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RESEARCH ARTICLE

ASSESS SAFETY POLICIES AND PROCEDURES DURING USING NURSING CLINICAL LABORATORIES TO PROVIDE SAFETY INSTRUCTIONS IN THE NURSING LABORATORY

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ABSTRACT

Background: Assessment safety polices and procedure great importance when evaluating the expected safety outcomes in nursing college. All faculty, staff, and students must know and practice the safety guidelines at all times while using the labs. Failure to adhere to general guidelines can result in disciplinary action. **Aims:** Assess safety policies and procedures during using nursing clinical laboratories to provide safety instructions in nursing laboratory. **Methods:** To achieve aims of this study, Descriptive study. Sitting, at the faculty of nursing, Najran University, KSA. The study sample included, all the available staff who teach and supervise the medical surgical nursing (n=6) and students (n=150). One Tool was used in this study: to assess satisfaction of teaching staff and student regarding to safety in lab. **Results:** The safety measure and lab ethics obtained a satisfactory level from Medical Surgical Nursing Staff and students as indicated by (73.33%)&(66.67) (100%) & (86.67) respectively, **Conclusion:** Majority of teaching staff and students are satisfied about lab, environment &equipment safety ethical consideration in lab. **Recommendation:** Broad spectrum to all lab assessment of safety , Establish protocol for using nursing lab safety.

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INTRODUCTION

It is the intent of the faculty and administration in the Department of Nursing to provide a safe learning experience for all students (csbsjuedu, 2016). In nursing A laboratory can be a place of specialised research, clinical or diagnostic evaluation, teaching and/or learning. Laboratories are commonly used in many scientific disciplines across the University. (OHS, 2010). Staff and students receive the appropriate information, instruction and training necessary for them to perform their work safely. An induction covering information pertinent to the local area they will be working in is required; Rules and procedures are prepared and enforced for staff and students working in laboratories; Disciplinary procedures are developed for staff and students who do not comply with occupational health and safety instructions and University policies and procedures. TTUHSC: (2017) Principals of laboratory director are Ensure compliance with all safety requirements within the laboratory or laboratories. •

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Provide direction and support to the Laboratory Safety Coordinator, if one is designated, or undertake the responsibilities of the Laboratory Safety Coordinator if no one is designated for that role. • Perform a hazard assessment and develop/approve lab-specific Standard Operating Procedures for all high-risk procedures. • When it is required by the department, submit High Risk Procedure hazard assessments for departmental review and maintain documentation that this review was completed. • Before allowing minors or non-Duke employees to volunteer or work in the laboratory, 1 General Safety Chapter 2 Responsibilities [http://www.safety.duke.edu/sites/default/files2017/Workplace%20safety%20statement%20for%20minors%20and%20non-Empl Oyees% 20at% 20duke.doc](http://www.safety.duke.edu/sites/default/files2017/Workplace%20safety%20statement%20for%20minors%20and%20non-Empl%20at%20duke.doc) rules that relate to almost every laboratory and should be included in most safety policies. They cover what you should know in the event of an emergency, proper signage, safety equipment, safely using laboratory equipment, and basic common-sense rules. Lab Safety Rules and Guidelines(2017) [https://www. labmanager.com/author/lab-manager](https://www.labmanager.com/author/lab-manager) in lab. education, evaluation typically takes ; knowledge gained in the course, and the quality of student's performance in the clinical setting. (Oermann & Gaberson, 2014). Effective and accurate clinical teaching and evaluation should be of concern to all nursing faculties and clinical instructors.

Students are difficult to manage with large groups of students so that the lab is important (Eldarir & Abd el-Hamid, 2013). Advantages such as improving students' clinical performance, preparing highly qualified and competent graduates, increasing decision making abilities and enhance teaching level. Therefore improving the quality of reliable technique uniquely capable of assessing many fundamental clinical skills that are not being assessed in a rigorous way in most undergraduate. Eldarir & Abd el-hamid, 2013).

Aims of the study

Assess and Established Laboratories policies and procedures to provide instructions in maintaining safety for students, staff and faculty while using the nursing laboratory

Subjects and Methods

Descriptive study design was utilized co relational study will be utilized to conduct this study two study subjects were included in this study. The first group included all the available clinical staff who teach and supervise the medical surgical students (n=6).

