Is a Bloodborne Pathogen Exposure Treated as an Emergency? Nurses Reveal their Experiences

The Massachusetts Nurses Association (MNA) Division of Health & Safety has long been addressing the issues surrounding bloodborne pathogen exposures in nursing. In the summer of 2011, the division worked together with Professor Craig Slatin, Sc. D and MPH, from UMass Lowell and Sonja Rivera, a student from Tufts University, to create a survey that asked nurses about their exposures to bloodborne pathogens. The survey assessed how they defined exposures, if they have been exposed, how often they formally report exposures, and whether there were any obstacles in the way of seeking treatment after the exposure. With regard to obstacles, MNA specifically wanted to discover if obtaining a source patient signature for an HIV informed consent form was an issue for exposed nurses. Massachusetts is currently only one of two U.S. states that requires specific written consent for HIV testing (Lazar, 2011). Over a period of six months, the survey collected a total of 356 responses and yielded some surprising results surrounding the issues at hand.

Background

In 1992, the Occupational Safety and Health Administration (OSHA) issued a Bloodborne Pathogen Standard because of the significant health risk associated with exposure to viruses that cause bloodborne diseases. Of primary concern to the standard are the human immunodeficiency virus (HIV) and the hepatitis B and C viruses (HBV, HCV) (USDL, 2004). The estimated risk for infection from a bloodborne pathogen exposure due to a needlestick or cut is 0.3% for HIV and 1.8% for HCV. Although these percentages seem low, it is important to consider that the diseases that result from these infections are either incurable or difficult to manage and therefore must be considered as an important occupational hazard in a healthcare environment.

On a global level, the literature consistently reveals that nurses and other healthcare workers have an increased risk of becoming exposed to bloodborne pathogens. Past research has been concerned with bloodborne pathogen exposures solely as a result of needlestick and sharps injuries. However, the current definition of an exposure has expanded due to the OSHA Bloodborne Pathogen Standard (USDL, 2004). An exposure that might place health-care personnel at risk for HIV infection is defined to also include

contact of mucous membrane or nonintact skin with blood, tissue, or other body fluids that are potentially infectious. The standard also sets forth requirements for employers. A healthcare employer must implement an exposure control plan for the worksite with details on employee protection measures. This plan must be updated annually and healthcare workers should receive annual bloodborne pathogen training. The plan must also describe how employers will prevent bloodborne pathogen exposures from occurring (i.e. training, medical surveillance, hepatitis B vaccinations). Employers must also update the exposure control plan annually and train healthcare workers annually.

Methodology

The MNA bloodborne pathogen survey was put on Survey Monkey in October of 2011. It was publicized primarily through an announcement at the Annual MNA Convention that October. An e-mail blast was sent to MNA members and an add regarding the survey was placed in the Mass Nurse newsletter. Members were also reminded of the survey at MNA's educational events. To increase survey response in early 2012, the MNA Division of Health & Safety and Ms. Rivera (then a masters student at the Tufts University School of Medicine) spoke to MNA labor representatives about the survey, many of whom relayed the message to their respective bargaining representatives. These efforts contributed to the 356 nurse responses to the bloodborne pathogen survey.

Survey Monkey was used to provide descriptive characteristics of the nurse responses. In addition to Survey Monkey, the statistical software SPSS Version 20 was used for more detailed chi square analysis. Five of the questions in the survey were "Check all that apply" questions. Therefore, a grouping variable was made for these responses in SPSS in order to run a cross tabulation on them. The results of the important descriptive data and cross tabulations are explored in further depth in the following section

