

Comparative Perception of Nursing Interns' Competence in Clinical Decision Making in Relation to Training Approaches in Kenya.

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Abstract

The objective of the study was to determine Nursing Interns' perceptions on their competence in clinical decision making and the training approaches they went through. Further, it was to compare perception of Nursing Interns' on competence in clinical decision making from two training approaches. The study utilized the Kirkpatrick's four-level model to measure the effectiveness of training programs. Descriptive statistics were used whereby frequencies and percentages were calculated for categorical variables and measures of central tendency and dispersion for continuous data. The chi-square test with Pearson correlation was used to determine significant differences between ratings of perception of clinical decision making from interns of the two Nursing schools. There were two major findings of this study: Innovatively trained Nursing Interns scored relatively higher on perceptions of their Nursing knowledge, particularly in the areas of individual, family and community health decision making, communication, and the health care system. Interns' showed no difference in relation to objectivity and clarity of expectations. Nursing Interns' graduating from innovative training approaches was comparable to those from conventional training. Based on the findings of the study, it was recommended that a standard evaluation instrument for comparing graduates of innovative and conventional schools should be developed for evaluating their competence in clinical decision making.

Keywords: *Nursing Interns, innovative training, conventional training, decision making, and competence.*

1.0 Introduction

Almost every country and health care system has witnessed a growing demand for health care services over the last three decades (Sitzia et al, 2011). While health systems are facing an increasing number of challenging factors such as limited financial resources, socio-demographic changes, rising health care cost, increasing health demands and heightened public expectations, the governments are responsible to meet the public's increasing need for accessible, affordable, quality health care. Therefore, they are searching for strategies to more appropriately equip and utilize the workforce in terms of the best approaches to training.

In recent decades, however, we have learned a great deal from cognitive science research about the nature of learning. Students construct knowledge; they do not take it in as it is disseminated, but rather they build on knowledge they have gained previously (Cross, 1998). They benefit from working together, and they may learn best from teaching each other (McKeachie, et al., 1986).

Research also suggests that students learn best in the context of a compelling problem (Ewell, 1997); they learn through experience (Cross, 1999). In short, students learn through making cognitive connections, social connections, and experiential connections (Cross, 1990). Because they make these connections differently, students do not learn in the same way. This relatively new information suggests that teaching is a complex activity, and it necessitates the emergence and development of approaches to instruction that are consistent with what we know about the way that learning happens (Ewell, 1997). This new understanding has given rise to the notion of a paradigm shift in higher education, one from a focus on teaching to a focus on learning (Barr and Tagg, 1995).

Large educational establishments are responsible for facilitating the uptake, development and implementation of technology in teaching and learning. Development of new learning environments can promote active participation through repeated practice, encourage shared experiences and enhance student motivation (Perlman, et al, 2005). The World Wide Web is now a rich educational resource that promotes and facilitates student learning and is increasingly being used to deliver course content in medical and nursing programs. It has evolved from computer-assisted instruction that started approximately 30 years ago (Kerecsen&Pazdernik, 2002).

Nurses are the largest group of service providers in the health care system. There are over two million registered nurses in the United States of America (U.S.A.) alone, comprising about 13% of the fifteen million workers in the health care and social assistance category, according to records from the U.S. Department of Labor. In Africa, nurses constitute 50.7% of the healthcare workforce, while in Kenya; the percentage of nurses among the entire healthcare system is 55.4% (World Health Organization, 2006). By virtue of the nature of their work, nurses come into regular contact with patients, who are distressed in one way or another, whether psychologically, physically, spiritually or practically. It is in view of these environments of working that a nurse has to demonstrate an accurate range of clinical decision making abilities. In nursing, like in other disciplines of the medical profession, tutors initially taught students by use of conventional teaching /learning approaches but it is now changing with the emerging innovative medical education.

Document analysis reveals that Moi University Faculty of Health Sciences was established in 1990 and became the first Medical School in East Africa to introduce and implement innovative medical education. The same document analysis and experience of Moi University reveal that there is an increasing request for information on these new educational strategies as well as a tendency by education to use them over and above the older traditional methods. The emphasis is learning and not teaching. Continuing medical education improves clinical performance (Cantillon, *et al* 1999). Students who learn using innovative medical education engage in more continuing medical education activities because they learn by searching for knowledge and actually solving the problems by themselves with minimal assistance or intervention from the tutors.

The school of Medicine of the college of Health Sciences in the University of Nairobi started in 1967 to train Medical Practitioners using a conventional curriculum, and has since continued to use it as a major approach of training. However, major changes have been made on the curriculum over the years to improve its quality and relevance. The Clinical Departments of the School are situated at Kenyatta National Hospital whereas the Pre-Clinical Departments are at the Chiromo Campus, Nairobi.

It is with this background of the availability of both the Conventional and Innovative approaches to training of Medical Practitioners in Kenyan Universities that this study was carried out to ascertain the perception of effectiveness in nurturing appropriate clinical decision making among nursing interns from the two approaches of training.

