Factors Influencing Student Nurses’ Clinical Learning during their Clinical Practice at Rusangu University, Monze campus, Zambia

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Abstract

Background: Clinical skills acquisition is an essential part of nurse training. However, acquisition of clinical skills could be influenced by the clinical learning environment. The objective of the study was to explore factors influencing student nurses’ learning during clinical practice and develop guidelines for learning enhancement.

Methods: A descriptive cross-sectional study was conducted at Rusangu University in Monze, Southern Province and the study population were nursing students. A total of 50 respondents participated in the study. A proportional stratified random sampling method was used to select the sample. Data was collected using a self-administered questionnaire; analysed using the Statistical Package for the Social Sciences software for Windows version 20. Pearson Chi-Square was used to assess relationship of specific factors and students’ learning experience with a significance level of 0.05.

Results: 50% of the respondents were aged between 21 and 25 years of age, 64% were females whereas 36% were males. Students level of training, 50% were in fourth and above year and 40% were allocated to the clinical area for a minimum of one to two weeks duration. Students overall rating for clinical learning was average at 54%; availability of clinical teachers and Ward Managers was rated at 70%. Communication among students and staff was rated as being good at 58%; 66% of the respondents said staff had a positive attitude towards them. A significant association between level of training and support received during first week of placement (p= 0.000) and time allocated to the unit or ward (p= 0.045) was found Staff shortage, lack of equipment and medical surgical supplies, short practice time in some specialised units, inaccessible ward managers for consultations and clinical supervisors affected students learning.

Conclusion: The School should address the above-mentioned factors and design strategies to improve the clinical learning environment.

Keywords: Factors, Influencing, Student nurse, Clinical learning, Clinical practice.

Introduction

Student Nurses’ Clinical learning is a vital component of nursing education which takes place in the clinical setting (Jamshidi, et al., 2016). Learning in the clinical setting could be influenced by many factors. Literature shows that inadequate faculty members and preceptors to direct learning could influence learning (Mabuda et al., 2008). In addition, workload, lack of role clarity, lack of knowledge among Lecturers and preceptors impact students’ clinical learning (Miskia, et al., 2014). Across the globe, in Iran, researchers have also found that insufficient qualification of nursing lecturers and unsupportive learning environments influence clinical learning (Baraz, et al., 2015). A qualitative study by Rajeswary (2016) showed that psychosocial factors affect students’ clinical learning. Lawal, et al (2015) reported that preceptor ship, support from clinical staff, ratio of preceptors to students, quality of preclinical conference and type of interpersonal relationships students had with clinical staff and preceptors had a great impact on their clinical learning.

Identifying factors influencing nursing students’ clinical learning environment can,
therefore, improve training and enhance the quality of planning and training. However, little is known about factors influencing nursing students’ clinical learning at Rusangu University. The researcher, as a nurse educator, often heard and observed student nurses expressing concerns and dissatisfaction about clinical learning experiences. As a result of this concern, the researcher developed interest to investigate the experiences of student nurses during their clinical placement in clinical learning environments. It is against this background that the author decided to explore the factors affecting nursing students at Rusangu University during their clinical learning. The results from such a research would yield a good understanding of their experience; and consequently, students would be assisted in achieving their educational goals during clinical placement.

**Significance of the study**

There was need to conduct this research to explore factors influencing student nurses’ learning during clinical practice at Rusangu University, Monze campus. The research findings will help Rusangu University to develop strategies to improve the clinical learning environment for student nurses at the institution. The research findings will also benefit other institutions, policy makers and regulatory bodies involved in the training of nurses to provide quality clinical training.

**Materials and methods**

**Study design and area**

A descriptive cross-sectional study design was employed. The study was carried out at Rusangu University, Monze campus focusing on the clinical practical experiences of student nurses allocated to five hospitals and five clinics in Pemba and Monze districts in Zambia. The students during the clinical experience covered the following practicums: Community health nursing, general hospital wards for basic and advanced nursing procedures, and specialty hospital units for Ophthalmology, Oncology and Psychiatric wards.

**Study population**

The Study population included all nursing students at the institution doing nursing major courses ranging from year two to fifth year of training. A proportional stratified random sampling method was used to select the student nurses. The study population was divided into subgroups or strata according to year of study. The inclusion criteria included, being a second, third, fourth- or fifth-year student in the nursing programme; willingness to participate in the study; having been exposed to the clinical learning environment in the hospitals, clinics and the community.

