Research Paper Nursing

A study to assess the level of knowledge regarding Post Exposure Prophylaxis for HIV infection among nursing students of a selected medical college.

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ABSTRACT

Background : Human immunodeficiency virus (HIV) has an estimated adult prevalence of 0.31 in India. Health care workers are exposed to HIV as a result of needle stick and sharp injuries. Post exposure prophylaxis is a necessary secondary prevention measure in health care settings, since there will always be rare instances in which primary prevention fail and health care workers may be accidentally or through unsafe procedures be exposed to the risk of HIV transmission.

Objectives : Objectives of the study were to assess the level of knowledge regarding PEP among nursing students.

Methods : A cross sectional study was conducted in Feb 2014 using a structured questionnaire among 45 nursing students of a selected medical college. Structured questionnaire included demographic data and knowledge questionnaire on PEP. Knowledge was scored into four groups of excellent, good, average and poor. Sample was selected by computer based random sampling technique and questionnaire administered to 45 students after taking informed consent.

Results : A total of 45 samples were selected. Maximum samples i.e.75.5% were in age group of 20-25 years. The educational qualification of the samples highlights that 84% has 10+2 as a basic qualification and remaining 16 % were graduates.

The researchers included 2nd year, 3rd year and 4th year BSc nursing students and found that the level of knowledge increases with the year of experience.

The study revealed that 2.3% had an occupational exposure but did not report as they were afraid to do the same. Study also revealed that 46.6% had good knowledge, 40% had average knowledge, 13.4% samples had poor knowledge. The mean knowledge score of sample was 11.5 with SD +/- 2.16. Out of total,91.1% of samples were aware of risk of acquiring HIV infection on occupational exposure of blood. Out of 45 samples only 15 were aware about percentage chance (probability) of acquiring HIV after getting exposed to a needle stick injury from HIV positive individual.

KEYWORDS : Post exposure prophylaxis, HIV infection.

Introduction

Every year hundreds and thousands of health care workers are exposed to deadly viruses such as hepatitis and HIV as a result of needle stick and sharp injuries. These preventable injuries expose workers to over twenty different blood borne pathogens.[1] It results in an estimated thousand infections per year, the most common being HIV.[2]

In November 2012, the World Health Report published data demonstrates that 2.5 % of HIV cases among the health care workers and 40% of Hepatitis B and C cases among health care workers worldwide are the result of occupational exposure. [3]

The incidences of needle stick injuries are a serious problem and the unreported needle stick injuries and sharp injuries are a growing concern in the health system which has increased the vulnerability of getting the infection. The cases of unreported needle stick and sharp injuries prevents the health care workers from receiving post HIV prophylaxis to an estimate of 80%.[4] According to researchers 40 – 70% of all needle stick injuries are unreported.

Background of the study

WHO studies shows that the risk of transmission of HIV from an HIV infected patient through needle where the skin is punctured is less than 1%. [5]

Out of 1.2 billion Indian population 3.6 million are HIV infected. This has increased the national burden of disease. Even an increase in 0.1% of HIV prevalence would mean an increase by over half of a million in the HIV infected patients.[6]

Post Exposure Prophylaxis (PEP) with Zidovudine in a case control trial demonstrated a reduction in the risk of transmission by 80%.[7] The average risk of transmission after percutaneous exposure to HIV infected blood has been estimated to be 0.3% and muco-cutaneous membrane is 0.1%.[8]

Methods:

A descriptive survey method was adopted for the study. The sample consisted of 45 student nurses who were selected by random sampling techniques. The instrument developed and used for data collection is a structured knowledge questionnaire.

Results:

Out of the total sample of 45, 46.6% (21) has good knowledge regard-

ing PEP, 13.3% (6) has poor knowledge while 40% (18) has an average knowledge. None of the sample were in excellent knowledge group. The mean knowledge score was 11.5% which falls in the average category with a SD of + 2.61.

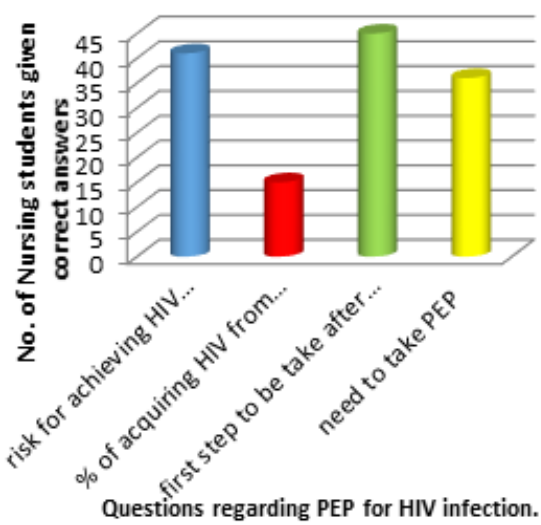
TABLE 1: Level of knowledge score on PEP among the sample

Knowledge Score	No. of nursing students	Percentage
0-8 (Poor)	6	13.3%
8-12 (Average)	18	40%
12-16 (Good)	21	46.6%
16-20 (Excellent)	0	0%
Total	45	100%

Out of the sample, 91% believed that the percentage of acquiring HIV infection on occupational exposure with blood varies with type of exposure and viral load of patient's blood. The data also revealed that 80% of sample knows that there is a need to take PEP to prevent HIV. A total of 15 samples were aware that there is a risk of 0.3% of acquiring HIV after getting exposed with Needle stick injury from HIV positive patient.

