“A study to assess the effectiveness of structured teaching programme on knowledge regarding needle sticks injuries among nursing students in a selected college Bharatpur.”

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ABSTRACT

A needle stick injury, percutaneous injury, or percutaneous exposure incident is the penetration of the skin by a needle or other sharp object, which was in contact with blood, tissue, or other body fluid before the exposure. The main of the study is to assess the effectiveness of structured teaching programme on knowledge regarding needle sticks injuries among nursing students. The research approach adopted for the study evaluative method. Pre experimental research design was used. Sample select for the study was 60 patients. Purposive sampling technique was used. The major finding showed that the mean post test knowledge score (25.5) was higher than the mean pre test knowledge score (10.5). The calculated ‘z’ value (53.571) was found to be statistically significant at 0.05 level of significance which showed that the mean difference obtained in the knowledge score was the true difference and show that the knowledge score was significantly increased after the administration of structured teaching programme regarding needle stick injuries. Only gender & previous knowledge shows significant Association with the level of knowledge score with selected personal demographic variables. This indicates that structured teaching program helps to improve the on knowledge of nursing students.

KEYWORDS: students’, knowledge, needle stick, injury, Structured teaching program

INTRODUCTION: A needle stick injury, also known as a percutaneous injury or percutaneous exposure event, occurs when a needle or other sharp instrument penetrates the skin and comes into touch w blood, tissue, or other bodily fluids prior to the exposure. Occupational needlestick injuries are most common among healthcare professionals, accounting for 80 percent of all needle sticks in the US.

Among healthcare, More than 25 venous diseases have been linked to needle stick injuries in workers and laboratory staff across the world.¹
Nurses are the largest workforce in the health care industry. There are more than 1 million licensed nurses currently working all over the world. In the contemporary medical system, India produces about 250,000 doctors every year, as well as similar nurses and paraprofessionals. Accidental needle-stick exposure poses the greatest hazard to health care workers. In the medical field, such accidents are a common occurrence. Nurses incur about 60-90% of the reported needle stick or sharp injuries with negligence in safety practices.

Needlestick In the healthcare industry, injuries are a typical occurrence. Accidents can happen when taking blood, delivering an injectable or intravenous medication, or performing any treatment using sharps, facilitating the spread of blood-borne infections. Injuries are also prevalent when needles are recapped or when devices are improperly disposed of into an overfull or poorly positioned sharps receptacle.

After a needle stick To reduce the danger of infection after an accident, specific protocols must be followed. For baseline investigations, the recipient's lab tests should include HIV, chronic hepatitis panel (HAV IgM, HBsAg, HB core IgM, HCV), and HB surface antibody for vaccinated persons. The pathogenic nature of the source must be determined unless it is already known. Unless the donor is known to be free of HBV, HCV, and HIV, comment prophylaxis (PEP) should indeed be started as soon as possible after the injury, ideally within one hour.

NEED FOR THE STUDY

In hospitals, needlestick injuries (NSIs) are prevalent, and medical workers (HWCs), notably doctors and nurses, are at the highest risk, although ancillary staff and interns are also at danger.

According to the World Health Organization's World Health Report 2011, 2 million healthcare professionals are exposed to infectious illnesses via percutaneous exposure each year. NSIs are responsible for 37.6% of HCV Infection, 39% of hepatitis C, and 4.4 percent of HIV/acquired wasting syndrome among healthcare workers worldwide. Authentic NSI data is hard to come by in India. It is estimated that 3-six billion injections are given each year, with 2/3 of those being dangerous (62.9%), but the use of glass syringes is
consistently linked to a greater level of risk. 2 billion injuries are due to needle sticks in India.\(^9\)

In Rajasthan, a health report survey that about 1,00,00 injuries occur per year, due to negligence in auxiliary nurses, staff nurses, and also doctors. 63% of cases at high risk are staff nurses whereas followed by auxiliary, doctors, and students.\(^{10}\)

There is no dispute among healthcare practitioners that resources should be directed toward providing HIV prevention efforts development and skills to the nursing sector. However, analysis has shown that healthcare providers are falling short in delivering such services. The purpose of this study was to effectiveness of a structured teaching program on knowledge regarding needle sticks injuries among nursing students in a selected college, Bharatpur.

Because nursing is the most common profession engaged in the care of HIV-positive patients, the results of this research might be utilized by nursing schools, hospitals, and healthcare organizations throughout India to educate nurses about HIV prevention, spread, treatment, and counseling.

**AIM OF THE STUDY:** The main aim of the study was to effectiveness of a structured teaching programme on knowledge regarding needle sticks injuries among nursing students.

**MATERIAL AND METHODS:** Given the nature of the issue under investigation and the goal to be achieved, an evaluative research technique was suggested. The objective of the study to assess the pre test & post test knowledge on needle sticks injuries among nursing students & Evaluate the effectiveness of structured teaching programme regarding knowledge regarding needle sticks injuries among nursing students. A pre experimental research design is best suitable, as it is used to examine characters of a single sample. This study was conducted in Shree Nrasingh college of Nursing, Bayana. The population consists of all students. sammple size consist of 60 Students pursuing a bachelor's degree in nursing. The approach utilised was non-probability purposive sampling. If subjects were discovered engaged in the emergency work even after earlier appointments, precautions were taken not to disturb them and appropriate time was taken. Interviewing the individuals was used to fill out the study instrument. Frequency and percentage were used to characterise the sample characteristics. The efficacy of organised education was evaluated using Pearson's co-relation coefficient. The instrument's content reliability and validity were assessed, and the results indicated that now the tool was trustworthy. The pilot research was conducted on ten samples, and it was determined that the study would be viable for such final study.
The data collected were examined using descriptive statistics and inferential statistics to determine their relevance to the study's purpose. The data analysis strategy was established under the able guidance of nursing and statistics professionals.