According to the World Health Organization (2006), Nurses are the largest group of serving staff in health service organizations. Their practice takes place in a context of ongoing advances in research and technology, which in turn changes the complexity of nursing care requirements. The dynamic and uncertain nature of health care environment requires nurses to be competent decision-makers in order to respond to clients' needs. In other words, they should be able to sift and synthesize information, make decisions and appropriately implement these decisions to solve their clients' problems in the context of a multidisciplinary team.

Clinical decision-making is an essential component of professional nursing care and, nurses' ability to make effective clinical decisions is the most important factor affecting the quality of care. The nursing discipline's pursuit of professional recognition also relies heavily upon the ability of practicing nurses to correctly define and solve problems which are uniquely nursing in origin (White, 2003). This notwithstanding, studies reveal that nurses' lack adequate training in provision of psychosocial care and communication skills to best meet the needs of their patients and this has long been a source of concern (Jarrett and Payne, 2000).

Research study conducted by (Yacoub et.al., 2010) to explore the opinions and attitudes of final year medical students towards various issues related to medical education in two medical colleges in Iraq employing two different educational approaches. Basrah Medical College employs the traditional subject based approach. Tikreet Medical College employs the innovative problem based approach. A self-administered questionnaire form was distributed to randomly selected final (sixth) year medical students in both colleges, at the end of the academic year (1998 – 1999). Around 54% of Tikreet medical students (which follows PBL) thought that theoretical hours in basic medical sciences were not adequate compared to only 16% among Basrah students (which follows the conventional approach) who thought so. The corresponding figures for para-clinical subjects were 68% vs. 5%. The same opinion was expressed with respect to the adequacy of practical hours in the above-mentioned subjects. There was no difference in the opinions of students in both colleges with respect to the adequacy of theoretical and practical hours in clinical training. Field practice was reported to be carried out satisfactorily by high percentage of students in both colleges (100% for Tikreet Medical College and 84% for Basrah Medical College). Around 36% of Tikreet student expressed their satisfaction with the educational approach compared to 95% among Basrah students. The study highlighted the importance of exploring students' opinions and attitudes when innovative approaches are introduced in medical education so that corrective measures are heeded to. It is on this very background that this study investigated the perception of effectiveness by the use of Innovative and Conventional training approaches, in nurturing clinical decision making by Nursing Interns.

2.0 Objectives of the Study

The objectives of the study were to:

1. Determine nursing interns' perceptions on their competence in clinical decision making and the training approaches.
2. Compare Perception of nursing interns' on competence in clinical decision making from the two training approaches.

3.0 Methodology

A quantitative method was used to address the perception of nursing interns' on their clinical decision making in relation to the conventional and innovative training approaches they went through in College. A post facto design was used. Alikert type questionnaire tested the issue of

self-perception that predicted how training approaches influenced clinical decision making for Nursing Interns at selected public hospitals.

The study sites were comprised of Public Government hospitals having Nursing Interns' from both University of Nairobi and Moi University. They were appropriate choices as the sites for this study for several reasons. First they are scattered across different regions of the Country. Patients are referred there from various parts of the country and regions, hence providing plenty of challenges to healthcare providers and an opportunity to put their clinical decision-making abilities to test. This provided an appropriate environment to investigate the perception of effectiveness of Nursing Interns pertaining to clinical decision making from the conventional and innovative training approaches.

To achieve the objectives of this study, the target population included: All Nursing Interns from University of Nairobi, School of nursing and their counterparts from Moi University's School of nursing. The target population for this study was 133 participants comprising 103 Nursing Interns. Interns participating were selected purposively to represent the two training and practicing institutions. All the interns from University of Nairobi (78) and Moi University (25) were purposely selected.

Quantitative data was collected through a self-administered questionnaire to the nursing interns. The questionnaire was designed to collect information on clinical decision making perceptions of Nursing Interns from Moi University and University of Nairobi. The questionnaire was designed with two sections. Section one was designed to collect information on personal data of the interns. Section two was designed to collect information on perception of nursing interns' clinical decision making. Section two of the questionnaire was adopted from Jenkins, 1985.

The researcher established the validity of the instruments by consulting with professionals in the field of medical education and he sought the opinion of experienced researchers. A pilot study was done to improve and check on the reliability of the research instrument. The pilot target population was Kenyatta University and University of Eastern Africa, UEAB nursing interns. The sample was all those interns of the two institutions practicing at various public hospitals different from the ones sampled for the study. The nursing interns were required to respond to the self-administered questionnaire twice in different periods.. This pilot study provided estimates of duration of data collection as well as the financial resources needed for the activities. This was very helpful in informing the actual data collection for the study. Spearman Brown's formula was used to compute the correlation co-efficient in order to establish reliability of the instruments. The correlation co-efficient was found to be at 0.78 which was strong enough, hence the questionnaire being taken to be reliable for the study.

Once permission was granted from relevant authorities for data collection, the researcher made initial contact with the relevant sources of information to seek appointments. Specifically, the offices of Medical Officer in-charge, Nursing Officer in-charge and Medical Superintendent of the study sites were contacted for the purpose of getting their consent and that of the participants under them.