Results

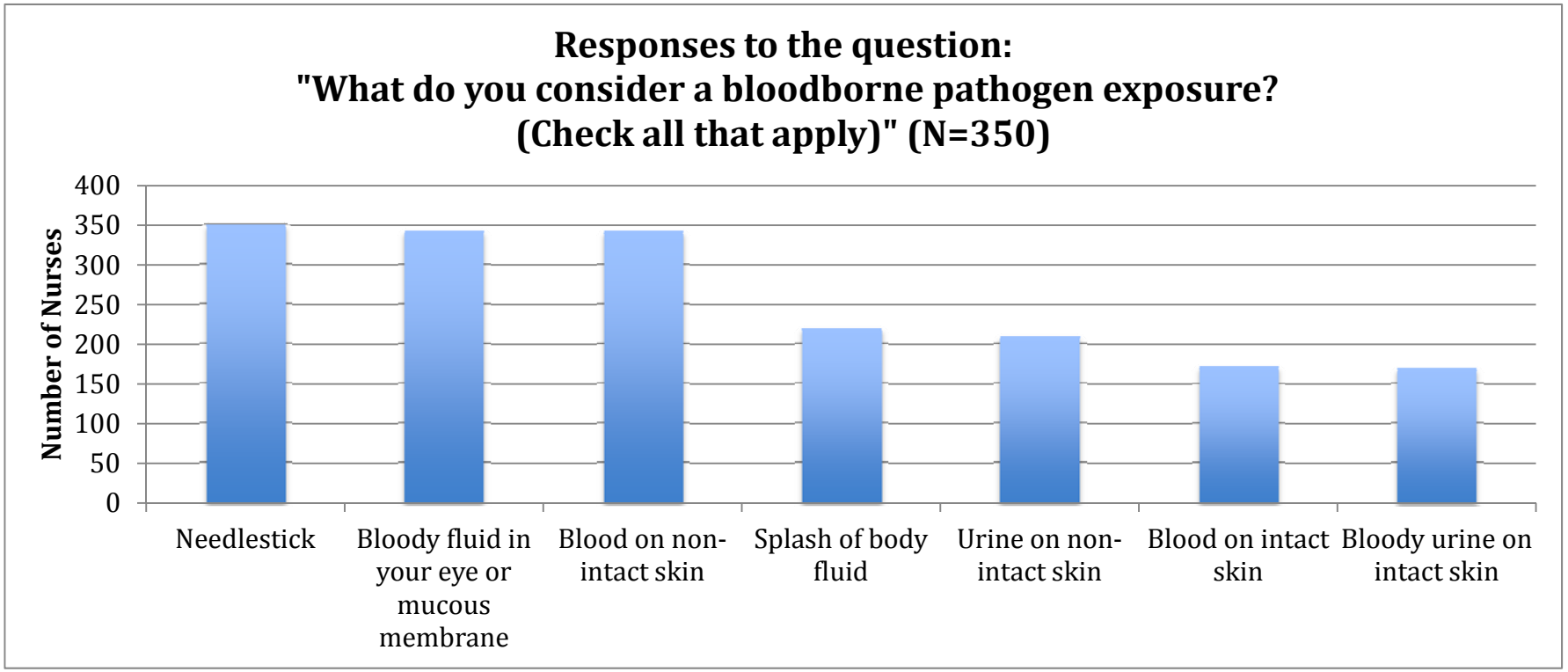
The demographics of the 356 survey responders is found in Table 1. The results that follow are divided into four categories: Bloodborne Pathogen Exposures, Reporting Exposures, HIV Informed Consent Forms, and Annual Bloodborne Pathogen Training.