**Sampling method**

The sample size was determined by use of stratified sampling technique. Students were stratified by year of study and a table of random numbers was used to select a proportionate representation of the students.

**Inclusion criteria**

Only student nurses who had spent a minimum of two weeks in the clinical area were selected to participate in the study.

**Exclusion criteria**

Student nurses, with less than two weeks of clinical placement were excluded from the study.

**Table 1. Sampling frame**

<table>
<thead>
<tr>
<th>Year of study</th>
<th>No of students</th>
<th>Proportional sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>34</td>
<td>17</td>
</tr>
<tr>
<td>3</td>
<td>30</td>
<td>15</td>
</tr>
<tr>
<td>4 and above</td>
<td>70</td>
<td>35</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>134</strong></td>
<td><strong>67</strong></td>
</tr>
</tbody>
</table>

**Data collection tool, procedure and storage**

Data was collected using a pretested self-administered questionnaire developed by the researchers based on literature review. 23 items were used to identify factors influencing student nurses’ clinical learning during their clinical practice.

**Data analysis**

Data was analysed using the Statistical Package for the Social Sciences (SPSS) software for Windows version 20. Demographic characteristics were summarized using descriptive statistics and measures of central tendency. The Pearson Chi-Square was used to assess the relationship of specific factors and the learning experience of the students in the study. The level of significance for the results shall be
set at .05. A pilot study was conducted prior to the main study. The purpose of the pilot study was to investigate the feasibility of the proposed study and to detect any flaws in data collecting instrument. Pitfalls and errors that may prove costly in the actual study may be identified and avoided. The pilot study sample consisted of 10% of the main sample. The analysis and interpretation of data involves the objective material in the possession of the researcher and his subjective reactions and desire to derive from the data the inherent meanings in that relation to the problem (Basavanthappa, 2007: 442). The questionaires were given to each respondent after explaining the intent of the research. After data collection the questionaires were checked for completeness, consistency and accuracy of the responses. The omissions and gaps which were identified and taken note of. Incomplete questionaires were excluded from analysis. Data from open ended questions were categorized into similar responses and the categories of data were assigned codes. Closed ended questions were also assigned numerical codes. This made it easier to enter and analyse data using Statistical Package in Social Science (SPSS) version 20 software. SPSS was used to process data in frequency and cross tabulation tables. The confidence interval was set at 95%. This is the range in which the value of the population parameter was estimated to be. A 5% level of significance (p value 0.05 or less) was considered statistically significant. The Chi-square test within the SPSS was used to test for associations between independent and dependant variables. A total of 67 questionnaires were distributed and 50 were returned giving a 75% response rate.

**Ethical consideration**

Ethical approval was obtained from Rusangu University Research Committee and from the university’s School of Health Sciences, both of which gave permission in writing to conduct the study. Permission was also obtained from the National Ethical Research Committee. Data was anonymously collected from each respondent. The respondents were free to withdraw from the study at any time they wished. Written informed consent from each individual respondent was also obtained.

**Results**

The main objective of the study was to explore factors influencing student nurses’ learning during clinical practice and develop guidelines for learning enhancement. One of the factors influencing learning was that some of the respondents were not meeting the clinical instructors most of the times (Figure 1). This translated into 52 % (26) of the respondents. Half of the respondents 50 % (25) indicated that procedures were not being performed as they were taught at school (Figure 2).

![Figure 1. Availability of clinical instructors most times](image-url)
Figure 2. Procedures done in the same way as taught at school

Half of the respondents 50% (25) indicated that procedures were not being performed as they were taught at school.

Figure 3. Challenges faced by students in the clinical areas

*Multiple response question.
The main challenge faced by students during clinical practice was lack of equipment to use during practice.
Table 1. Association between Level of training and Support received during 1st week of placement and time allocated to the Unit or ward (n=50)

