

Examination of Driving Forces Associated With Application of Conceptual and Theoretical Framework in Research by Nurse Educators in Akwa Ibom and Cross River States, Nigeria

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Abstract: *A conceptual framework (CF) provides researchers with the foundation to build their studies and a better understanding of the relationships among variables in the study. This study examined the influence of cf. related- knowledge, attitude, self-reported skills and organizational support as driving forces in application of cf. in research by nurse educators in Akwa Ibom and Cross River States, Nigeria. It involved a descriptive design, random selection of Schools of nursing, midwifery and psychiatric nursing from the two States and a convenience sample of 100 respondents representing 43.3% of the target population of 231 nurse educators. From this number, 84 (84%) provided sufficient data for analysis. Instrument for data collection was a 23-item validated questionnaire and analysis of descriptive data involved mean and standard deviation while four null hypotheses were tested using population t-test determined at .05 level of significance. Results showed that females were 67 (79.8%) and males 17 (20.2%). The following variables had significant high influence as driving forces to the use of cf. in research: Knowledge (Cal.t-value=15.8;P=0.000); attitude (Cal.t-value=26.8;P=0.00); skills (Cal.t-value=17.3;P=0.00) and organizational support (Cal.t-value=16.7;P=0.00). In conclusion, factors identified as driving forces to enhance application of conceptual framework in research were: conceptual framework related knowledge, positive attitude and adequate skills in the application of conceptual and theoretical framework in research as well as organizational support including demand for application of conceptual or theoretical framework in research. It is important to state that when the factors that enhance actions as driving forces are lacking, then the reverse becomes the norm resulting in restraining forces that limit performance. It was recommended that these factors identified as driving forces to application of cf. in research be enhanced through inclusion in continuing education training modules and Journal editors' demand for inclusion of cf. in research reports meant for publication.*

Keywords: *Attitude, Conceptual-framework, Continuing-education, Driving-forces, Knowledge, Nurse-educators, Organizational-support, Research, Skill, Theoretical-framework,*

1. INTRODUCTION

The importance of research in acquisition and refinement of knowledge cannot be over-emphasized. One hallmark of a profession is to demonstrate a unique body of knowledge [1]. The impetus for that knowledge is usually clarified through the explanations of the inter-relationship among variables using a conceptual or theoretical framework. The advantage of using such theoretical/conceptual framework is that it will provide focus to direct the study; the research findings will have broad explanation of the relationship between variables and expanded scope for application in practice [2]. Thus, one of the driving forces in research is a conceptual framework that provides researchers with the foundation upon which their studies are built [3].

However, as important as the use of conceptual framework is in research, successfully incorporating and sustaining frameworks and theories into research are not always the norm or an easy undertaking [1]. In a study of nurse educators in Akwa Ibom and Cross River States, Nigeria, it was observed that the respondents only applied conceptual framework in research during the period of their training but failed to do so in studies conducted thereafter. Furthermore, the few

who attempted the use of conceptual model to guide their research only applied the framework haphazardly in the literature review section with no reference to the framework in other sub-sections of the research including introduction, methods, discussions and recommendations [4].

Nurse educators are not only expected to carry out research as a means of providing a unique body of knowledge for use in nursing education and practice but are also expected to teach and guide students in the conduct of research. They also have the responsibility to mentor the nurse clinicians and administrators through well organized investigations. To do these successfully, factors associated with conceptual/theoretical framework application in research need to be identified and addressed. It is important to state that many factors promote or limit appropriate and sustained application of conceptual framework in research and therefore act as driving or restraining forces. Driving forces should promote while restraining forces will hinder or limit appropriate and sustained application of conceptual framework in research.

In Lewin's force field theory of change, Lewin emphasized that any situation where change or action is to be attempted, there is a dynamic balance of forces working against each other. One set of forces drive the situation toward the anticipated action and are referred to as driving forces while the opposing forces tend to restrain movement from the anticipated action (restraining forces) [5]. Where the factors that act as driving forces are greater, anticipated action is implemented, but where the factors that act as driving forces are low or lacking, they, on the other hand act as restraining forces are greater, implementation of the action is restrained. His argument is that either way, interventions are required to promote or reinforce needed action. He proposed two basic nursing interventions: adding driving forces or diminishing/eliminating restraining forces. In his estimation, there is need to determine which driving forces could be increased with the least efforts.