Quantitative data was collected and coded, entered and analyzed using Microsoft Excel Software and Epi Info 2005 3.3.2. Descriptive statistics were used whereby frequencies and percentages were calculated for categorical variables and measures of central tendency and dispersion for continuous data. The chi-square test with Pearson correlation was used to determine significant differences between ratings of perception of clinical decision making from Interns of the two Nursing schools. Data then presented using tables and bar charts.

The researcher only proceeded with the process of data collection after getting an informed consent from all respondents. Confidentiality and other ethical issues were highly observed throughout the

study. Respondents who participated in the study were 96 nursing interns from University of Nairobi and Moi University.

4.0 Results

Table 4.1: Distribution of respondents by Gender

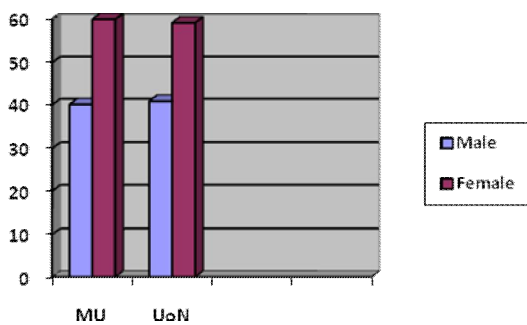
Nursing Inters n=96		
	No.	%
Males	39	40.6
Females	57	59.4
Total	96	100

As shown in Table 1, slightly above half (59.4%) of the interns respondents were female while 40.6% (39) were male. The distribution of respondents by gender can be interpreted to mean that nursing profession is predominantly a female career, implying that it is a delicate profession demanding a lot of patience and care.

Table 4.2: Distribution of Interns by Type of Nursing School.

Interns				
Gender	Innovative Nursing School n=25		Conventional Nursing School n=71	
	No.	%	No.	%
Female	15	60	42	59.2
Male	10	40	29	40.8
Total	25	100	71	100

Fig 4.1: Distribution of Interns by Type of Nursing School.



The majority of the respondents were female interns from both the conventional nursing school 59.2% and 60% from innovative nursing school as shown in Table 2 and Fig 4.1.1. On further analysis of the results, there was no significant difference ($X^2 = 13.795$, 1df, $p > 0.05$ [0.109]) in gender distribution for the two nursing schools. Therefore, this finding could be interpreted to mean that the proportion of male and female interns included in this study does not differ, implying that the respondents effectively represented the impact of conventional and innovative training approaches.

Perception of Interns on Competence in Clinical Decision Making

A questionnaire was used in order to determine if there are significant differences in the perception ratings of interns from the two nursing schools as regards to their competence in clinical decision making. There were 40 items (Indicators) on the clinical decision making scale. The responses ranged from always (A), frequently (F), occasionally (O), seldom (S), to never (N) in a descending order. The responses are represented in tables 5a and 5b based on the innovative and conventional training approaches for the respondents (interns).

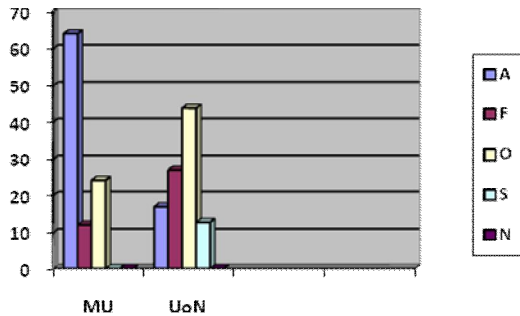
Table 4.3: Interns Perception Rating on Clinical Decision Making.

Indicator	Innovatively Trained Interns (n = 25)					Conventional Trained Interns (n = 71)				
	A	F	O	S	N	A	F	O	S	N
1	44.0%	32.0%	24.0%	0.0%	0.0%	46.5%	39.4%	14.1%	0.0%	0.0%
2	64.0%	12.0%	24.0%	0.0%	0.0%	16.9%	26.8%	43.7%	12.7%	0.0%
3	88.0%	12.0%	0.0%	0.0%	0.0%	19.7%	56.3%	23.9%	0.0%	0.0%
4	0.0%	12.0%	44.0%	44.0%	0.0%	9.9%	5.6%	19.7%	50.7%	14.1%
5	52.0%	24.0%	24.0%	0.0%	0.0%	47.9%	39.4%	8.5%	4.2%	0.0%
6	0.0%	12.0%	64.0%	12.0%	12.0%	9.9%	31.0%	50.7%	8.5%	0.0%
7	52.0%	36.0%	12.0%	0.0%	0.0%	40.8%	35.2%	19.7%	4.2%	0.0%
8	32.0%	32.0%	24.0%	12.0%	0.0%	21.1%	45.1%	28.2%	0.0%	5.6%
9	44.0%	32.0%	12.0%	0.0%	12.0%	23.9%	49.3%	21.1%	5.6%	0.0%
10	44.0%	44.0%	12.0%	0.0%	0.0%	28.2%	29.6%	26.8%	8.5%	7.0%
11	76.0%	0.0%	24.0%	0.0%	0.0%	31.0%	46.5%	16.9%	5.6%	0.0%
12	20.0%	0.0%	12.0%	32.0%	36.0%	4.2%	11.3%	22.5%	54.9%	7.0%
13	0.0%	12.0%	12.0%	12.0%	64.0%	0.0%	4.2%	45.1%	28.2%	22.5%
14	52.0%	24.0%	12.0%	12.0%	0.0%	26.8%	28.2%	29.6%	15.5%	0.0%
15	24.0%	12.0%	0.0%	20.0%	44.0%	9.9%	12.7%	21.1%	35.2%	21.1%
16	12.0%	52.0%	24.0%	0.0%	12.0%	5.6%	46.5%	25.4%	16.9%	5.6%
17	12.0%	56.0%	20.0%	12.0%	0.0%	23.9%	54.9%	15.5%	0.0%	5.6%
18	44.0%	32.0%	0.0%	12.0%	12.0%	18.3%	38.0%	22.5%	21.1%	0.0%
19	24.0%	32.0%	44.0%	0.0%	0.0%	11.3%	63.4%	21.1%	4.2%	0.0%
20	24.0%	32.0%	12.0%	20.0%	12.0%	21.1%	36.6%	33.8%	8.5%	0.0%