<table>
<thead>
<tr>
<th>Level of training</th>
<th>Support received during 1st week of placement</th>
<th>Total</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No response</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>No response</td>
<td>0</td>
<td>0</td>
<td>1(2%)</td>
</tr>
<tr>
<td>2nd Year</td>
<td>0</td>
<td>11(11%)</td>
<td>2(4%)</td>
</tr>
<tr>
<td>3rd Year</td>
<td>1(2%)</td>
<td>4 (8%)</td>
<td>6(12%)</td>
</tr>
<tr>
<td>4th Year</td>
<td>1(2%)</td>
<td>15(30%)</td>
<td>9(18%)</td>
</tr>
<tr>
<td>Total</td>
<td>2(4%)</td>
<td>30(60%)</td>
<td>18(36%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Level of Training</th>
<th>Time allocated to unit or ward</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No response</td>
<td>0</td>
<td>1 (2%)</td>
</tr>
<tr>
<td>2nd Year</td>
<td>1(2%)</td>
<td>3(3)</td>
</tr>
<tr>
<td>3rd Year</td>
<td>3(6%)</td>
<td>7(14%)</td>
</tr>
<tr>
<td>4th Year</td>
<td>1(1%)</td>
<td>13(26%)</td>
</tr>
<tr>
<td>Total</td>
<td>5(10%)</td>
<td>23(46%)</td>
</tr>
</tbody>
</table>

The main challenges depicted in figure 3 which affected clinical practice were lack of equipment and lack of medical surgical supplies and stationery.

Table 2. Association between Level of training and Support received during 1st week of placement and time allocated to the Unit or Ward (n=50)

<table>
<thead>
<tr>
<th>Level of training</th>
<th>Support received during 1st week of placement</th>
<th>Total</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No response</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>No response</td>
<td>0</td>
<td>0</td>
<td>1(2%)</td>
</tr>
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<td>2nd Year</td>
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</tr>
<tr>
<td>3rd Year</td>
<td>1(2%)</td>
<td>4 (8%)</td>
<td>6(12%)</td>
</tr>
<tr>
<td>4th Year and above</td>
<td>1(2%)</td>
<td>15(30%)</td>
<td>9(18%)</td>
</tr>
<tr>
<td>Total</td>
<td>2(4%)</td>
<td>30(60%)</td>
<td>18(36%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Level of Training</th>
<th>Time allocated to unit or ward</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No response</td>
<td>0</td>
<td>1 (2%)</td>
</tr>
<tr>
<td>2nd Year</td>
<td>1(2%)</td>
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</table>

Table 2 summaries the association between level of training and other variables. The study found a significant association between level of training and support received during first week of placement, \( \chi^2 = 56.270, \text{df} = 9 \) and P- value of 0.000. Another association was found between level of training and time allocated to the unit or ward, \( \chi^2 = 122.876, \text{df} = 6 \) and P- value of 0.045.

Discussion of findings

Many studies, both quantitative and qualitative, have been conducted on factors influencing students’ clinical learning environment (Papastavrou et al., 2010; Warne et al., 2010; Saurikoski et al., 2013). Nursing education is composed of two complementary parts: theoretical and practical training (Nabolsi et al., 2012). However, more emphasis is placed on practical training (Borzou et al., 2009) and students are expected to gain competency in various nursing procedures before they can
practice. Nursing competency is a core ability that is required for fulfilling nursing responsibilities. To acquire nursing competency, nurses must possess the skills and personal traits necessary to effectively perform their duties while integrating multiple elements including knowledge, techniques, attitude, thinking ability and values that are required in specific contexts. Competency cannot be achieved without a conducive clinical environment. Identifying factors influencing nursing students’ clinical learning environment could improve training and enhance the quality of planning and training promotion. Effective clinical experience is gained through a supportive clinical environment, which includes the atmosphere of the clinical placement area, and the relationships shared with clinical staff supervisors and clinical instructors (Lawal et al., 2015).

A conducive and supportive learning environment for student nurses is dependent on several factors such as availability of placement support systems, such as supervision, mentorship, preceptor ship and relationships between the faculty, student nurses and clinical staff (Abdulmutalib et al., 2018). Learning in practice placement requires an environment which is conducive to learning and providing the appropriate support from skilled practitioners and educators. A clinical setting rich in learning experiences, but lacking a supportive environment could discourage the learners in seeking experience. In fact, such a setting results in the loss of learning and growth opportunities. On the other hand, a setting with limited experiences but rich in support may provide opportunities for student nurses to examine new health needs and ways of addressing them. Thus, regardless of where clinical practice is taking place, the learning climate influences student nurses’ achievement and satisfaction with the learning experience (Mabuda et al., 2008). Furthermore, Nursing students expect a supportive clinical environment that is innovative, creative and highly individualized where they feel they are an integral part of the health team and feel comfortable enough to make mistakes and learn from them (Papastavrou et al., 2010). Students learn immensely with mentors who appreciate their individuality and the fact that everyone learns differently (Lambert et al., 2005). It is from clinical placements that students start to garner the necessary attributes of caring, critical thinking skills, application of situational knowledge, competence and clinical skills. Therefore, members of the health team should provide a positive clinical experience to facilitate the progress from novice to expert levels of clinical competence (Murphy et al., 2012). As earlier stated, Nursing as a profession requires integration of theory into practice to meet the demand of quality nursing care. This can only be achieved when students attach great importance to both theory and clinical learning.

