ORIGINAL ARTICLE

Assessment of knowledge and skills of nursing staff working in a tertiary care hospital of Western Uttar Pradesh

Peeyush Kariwala[1], Anand Mohan Dixit[2], Pankaj Kumar Jain[3], Vidya Rani[4], Dhiraj Kumar Srivastava[5]

[1]Assistant Professor, Department of Community Medicine, Dr. Ram Manohar Lohia Institute of Medical Sciences, Lucknow, Uttar Pradesh; [2]Associate Professor , Department of Community Medicine, Uttar Pradesh University of Medical Sciences, Saifai, Etawah, Uttar Pradesh;[3]Professor and Head, Department of Community Medicine, Uttar Pradesh University of Medical Sciences, Saifai, Etawah, Uttar Pradesh;[4]Professor , Department of Community Medicine, Uttar Pradesh University of Medical Sciences, Saifai, Etawah, Uttar Pradesh;[5]Associate Professor, Department of Community Medicine, Uttar Pradesh University of Medical Sciences, Saifai, Etawah, Uttar Pradesh

| Abstract | Introduction | Methodology | Results | Conclusion | References | Citation | Tables / Figures |

Corresponding Author

Address for Correspondence: Dr. Anand Mohan Dixit, Associate Professor, Department of Community Medicine, Uttar Pradesh University of Medical Sciences, Saifai, Etawah, Uttar Pradesh
E Mail ID: dnana2791@gmail.com

Citation

Article Cycle

Abstract

Background: Nurses are the most vital part of the health system. Having adequate knowledge, awareness and desired clinical skills among them can decrease the risk of infection or complications, can shorten the stay of patients in hospital, decrease the morbidity and mortality of patients and decrease the disease burden.**Material & Methods**- Nursing staff from the wards of a private tertiary care hospital were interviewed for knowledge and observed for skill assessment. **Aim & Objective**: To assess the knowledge, skills and practices of nursing staff working in a tertiary care hospital. **Results:** Knowledge of nurses is good regarding routine investigations, universal precautions, work ethics but poor in pharmacovigilance. Nurses are found to be good having skills in patient care, clinical skills but are poor in practice of biomedical waste management and vital monitoring. Nurses are having good communication with patient &doctors but response time on patients' call is more.**Conclusion:** Retraining of nursing staff at regular intervals to upgrade their knowledge regarding universal precautions, work ethics, bio medical waste management and improve upon clinical skills should be made mandatory in a hospital setting.

Keywords

Introduction

Nurses are the important members of health team. In recent years, health care settings are more dynamic and the role of nurses has expanded rapidly. Nurses are confronted daily with a situation in which difficult decisions have to be made. (1, 2)

Nurses are caregiver, they provide hands on care to patients (3). Nurses are decision maker, as sometimes they have to make critical decision, set goals, and promote outcomes for patients. As a communicator, they have to effectively communicate with doctors, patients and patients family members; as a patient advocate, the nurse's responsibility is to protect a patient's rights, act on patients behalf, and support their decisions. (4) Health systems can satisfy their clients by promotion of their nurses' clinical competencies. (5)

The purposeful regular assessment of nurses can increase efficacy as it will tell/show us the conditions/performance of nurses and the educational/technical need required to improve them. Assessment/Evaluation of nurses helps us to update, promote, and coordinate their functions with rapid changes.(6) Therefore, each nurse needs assessment for his/her professional and personnel growth.(7,8)

Therefore, with regard to above-mentioned issues, this study was aimed for assessment of nurses on various parameters. Lack of knowledge, awareness or skills among them can increase the risk of infection or complications, can prolong the stay of patients in hospital, increase the morbidity and mortality of patients and increase the disease burden.

Aim & Objectives

To assess the knowledge, skills and practices of nursing staff working in a tertiary care hospital

Material & Methods

The study was carried out in a private tertiary care hospital of Western Uttar Pradesh. Purposive sampling was done to select study populations keeping in mind the resources, feasibility and logistics. Study population comprised of all nurses working in the various wards of the hospital and were thought to be sufficient to meet the required sample size to fulfil the objectives of the study. One hundred twenty eight nurses participated in the study.

Inclusion criteria were the desire to participate in the study, having a GNM/BSc degree in nursing and working in the hospital ward. Multiple wards were taken from the hospital.

Ethical approval: Approval for study was obtained from the Medical Superintendent of the hospital. Ethical issues were raised by taking verbal consent for participation from every nurse after explaining them the aims of the study and confirming confidentiality of data. Nurses were explained that the participation is voluntary and they have right to withdraw from the study at any time.