Table 1: Characteristics of Bloodborne Pathogen Survey Nurse Responders

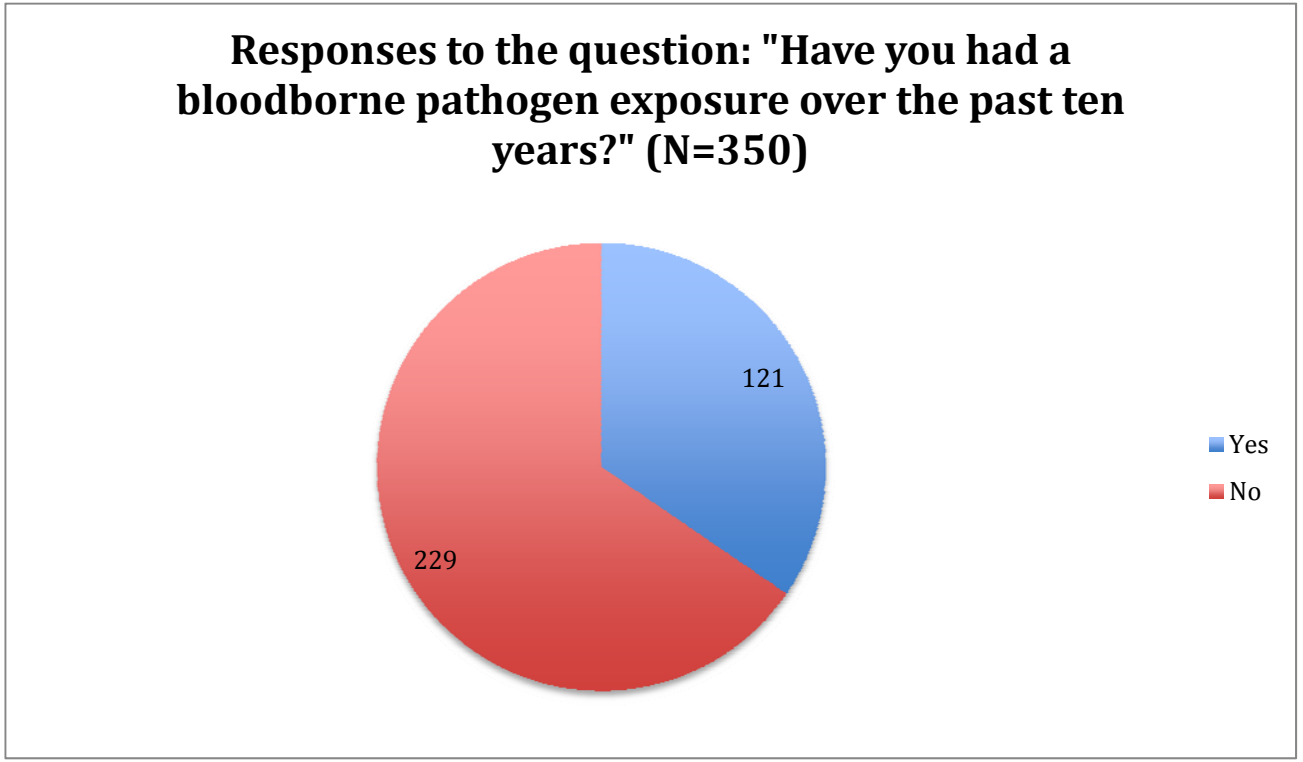
Characteristic		N[1]	%
Total		356	100.0
Age (years)			
	18-25	7	2.0
	26-35	26	7.4
	36-49	97	27.8
	50-59	151	43.3
	60+	68	19.5
MNA Member			
	Yes	327	93.2
	No	24	6.8
Area of Practice			
	RN	336	97.1
	LPN	9	2.6
	Advanced Practice Nurse	1	0.3
Type of Facility			
	Home Health Care	13	4.4
	Acute care (community hospital)	154	52.6
	Acute care (large hospital)	103	35.2
	Mental health	22	7.5
	Ambulatory	12	4.1
	School	24	6.0
	Long term care	9	2.0

[1] Unweighted n's. Categories may not sum to survey total because of missing responses.

