Original Article

Assessment of Nurses Level of Education and Patient Outcome in the University of Benin Teaching Hospital, Benin-City Nigeria

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Abstract

Background: The American Association of Colleges of Nursing opined that education has a significant relationship on the knowledge and skills necessary for nurse-clinicians. Nursing knowledge and skills are key prerequisite for sustaining better patient outcome which they belief that the higher the level of education, the better the knowledge acquired and better patient outcome. How true is this assumption? This is a major question that needs an answer.
Aim: To find out if there is relationship between nurse level of education and patient outcome.
Materials and method: A cross-sectional study was adopted with a sample size of two hundred and sixty five (265) respondents were drawn using probability sampling technique. The quantitative data was collected through standardized questionnaires and analysed using descriptive and chi-square statistics to test the hypothesis.
Results: The study found that Nurses with higher education demonstrated better patient outcome. It also shows that there is a relationship between level of education among nurses and patient outcome with the p-value = 0.06 at 0.05 level of significant.
Conclusions: Based on the above findings, this study recommends that hospital management should put up a programs like study leave with pay, sponsorship and making higher degree a criteria for promotion to motivate and encourage nurses to advance education in Nursing. This will increase their critical thinking ability and improve their interpersonal skills, required for better nursing care management of patients

Keywords: education, patients, nurses, assessment, Nigeria.

Introduction

Globally, nurses and nursing practice continues to evolve and play important role in ensuring quality and effective delivery of health care system. (Furlong, E., & Smith, R. (2005); Epstein, Fiscella, Lesser, & Stange, (2010). In many countries, Nurses constitute the largest number of personnel among health care team because their service is needed in tertiary, secondary and primary health

care system. The Nurses level of education determined the body of knowledge that can be transmitted to patient which in turn enhances positive behavioural changes among them. (Olorunfemi, & Ojewole, 2019). Reforms policy in Nursing education and practice had changed the health status of the people positively in different part of the world. (Cronenwett, Dracup, Grey, McCauley, Meleis, & Salmon, 2011).In health care industry, nurses are the backbone because their activities reduce the cost of health care and promotes better patient outcome. In sustaining effective nursing care there is a need to develop new nursing knowledge and skills through education to meet up with the new out brake of diseases in today's world. Comparatively, nursing profession in developing countries remains the only health care profession that has multiple educational pathways leading to an entry-level license to practice. In Nigeria, nursing education has involved, moving from mere certificate program to degree program up to doctor of philosophy in Nursing. Though, profession started in Nigeria as a non-formalized program, it has come of age with the introduction of Nursing and Midwifery Council of Nigeria as the regulatory body for the profession (Ayandiran, Irinoye, Faronbi, & Mtshali, 2013). Institute of Medicine (IOM) reported high incident of death across the world as a result of medical errors and the number may double if necessary steps are not taking. As a result of this, positive patient outcome has become a major health goal. The Patient complexity and appearance of new diseases give rise to an expanded nursing roles and skills. Patient safety (PS) or positive patient outcome is refers to easy recovery and a reduction of medical risk or harm that can result from medical errors (Clinton & Obama, 2013). Patient safety is a global health challenges but the problem around it differ from one country to another. Poor patient outcome are linked to the severe shortage of nurses, services errors, ineffective resources, poor documentation and lack of political wiliness (Bateman, 2010).

Many studies suggested that there is a relationship between the quality of care and patient outcome and the educational background of nurses. (Aiken, Sermeus, Sloane, Busse, Mckee, Smith & Vanden,

2014; According to Swart, Pretorius and Klopper (2015) improvement in nursing level of training is important to ensure high quality and better patient outcome.

Every 10% increase in bachelor's degree nurses was associated with a decrease in the likelihood of an in-patient dying within 30 days of admission by 7%. Aiken et al., (2014) Opined that in hospitals where 80% of the nurses had degree and they care for an average 6 Patients in hospitals the motility rate will reduce by 30% in such hospital. Nursing level of education have a positive influences on nursing practice because it provide a theoretical and practical knowledge base that can be tested and refined in actual situation (Gray, Currey, & Considine, (2018); Blegen, Goode, Park, Vaughn & Spetz, (2013); Donizetti, (2013) because learning is essential to create positive and healthy work environments which can improve patient care and outcomes (Rahman & Mu'taman Jarrar, 2015).

 However, a study conducted by Rahman et al, (2015) on Nurse level of education, Quality of care and patient safety in the medical and surgical wards in Malaysian private Hospital, and found that Nurses with higher education were not significantly associated with both quality of care and patient safety. Based on this different view of researchers, this study is to re-validate the relationship between nurses' level of education and patient outcome.