A pilot study was carried out in order to test clarity and applicability of tool and also to estimate the needed time to fill it. The validity of the questionnaire was done by submitting it to three experts from nursing administration, community health and a general physician from medical college.

Questionnaire had 3 parts. First one contains questions related to assessment of knowledge, second one observation of skills and practices and third one regarding behaviour, communication and managerial skills of nurses. In context of knowledge questions each for routine investigations (Urine, blood, Ultrasound etc.), universal precautions (hand washing practices, use of gloves, gown & mask, disposal of sharps, prevention of needle stick injury, knowledge about exposure reporting etc.) were asked. In addition, questions concerning handling of bio medical waste (colour coding system), work ethics and pharmacovigilance were asked. Response were recorded as score of zero (Not having correct knowledge) & one (having correct knowledge). Then the total of all responses were put as excellent, good, average, poor & very poor based upon the total cumulative score of correct knowledge in more than 80% questions, 61-80%, 41-60%, 21-40% & 0-20% questions respectively. Skills and practices were assessed by observing nurses' skills in taking vitals (blood pressure, pulse, respiratory rate, temperature), collection of blood sample, patient hygiene and nursing care (timely recording of vitals, timely dispensing of drugs, dressing & sponging if required, patient counselling etc.). Scoring was done in the same pattern as in knowledge (Excellent, good, average, poor & very poor).

Managerial skills (maintenance of patient's records), communication skills (with doctors/staff, patients & their attendants), response time for reaching to patient on call were also recorded. Attitude towards patients and his attendants were asked from patients/attendants themselves. Communication with doctors & supporting staff was ascertained from doctors, post graduate students of that particular ward.

The data collected were recorded into excel sheet and analysed using SPSS version 23. Data was analysed using Chi Square test to draw results and inference.

Results

One hundred twenty eight nurses participated in the study. All participants were female.

When we assessed the knowledge about routine investigations, out of 128 nurses 60 (46.8%) had scored more than 60% (Good/Excellent). Knowledge related with universal precautions was quite fair among nurses as 62.5% respondent scored good and excellent level. In knowledge regarding bio medical

waste management, 59 nurses (46%) scored 40% or less (poor and very poor). Work ethics were well known issue among nurses as 80.47% nurses scored more than 40%. Pharmacovigilance was not well addressed among nurses as only 18 (14%) nurses scored above 60% while 66.3% showed average and below level of knowledge. Scoring of knowledge for given components was statistically found to be significantly different among participants (p<0.001) (Table 1)

The second section of the questionnaire contained questions related to assessment of skills and practices of nurses. In reference to skill in monitoring of vitals, more than half of nursing staff (57.8%) scored as having poor or very poor skill. Only less than one-tenth (9.38%) had excellent skills in monitoring vitals. In reference to patient care 54.69% & 23.44% nurses achieved excellent & good score. Clinical skills (skill of sample collection and cannula insertion) were above average level in 108 (84.38%) nurses. Practices of Bio medical waste (BMW) management were poor among nurses as more than half (60.93%) participants scored poor and very poor. Practices regarding universal precaution scored good and average in 39.06% and 23.44% nursing staff respectively. (Table 2). Scoring of Skill and practices were significantly different for the given domain (p<0.001).

Third section of questionnaire was related with record maintenance management & communication skills with patient and rapport with supporting staff. Less than half (45.32%) of nurses were good in managing patient's records while only 7.81% were very poor in it. Nurses' communication with doctors was excellent in 45.31% & good in 23.44%. Attitude of nurses towards patient attendants was found to be good in 58.59% & average in 19.53%. More than two-third of the nurses (70.31%) had good rapport with supporting staff. (Table 3)

Discussion

Present study was focused on knowledge and practices of nurses in a tertiary care hospital related with different domains of professional work. In context to bio medical waste management in present study, 38.28 % nurses achieved good and excellent score, at the same time slight less than half (46.09%) scored poor and very poor. Sengodan VC *et al* (9) in their study reported that mean score of nurses was 7.6 out of 10While RekhaAcharya *et al* (10) reported that majority (79.4%) of study

population had fair to good overall knowledge whereas in our study only slight more than half (53.8%) of study population had above average level of awareness regarding various aspects of biomedical waste management. MohdShafee (11) reported approximate same level of knowledge regarding bio-medical waste as 266 (53.2%) study subjects knew about BMW correctly.