Bloodborne Pathogen Exposures

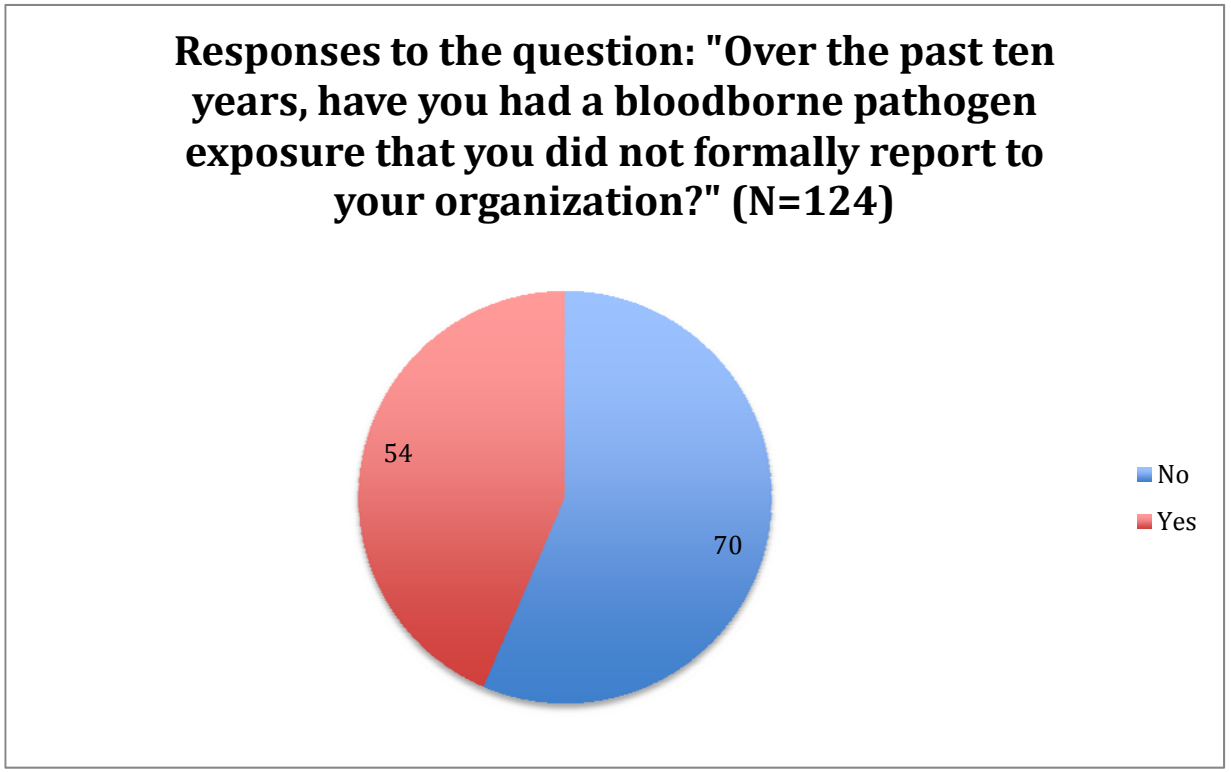


The above chart reveals that nurses consistently believe that blood on non-intact skin, needlestick injuries, and bloody fluid in your eye or mucous membrane are bloodborne pathogen exposures. Because the OSHA Bloodborne Pathogen Standard describes all of the above situations as bloodborne pathogen exposures, there is a discrepancy in the thinking of what classifies as an exposure.