The second group included all students consisted of medical surgical nursing in the academic year (1437-1438) in the faculty of nursing, Njran University. (n=150). students had been assessed for safety policies and procedure in first aid, health assessment and fundamental, medical –surgical and critical nursing. so they can give us a comprehensive over view regarding safety policies and procedure in Medical – Surgical Laboratories.

Setting: The study was conducted the faculty of nursing, Njran University. These labs. were divided into 6 labs. First aid and health assessment which in conclude different models, instruments and devices for training on first aid procedure as CPR and health assessment to assess body from head to toe, Fundamental –nursing lab. which was provided with different models, instruments and devices for training on basic nursing skills such as injection, taking vital signs, bed making ...etc. Medical –surgical nursing lab where students were trained on advanced nursing procedures such as insertion and care of urinary catheter, wounds care, surgical suturing, laryngeal Care.. etc. And also there are anatomical models represent combinations of all the organs of the body.

Critical care and emergency lab, which incorporates various medical instruments, as well as models such as suction devices, lungs CPR Model and ECG.. etc. pediatric and obstetric lab. According to "NORMS", where each student has (4m2) in the practical faculties and (5m2) in the theoretical facilities. The capacity of both Medical –surgical & Critical care and emergency labs. is approximately 12 student. While the capacity of Fundamental –nursing lab. is approximately 24 student.

Data collection' Tools: One tools were designed by the researcher and revised by the consultants:

1st part: Interview Questionnaire Sheet which was developed by the researchers to assess safety policies and procedure in faculty laboratory filled teaching Staff, their Students.

(2nd part: contain three parts, Part I): **A- Demographic data sheet** which was developed by the researcher to cover areas related to Staff 's demographic data including ; age, scientific degree, training programs and experience years in clinical training.... etc.

Questionnaire sheet which was developed by the researcher to assess teaching Staff regarding current clinical safety polices and procedure in laboratories including the following:

- **Lab. Environment:** This point consisted of (7) items which were adapted from (Abd-El Gawad, et al., 2012) and modified by the researcher through review of literatures.
- **safty Lab. Equipment and Resources:** This point consisted of (8) items which were adapted from (Serag, et al., 2004) and modified by the researcher through review of literatures.
- **Compliance of Security and safety precautions inside the Lab:** This point consisted of (7) items which were developed by the researcher through review of literatures.
- **Compliance of Lab. Ethics:** This point consisted of (10) items which were adopted from (Tolhurst, 2010).

Part II.

Questionnaire sheet which was developed by the researcher to assess previous mentioned levels student's satisfaction regarding current polices and procedure inmedical surgical laboratories.

Procedure

Regarding the planning phase: it started from august 2016 to December 2016 covering 3 months and included the following: Reviewing related concerning the topic of the study. After that to fulfill the aims of the study, two different tools were designed by the researchers team and revised by the consultants, also content validity and expert's opinion were taken into consideration and the needed modifications were carried out., and Face Validity of the tools was examined through a jury of five experts. The implementation and data collection phase, data collection was carried out using the designed tools through the previous mentioned period For all levels groups ;Concerning staff, the data collected before, after and between their theoretical and practical class hours according to their work time, taken the all number of teaching staff, every person had taken from 10 to 15 minutes for filling the questionnaire. For nursing student group, The data collected during their free time and taken from 15 to 30 minutes for filling the questionnaire.

RESULTS

Findings of the current study are presented and categorized as follows: **Table (1)** indicates that, Majority (83.4 %) of Medical Surgical Nursing Staff age more 35year, were married. Regarding Scientific Degree, they are various every degree was (33,3%). But the years of their experience was majority above 5 years (, one of them had training Programs Related to safety. **Table (2)** shows that, more than half (68.0%) of Medical Surgical Nursing Students were aged less than twenty years with the mean age (19.32 ± 0.47). About two- third of them (65.3%) were females.

Part I. Distribution of socio-demographic characteristics of studied sample

Table 1. Frequency Distribution of Socio Demographic Characteristics of Medical Surgical Nursing Staff (n=6).