Literature abounds on models and theories for use as conceptual framework, however, there is dearth of literature on actual extent of nurses' utilization of conceptual framework in research and factors that promote or hinder such practice. The focus of this research was therefore to investigate the driving forces as it relates to application of conceptual or theoretical framework in nursing research by nurse educators with regards to:

- Level of conceptual framework related knowledge;
- Attitude towards application of conceptual framework in research;
- Self-reported skills in the application of conceptual framework in research;
- Organizational demands for application of conceptual framework in research.

Hypotheses:

Four related null hypotheses were formulated as follows:

- The influence of nurse educators' level of conceptual framework related knowledge as a driving force for use of conceptual framework in research will not be significantly higher than expected.
- The influence of nurse educator's attitude as a driving force for application of conceptual framework in research will not be significantly higher than expected.
- The influence of nurse educator's skills as driving force for application of conceptual framework in research will not be significantly higher than expected.
- The influence of organizational demands as a driving force for application of conceptual framework in research will not be significantly higher than expected.

1.1. Literature Review

1.1.1. Conceptual Framework Related Knowledge, Attitude And Skills

When commenting on factors associated with application of conceptual framework in nursing research, emphasis is often on the influence of knowledge of the researcher on correct selection of

conceptual and theoretical models as framework and their application in the research work [6]. This is so because the use of conceptual framework could be influenced by the experience and knowledge of the individual. Once developed, the framework may influence the researchers' thinking and result in some aspects of the research being given prominence and others being ignored. Arguing further on such limitations, there is emphasis on the need for adequate knowledge of existing theories and models for use as conceptual framework, adequate knowledge of concepts in the models as well as the criteria for selecting them for application in research [3]. The focus here is on the importance of knowledge for selecting appropriate theoretical or conceptual framework that is relevant to guide the study.

Many researchers may choose one of the existing nursing or related theories or models for application in research. The expectation should be that the theory or model adopted should be useful in explaining all the inter-relationship among the variables in the study. However, on the other hand, the problem with the adoption and rigid application of a single theory or model as a framework is that such application may chill the researchers' appreciation of the model's role in research [7]. This explanation remains vital since all theories and models explain and are dependent on the world's views of the theories and models' originators. With adequate knowledge, advanced researchers could construct their framework using existing theories or modify the models for use in research. Doing so can enhance the possibility of the framework to clearly explain variables that are relevant or related to the study.

In a recent article [4], it was stated that nurse researchers should be very skilled in identifying, selecting and applying needed concepts to avoid limiting the scope of investigation or making the study clumsy and meaningless through unnecessary inclusion of concepts that are not relevant to the study. The authors argued that such performance requires good knowledge and relevant skills.

Similarly, attitude towards application of conceptual framework in research can be a good predictor of using or failing to use it [2]. The authors further asserted that interest can motivate the desire for a close study of conceptual models and subsequently improve skills necessary in applying a model to guide a study.

1.1.2. Organizational Demands for Utilization of Conceptual/Theoretical Framework in Research

In relation to organizational support, it was suggested that poor organizational support including lack of demand for application of conceptual framework in research can limit its use [2]. Poor organizational support may include lack of demand for application of conceptual framework by professional organizations that provide guidelines for research work. Furthermore, Akpabio and Uyanah in their recent article [4] asserted that many publishers of research report do not demand for inclusion of conceptual and theoretical framework in research reports submitted for publication.

This study was therefore conducted to ascertain the extent to which each of the aforementioned variables were contributing as driving or restraining forces towards application of conceptual or theoretical framework among the subjects under study.

