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Final-year nursing students' attitude of Nam Dinh University of Nursing towards preventing exposure to blood and body fluids

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Abstract

Positive attitude towards occupational exposure can help nursing students self-correct their behavior in the prevention of blood and body fluid exposure. Objective: Describe final-year nursing students' attitude of Nam Dinh University of Nursing towards preventing exposures to blood and body fluids. Subject and method: Final year full-time nursing students were randomly selected to answer questionnaires. Results: The mean score of the attitude towards the prevention of exposure to blood and body fluids was 3.69 ± 0.22 points. In which, mean scores of students' attitude towards severity; the importance of preventive measures; the role of solving, reporting, treating and monitoring post-exposure; self-confidence; barriers to the practice of preventive measures are in turn 4.00 ± 0.41 points; 4.23 ± 0.43 points; 3.84 ± 0.48 points; 2.8 ± 0.47 points; 3.61 ± 0.43 points. Conclusion: attitude of final-year nursing students of Nam Dinh University of Nursing towards preventing exposures to blood and body fluids is moderate with mean score is 3.69 ± 0.22 points/5 points. Final-year nursing students have positive attitude towards severity and the importance of preventive measures but have negative attitude towards self-confidence to do prevention measures to blood and body fluid exposures.

Keywords: Attitude; Nursing student; Exposure

1. Introduction

Exposure to blood and body fluids is one of the occupational accidents that occur in a clinical setting. This accident not only happens to medical staff, those who care for and treat patients, but can also happen to students while taking practical lessons in practice units. For nursing students, participating in hospital practice is an indispensable part of the training program with the aim of training thinking skills, clinical decision-making skills as well as developing practical capacity nursing profession.

Exposure to blood, body fluids can occur to nursing students, mainly through skin lesions from needles or sharp objects contaminated with blood, secretions of infected persons, or blood, body fluids of infected persons infection in contact with the damaged skin or shot into the mucosa (Alhawaish et al, 2017). The consequences of exposure to blood and body fluids increase the risk of anxiety and stress; affect physical health; affects the quality of study, reduces job opportunities, and more importantly the risk of infection with blood-borne pathogens such as HBV, HCV, HIV, ... and threatens the lives of students (Dixit et al, 2010).

Senior nursing students and future nurses as well, will improve the quality and safety of patient care, take the lead in general hospital infection prevention and control and preventive care occupational exposure room in particular. Therefore, this topic is done to assess the attitudes of nursing students in the last year in the prevention of exposure to

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blood and body fluids to have a basis for adjusting the training activities of the University. The hope that students with the right knowledge and positive attitudes can improve correct practice and safe occupational practices.

2. Methodology

2.1. Study design

Cross section description.

2.2. Research object

Student of the last year of Nam Dinh University of Nursing during the study period met the sampling criteria.

- Selection criteria: Final year nursing student of Nam Dinh University of Nursing and has studied infection control module in the training program and scored D or higher.

Exclusion criteria: Students were absent at the time of data collection; Students refused to participate in research.

2.3. Time and place

- Research period: from September 2019 to August 2020.
- Location: Nam Dinh University of Nursing

2.4. Samples and sampling methods

- The sample size is calculated using the estimated formula for a ratio with $d = 0.05$; $p = 0.49$ [4]. The sample size for the study is 160 students
- Sampling method: Out of a total of 749 students of 12 full-time nursing, we randomly draw 3 classrooms out of the total of 12 classes for the Vietnam Communist Party's Revolutionary Way. . Class 12.2 results; 12.5 and 12.7 were chosen with a student population of 194 students. Based on selection and exclusion criteria we selected 182 students to participate in the study.

