

Knowledge and practice of nursing personnel about Universal Precautions at secondary level hospital

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Abstract—In India, Universal precautions have to followed as per CDC guideline to prevent nosocomial infection. Health personals specially nursing personals are on direct risk of nosocomial infections. HIV is one the nosocomial infection which has its very bed prognosis. So this study was designed to know the knowledge and practice of nursing personals of a secondary level hospital. For this study 100 nursing personals were selected from district hospital Dausa Rajasthan. These 100 nursing professionals were supervised for practice and interrogated for knowledge as per a semi-structured schedule. This study observed that each one of nursing personal had knowledge of hand washing and 97% had knowledge of use of gloves followed by proper disposal of dressings (86%), proper disposal of needle (81%) and proper disposal of BMW (74%). Less than 60% had knowledge of use of apron and use of needle shredder. They were having very little knowledge of use of eye protection (5%) and use of mask (27%). None of the nursing personals having knowledge of use of foot protection. Moreover proper disposal of dressings (86%) was practiced by 72% followed by proper disposal of needle (69%), hand washing (62%), use of gloves (56%) and proper disposal of BMW (46%). Less than 40% practiced the use of apron and use of needle shredder. None was using device for eye protection and foot protection. Gap between knowledge and practice of UPs maximum gap in percentage was found in using eye protection devices, use of mask and use of needle shredder. So motivation of these nursing personal is need for that trainings may be arranged.

Keywords: Universal Precautions, Knowledge and Practices.

I. INTRODUCTION

Universal precautions refers to the practice, in medicine, of avoiding contact with patients' bodily fluids, by means of the wearing of nonporous articles such as medical gloves, goggles etc. The practice was introduced in 1985–88.^{1,2} In 1987, the practice of universal precautions was adjusted by a set of rules. In 1996, both practices were replaced by the latest approach known as standard precautions.³ Use of personal protective equipments are now recommended in all health settings.

Healthcare workers (HCWs) are potentially exposed to blood and body fluids (BBF) in the course of their professional work and therefore are at risk of infection with blood-borne pathogens. Worldwide, three million HCWs experience percutaneous exposure to blood-borne viruses each year (two million hepatitis B, 900,000 hepatitis C and 300,000 human immunodeficiency virus).⁴ Exposure to BBF can occur through a percutaneous injury (needle-stick injury, NSI) or mucocutaneous incident (BBF splash). Awareness regarding this occupational risk is narrated in issue of guidelines by CDC as universal precautions (UPs) in 1987, later these were updated in year 1996.⁵

Despite of detailed CDC guidelines given regarding UPs for a so long time, the knowledge and practice of UPs among HCWs even in developed countries has been found to be inadequate.⁶ In developing

countries, including India, the situation is worse and occupational safety of HCWs remains a neglected issue.^{7,8}

So this present study was carried out in a district hospital with the aim to know the knowledge and practice regarding universal precautions in nursing personals.

II. METHODOLOGY

A descriptive observational study was conducted to know the knowledge and practice of nursing personnel regarding universal precautions. Study was conducted in R.K. District Hospital (Rajasthan) India in year 2017.

For this study, sample size was calculated 100 health care personnel at 95% confidence limit and 20% relative allowable error assuming a correct knowledge in 50% of nursing personnel.

A semi-structured schedule was introduced which was having three major parts. Part (1) includes personnel's information regarding socio-demographic data, professional experience etc. Part (2) consist of 10 questions regarding universal precautions. Part (3) answers of observations regarding observing practices of universal precautions of nursing personals.

Data thus collected were compiled in Microsoft Excel in the form of master chart. These data were analyzed and inferred with the help of Microsoft Excel 2010 and statistical software Primer Version 6. Results were expressed in percentage.

III. RESULTS

In this study nursing personnel were having mean age 42.8 years ranging from 26 to 59 years with slight female predominance, professional years 17.6 years ranging from 1.8 years to 34 years.