2. METHODS

The study was quantitative and involved a descriptive design to examine driving and restraining forces associated with application of conceptual and theoretical framework in research by nurse educators in Akwa Ibom and Cross River States, Nigeria. Nurse educators included nurses who were teaching in the seventeen Schools of Nursing, Midwifery, Psychiatric Nursing and Department of Nursing in the university irrespective of their qualification. The distribution were eight Schools of Nursing in the two states and two were randomly selected through simple balloting from each of the two states to give a total of four Schools of Nursing. Similarly, from the seven Schools of Midwifery in the two states, two were randomly selected from each of the two states to give four schools of midwifery while the two schools of Psychiatric, one from each of the two states were also included to make a total of ten schools out of the seventeen existing schools in the two states.

2.1. Sample and Sampling Technique

2.1.1. Target Population

From the nominal roll of each of the schools, the target population of nurse educators in the two states was 231.

2.1.2. The Accessible Population

The accessible population included 139 nurse educators in the ten selected schools.

From the accessible population, a conveniently selected sample of 100 nurses representing 43.3% of the target population was drawn.

2.2. Instrument

The instrument for data collection was a 23-item structured questionnaire developed by the researchers and arranged in five sections. Section A was to elicit data on socio-demographic data of respondents and comprised of six items, section B provided data on knowledge assessment with four items, section C had nine items to provide data on their self-assessment skills in application of conceptual framework in research, section D had two items for attitude assessment while section E had three items to assess organizational drives or restraints in application of conceptual framework in research. The items had rating scale questions for self-assessment based on good, poor or nil.

The questionnaire was pre-tested using twenty nurse educators from a school of nursing not selected for inclusion in the study. The pre-test result showed no ambiguity in the instrument based on the fact that the respondents who participated in the pre-test understood the questions. In addition, statistical analysis was possible with the generated data. The psychometric property of the instrument showed a Content Validity Index (CVI) of .88 and a test-retest reliability coefficient of .83.

2.3. Ethical Consideration

Written permission was obtained from the Ethical Committee in the Ministry of Health of the two states and the principals of the schools selected for the study. Participants also gave their informed consents and anonymity was ensured through non-inclusion of names in any section of the responses.

2.4. Data Collection

Data collection was carried out in June 2014 by the researchers through a face-to-face interaction and on the spot retrieval of completed questionnaire. It covered a period of ten days representing one day per school selected for the study.

2.5. Data Analysis

Out of 100 questionnaires administered 84 (84%) were sufficiently completed and used for analysis with Statistical Package for the Social Sciences (SPSS) software version 18. The socio-demographic and other descriptive variables were analyzed using descriptive statistics of mean and standard deviation while the hypotheses were tested with Population or one-sample-test determined at .01 level of significance. The data on knowledge, skills, attitude and organizational variables as driving forces in the use of framework in research were obtained by summing up the scores obtained by respondents on the scaled items that were designed to measure the influence of each of these driving forces. These scores were considered continuous such that a high score means the influence of the factor for the application of the conceptual or theoretical framework is high while a low score indicated that the influence of such a factor was low.

The mean and standard deviation were computed with the influence of each factor: knowledge, skills, attitude and organizational factors treated as variables. The expected mean was computed as $\frac{1}{2}$ (lowest + highest possible score) multiplied by the number of items that measured the influence of that factor.

3. RESULTS AND DISCUSSION

3.1. Socio-Demographic Data of Nurse Educators

Table 1 shows the socio-demographic characteristics of the nurse educators. Majority were females 67 (80%) while only 17 (20%) were males. Majority 49 (58%) were aged 41-50 years and in relation to ranks, majority 38 (45%) were chief nursing officers followed by deputy directors who were 20 (31%). Similarly, majority had their highest professional education as B.Sc./B.N.Sc. 49 (58%); only one person (1%) had registered midwife certificate only and those with only registered nurse certificates were three (4%).