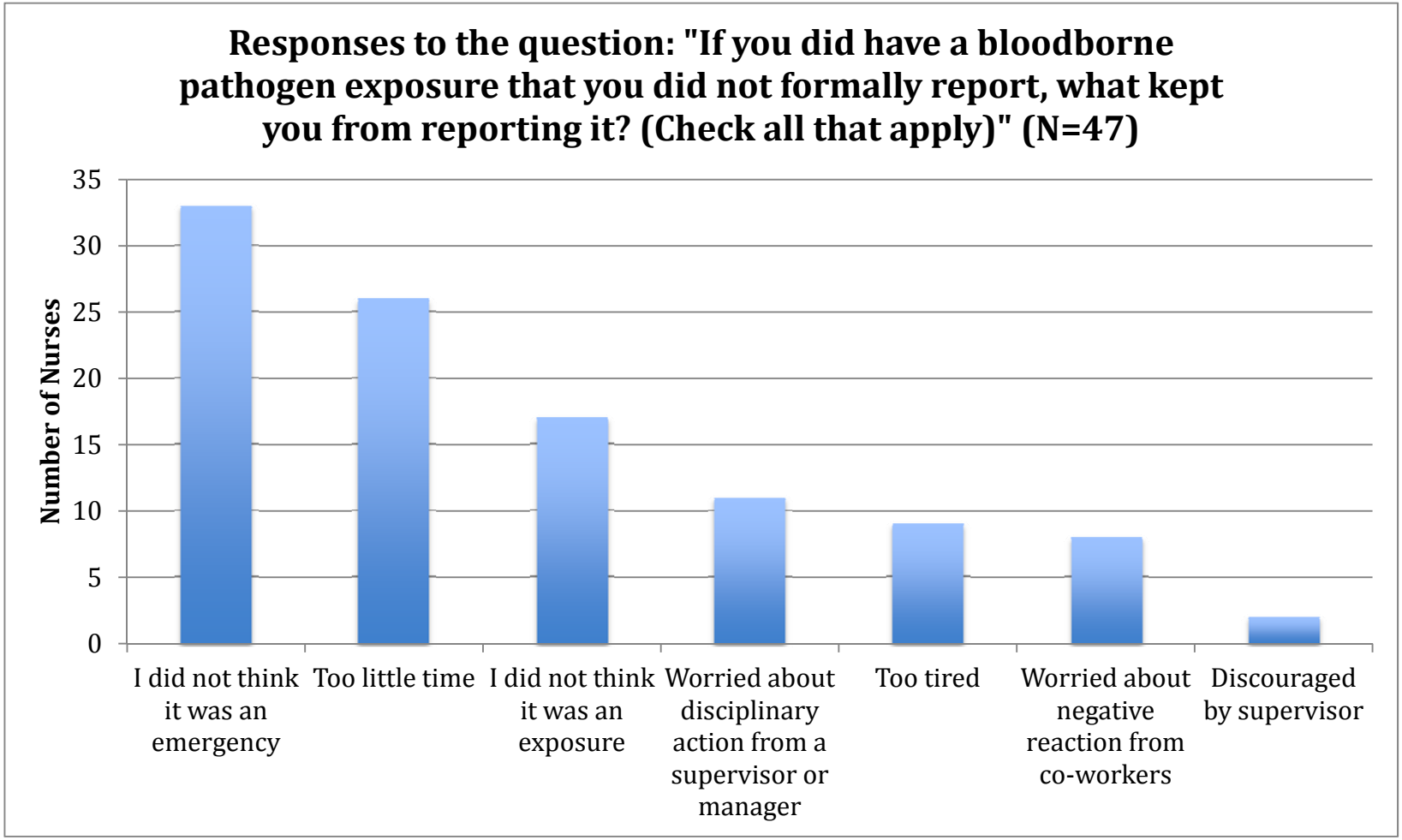


The above pie chart reflects that bloodborne pathogen exposures are still very much an issue. Over 1/3 of nurses reported being exposed to a bloodborne pathogen over the past 10 years.

Reporting Exposures

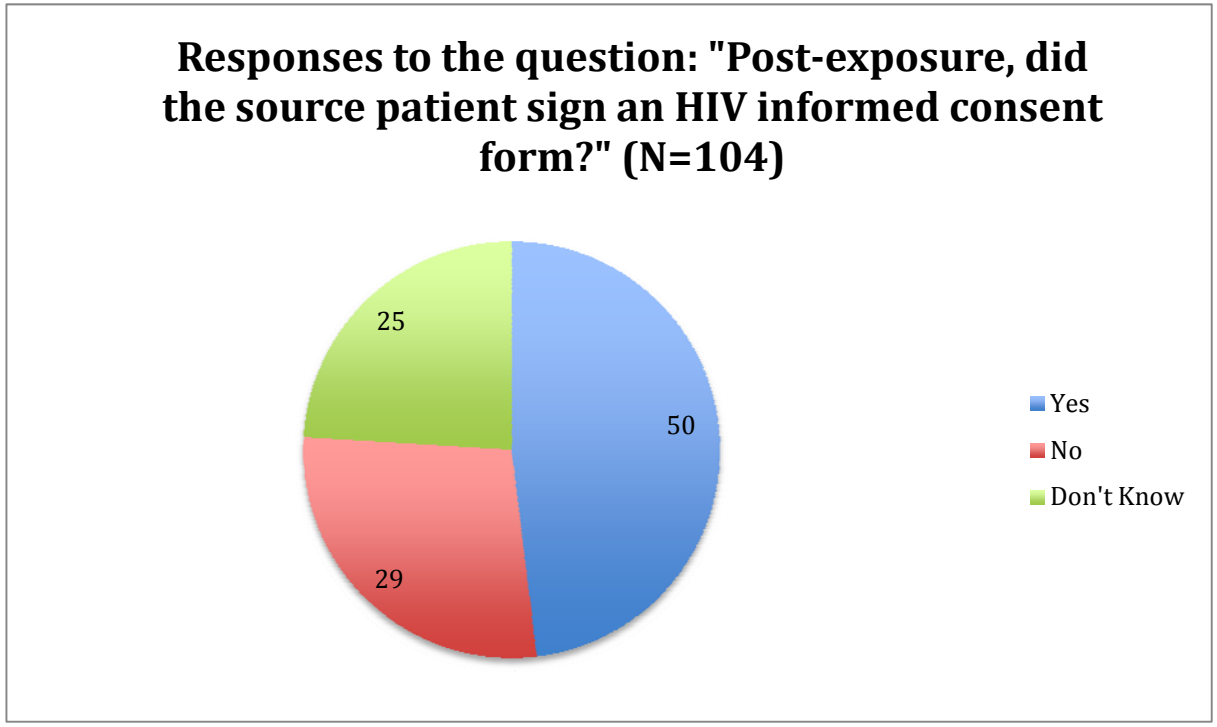


A total of 54 nurses reported that they experienced a workplace bloodborne pathogen exposure, but did not formally report it to their organization.