Table 4.3 (Indicator 1) shows that 44% of the respondents from Moi University always conduct a thorough search for alternatives whereas 46.5% of the respondents from University of Nairobi always conduct the thorough search for alternatives. It is also indicated that 32.0% and 39.4% of the respondents from Moi University and University of Nairobi respectively frequently conduct a thorough search for alternatives. Only 2.4% and 14.1% of the respondents from Moi University and University of Nairobi respectively occasionally conduct a thorough search for alternatives before making clinical decision. However, on further analysis of the results there was no significant difference ($X^2 = 1.388$, $df=2$, $p > 0.05$ [0.500]) in the responses of interns from the two Universities on conducting thorough search for alternatives if there is time, before making a vital clinical decision. This finding can be interpreted to mean that both innovatively and conventionally trained interns are similar in terms of conducting a thorough search for alternatives if there is time, before

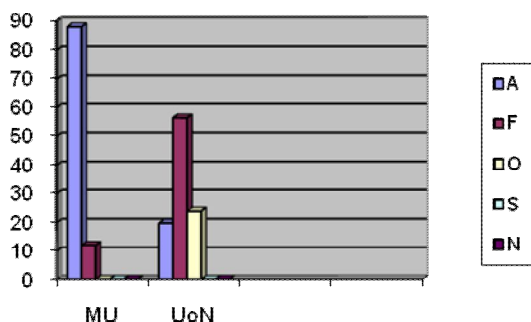
making a vital clinical decision. The implication of the finding is that both training approaches are sensitive to the issues of nursing clinical decision making.

Fig 4.2: When a person is ill, his/her cultural values and beliefs are secondary to the implementation of health services.



The findings also reveal that 64% and 12.0% of the respondents from Moi University stated that always and frequently, when a person is ill, his or her cultural values and beliefs are secondary to the implementation of health services while 24.0% of the respondents from Moi University stated that seldom implementation of health services are based on a person’s cultural values and beliefs. However, for the respondents who trained in University of Nairobi only 16.9% always and 26.8% frequently consider a person’s cultural values and beliefs in the implementation of health services while 43.7% and 12.7% occasionally and seldom consider cultural values and beliefs in the implementation of health services. In total, 29.2% always, 22.9% frequently, 38.5% occasionally and 9.4% seldom consider a person’s cultural values and beliefs in the implementation of health services. This difference in the respondents from the two Universities was statistically significant ($X^2= 20.844$, $df = 3$, $p < 0.05$ [0.001]). Thus, innovative education trained interns are more sensitive to a client’s cultural values and beliefs in the implementation of health services. Therefore, the finding can be said to imply that innovative training approaches are superior to conventional training approaches in preparing their graduates to be responsive to patients as exhibited in clinical decision making.

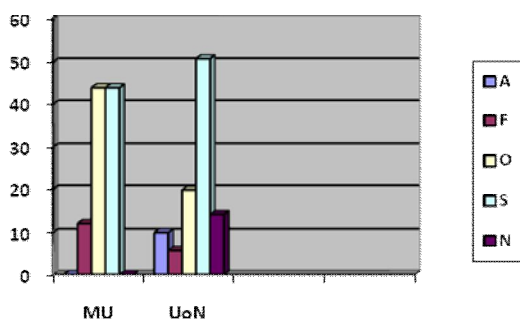
Fig 4.3: Situational factors at the time determine the number of options explored.



As indicated in table 4.3 and Fig 4.3, 88.0% and 19.7% of the respondents from Moi University and University of Nairobi respectively said that always situational factors at the time determine the number of options that they explore before making a decision. Another 12% and 56.3% of the respondents from Moi University and University of Nairobi respectively frequently consider

situational factors in determining the number of options that they explore before making a decision. Only 23.9% of the respondents from University of Nairobi occasionally consider situational factors when determining the number of options they explore before making a decision. On further analysis, this difference of interns based on University they trained in was significant ($X^2= 37.089$, $df = 2$, $p < 0.05$ [0.001]). The interpretation of the finding is that situational factors at the time always determine the number of options that innovative education trained nursing interns explore before making a clinical decision unlike their conventional education trained counterparts. The finding imply that that innovative training approach prepares its graduates to be sensitive to the patients and their environment apart from the standard requirements in making appropriate clinical decisions.