Hypothesis

H0: There is no significance relationship between nurses' level of education and patient outcome

Materials and method

A descriptive research design was used, aimed at assessing Nurses level of education on quality of care and patient safety in University of Benin Teaching Hospital, Benin City. The research work was carried out in the University of Benin Teaching Hospital (UBTH) which is a tertiary institution situated in Ugbowo Community in Egor Local Government Area along Benin Lagos Express Road, Benin City, Edo State. It shares boundaries with the University of Benin (UNIBEN) main campus and the Federal Government Girls College Road, Benin City. The

target population for this study was nurses working in University of Benin Teaching Hospital. There were 759 nurses working in this hospital at the time of the study. The sample size is two hundred and sixty five (265) participants selected through probability sampling techniques from the target population.

Sample Size Determination

The sample size is determined by using Taro Yamane method of sample size calculation. The formula and calculation are as follows:

$n = \frac{N}{1+N(e)^2}$ Where: n = the sample size   N = the population under study

e = Error Margin (i.e. absolute error between the estimated and true population of nurses working in UBTH) = 5%.

e= Error margin = 0.05 $n = \frac{759}{1+759(0.0025)}$ $n = \frac{759}{1+1.8975}$ $n = \frac{759}{2.8975}$ $n = 261.9$ $= 262$

With a non-response rate of 5%, the value is adjusted to 265

Therefore, a sample size of 265 respondents out was selected for the study.

Instrument for Data Collection: A well self-structured questionnaire was used for data collection. It consist of two sections which are A, B. Section A focus on demographic data (age, sex, religion, year of qualifications, number of qualifications, and the highest qualifications), while Section B entails patient's outcome at 5-point likert scale was used to elicit responses on the variables under study and was rated as follows: SA= 5, A= 4, N=3, SD= 2, D= 1.

Validity and reliability of the instrument: The instrument was subjected to face and content validity by an expert in the field. The questionnaires were examined in line with the stated objectives and research questions. For Reliability of instrument, a pilot study was conducted, whereby the instrument was distributed to 27 nurses in state Central Hospital, Benin City. Then, the Cronbach Alpha statistics was used to determine the extent to which the instrument consistently measures what it is supposed to measure which give 0.7 and this is considered high for the measure of internal consistency of the instrument

Data Collection: The questionnaire was administered directly to nurses in selected wards in University of Benin Teaching Hospital. 265 numbers of questionnaires was administered with the help of research assistants and same were retrieved on the spot after being completed by the respondents. Data was collected over a period of two weeks.

Data Analysis: Data collected was analysed systematically, entries and analysis of data was done using statistical package for social science (SPSS), version 23, in which descriptive and inferential statistics were applied. The Statistical techniques used were; percentage and simple frequency distribution table for descriptive analysis, means, standard deviation and chi-square analysis was performed as appropriate at 0.05 level of significance

Ethical Considerations : Ethical approval for the study was obtained from the institutional ethical committee of university of Benin teaching hospital. Respondents were informed about the purpose and benefits of the study. They were informed of their right to withdraw at any time without any consequences. Information provided by the participants during data collection was not divulged to others without permission. Name or any form of identity was not required on the questionnaire to ensure confidentiality and anonymity, thus protecting the privacy of respondent.

Results

Table 1 shows that 8(3%) of the respondents were 18-25years, 101(38%) were 26-35 years, 123(46%) were 36-50 years while 33(13%) were 51-60. Regarding gender, 14(5%) of the respondents were male and 251(95%) were female. Concerning religion, 249(94%) of the respondents were Christians while 16(6%) were Muslim. Regarding educational qualifications, 135(51%) of the respondents had RN/RM, 89(34%) of the respondence had BNSc while remaining 41(16%) had others higher qualifications. Table 2 shows that the respondents agreed with the following items; item 1 (Patients always express satisfaction

with my care), item 2 (All patients I have attended to do not report any harm caused to them), and item 3 (All patients that I have nursed fully recovered) with a mean rating of 3.3, 3.5 and 3.4 respectively. While the respondent disagree with item 4 (Most of the patients that I have nursed died within 30 days of hospitalization), and item 5 (Most of the patients that I have nursed were re-admitted after discharge) with a mean rating of 1.0 and 1.0 respectively.

Correlation of Degree and Diploma Nurses with Patient Outcome

Table 3 shows that X^2tab < X^2cal at Df =1 and P-value of 0.05, hence the value is significant and the null hypothesis is rejected. This implies that there is a significant relationship between relationship between educational background of RN and educational background of BNSc in ensuring positive patient outcome.