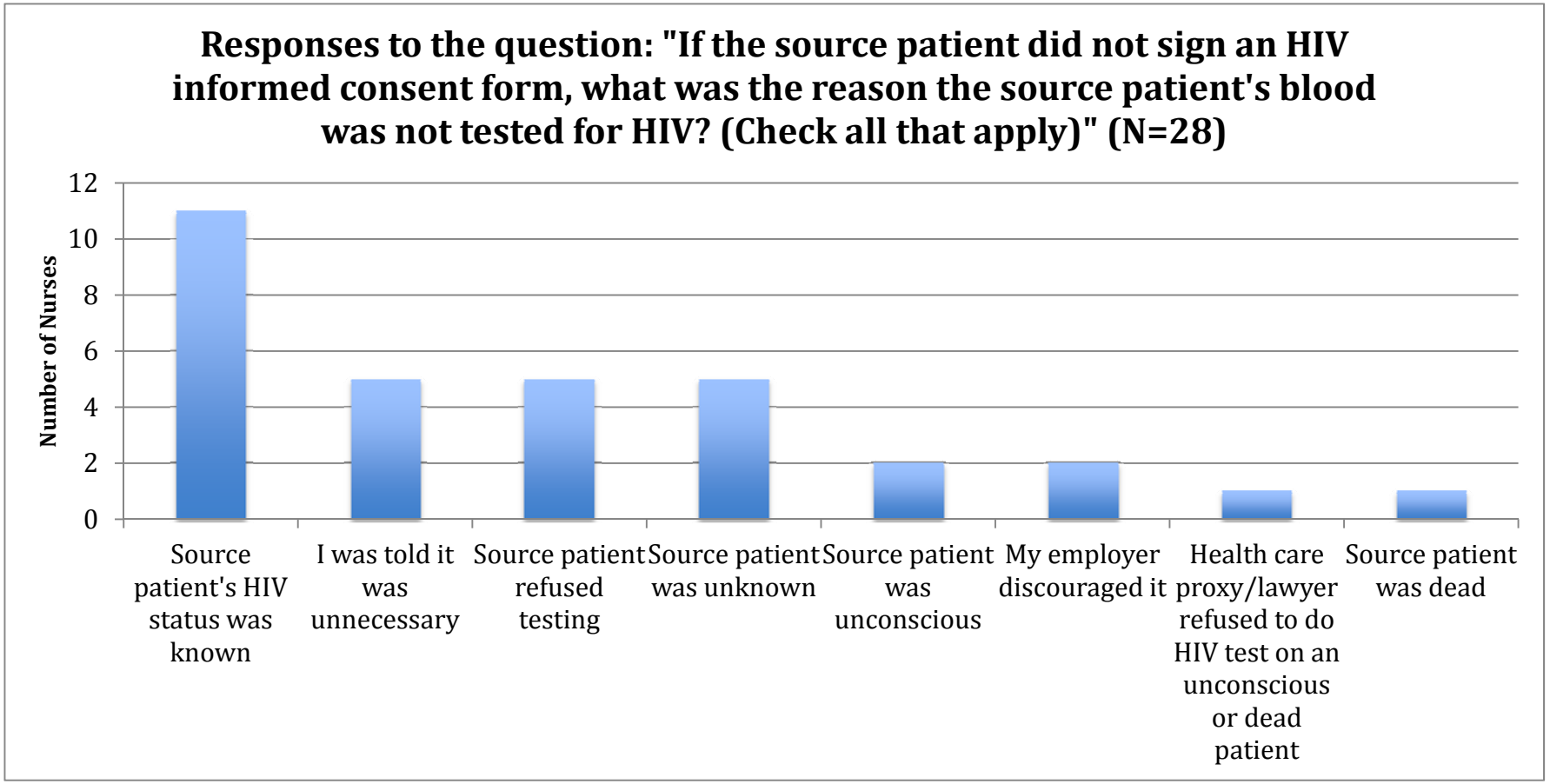

Responses to the question: "If you did have a bloodborne pathogen exposure that you did not formally report, what kept you from reporting it? (Check all that apply)" (N=47)
Number of Nurses
35
30
25
20
15
10
5
0
I did not think it was an emergency
Too little time
I did not think it was an exposure
Worried about disciplinary action from a supervisor or manager
Too tired
Worried about negative reaction from co-workers
Discouraged by supervisor

The above graph reveals that a high percentage of the nurses who did not formally report a bloodborne pathogen exposure did not think that the exposure was an emergency situation for themselves. Other top reasons for not reporting include having too little time to report and being worried about disciplinary action from a supervisor or manager.