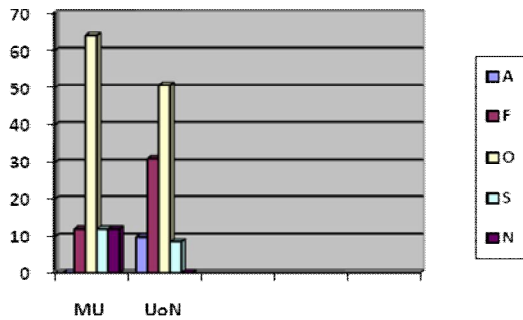
Fig 4.4: Looking for new information is more trouble than it's worth.



The findings further reveals that majority (50.7%) and 44% of the respondents who trained in University of Nairobi and Moi University respectively seldom consider looking for new information in making a decision more trouble than it is worth, whereas 19.7% and 44% of the respondents who trained in University of Nairobi and Moi University respectively occasionally considered looking for a new information in making a decision as more troublesome than it's worth. Only 9.9% of the respondents who trained in University of Nairobi always considered looking for new information in making a decision as more troublesome than it's worth. On further analysis of the results, there was a significant difference ($X^2= 11.370$, $df = 4$, $p < 0.05$ [0.023]) in the responses of interns from the two Universities on the fact that looking for new information in making a decision is more trouble than it's worth. Therefore, conventional education trained inters are more comfortable looking for new information in making a clinical decision than their innovative education trained colleagues. This finding imply that conventionally trained interns are better equipped to go further and search for the best practices in as far as clinical decision making is concerned.

Further, Table 4.3 (Indicator 5) shows that 52.0% and 47.9% of the respondents from Moi University and University of Nairobi respectively always use books or professional literature to look up things they don't understand, whereas 24. % and 39.4% of the respondents, who trained in Moi University and University of Nairobi respectively, frequently use books or professional literature to look up things they do not understand. However, on further analysis of the results there was no significant difference ($X^2= 5.941$, $df = 3$, $p > 0.05$ [0.115]) in the responses of interns from the two educational orientations on use of books or professional literature to look up things they do not understand. The implication of this finding is that both the innovatively and conventionally trained nursing interns respect and recognize the contribution of other scholars before them.

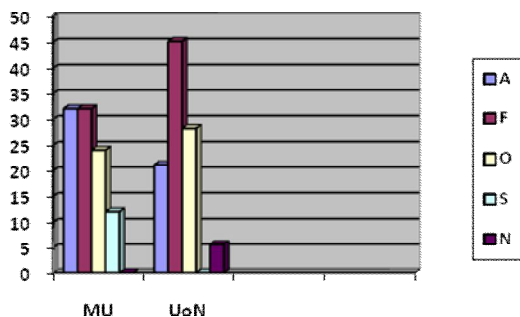
Fig 4.5: A random approach for looking at options.



The study indicates that only 9.9% of the respondents who trained in University of Nairobi stated that always a random approach for looking at options works best for them. However, majority (50.7%) and 64.0% of the respondents who trained in University of Nairobi and Moi University stated that occasionally, a random approach for looking at options works best for them respectively. On further analysis of the results, there was a significant difference ($X^2 = 14.396$, $df = 4$, $p < 0.05$ [0.006]) in the responses of interns from the two Universities on the fact that a random approach for looking at options works best for them. Thus, conventionally trained nursing interns affirmed that a random approach for looking at options works best for them than their innovatively trained peers. This finding implies that innovatively trained nursing interns are surer than their conventionally trained colleagues in the clinical decisions that they make.

Further, Table 5a (Indicator 7) shows that over half (52%) and 40.8% of respondents who trained in Moi University and University of Nairobi respectively always use brainstorming when thinking ideas for options. Another 36% and 35.2% of the respondents respectively, frequently use brainstorming when thinking ideas for options. On further analysis of the results, there was no significant difference ($X^2 = 2.207$, $df = 3$, $p > 0.05$ [0.530]) in the responses of interns from the two nursing training approaches on brainstorming as a method they use when thinking ideas for options. The implication of this finding is that both the innovative and conventional training approaches are good enough at preparing nurses who brainstorm as a method they use as they make clinical decisions.

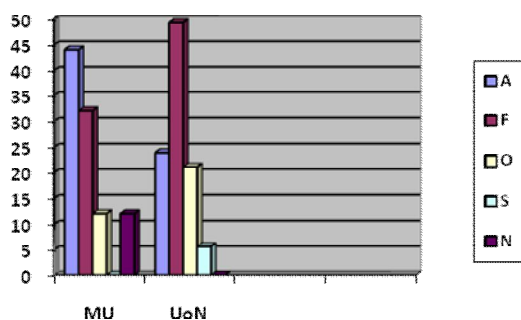
Fig 4.6: Going out of their way to get as much information as possible.