Table 1: Showing Socio-demographic data

Variable	Classification	Frequency	Percentage (%)
Age	18 – 25	8	3
	26 – 35	101	38
	36 – 50	123	46
	51 - 60	33	13
	61 and above	-	-
Sex	Male	14	5
	Female	251	95
Total		**265**	**100**
Religious	Christian	249	94
	Islam	16	6
	Others	-	
Years of qualification	1-2 years	30	11
	3-5years	28	11
	6-10 years	66	25
	More than10 years	141	53
Number of Qualification	1	2	1
	2	111	42
	3	132	50
	Above 3	20	8
Highest Qualification	RN/RM	135	51
	BNsc	89	34
	Others	41	16
	Total	**265**	**100**

Table 2: Showing the mean score and standard deviation of patients outcome

Item	QUESTIONS	SA	A	N	D	SD	Mean	SD	Decision
1.	Patients always express satisfaction with my care	123	61	0	61	20	3.3	8.8	Agree
2.	All patients I have attended to do not report any harm caused to them.	110	60	0	62	37	3.5	8.5	Agree
3.	All patients that I have nursed fully recovered	84	72	2	54	48	3.4	7.9	Agree
4.	Most of the patients that I have nursed died within 30 days of hospitalization	0	0	0	263	2	1.0	16.1	Disagree
5.	Most of the patients that I have nursed were re-admitted after discharge	0	0	0	264	1	1.0	16.2	Disagree
	Grand Mean = 2.5								

Criterion Mean = 2.0

Table 3: Chi-square analysis of the relationship between educational background of RN and educational background of BNSc in ensuring positive patient outcome.

X^2cal	X^2tab	Df	P-value	Inference	Decision
18.2	3.84	1	0.06	X^2tab $<X^2$cal	Ho is rejected

Discussion

Education is the bedrock of any country and it has been recognized as the agent of change (Bloomfield, Cornish, Parry, Pegram, & Moore, (2013). It enables individual or profession to achieve better prospects in career growth, fulfillment, economic and social prosperity. (Armstrong., Spencer., & Lenburg, 2009). It helps to interpret the world around rightly, innovating new ideas and applying them in a unique manner. Nursing cannot be an exemption and there is no other pathway to compete favourable with other professions, make its voice heard and sit with "Nobles and kings" without this means. It is very pathetic that this crucial concept (Nursing Education) is really experiencing various forms of up and down. If these problems confronting Nursing Education are global, there would not have been any serious issues to discuss but those

faced with Nursing Education is peculiar and spectacular. It is an internal problem which has become a canker worm eating into the fabrics of the real nursing profession. It is unfortunate that other health professions that started after Nursing have overtaken and nursing remains at a point pretending that all is well. Till now, School of Nursing that has been in existence for years and serves as a primary institution of producing qualified nurses has no equivalence to any higher institution qualification in Nigeria. This study shows that there is low level of education among nurses at the study areas which agreed with Emelonye, Pitkäaho, Aregbesola, and Vehviläinen-Julkunen. (2016) discovered that most nurses are not academically equipped with modern nursing skills due to minimal educational qualifications. There is a compelling need to reassess nursing education and policies in Nigeria.

Moreover, this study shows that there is a relationship between the nurse level of education and patient outcome. This findings contradict the study carried out by Rahaman et al, (2015) who carried out a cross sectional survey among nurses working in the medical and surgical wards in 12 private hospitals in Malaysia and found that Nurses with higher degree in nursing were not significantly associated with both quality of care and patient outcome. However, this study agrees with a study by Mary et al, (2013) who examine the effects of registered nurse (RN) education by determining whether nurse-sensitive patient outcomes were better in hospitals with degree in nursing and discovered that hospital with high degree nurses reported less incident of congestive heart failure, decubitus ulcer, failure to rescue, and post-operative deep vein- thrombosis or pulmonary embolism and shorter length of stay. This study is also in agreement with Audet, Bourgault, and Rochefort. (2018). Who opined that Controlling for patient acuity, hours of nursing care, and staff mix, units with more experienced nurses had lower medication errors and lower patient fall rates. Higher level of education among nurses is associated with lower risks of mortality and failure to rescue. (Liao, Sun, etal (2016); Danzey, Fitzpatrick, Garbutt, Rafferty, & Zychowicz. (2011).

Conclusion

This study assesses Nurses level of education on patient outcome. Outcome of patient care among Bachelor of nursing science (BNsc) and Diploma nurses (RN) was assessed. The result revealed that Nurses level of education is associated with patient outcome of care in University of Benin Teaching Hospital. Therefore, there is a need for training programs and general nursing orientation programs for nurses with only RN to upgrade their practice level. Training programs can increase their self-confidence, knowledge, and critical thinking ability and improve their interpersonal skills. So, better education and training for Diploma nurses and encouragement in part of hospital management, to advance their education in clinical nursing is required for satisfying client expectations and sustaining better outcome of patient care. Based on the result of the study the researcher recommends that hospital management should put up a programs like study leave with pay, sponsorship and making higher degree a criteria for promotion and other benefits to motivate and encourage nurses to advance their career in advanced clinical training.

Acknowledgements

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