	Intermediate	Advanced
Human resource management		X		X		
Financial management		X		X		
Infrastructure management			X	X		
Change management			X	X		
Policy development		X			X	

Policy development

The respondents were required to report the current demonstration of management competencies in one area of policy development in the South African pharmacy profession, namely applying, implementing, developing and monitoring polices. The results are reported in Table VI.

The results in Table VI show that male and female participants mainly applied intermediate management competencies relating to policy development. They mostly concentrated on applying, implementing, developing and monitoring polices.

Conclusions

When looking at human resource and financial management, female RPs were still at the entry level of competency, with male RPs predominantly showing that they were on an intermediate level. Under infrastructure and change management, female RPs functioned mostly at entry level while the male RPs show a strong leaning to advanced management competency. Policy development is the only area where male and female RPs both showed that they were on the intermediate level of competency, which may be due to the fact that most RPs strictly adhere to the Pharmacy Act and other legislation.

Referring to the data, most female RPs were at the entry level when measured using the competency standards, while the male respondents were between intermediate and advanced, even though the female respondents had been registered as pharmacists for longer and had more years of experience. The data indicates that the discrepancy could be attributed to management training as more male respondents had attended management training than their female counterparts, with 30.8% of males indicating they received some form of business training compared to only 7.1% of females.

Further research into additional management training and perhaps a dedicated course focusing on pharmacy management for RPs is supported by the data collected

Recommendations

Based on the findings of the article, it is recommended that the SAPC consider developing management training for RPs to enhance their management skills. The study has shown there is a gap in the management competencies of RPs under the age of 35 in South Africa, which highlights the need for targeted training to address these deficiencies. Management training programmes could help the participants develop a better understanding of essential management functions, such as operations management, HR management, marketing management, financial management, and logistics management. Additionally, training could improve the participants' competencies in areas such as change management, strategic management and policy and relationship management. The development of these skills could help the participants perform their management duties more effectively.

This may be in the form of an RP-specific CPD or postgraduate diploma in management, similar to the current PCDT (Primary Care Drug Therapy) course currently being offered to pharmacists who would like to become prescribing pharmacists.

Conflict of interest

This study formed part of the dissertation Mr P Boonzaier completed for his MBA; there is no conflict of interest between any parties involved in the study.

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Ethics approval

This study was approved by the Ethics Committee of the NWU Business school prior to commencement of the data collection. Ethics number *NWU-00729-22-S4*.

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