RESULTS

Mean median and standard deviation of pre test and post test knowledge scores of students on a structured knowledge questionnaire.

<table>
<thead>
<tr>
<th>Knowledge test</th>
<th>Mean</th>
<th>Median</th>
<th>SD</th>
<th>Df</th>
<th>‘z’ test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre test</td>
<td>10.5</td>
<td>10</td>
<td>±1.38</td>
<td>59</td>
<td>53.571</td>
</tr>
<tr>
<td>Post test</td>
<td>25.5</td>
<td>26</td>
<td>±1.69</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Maximum score: 30    minimum score: 0

Table NO. 01 indicates that the mean post test knowledge score (25.5) was higher than the mean pre test knowledge score (10.5). The median of the post test (26) is higher than the median of the pre test knowledge score (10). The finding also revealed that the post test knowledge score are homogenous (SD 1.69) than the pre test knowledge score (SD 1.38). The calculated ‘z’ value (53.571) was found to be statistically significant at 0.05 level of significance which showed that the mean difference obtained in the knowledge score was the true difference and show that the knowledge score was significantly increased after the administration of structured teaching programme regarding needle stick injuries.
Fig. 1: Cone diagram showing the mean, median and standard deviation of pre test and mean post test knowledge score of nursing students.

The cone diagram in the figure 1 showing the mean pre test and mean post test knowledge score of nursing students. It is evident from the bar graph that the mean knowledge score of post test (25.5) was higher than the mean knowledge score of pre test (10.5). The median of the post test (26) is higher than the median of the pre test knowledge score (10). The finding also revealed that the post test knowledge score are homogenous (SD 1.69) than the pre test knowledge score (SD 1.38).

Section III: Association of level of knowledge score with selected personal demographic variables

<table>
<thead>
<tr>
<th>DEMOGRAPHIC VARIABLE</th>
<th>Df</th>
<th>Tabulated Value</th>
<th>$\chi^2$ of Pre Test</th>
<th>$\chi^2$ of Post Test</th>
<th>Finding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>4</td>
<td>9.48</td>
<td>0.6663</td>
<td>0.1431</td>
<td>Not Significant</td>
</tr>
<tr>
<td>Gender</td>
<td>2</td>
<td>5.99</td>
<td>0.0837</td>
<td>0.5713</td>
<td>Significant</td>
</tr>
<tr>
<td>Previous Knowledge</td>
<td>2</td>
<td>5.99</td>
<td>0.133</td>
<td>0.535</td>
<td>Significant</td>
</tr>
<tr>
<td>Types of family</td>
<td>4</td>
<td>9.48</td>
<td>0.5855</td>
<td>0.504</td>
<td>Not Significant</td>
</tr>
<tr>
<td>Sources of information</td>
<td>6</td>
<td>12.59</td>
<td>2.4628</td>
<td>1.9213</td>
<td>Not Significant</td>
</tr>
<tr>
<td>Residence area</td>
<td>2</td>
<td>5.99</td>
<td>4.9442</td>
<td>0.3789</td>
<td>Not Significant</td>
</tr>
</tbody>
</table>

Above Data shows that the some demographic variables such as gender, previous knowledge are significant in comparison with pre and post test score at 0.05 level of significance. Above table also shows that the some demographic variables such as age, types of family, sources of information, and residence are not significant in comparison with pre and post test score at 0.05 level of significance.
DISCUSSION: The study aimed at determining the effectiveness of structured teaching programme on knowledge regarding needle sticks injuries among nursing students. A pre experimental research design is best suitable, as it is used to examine characters of a single sample. This study was conducted in Shree Nrasingh college of Nursing, Bayana. The population consists of all students. Sample size consist of 60 B.Sc. Nursing students. Non-probability purposive sampling technique was used. Even after prior appointments, if subjects were found busy in their emergency work, care was taken not to interrupt them in their work and again suitable time was taken. Study tool was filled personally by interviewing the subjects. Result showed that the mean pre test and mean post test knowledge score of nursing students. It is evident from the bar graph that the mean knowledge score of post test (25.5) was higher than the mean knowledge score of pre test (10.5). The calculated ‘z’ value (53.571) was found to be statistically significant at 0.05 level of significance which showed that the mean difference obtained in the knowledge score was the true difference and show that the knowledge score was significantly increased after the administration of structured teaching programme regarding needle stick injuries.

CONCLUSION: In the future, nursing students will be a vital component of the health care delivery system. Accidental HIV virus transmission to these nursing and health care personnel is a significant hazard in the current climate. The primary causes are uncontrollable variables such as agitated or restless patients, colliding with coworkers, or concealing sharps. These variables cannot be ruled out. Another issue to consider is the transmission of infection through needle stick injuries. The major worry with a stis (NSI) is not the pain itself or injuries sustained during waste disposal, but rather the percutaneous vulnerability of a patient's blood and bodily fluids (BBF) to infectious pathogens. Adequate awareness of the illness and post-exposure prophylaxis will aid in the provision of treatment and infection prevention in health care settings. While it is unavoidable that NSI occur, their incidence may be prevented to a greater degree. Preventing NSI is the most effective method of preventing bloodborne diseases transmitted by sharps in health care workers. Training nursing students, nursing staff, and HCWs, as well as routine monitoring of safety measures, must be a continuous effort at the hospital. The need of self-reporting NSI should be highlighted and made obligatory in all health care settings. The study found that the student's pre-test knowledge was inadequate, but considerably improved after the implementation of a designed instruction programme.
Conflict of Interest: The authors certify that they have no involvement in any organization or entity with any financial or non-financial interest in the subject matter or materials discussed in this paper.

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