In a study by Jaydeep J devalia*et al* (12) all the nurses knew that HIV is transmitted by parenteral route while only 20 nurses (39%) knew that Hepatitis C is also transmitted through blood. Current study find out practice of universal precaution was good and excellent in 80 participants (62.51%). This figure is comparable to Kotwal A *et al* who reported that 64% nurses shows compliance in hand washing. (13). Paul B *et al*. (14) reported higher level of hand washing compliance (92%) among nurses

In a study by Hafizullah Fayaz (15) among 300 respondents, the mean knowledge score was 5.2 with a standard deviation (SD) of 1.5. There were no associations between the knowledge and self-reported practice of universal precautions. However, in our study, we found that 62.51 % nurses have excellent/good knowledge regarding universal precautions and 56.25% are also practicing it with excellent or good score.

Fatma *et al* (16) found that 63.3% nurses had satisfactory knowledge about work ethics. The current study shows almost similar level of knowledge. It shows that 68.7% nurses had good and above level of scoring in reference of work ethics.

Conclusion

Knowledge of nurses is good regarding routine investigation, universal precautions, work ethics but poor in pharmacovigilance. Nurses are found to be good having skills in patient care, clinical skills but are poor in practice of biomedical waste management and vital monitoring. Nurses are having good communication with patient &doctors but they take more time to respond to patient.

Recommendation

Retraining of nursing staff at regular intervals to update their knowledge regarding universal precautions, work ethics, bio medical waste management and to improve upon clinical skills should be made mandatory in hospital settings. They must also be trained in management skills and communication skills.

Limitation of the study

The present study was conducted in only one tertiary hospital in western Uttar Pradesh.

Relevance of the study

In this study we assessed the knowledge along with practice and behavior of nurses.

Authors Contribution

All authors contributed significantly in the study.

Acknowledgement

Brig.(Dr.) Shyam Kumar Handa for his constant guidance during study.

References

1. Phillips JL, Piza M, Ingham J. Continuing professional development programmers for rural nurses involved in palliative care delivery: An integrative review. Nurse Educ Today 2012; 32:385-92.
2. Griscti O, Jacono J. Effectiveness of continuing education programmes in nursing: literature review. J Adv Nurs. 2006 Aug;55(4):449-56. Review. PubMed PMID: 16866840.[PubMed].
3. U. Remya, Legal, Ethical knowledge of nurses caring for children, Nightingale nursing times, 2011 7(9), 27.
4. Teymoorzadeh E, Rashidian A, Arab M, Akbari Sari A, Ghasemi M. Ezposure to psychological violence among the nursing staff in a large teaching hospital in Tehran. Public Health Sci J SchInst Public Health Res 2009;7:41-9.
5. Ghalje M, Chaljae F, Mazlum A. Association between clinical competency and patient's satisfaction from nursing care. Journal of Nursing and Midwifery, ShahidBeheshti University of Medical Sciences and Health Services 2009;18:12-9.
6. Patelarou E, Vardavas CI, Ntzilepi P, Sourtzi P. Nursing education and practice in a changing environment: the case of Greece. Nurse Educ Today. 2009 Nov;29(8):840-4. doi: 10.1016/j.nedt.2009.04.005. Epub 2009 May 13. PubMed PMID: 19443089.[PubMed].
7. Ibrahim SA, Mahran SM. Attributes of nursing staff development in Port Said hospitals. J Nurses Staff Dev. 2010 Jan-Feb;26(1):E6-E13.   doi: 10.1097/NND.0b013e3181a689a1. PubMed PMID: 20098164.[PubMed]
8. Hayajneh F. Attitudes of professional Jordanian nurses toward continuing education. J Contin Educ Nurs. 2009 Jan;40(1):43-8. PubMed PMID: 19226999.[PubMed]
9. Sengodan VC, Amruth K H. Knowledge attitude and practice study on biomedical waste management among health care professionals and paramedical students in a Tertiary Care Government Hospital in South India. Int J Env Health Eng [serial online] 2014 [cited 2017 Aug 28];3:11. Available from: http://www.ijehe.org/text.asp?2014/3/1/11/132683.
10. Rekha Acharya, Gaurav Sharma, RenuSethia, RattiramMeena. A cross sectional study amongst paramedical workers and nursing students regarding awareness of various aspects of biomedical waste (management and handling) rules. International Journal of Community Medicine and Public Health. 2016 ; 3(1) :303-306
11. Mohd Shafee, KasturwarNB,Study of Knowledge, Attitude and Practices Regarding Biomedical Waste among Paramedical WorkersIndian Journal of Community Medicine/2010;35(2):369-370.
12. Jaydeep J devalia, Keyurbrahmi*et al*. A Study on Knowledge, Attitude and Practice (KAP) of Universal Precautions in The Nursing Staff of Tertiary careHospital.Scholars Journal of Applied Medical Sciences. 2016; 4(7A):2368-2371.
13. Kotwal A, Taneja D. Health Care Workers and Universal Precautions: Perceptions and Determinants of Non-compliance. Indian J Community Med. 2010 Oct;35(4):526-8. doi: 10.4103/0970-0218.74373. PubMed PMID: 21278878; PubMed Central PMCID: PMC3026136.[PubMed].
14. Paul B, Pawar A, Kumar D, Sujesh PK; A Study on Knowledge, Attitude and Practice of Universal Precautions among Medical and Nursing Students. Sch. J. App. Med. Sci, 2014; 2(5E):1821-1823.
15. Hafizullah Fayaz, Michiyo Higuchi, Hirosawa T, Hamajima N Knowledge and practice of universal precautions among health care workers in four national hospitals in Kabul, Afghanistan.J Infect DevCtries 2014; 4(8):535-542.
16. Fatma Elemam Hafez *et al* Assessment of Nurses' Knowledge and Practice Regarding Professional Ethics in Outpatient Clinics at Mansoura University Hospital. IOSR Journal of Nursing and Health Science e-ISSN: 2320–1959.p-ISSN: 2320–1940 2016;5(6)VII:20-28.