In the present study, data were collected using self-administered questionnaires in English language since all the respondents were literate. The study sample comprised 50 respondents who were student nurses. Half 25 (50%) of the student nurses were in the age group of 21 – 25 years, 6 (12%) were between the age of 26 – 30 years, while few were 7 (14%) in the age group of 31 years and above. On gender, majority of the respondents were females who numbered 32 (64%), and males were 16 (32%). The lower percentage of male respondents is attributed to low enrolled number of male students into the program. Among the respondents 25(50%) had their level of training in nursing in year 4 and above, 13(26%) were in year 2 while 11(22%) were in year 3 of training.

The current study revealed that 40 (80%) of the student nurses rated clinical learning average regardless of the level of training and the number of clinical attachments done including those nursing students 20 (40%) whose shortest duration of allocation to the wards or unit was 1 to 2 weeks. The respondents attributed the average clinical learning to lack of equipment to use and inadequate supervision by staff. These findings are consistent with a study by Rajeswaran (2016) who reported that 80% of the nursing students in their study expressed that they lacked support from lecturers during clinical practice as well as inadequate resources. Gurkava et al., (2016) in their study also found out that supervision method and supervisory session frequency affected students’ clinical learning.

Our study found that 27 (54%) of the respondents stated that clinical teachers were not available in the clinical areas most of the time and they rated clinical learning as average. This notion was supported by Nabavi and Vanaki (2010) who found that students were carrying outpatient care without any supervision and that clinical tutors were only seen in the clinical area.
when they came to evaluate the students. The rate of non-availability of clinical teachers was attributed to some clinical teachers demanding to be paid before they could teach the students. While the average rate of clinical learning by majority of the respondents 40 (80%) was attributed to staff shortage on the ward and busy schedules for clinical teachers to teach them as they were the same staff managing the wards. The respondents further indicated that most of the times there was no one assigned to teach specific procedures.

One of the most important and interesting findings of our study was that most students who were in 4th year and above were not receiving adequate support from School faculty in their first week of allocation to the clinical area. In Nabavi & Vanaki’s study lecturers were reportedly not accompanying students in the clinical area. The role of the nurse educator should extend beyond the classroom where they spend enough time on clinical teaching and clinical accompaniment (Bruce et al., 2011).

Most of the respondents 35 (70%) rated availability of ward managers for consultations at average. This contributed to average acquisitions of clinical knowledge at average. This was as a result of staff shortages. Ward managers were too busy for consultations most of the times despite being available. The result of the study conducted by Lawal et al in the Caribbean, supports these findings. The study demonstrated that support from the clinical staff impacted on the students’ clinical learning. Furthermore, this was compounded by some challenges such as lack of equipment to use for procedure and some medical surgical supplies. This confirms average clinical learning of students despite clinical supervisor claiming that discussion of conditions on the wards and demonstration of procedures were being done. A lot needs to be done.

Opportunity for learning in the clinical area is crucial as it is the reason for clinical attachment. The study revealed that the respondents 18 (36%) who had rated clinical learning as average their involvement in carrying of nursing procedures was also rated at average. Furthermore, the respondents 16 (32%) who had rated involvement in carrying out specified nursing procedures at above average their clinical learning was rated at average as well. Minimal involvement in carrying out of specified procedures was attributed to staff shortage. This compelled students to concentrate on routine procedures at the expense of being focused on all the procedures and enhance learning. The study further revealed that most of the respondents 31(62%) were exposed to the nursing procedures which were at their level of training. Despite this exposure, their level of learning was rated at average. The reason for this rating was as a result of lack of closer supervision during the period of allocation.