Socio Demographic Characteristics	No.	%
Age/Year		
< 25.	1	36.7
25-35.	0	0
>35.	5	63.3
Scientific Degree		
Lecturer	1	16.7
Assesstant prof	2	33.3
Trainer	3	50
Experience Years in Clinical Evaluation		
More than 5.	5	83.3
1-5	1	16.7

Table 1. Indicates that, Majority (63.3 %) of Medical Surgical Nursing Staff age more 35year, were married. Regarding Scientific Degree 50 % trainer, the years of their experience was majority above 5 years .

Table 2. Frequency Distribution of Socio-Demographic Characteristics of Students (n= 150).

Socio-Demographic Characteristics	No.	%
Age / year		
< 20	102	68.0
≥20	48	32.0
Marital Status		
Married	16	10.7
Unmarried	134	89.3

Table (2) shows that , more than half (68.0%) of Medical Surgical Nursing Students were within 20 years . While majority of them (89.3%) were unmarried.

Table 3. Relation between Staff & clinical instructors and Student's Satisfaction Regarding the safety

	Medical Surgical Nursing Staff (n=6)		Medical Surgical Nursing Students(n=150)		X ²	P- value
	No.	%	No.	%		
Very satisfactory					13.89	The Clinical Course .001**
Satisfactory	2.67	66.67		16.67		
Unsatisfactory		30.67		10		

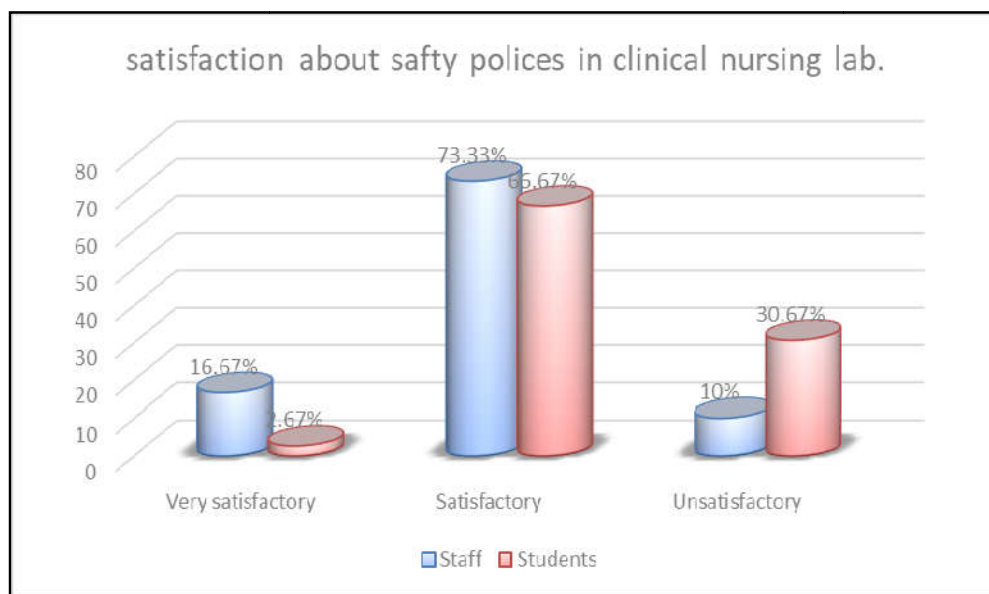


Fig. 2. Portrays that, The safety measure obtained a satisfactory level from Medical Surgical Nursing Staff as well as Medical Surgical Nursing students as indicated by (73.33%) & (66.67) respectively



Fig (3) shows that, the lab ethics to obtained a satisfactory level from Medical Surgical Nursing Staff and student Nursing students as indicated by (100%) & (86.67) respectively was satisfied

While majority of them (89.3%) were unmarried. And all of them (100.0%) were newly enrolled in the 2nd academic year of the faculty. Table(19) indicates that, There was a high statistical significance differences between Medical Surgical Nursing Staff & clinical instructors Students and Lab Technician's Satisfaction Regarding Clinical Lab. Environment at $p < 0.001$. While there was a statistical significance differences regarding Compliance of Security and safety precautions inside the lab. at $p < 0.05$. While there was no statistical significance differences regarding Lab. Equipment's and resources at $p > 0.05$. Table (27) shows that, There was a statistical significance differences between Medical Surgical Nursing Staff & clinical instructors and Student's Satisfaction Regarding Clinical Evaluation Sheet & Quality of Performance Testing at $p < 0.05$. as well as Clinical Evaluation Sheet at $p < 0.001$.