Regarding assessment of knowledge of UPs among nursing personals, each one had knowledge of hand washing and 97% had knowledge of use of gloves followed by proper disposal of dressings (86%), proper disposal of needle(81%) and proper disposal of BMW (74%). Less than 60% had knowledge of use of apron and use of needle shredder. They were having very little knowledge of use of eye protection (5%) and use of mask (27%). None of the nursing personals having knowledge of use of foot protection. (Table 1)

Table 1
Knowledge of Universal Precautions of study population (N=100)

S. No.	Variables	Correct Knowledge	% Correct Knowledge
1	Hand Washing	100	100
2	Use of Gloves	97	97
3	Use of Apron	58	58
4	Use of Mask	27	27
5	Use of Eye protection	5	5
6	Use of Foot protection	0	0
7	Use of Needle Shredder	58	58
8	Proper Disposal of Needle	81	81
9	Proper Disposal of dressings	86	86
10	Proper Disposal of other Biomedical Waste	74	74

Regarding assessment of practice of UPs among nursing personals, proper disposal of dressings (86%) was practiced by 72% followed by proper disposal of needle(69%), hand washing (62%), use of gloves (56%) and proper disposal of BMW (46%). Less than 40% practiced the use of apron and use of needle shredder. None was using device for eye protection and foot protection. (Table 2)

Table 2
Practice of Universal Precautions by study population (N=100)

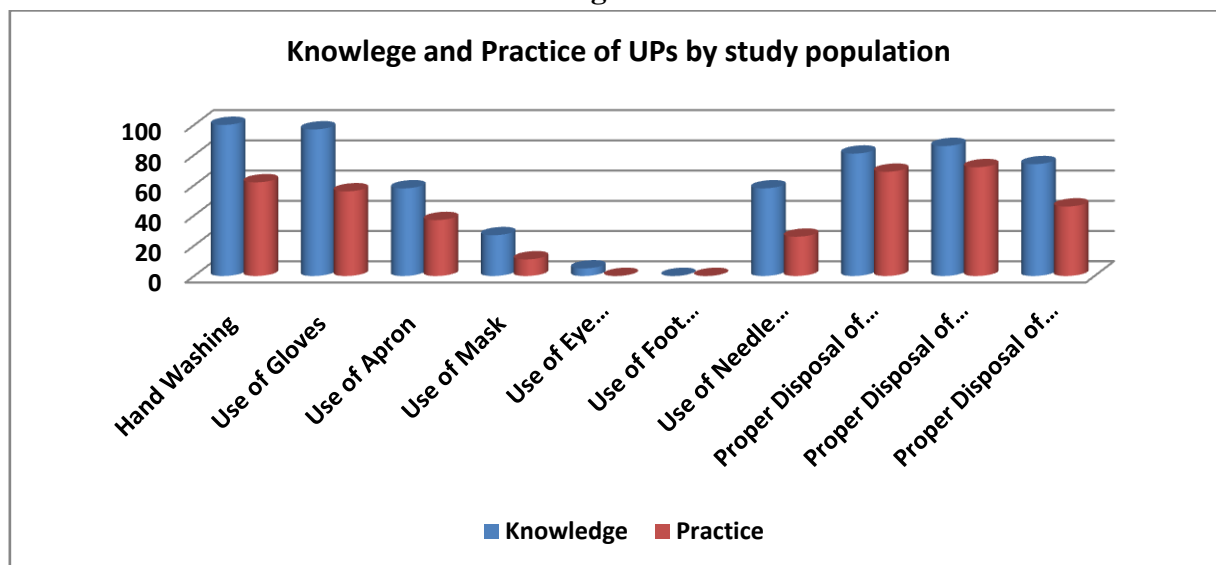
S. No.	Variables	Number practiced	% Practiced
1	Hand Washing	62	62
2	Use of Gloves	56	56
3	Use of Apron	37	37
4	Use of Mask	11	11
5	Use of Eye protection	0	0
6	Use of Foot protection	0	0
7	Use of Needle Shredder	26	26
8	Proper Disposal of Needle	69	69
9	Proper Disposal of dressings	72	72
10	Proper Disposal of other Biomedical Waste	46	46