Our study also showed that the involvement of students in carrying out nursing procedures was on average among the majority of students who were in their 4th year of training. The question stands as to why learning was average in most cases. Some of the respondents related this to negative attitude exhibited to them by some of the nursing staff. The respondents indicated that most of the times they were working with students from other institutions which led to congestion in the wards or units and this impacted negatively on their clinical learning. Clinical learning is usually appreciated if the students are in small groups. Each student is given an opportunity to observe and participate in carrying out the procedures. These findings concur with Motsilanyane (2015) in a study in which it was reported that skills acquisition was compromised because students were many in the clinical area such that some of them were unable to see the demonstrated skills. The clinical supervisors confirmed that wards were congested and made learning and teaching process difficult. Suggestions of spreading students across all nursing shifts were made and communicated with the clinical sites in advance so that plans could be agreed upon on how to avoid congestion on the wards.

Theory-practice integration is a major element that sustains quality and drives best nursing practice. One of the barriers to theory-practice integration is the gap between theory and practice in nursing education. The study shows that, despite average clinical learning, most of the procedures were being carried out in the same way as taught at school. This was attested to by 21(42%) of the respondents. It is therefore, important to enhance integration of theory into practice to further reduce the gap between theory and practice. The respondents were also asked whether clinical nursing procedures were being carried out in the same way by students from other institutions. The findings were that 28 (56%) of the respondents said procedures were
carried out in the same way. These respondents’ level of clinical learning was rated at average. Standardized procedure manual could have contributed to the high percentage of respondents who indicated that the procedures were carried out in the same way. The concern is on average rate of clinical learning. The respondents attributed average clinical learning due to shortcuts in the carrying out of some of the procedures as a result of non-availability of some equipment and supplies for procedures. Similarly, a study carried out by Moeti, Van Niekerk and Van Velden (2004) which focused on perceptions of the clinical competencies of newly registered nurses in the North-Western Province of Zambia revealed that shortage of staff, equipment and supplies affected the competency of newly registered nurses in a negative way in the clinical learning.

Good interpersonal relationships and communication are some of the important factors in the learning and teaching process. A significant number of nursing students, 29 (58%), to be specific, in this study rated communication as good among students and staff. These findings are similar to Nahid et al (2016) findings’ in their study where many students stated that they had the most interactions with the instructors and believed that the way an instructor treats a student affects their exposure to clinical learning environment. Additionally, Tiwaken et al (2015) and Janshidi (2016) in their studies entitled, ‘The real world: Lived experiences of student Nurses during clinical practice and the challenges of nursing students in the clinical learning environment’, ‘A qualitative study’, respectively, found that interpersonal relations and communication impact on students’ clinical learning. Furthermore, on Communication Skills the results revealed that many students mentioned the lack of communication skills as the reason for deficiency in communicating with the clinical learning environment. Average clinical learning in this study was attributed to lack of communication skills as well to foster learning. Two-thirds of the respondents 33(66%) said that staff had positive attitude towards them. However, their level of learning was rated at average. Furthermore, the study revealed that majority 42(84%) of the respondents rated staff attitude towards them as positive, felt accepted and respected in the clinical area as part of care providers. Other studies revealed that negative attitudes towards students could influence their clinical practice negatively, (Adibelli et al., 2017; Baraz et al, 2015).

Conclusion

The study revealed that staff shortage, lack of equipment and medical surgical supplies, short time allocated to some of the specialised units, inaccessible ward managers for consultations and clinical supervisors affect nursing students’ clinical learning. It is imperative that the school addresses the above-mentioned factors and come up with strategies to improve students’ clinical learning environment.

Recommendations

To address these challenges the following recommendations were made:

- The school should strengthen the concept of clinical preceptors in the practicum sites to be offering close supervision to students in the absence of school clinical instructors. This can enhance clinical learning.
- The school should find a way of improving the clinical learning environment by providing some basic equipment and supplies to supplement on hospital effort for students to use during their allocation.
- The school should work with health facilities management to determine appropriate minimum number of weeks to be allocated to specialised wards or units for students to acquire knowledge and skills.
- The school should engage management of health facilities on how best to improve the clinical learning environment since students go to these facilities at fee.

Acknowledgments

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Author’s contributions

BK was responsible for the study conception and design, data collection and analysis and drafting the manuscript. CMN supervised the
research process and made critical revisions to the article.

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