2.5. Tools and evaluation methods

The tool for assessing students' attitudes about the prevention of exposure to blood, body fluids of students based on the guidelines of the Ministry of Health and the belief model of health (HBM) (Joana, 2009). The questionnaire consists of 2 parts: Part A: General information about the study object includes 7 questions; Part B. Student attitudes about prevention of exposure to blood and body fluids. Consists of 29 questions, divided into 5 areas including: Attitudes about severity of exposure; The importance of preventive measures; Attitudes about local management, reporting, treatment and follow-up roles; Self-confidence; Attitude about barriers when taking preventive measures.

A questionnaire that assesses students' attitudes about exposure to blood and body fluids includes 28 questions, designed on a 5-step Likert scale. In which, strongly agreeing 5 points, agreeing 4 points, normally agreeing 3 points, disagreeing is corresponding to 2 points and strongly disagreeing corresponding to 1 point. A positive attitude is the one that answers yes or strongly to each question. In contrast, a negative attitude is a view that disagrees or strongly disagrees. The attitudes of nursing students in the prevention of exposure were evaluated as follows:

Score level	Attitude classification
4,0 – 5 point	Positive
3,0 – 3,9 point	Average
0 – 2,9 point	Not positive

The attitude scale has been validated and calibrated by experts in the field of infection control and is highly reliable with the Cronbach's Alpha coefficient of the attitude scale of 0.747.

2.6. Methods of data collection

Self-fill based on prepared questionnaires.

2.7. Data processing and analysis

Descriptive analysis was performed on SPSS 16.0 software.

3. Main results

3.1. Characteristics of research subjects

Table 1 Sex distribution and vaccination status for hepatitis B (n = 182).

Content		Quantity	Ratio %
Sex	Male	19	10.4
	Female	163	89.6
VGB vaccinated	Injected	159	87.4
	Not injected	23	12.6

Comments: Survey of 182 nursing students, course 12, in which female students account for 89% and 87.4% of students have been vaccinated with Hepatitis B vaccine.

3.2. Attitude about severity of exposure

Table 2 Attitude about severity (n = 182).

Exposure severity	Average \pm standard deviation	Lowest score	Highest score
Risk of HIV infection after exposure	4.07 \pm 0.55	3	5
Anxiety, stress, and psychological disturbance	3.92 \pm 0.61	2	5
Time consuming and finance	3.96 \pm 0.56	3	5
Impact on learning quality	4.01 \pm 0.54	3	5
Effect on employment opportunities	3.97 \pm 0.72	2	5
Overall GPA	4.00 \pm 0.41	3	5

Comments: the average point of the average attitude about the severity was 3.99 ± 0.41 points. In which, the attitude about the risk of being exposed to diseases transmitted through blood / secretions and the attitude related to the effect of learning quality reached over 4.0 points.

3.3. Attitude about the importance of preventive measures

The average score of the average attitude about the importance of preventive measures is 4.23 ± 0.43 points, the lowest score is 3.2 points and the highest score is 5 points. In which, only the attitude about aspects of the preventive measure is above 4.0 points

Table 3 Attitude on the importance of preventive measures (n = 182).

Importance	Average \pm standard deviation	Lowest score	Highest score
Testing for HBV. VGC and HIV infection is important for how to prevent exposure to others	4.25 \pm 0.63	2	5
Hepatitis B vaccine is an important way to prevent HBV exposure.	4.45 \pm 0.54	3	5
The rehabilitation tool helps you effectively prevent exposure to blood / body fluids.	4.14 \pm 0.67	3	5
Adherence to practices helps you reduce your risk of exposure.	4.2 \pm 0.64	3	5
Increase the use of tools with birth protection factors to ensure safety.	4.09 \pm 0.69	2	5
Overall GPA	4.23 \pm 0.43	3.2	5

3.4. Attitudes about the role of post-exposure management, reporting, treatment and follow-up

Overall average score of attitudes on the importance of post-exposure management, reporting, treatment and follow-up was 3.84 \pm 0.48 points, lowest 2.5 points and highest 5 points, in which the attitude of adherence to treatment and follow-up was positive after exposure

Table 4 Attitudes about the role of post-exposure management, reporting, treatment and follow-up.