On further analysis for gap between knowledge and practice of UPs among nursing personals, beside use of eye protection maximum gap in percentage was found in use of mask and use of needle shredder. (Table 3 & Figure 1))

Table 3
Gap between knowledge and practice of universal precautions among Study Population (N=100)

S. No.	Variables	Correct Knowledge	Correct practiced	Gap	Gap Percentage in Knowledge and Practice
1	Hand Washing	100	62	38	38
2	Use of Gloves	97	56	41	42.3
3	Use of Apron	58	37	21	36.2
4	Use of Mask	27	11	16	59.3
5	Use of Eye protection	5	0	5	100.0
6	Use of foot protection	0	0	0	0
7	Use of Needle Shredder	58	26	32	55.2
8	Proper Disposal of Needle	81	69	12	14.8
9	Proper Disposal of dressings	86	72	14	16.3
10	Proper Disposal of other BMW	74	46	28	37.8

Figure 1



IV. DISCUSSION

The current study found that each one of nursing personal had knowledge of hand washing and 97% had knowledge of use of gloves followed by proper disposal of dressings (86%), proper disposal of needle(81%) and proper disposal of BMW (74%). Less than 60% had knowledge of use of apron and use of needle shredder. They were having very little knowledge of use of eye protection (5%) and use of mask (27%). None of the nursing personals having knowledge of use of foot protection. But regarding practice of UPs among nursing personals, proper disposal of dressings (86%) was practiced by 72% followed by proper disposal of needle(69%), hand washing (62%), use of gloves (56%) and proper disposal of BMW (46%). Less than 40% practiced the use of apron and use of needle shredder. None was using device for eye protection and foot protection. On further analysis for gap between knowledge and practice of UPs among nursing personals, beside use of eye protection maximum gap in percentage was found in use of mask and use of needle shredder.

A study conducted by Kotwal A etal⁹ reported that most of the Health care workers (HCWs) in an urban tertiary health care facility (HCF) in India possessed incomplete knowledge, as shown by other studies also in developed⁶ as well as developing countries, including India.^{7,8}

Kotwal A etal⁹ reported hand washing by 64%, use of gloves by 80%, 20% were using apron and mask by 48% but none was wearing device for eye protection. These findings are in line of findings of present study.

Present study findings of a low level of practice of UPs among nursing personals have also been noted in other studies.^{6,7,10} It seems probable that an incomplete understanding of the principles underlying UPs among urban tertiary HCWs affected their practices and led to reduced compliance than expected in this group.

Vez K etal¹¹ reported that 64.0% of the respondents were very knowledgeable of universal precautions whereas Offi AN etal¹² reported that The nurses had a poor knowledge about universal precautions as only 34.2% of nurses had heard about universal precautions. Other study reported that doctors were better than nurses in almost all aspects of compliance except hand washing, as shown by other studies too.¹³

The level of compliance seen in this study could also be due to the low level of training received by the HCWs and the low availability of equipment, as shown by other studies.¹⁴ So to improve this knowledge and practice of UPs among nursing personals various motivational trainings may be arranged.

V. CONCLUSION

This study concludes that each one of nursing personal had knowledge of hand washing and majority had knowledge of use of gloves, proper disposal of dressings, proper disposal of needle and proper disposal of BMW. Less than 60% had knowledge of use of apron and use of needle shredder. They were having very little knowledge of use of eye protection and use of mask. None of the nursing personals having knowledge of use of foot protection. Moreover regarding practice of UPs among nursing personals, proper disposal of dressings was most practiced followed by proper disposal of needle, hand washing, use of gloves and proper disposal of BMW. Less than 40% practiced the use of apron and use of needle shredder. None was using device for eye protection and foot protection. On further analysis for gap between knowledge and practice of UPs among nursing personals, beside use of eye protection maximum gap in percentage was found in use of mask and use of needle shredder. So on-service trainings may be arranged for nursing personals.

CONFLICT OF INTEREST

None declared till now.

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