It is shown that 32% and 21.1% of the respondents from Moi University and University of Nairobi respectively always get out on their way to get as much information as possible to make a decision. Another 32% and 45.1% from MU and University of Nairobi respectively frequently get out of their way to get as much information as possible to make decision. It should be noted that 5.6% of the

respondents who trained in University of Nairobi never get out of their way to get as much information as possible to make decision. On further analysis of the results, there was a significant difference ($X^2 = 11.718$, $df = 4$, $p < 0.05$ [0.02]) in the responses of interns from the two educational orientations on getting out of one's way to get as much information as possible to make a decision. This finding is interpreted to mean that innovative trained nursing interns easily get out of their way to get as much information as possible as compared to their conventionally trained peers. The implication of this finding is that the innovative training approach prepares graduates in gathering knowledge not given in class by themselves better than conventional training approach.

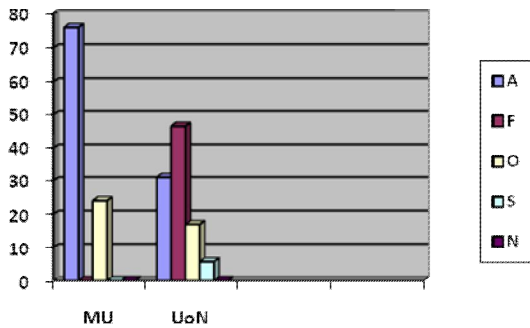
Fig 4.7: Assist clients in exercising their right to make decisions about own care.



The findings shows that 44% and 23.9% of the respondents from Moi University and University of Nairobi respectively always assist clients in exercising their rights to make decision about their own care; as 32% and 49.3% of the respondents from Moi University and University of Nairobi respectively frequently assist clients in exercising their rights to make decision about their own care. On further analysis of the results, there was a significant difference ($X^2 = 14.535$, $4df = 4$, $p < 0.05$ [0.006]) in the responses of interns from the two nursing training approaches on assisting clients in exercising their rights to make decisions about their own care. Therefore, the interpretation of the finding is that innovative trained nursing interns are more prone to assist clients in exercising their right to make decisions about their own care than the conventionally trained nursing interns. The implication of the finding is that contrary to conventional training approach, innovative training approach prepares more autonomous graduates who pass on the same attitude to their clients into exercising their right to make decisions about own care.

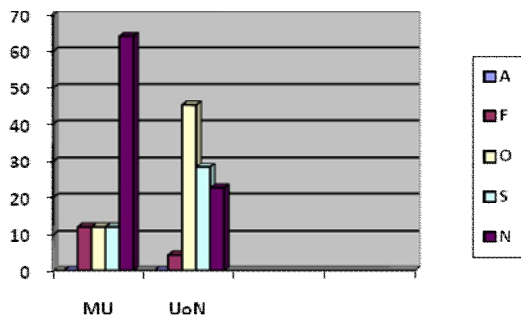
Further, Table 4.3 (Indicator 10) also shows that 44% and 28.2% of the respondents who trained in Moi University and University of Nairobi respectively stated that they are always objective enough to handle the decision making required for the situation when their individual values conflict with those of clients. Another 44% and 29.6% from Moi University and University of Nairobi respectively stated that they are frequently objective enough to handle the decision making required for the situation. On further analysis of the results however, there was no significant difference ($X^2 = 8.220$, $df = 4$, $p > 0.05$ [0.084]) in the responses of interns from the two nursing educational training orientations on being objective enough to handle the decision making required for the situation when their values conflict with those of client.

Fig 4.8: Consider expert advice even though not choice.



Majority (76%) of the respondents from Moi University attested that they always listen to or consider expert advice or judgment even though it may not be the choice they would make, while majority (46.5%) of the respondents who trained in University of Nairobi frequently listen to or consider expert advice or judgment. On further analysis of the results, there was a significant difference ($X^2= 5.941, df = 3, p < 0.05 [0.015]$) in the responses of interns from the two training orientations. The interpretation of this finding is that innovative trained nursing interns listen to or consider expert advice or judgment, even though it may not be the choice they would make as compared to their conventional trained nursing interns. The implication of the finding is a confirmation of a previous finding that innovative training approach prepares graduates who are autonomous in clinical decision making though they seek other authorities opinions.

Fig 4.9: Doesn't always take time to examine all possible consequences of decision.



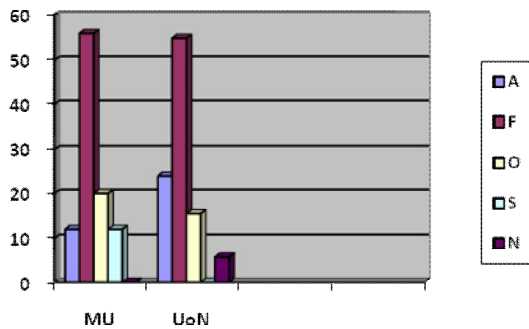
There were 64% and 22.5% of the respondents from Moi University and University of Nairobi respectively who stated that they always take time to examine all the possible consequences of a decision they make. For those who trained in University of Nairobi, 45.1% stated that they occasionally don't take time to examine all the possible consequences of a decision they must make. This was a significant difference ($X^2= 18.889, df = 3, p < 0.05 [0.001]$) confirming that innovative education trained nursing interns take time to examine all possible consequences of a decision they must make than their conventional education trained peers. The implication of the finding is that compared with conventional training, innovative training approach better equips in their graduates the skill of scrutinizing consequences of the clinical decisions they make and to take responsibility for them.