Table1. Socio-demographic data of respondents (n = 84)

Variable	N	Percentage
Gender:		
Male	17	20
Female	67	80
Total	84	100
Age in years:		
21 – 30	5	6
31 – 40	12	14
41 – 50	49	58
51 – 60	15	18
61 and above	3	4
Total	84	100
Professional Rank:		
Nursing Officer I	1	1
Nursing Officer II	10	12
Senior Nursing Officer	2	2
Principal Nursing Officer	6	7
Asst. Chief Nursing Officer	1	1
Chief Nursing Officer	38	45
Deputy Director (NS)	20	31
Total	84	100
Professional Qualification:		
RN	3	4
RM	1	1
RN /RM	13	16
RNE	13	16
B.Sc. (Nursing)	49	58
M.Sc. (Nursing)	5	6
Total	84	100
Service Station:		
School of Nursing	59	70
School of Midwifery	22	26
School of Psychiatric. Nursing	3	4
Total	84	100

3.2. Results on Influence of Knowledge, Skills, Attitude and Organizational Variables on Use of Conceptual and Theoretical Framework

The expected mean for the influence of knowledge was 4.5; attitude 3.0; skills 13.5 and organizational factors 4.5. The observed means were tested against the expected means using the Population or One-Sample t-test. As already stated, the influence of these variables were subsumed in the constructed questionnaire items, making one sample t-test one of the most viable alternative test to direct variable to variable analysis.

3.2.1. Results of the Hypotheses

The results of the study hypotheses are presented in Table 2.

Ho1: The influence of nurse educators' level of conceptual and theoretical framework related knowledge as driving force for use of conceptual and theoretical framework in research will not be significantly higher than expected.

From Table 2, the observed mean influence is 6.35 with a standard deviation of 1.07. When this was tested against the expected mean influence of 4.5, the calculated t-value was 15.8 with a P-value = 0.000. Consequently, the null hypothesis in this regard was rejected. This means that the influence of nurse educators' level of knowledge as a driving force for application of conceptual framework in research is significantly higher than expected.

Ho2: The influence of nurse educators' attitude as a driving force for use of conceptual and theoretical framework in research will not be significantly higher than expected.

In this case, the observed mean influence was 5.40 with a standard deviation of 0.82. When this value was tested against the expected mean influence of 3.0, the calculated t-value = 27.76 with a P-value = 0.000. Since the P-value (0.000) associated with the computed t – value (26.76) is less than the chosen level of significance, the null hypothesis was rejected in favour of the alternative. This means that the influence of nurse educators' attitude as a driving force for application of conceptual framework in research is significantly higher than expected.

Ho3: The influence of nurse educators' skill as a driving force for use of conceptual and theoretical framework in research will not be significantly higher than expected.

With this, the observed mean influence was 19.0 with a standard deviation of 2.91. When this observed mean was tested against the expected mean influence (13.5), the computed t-value was 17.33 with a P-value of 0.000. Based on these results, the null hypothesis was rejected. This means that the level of influence of skill in the use of conceptual framework in research is significantly higher than expected.

Ho4: The influence of organizational variables as a driving force for use of conceptual and theoretical framework in research will not be significantly higher than expected.

In this case, the observed mean influence as shown in Table 2 was 7.12 with a standard deviation of 1.44. When this mean value was tested against the expected mean influence (4.5), the calculated t-value was 16.73 with P-value = 0.002. Since the P-value (0.002) associated with the computed t-value (16.73) is less than the chosen level of significance (0.01), the null hypothesis was rejected in favour of the alternative. This means that the influence of organizational factors as a driving force for use of conceptual framework in research is significantly higher than expected.

Table2. Population t-test for influence of driving forces in the use of conceptual framework in research (n=84).

Driving forces	Observed		Expected mean	Computed t-value	P-value
	Mean	SD			
Knowledge as driving force to use of conceptual framework	6.35	1.07	4.5	15.81*	0.000
Attitude as driving force in use of conceptual framework	5.40	0.82	3.0	26.78*	0.000
Skills in application as driving force in use of cf.	19.00	2.91	13.5	17.33*	0.000
Organizational factors as driving force in application of conceptual framework	7.12	1.44	4.5	16.73*	0.002

*Significant at 0.05 level of significance; $P < 0.05$; $df = 83$

3.3. Discussion

This study was conducted to examine if conceptual framework-related knowledge, attitude and skills towards application of conceptual framework in research as well as organizational support for such practice were actually driving forces for the target population. Four hypotheses were generated and tested and the results showed that the influence of nurse educators' level of conceptual framework related knowledge, attitudes and skills towards use of conceptual framework as well as organizational support were all driving forces to application of conceptual framework in research. This study was a follow-up study to earlier research conducted by the researchers among the same subjects to examine their level of knowledge, attitude and skills as well as organizational support for utilization of conceptual/theoretical framework in research [4].