Content	Average \pm standard deviation	Lowest score	Highest score
Correct handling will limit the risk of infection	3.66 \pm 0.73	2	5
Reporting is an important step in the exposure management process	3.6 \pm 0.71	2	5
Early preventive treatment reduces the risk of infection	3.91 \pm 0.65	2	5
Treatment adherence is the single most important measure in the treatment of exposure prophylaxis	4.08 \pm 0.58	2	5
Post-exposure monitoring and evaluation is required	4.17 \pm 0.62	2	5
Excessive anxiety and stress increase the risk of infection from exposure	3.59 \pm 0.77	1	5
Overall GPA	3.84 \pm 0.48	2.5	5

3.5. Attitudes about confidence in preventing exposure to blood or secretions

The average score of self-confidence attitude is not positive with the average score of 2.8 \pm 0.47 points, the lowest of 1.67 points and the highest of 4.5 points. self-confidence in the ability to be exposed; anxiety and stress problems; does not affect learning after exposure is at a non-positive level.

Table 5 Self-confidence attitude (n = 182).

Ability (face-to-face)	Average \pm standard deviation	Lowest score	Highest score
Believe that you will not be exposed to blood / body fluids while performing care activities for sick people	2.25 \pm 0.68	1	4
Believe that you will know how to handle it locally when exposed	3.2 \pm 0.56	2	5
Believe you know how to report after exposure	3.2 \pm 0.65	2	5
Believe that we adhere well to preventive treatment and know how to follow-up and evaluate after exposure	3.56 \pm 0.72	2	5
Believe that we will not be too nervous or stressed when being exposed	2.36 \pm 0.79	1	5
Believe that if exposed does not affect your learning.	2.8 \pm 0.47	1.67	4.5
Overall GPA	2.8 \pm 0.47	1.67	4.5

3.6. Attitude about the barriers to taking preventive measures

Average score of attitude about barriers when implementing preventive measures reached 3.61 ± 0.43 points.

Table 6 Attitude to barriers when taking preventive measures (n = 182).

Attitude towards barriers	Average \pm standard deviation	Lowest score	Highest score
Lack of personal protective equipment	3.99 \pm 0.62	2	5
Lack of tools and equipment	3.76 \pm 0.58	2	5
Lack of warning system	3.45 \pm 0.69	2	5
Work overload	3.38 \pm 0.71	1	5
Uncoordinated patient	3.59 \pm 0.69	1	5
Procedure seldom performed	3.69 \pm 0.67	2	5
Overall GPA	3.61 \pm 0.43	2.5	5

3.7. General attitude about prevention of exposure to blood and body fluids of students

Students' general attitude about prevention of exposure to blood and body fluids was average with an average score of 3.69 ± 0.22 points.

Table 7 Students' general attitude about prevention of exposure to blood and body fluids.

Attitude about prevention of exposure to blood	Average \pm standard deviation	Lowest score	Highest score
General attitude	3.69 \pm 0.22	2.82	4.35

4. Discussion

4.1. Attitude about the severity of exposure

In our study, Table 2 results showed that the majority of nursing students had a positive attitude about the severity of exposure to blood / body fluids with an overall mean score of 4.0 ± 0.41 points / 5 points. However, in each other aspect,

the attitude of the students was only average, namely: anxiety, stress, and psychological disorder was only 3.99 ± 0.41 points / 5 points; Time and finance only reached 3.69 ± 0.42 points / 5 points; The effect on job opportunities is only 3.97 ± 0.72 points / 5 points. Research results of Dulcie, C. A. et al. 2017 178 (89%) students who thought themselves at risk of HIV infection in the workplace (Dulcie et al, 2017) and the study of Alhowaish, M.I. et al (2017) also reported that only 23% of students said that they are not worried about being infected with HBV. In order to change self-care behavior to avoid the risk of exposure to blood-borne and exudate diseases, it is necessary to increase the students' positive attitudes about the severity of exposure.