Table 4.3 (Indicator 14) further indicated that 52% and 26.8% of the respondents who trained in Moi University and University of Nairobi respectively always consider the future welfare of the family when they make a clinical decision which involves the individual whereas 12% and 29. %

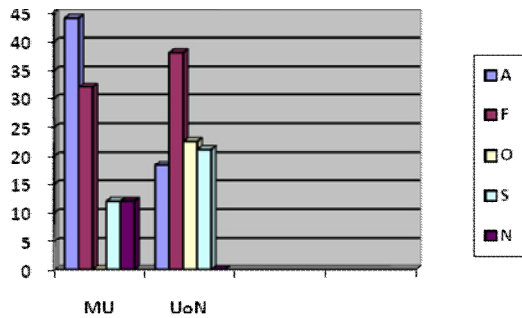
from Moi University and University of Nairobi respectively occasionally consider the future welfare of the family when they make a clinical decision which involves the individual. On further analysis of the results, there was no significant difference ($X^2 = 6.092$, $df = 3$, $p > 0.05$ [0.107]) in the responses of interns from the two nursing education training approaches on consideration of future welfare of the family when making clinical decision involving the individual. The implication of the finding is that both conventional and innovative training approaches inculcate in their trainees the importance of efficiency and care pertaining to the clinical decisions they make for they affect the future welfare of the family.

The study further established as shown in Table 4.3 (Indicator 16) that 52 % and 46.5% of the respondents who trained in Moi University and University of Nairobi respectively stated that they frequently mentally list options before making a decision, whereas 24.0% and 25.4% from Moi University and University of Nairobi respectively occasionally mentally list options before making a decision. On further analysis of the results, there was no significant difference ($X^2 = 6.412$, $df = 4$, $p > 0.05$ [0.170]) in the responses of interns from the two training orientations on mentally listing options before making a decision. The implication of the finding is that both conventional and innovative training approaches inculcate in their trainees the fact that there are always many available options to choose from when making clinical decisions.

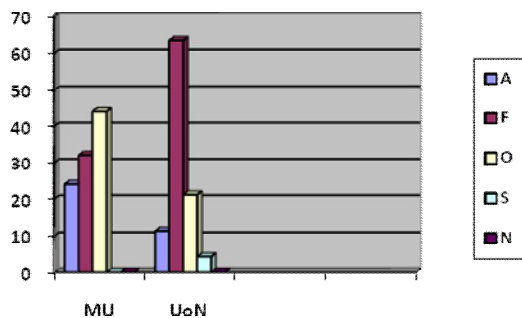
Fig 4.10: Think through when examining consequences of options to choose.



Over half, (54.9%) and 56% of both the University of Nairobi and MU respondents stated that they frequently think through when examining consequences of options they might choose. This difference was not statistically significant when comparing them vis a vis the nursing education training approaches of the interns. Therefore, this finding imply that both innovative and conventional training approaches endeavor to prepare graduates who think through when examining consequences of options to choose from in clinical decision making.

Fig 4.11: Consider even the remotest consequences before making a choice.

It is revealed that 44% of the respondents who trained from Moi University and 18.3% who trained in University of Nairobi always consider even the remotest consequences before making a choice as 32% and 38% Moi University and University of Nairobi interns respectively frequently consider even the remotest consequences before making a choice. On further analysis of the results, there was a significant difference ($X^2 = 20.041$, $df = 4$, $p < 0.05$ [0.001]) in the responses of interns from the two nursing education training orientations on considering even the remotest consequences before making a choice. Thus, the innovative education trainees are keener in considering even the remotest consequences before making a choice as compared to their conventional education trained colleagues. The implication of this finding is that unlike the conventional training approach, innovative training approach prepares graduates who take full responsibility for the decisions they make, hence the keenness to consider even the remotest consequences.

Fig 4.12: Consensus among my peer group important.

Over half (63.4%) and 32% of the respondents from University of Nairobi and MU respectively stated that they frequently rely on consensus among their peer group when making a decision. A further 44% and 21.1% from Moi University and University of Nairobi respectively occasionally depend on consensus among peer group when making a decision. On further analysis of the results, there was a significant difference ($X^2 = 9.981$, $df = 3$, $p < 0.05$ [0.019]) in the responses of interns from the two nursing education training orientations on consensus among their peer group being important to them in making a decision in favor of innovative education orientation interns. The implication of this finding is that innovative training approach inculcates the spirit of team building better than the conventional training approach among their graduates.

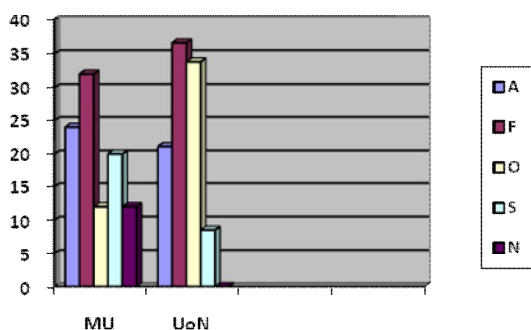
Fig 4.13: Include clients as sources of information.