62% of the sample has awareness regarding necessity of taking PEP after an unknown exposure. 35% sample knew whom to report immediately after such an occupational exposure and 31% agreed that decision to start PEP depends upon the HIV status of the source. This figure also highlights on the students knowledge about the golden hour of initiation of PEP after an exposure is two hours with 20 samples selecting the correct answer.

Majority of the students were aware of PEP being available free of cost. Only 40% of the students have the correct knowledge about the basic drug regimen of PEP.



Only 44% of the students know about the duration of the drug regimen after a moderate exposure. 22 samples have the correct information regarding the mechanism of action of the PEP drugs. Only 38% of the samples have the knowledge regarding the time of carrying out the HIV test after an exposure.

Discussion

The study was conducted to assess the level of knowledge regarding PEP for HIV infection among nursing students.

A study conducted by Basvanthappa A et al in 2012 used a structured questionnaire to assess knowledge and attitude of nurses towards HIV in a tertiary care hospital in Mangalore[9].This questionnaire included the sample characteristics, their knowledge and awareness about PEP, risk of transmission of HIV, ART. In the present study also a knowledge questionnaire was used to assess the level of knowledge.

With regard to the inclusion criteria researchers included second year, third year and fourth year nursing students and found that when the year of experience the level of knowledge has also increased. In a study conducted by Durge PM in 2011 to assess impact of knowledge about PEP among nursing students also reveals that the level of knowledge increases with the level of experience[10].

Among the 45 samples 97.7% did not had an exposure to blood in clinical practice, rest 2.3% had an exposure but does not report as they were afraid to do the same. A study done by CDC in 1997 showed an increased incidence of unreported needle stick injury.[12] This is in congruence with present study as 100% of exposed samples did not report it.

In the present study 46.6% had good knowledge about PEP, 40% had average knowledge, 13.4% had only poor level of knowledge and none of the samples were having excellent knowledge level. A study conducted in Nagpur on PEP among nursing students revealed that there was poor knowledge among them[12]. But in the present study 46.6% showed good knowledge which is corresponding to the academic and clinical performance in the university exam in which 66.67% were having 70-80% aggregate marks in last university exam.

A study conducted by Owalabi RS et al 2011 in Nigeria revealed that 70% of the respondent had sufficient knowledge on infectivity of HIV[13]. In the present study 91.1% of samples (41 out of 45) were aware about the risk of acquiring HIV infection on occupational exposure of blood.

Out of 45 samples only 15 were aware about percentage of acquiring HIV after exposure to needle stick injury from HIV positive individual. This is congruent with CDC, 1997 which revealed the limited knowledge in the same[11].

In a Cross- Sectional study conducted by Owalabi RS et al (2011) in Nigeria revealed that only 30.9% of samples of 230 health care workers had knowledge about PEP drugs used and their duration[13], whereas in the present study 40-55% of the samples were aware about the PEP regimen to be taken.

Conclusion

The present study reveals that level of knowledge on PEP among on nursing students has not reached to the optimum desired level. This throws light to the need for periodical update of knowledge among the nursing students regarding PEP. This will be helpful for a safe clinical practice and the quality of nursing care.

The study was focused on the various areas of knowledge regarding PEP and the result analysed after complete data compilation focussed that mean knowledge among students was 11.5% and with the area of exposure, the negligence to report was also highlighted. This study should encourage authorities and all the involved members of HIV/AIDS awareness programme to strengthen the counseling, education and information to nursing students and overcome the potential barriers of knowledge deficit.

References

1. Hecht FM, Wang L, Collin A, Little S, Mankowitz M, Margolick J, et al. An experimental study of the potential risk of health care workers for occupational exposure. Sahara J. 2010 December.
2. National AIDS Control Organization [online]. 2012 August [cited Sep 2012]; Available from :URL:http://www.nacoonline.org./
3. World Health Organization [online]. 2012 November, World Health Report [cited Dec 2012]; Available from :URL:http://www.whoonline.org./
4. CDC 2004
5. World Health Organization [online]. 2012 November, World Health Report [cited Dec 2012]; Available from :URL:http://www.whoonline.org/
6. National AIDS Control Organization [online]. 2011 October 23 [cited Jan 2011]; Available from :URL:http://www.nacoonline.org./
7. CDC 2004
8. National AIDS Control Organization. Department of Health guidance on PEP[online]. 2010 October 02 [cited May 2010]; Available from :URL:http://www.nacoonline.org/
9. Basvanthappa A. Soundarya M. Knowledge, risk, perception and antidotes of nurses towards HIV in tertiary care hospital in Mangalore, Mangalore.2012.p.982-6.
10. P M Durge. Impact of knowledge about PEP among nursing students a cross- sectional study journal New York, 2011. P.27-30.

11. CDC 1997
12. Swaminathan N. Knowledge on PEP among nursing students Nagpur, 2012.p.97-101
13. Owalabi K S, Alabi P, Daniel O, Oquindriran A, Akande T M, Onafowokan T. knowledge and practice of PEP for HIV infection among health care workers in a tertiary hospital, Nigeria. International association of physicians, 2011.p.12-4
14. National institute of Medical research, Tansania. Self reported exposures of HIV and factors influencing its management and practice, Tansania.
15. HIV infections Branch, Hospital infections program, National centre for infectious diseases, Centre's for disease control and prevention. Safety of taking antiretroviral drugs for human immunodeficiency virus post exposure prophylaxis, U.S.A. 2013
16. Achappa B, Soundaryamahalingam. Knowledge, risk perceptions and attitude of nurses towards HIV, Mangalore.2012
17. Saini R. Knowledge and awareness of needle stick injury among students of rural dental college, Maharashtra.2011