RESULTS

- The safety measure obtained a satisfactory level from Medical Surgical Nursing Staff as well as Medical Surgical Nursing students as indicated by (73.33%) & (66.67) respectively
- lab ethics to obtained a satisfactory level from Medical Surgical Nursing Staff and student Nursing students as indicated by (100%) & (86.67) respectively was satisfied

DISCUSSION

The study revealed that more than half of Medical Surgical Nursing teaching Staff and aged more than 35) years. Regarding Scientific Degree, majority of them were trainer (50%). This may be due to needs of nursing student education for more training and application. This finding goes in accordance with (Eldarir ,et al. ,2010) more than two thirds of their study group were clinical

instructors and assistant lecturers, while the other one third was faculty staff members. Regarding Medical Surgical Nursing Students, the study revealed that majority of them were aged more than twenty year, from level 5 and unmarred .this may due to the large number of student in this level and study in the department this agree with (Shalby 2019) who report the study sample age in the same age Concerning Clinical Lab. Environment safety, The results of the present study revealed that, Clinical Lab. Environment including safety, adequate lightening, cleanliness and well ventilation were satisfactory by majority of studied subjects. this may due to arrange safety measure in faculty especially in lab. So that students interested in clinical laboratory training.

These findings was supported and confirmed with the accreditation of the faculty program and buildings . On the same line with (Maher 2016) and Jones (2010) found in his study about the best training environment that, The laboratory provide a safe environment for nursing students to practice their clinical performance skills. also Moreover, Smith & Crawford (2007) found in their study about nursing student's clinical training in absence of the good preparation of the laboratory that, This makes students not interested in clinical laboratory training .On the other hand, Majority of study subjects were dissatisfied with capacity of clinical lab. in relation to number of students and indicated that lab. environment is not quiet .This could be due to large number of students and this is why students were divided into small groups according to capacity of lab. and based on NORMS, where each student has (4m²) in the practical faculties and (5m²) in the theoretical facilities .

Concerning Lab. Safety use of Equipment's and Resources, The results of the present study revealed that, majority of study subjects were satisfied with quality, storage, maintenance as well as adequacy of lab.

Equipment's and resources . These findings might be staff and student compliance system to use and arrangement of using equipment in lab. So that the studied sample satisfied On the same line, Kleiner (2010) stated in his study about benefits of clinical training that, The students must apply all procedures in the modern laboratory skills more than three times for each procedure and maintain equipment after use . Also Jolly and Ress (2009) stated in their study about associations between teacher personality and student skills that, The teacher must trained the students in all safety procedures on the modern laboratory skills for good performance assurance . In the opposite, Williams (2005) who mentioned in his study about the under graduated nursing students clinical performance that, Not all procedures must be applied in the modern laboratory skills Concerning Compliance of Lab. Ethics,

The results of the present study revealed that, Compliance of Lab. Ethics was satisfactory by majority of study subjects this might be due to respectation of all staff and student to ethics in in lab . This results matches the guidelines that were set by Tolhurst, 2010 regarding student's attitudes in clinical laboratories. But they also indicated that there were some points sometimes not followed inside lab as compliance of time schedule, closing mobile, keeping calm as well as avoidance of entering any bags or clothing inside the lab. Concerning Compliance of Security and Safety Precautions Inside Lab., The results of the present study revealed that, Compliance of Security and Safety Precautions was satisfactory by majority of study subjects. This indicating high level of awareness regarding security and safety precautions by lab. Users in case labeled it on door also this with (Mahdy etal 2019).

Conclusion

Majority of teaching staff and students are satisfied about lab, environment &equipment safety ethical consideration in lab .

Recommendation

- Broad spectrum to all lab . assessment of safety
- Establish protocol for using nursing lab. safety

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