Table 4.3 (Indicator 20) shows that majority of the respondents who trained in the two universities asserted that they always (24% for MU and 21.1% for University of Nairobi), frequently (32% for Moi University and 36.6% for University of Nairobi) and occasionally (33.8% for University of Nairobi and 12% for Moi University) include clients as a source of information when making decision. On further analysis of the results, there was a significant difference ($X^2= 13.979$, $df = 4$, $p < 0.05$ [0.007]) in the responses of interns from the two nursing education training orientations on inclusion of clients as source of information, in favor of conventionally trained interns. The implication of this finding is that unlike the innovative training approach, the conventional training approach emphasizes the focus on helping the client than their environment hence their inclusion as a source of information when making clinical decisions.

5.0 Conclusions and Recommendations

- The study established that the interns of both schools differ significantly in thirty out of the forty items in the instrument of measuring perception of competence in clinical decision making.
- As much as they seemed to differ in many of the indicators, they also strongly agreed in their perception of competence in various aspects in clinical decision making.
- The study found out that the clinical decision is vital and with availability of time, nursing interns from both training schools conduct a thorough search for alternatives. They also concurred that they use books or professional literature to look up things they do not understand. They both agreed to the fact that brainstorming is a method they use when thinking ideas for options. Interns from the two educational training approaches did not show any difference among themselves pertaining to the issue of objectivity. They confirmed that when their values conflict with those of client, they are objective enough to handle the decision making required for the situation.
- A similarity among the interns from the innovative and conventional training was exhibited as they consider the future welfare of the family when making a clinical decision which involves the individual. They additionally concurred that they mentally list options before making a decision and if the risks are serious enough to cause problems, they reject the option. They also were in agreement that their past experiences have little to do with how actively they look at risks and benefits for decisions about clients. It is of interest to note that the nursing interns from both educational training approaches affirmed that they involve others in their decision making only if the situation calls for it. As much as the innovatively and conventionally trained interns demonstrated similarities in some aspects of decision making as per the findings of the study, they also significantly differed in others. Innovatively trained Nursing Interns asserted that when a person is ill, his or her cultural values and beliefs are secondary to

the implementation of health services. They postulated that the situational factors at the time determine the number of options that they explore before making a clinical decision. Further, innovatively trained nursing interns go out of their way to get as much information as possible to make clinical decisions. They assist clients in exercising their rights to make decisions about their own care. Additionally, they listen to or consider expert advice or judgment even though it may not be the choice they would make. This is notwithstanding the fact that innovatively trained nursing interns solve a problem or make a decision without consulting anyone, using information available to them at the time. Consensus among their peer group is important to innovatively trained nursing interns in making a decision. They consider even the remotest consequences before making a choice. Last but not the least if an instructor recommends an option to a clinical decision making situation, innovatively trained nursing interns adopt it rather than searching for other options. This is in addition to their assertion that their findings of alternatives seems to be largely a matter of luck.

- Conventionally trained interns agree that looking for new information in making a decision is more trouble than it's worth. A random approach for looking at options works best for them. They don't always take time to examine all the possible consequences of a decision they must make, though they write out a list of positive and negative consequences when they are evaluating an important clinical decision. Further, conventionally trained nursing interns include clients as sources of information. They consider what their peers will say when they think about possible choices they could make and they search for new information randomly. However, they do not ask their peers to suggest options for their clinical decision. If a benefit is really great, conventionally trained nursing interns will favor it without looking at all the risks. This is in addition to the fact that when examining consequences of options they might choose, they are aware of the positive outcomes of their client. Also, they select options that they have used successfully in similar circumstances in the past. When they have a clinical decision to make, conventionally trained interns consider the institutional priorities and standards. In the clinical setting, they keep in mind the course objective for the day's experience and their professional values are inconsistent with their personal values.
- The findings confirmed that there were no significant differences between the conventionally and innovatively trained nursing interns in their perceived competence in clinical decision making. However, there was a trend toward higher function in the areas of communication, level of independence, and self-directed learning in the innovatively trained nursing interns. The innovatively trained nursing interns scored relatively higher on perceptions of their nursing knowledge, particularly in the areas of individual, family and community health decision making, communication, and the health care system, but no difference in relation to objectivity and clarity of expectations. The study has therefore showed that interns of innovative schools of nursing are comparable to those from conventional schools of nursing as perceived by self and supervisors on competence in their clinical decision making.
- The Findings and conclusions of the study suggests that there is need for a standard evaluation instrument for comparing graduates of innovative and conventional schools should be developed for evaluating their competence in clinical decision making. Further the findings show that there is a need to replicate the study using multiple instruments, which combine their perceptions as well as observations of their actual performance by their supervisors. Supervisors of nursing interns from the two training orientations should observe them on a daily basis on how they perform on competence in clinical decision making and rate them accordingly.

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