4.2. Attitude about the importance of preventive measures

According to HBM, when a person understands and believes that certain behaviors can prevent or reduce the risk of a health problem, they can act or change their behavior [8]. In this study, the results in Table 3 show that final-year students in the research group have a positive attitude about exposure prevention measures with an average score of 4.23 ± 0.43 points / 5 points. The specific contents of the preventive attitude all have a positive attitude with the overall average score of > 4.0 points / 5 points. Our research results are similar to that of Alhowaish, M.I. et al (2017) when he said that 86.5% agree that HBV vaccine is safe and effective.

4.3. Attitudes about the role of post-exposure management, reporting, treatment and follow-up

Results of the study indicated that the senior nursing student in the study had an average attitude toward post-exposure management, reporting, treatment and follow-up with an overall GPA of $3,84 \pm 0.48$ points / 5 points. In which, students did not have a positive attitude about measures to manage, report and control measures of anxiety and stress after exposure. The less positive attitude about the role of post-exposure management, reporting, treatment and follow-up may be due to the fact that the students in our study have never experienced clinical lesions and exposures. Therefore, there is not much experience in post-exposure management, reporting, treatment and follow-up and this is also an issue that teachers participating in training need to pay attention to to help students have correct awareness and positive attitude.

4.4. Self-confidence in preventing blood / secretions exposure

The HBM model predicts that people who are aware that they are susceptible to a particular health problem will engage in behaviors to reduce the risk of developing the health problem. Individuals with a low level of confidence may be more likely to have health problems, when faced with real-world situations they will engage in negative behaviors and potentially increase the severity of the problem. subject. In contrast, individuals with a high level of trust are those who believe in themselves, and believe in their behaviors to avoid health problems (Joanna, 2009). Table 5 shows that subjects in the study have a negative attitude about their ability to cope with real situations with the average score of only 2.8 ± 0.47 points / 5 points. Our results are lower than those of Alhowaish, M.I. et al (2017) when he pointed out that 90% of medical students believe that following infection control guidelines will protect them from infection with HBV in the workplace (Alhowaish et al, 2017). This difference is due to the fact that the subject in our study is a senior nursing student with little clinical experience, so the level of confidence in the prevention of exposure to blood and secretions is not high.

4.5. Attitudes about barriers to blood / secretion exposure prevention

Barrier perception, according to HBM, is an individual's assessment of obstacles to behavior change. Even if an individual perceives the health condition to be threatening and believes that a particular action will effectively reduce the threat, that individual will seek to overcome barriers that would prevent the problem. Health problems can occur. The results of our study in Table 6 show that subjects in our study have an average attitude of barriers to blood / fluid exposure prevention, with a score of only 3.61 ± 0.43 points / 5 points.

4.6. General attitude about prevention of exposure to blood and body fluids of students

The results are shown in Table 7 showed that the attitude of nursing students in the final year of the year on prevention of exposure to blood and body fluids was at an average level with the average score of 3.69 ± 0.22 points. Our results are similar to that of Huang H. et al. (2016), the average student's attitude toward exposure prevention is 31.15 ± 6.43 points.

5. Conclusion

The attitude of senior nursing students on the prevention of exposure to blood and body fluids was average with an average score of 3.69 ± 0.22 points (on a 5-point scale), of which 91.2 % of students have a moderate attitude, and 8.8% of students have a positive attitude. Inside:

Attitude about severity; the importance of exposure prevention measures was positive with an average score of 4.00 ± 0.41 points and 4.23 ± 0.43 points (5-point scale).

Self-confidence was not positive with an overall GPA of 2.8 ± 0.47 points (on a 5-point scale).

Compliance with ethical standards

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Disclosure of conflict of interest

Both authors declare, no conflict of interest is exist.

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