In that study, the authors observed that 15.5% and 35.7% of the respondents could not list any theories and conceptual model that could be used as framework respectively while only 15.5% were able to list five conceptual models. Similarly, on knowledge of criteria for selecting and using theories/conceptual models 34.5% were not able to list any, 15.5% listed three and 34.5% listed four criteria. Furthermore, their computed mean scores on attitude, skills and organizational support for use of conceptual framework in research were low.

The results of this current study showing that the respondents level of conceptual framework related knowledge, attitude, skills and organizational support for use of conceptual framework could all act as driving forces are not surprising and could account for their poor practice concerning conceptual framework application in research especially with accompanying low scores on those phenomenon of interest. Without appropriate knowledge a change in attitude cannot be achieved. Similarly, when knowledge is low, the skills for performance are also likely to be low. On the other hand these are found to be driving forces to effective performance. The combination of these factors could therefore be a reason for haphazard or inappropriate utilization of conceptual framework in research. This argument is in line with the assertion that the use of conceptual framework can be influenced by the experience of the researcher [6].

Similarly, organizational support was observed to be one of the significant driving factors in the application of conceptual framework in research. Although Nursing Council of many nations have made it mandatory to apply conceptual framework in research conducted during training, it is obvious that this exercise is discontinued after training. In a previous study conducted by Akpabio and Uyanah [8], it was observed that the proportion of respondents who used conceptual framework during training was 77.4% while only 34.5% did so after training. This implies that many research reports that are published in learned Journals do not have conceptual and theoretical framework that guided the study since a good number of publishers of research reports do not demand for its inclusion in papers meant for publication.

The implication of these findings and on the basis of Lewin's force field theory of change that suggested improvement on factors that were seen as driving forces, it could be argued that there is need to increase the knowledge level of nurse educators concerning conceptual models and theories for application in research. It should also be necessary to encourage measures that enhance their skills and promote organizational support for application of conceptual framework in research.

4. CONCLUSION

Factors identified in this study as having significant influence to act as driving forces and enhance application of conceptual or theoretical framework in research included:

- Conceptual framework related knowledge including knowledge of theories and conceptual models, concepts and assumptions in the models and theories as well as criteria for selecting the conceptual models and theories.
- Attitude towards application of conceptual and theoretical framework in research;
- Skills in the application of conceptual and theoretical framework in research;
- Organizational support including demand for application of conceptual or theoretical.

It is important to state that when the factors that enhance actions as driving forces are lacking, then the reverse becomes the norm resulting in restraining forces that limit performance, i.e. application of conceptual framework in research.

5. RECOMMENDATIONS

Training modules should be developed and used during continuing education programmes to educate nurse educators and provide them with in-depth knowledge of theories and models for use as conceptual framework, the concepts and assumptions and the criteria for selecting them for use. This will enhance their skills in explaining relationships among variables based on the models' framework and subsequently their skills in the application of the conceptual framework in research.

Since Nursing Councils of many nations have already emphasized the use of conceptual and theoretical framework in research during the period of training, publishers of research reports should accordingly demand for inclusion of framework that guided studies that are submitted for publication. Doing so can improve skills and subsequent use of conceptual framework in research. It could also be argued that inclusion of the study framework especially in the recommendations' section can provide expanded scope and explanations concerning application of the study findings in actual practice.

ACKNOWLEDGMENTS

The authors wish to acknowledge with thanks the Ethical Committees of Akwa Ibom and Cross River States for giving approval for the studies and we also thank the nurse educators for providing the data that we used to bring about the results from the research.

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