Tables

TABLE 1ASSESSMENT OF KNOWLEDGE AMONGST NURSING STAFF (N=128)

Knowledge regarding	Excellent (>80%)	Good (61 – 80%)	Average (41 – 60%)	Poor (21 – 40%)	Very poor (0 – 20%)
Routine Investigations	24 (18.75%)	36 (28.13%)	29 (22.65%)	28 (21.88%)	11 (8.59%)
Universal precautions	60 (46.88%)	20 (15.63%)	19 (14.84%)	18 (14.06%)	11 (8.59%)
Bio medical waste management	16 (12.5%)	33 (25.78%)	20 (15.63%)	44 (34.37%)	15 (11.72%)
Work ethics	37 (28.90%)	51 (39.85%)	15 (11.72%)	10 (7.81%)	15 (11.72%)

Pharmacovigilance	8 (6.25%)	10 (7.8%)	25 (19.53%)	31 (24.22%)	54 (42.18%)

$X^2 – 185.49$ df- 16 p<.001

TABLE 2 SKILLS& PRACTICES AMONGST NURSING STAFF (N=128)

Skills & practices	Excellent (>80%)	Good (61 – 80%)	Average (41 – 60%)	Poor (21 – 40%)	Very poor (0 – 20%)
Monitoring of vitals	12 (9.38%)	17 (13.28%)	25 (19.53%)	41 (32.03%)	33 (25.78%)
Patient hygiene and nursing Care	70 (54.69%)	30 (23.44%)	12 (9.36%)	6 (4.69%)	10 (7.82%)
Clinical skills	45 (35.16%)	47 (36.72%)	16 (12.5%)	10 (7.81%)	10 (7,81%)
Biomedical waste	26 (20.32%)	8 (6.25%)	16 (12.5%)	10 (7.81%)	68 (53.12%)
Universal precaution	22 (17.19%)	50 (39.06%)	30 (23.44%)	16 (12.5%)	10 (7.81%)

X^2 -261 df- 16 p<.001

TABLE 3 ASSESSMENT OF NURSES REGARDING MANAGEMENT SKILLS, COMMUNICATION WITH STAFF & PATIENTS (N=128)

	Excellent (>80%)	Good (61 – 80%)	Average (41 – 60%)	Poor (21 – 40%)	Very poor (0 – 20%)
Record maintenance	10 (7.81%)	58 (45.32%)	35 (27.34%)	15 (11.72%)	10 (7.81%)
Response time on patient call	30 (23.44%)	18 (14.06%)	42 (32.81%)	28 (21.88%)	10 (7.81%)
Communication with doctors	58 (45.31%)	30 (23.44%)	10 (7.81%)	20 (15.63%)	10 (7.81%)
Attitude towards patient attendants	12 (9.38%)	75 (58.59%)	25 (19.53%)	10 (7.81%)	6 (4.69%)
Rapport with supporting staff	10 (7.81%)	80 (62.5%)	18 (14.06%)	12 (9.38%)	8 (6.25%)