HIV Informed Consent Forms

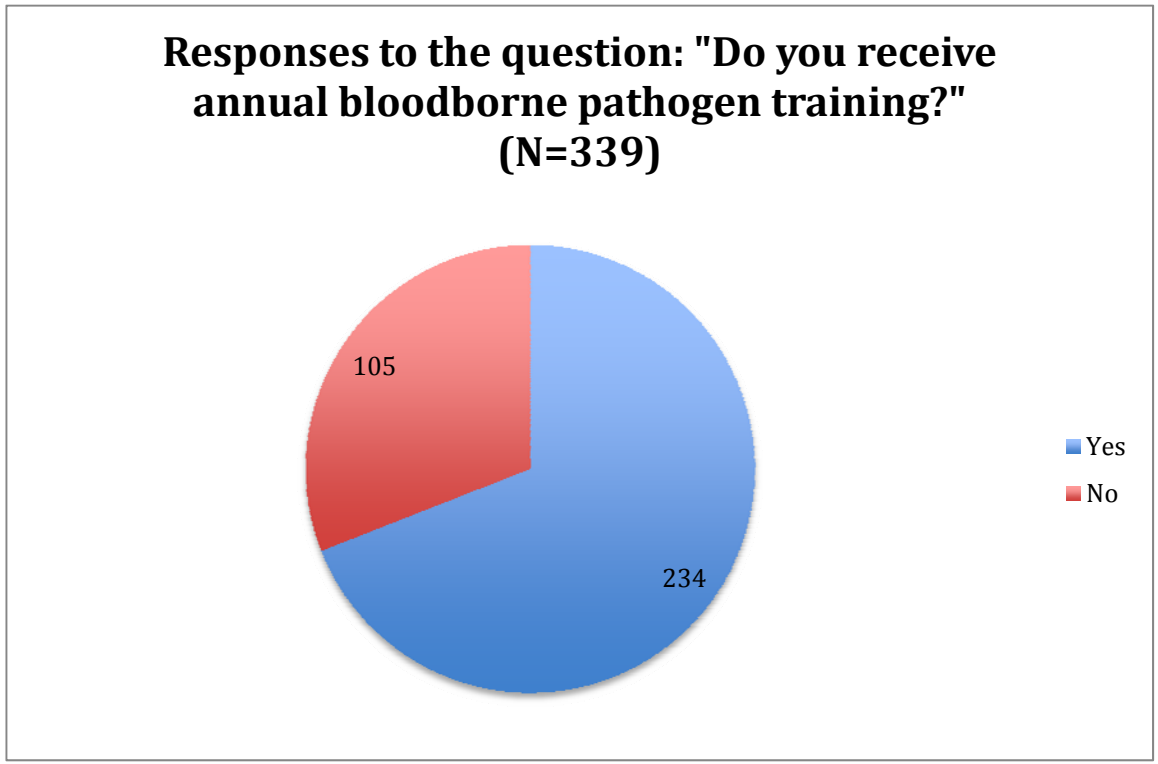


29 nurses, or 28% of those who responded that they were exposed to a BBP did not receive a source patient signature for the HIV informed consent form.



This bar graph shows the reasons why some nurses did not receive an HIV informed consent form from the source patient.

Annual Bloodborne Pathogen Training



Approximately 1/3 of nurses reported not having annual bloodborne pathogen training.

Conclusion

Bloodborne pathogen exposures are still very much an issue in the nursing profession. Our survey results reveal that nurses may encounter obstacles when it comes to formally reporting their exposures and obtaining a source patient signature for an HIV informed consent form. The MNA Division of Health & Safety holds the position that a bloodborne pathogen exposure should be treated as an emergency and that the requirement to obtain patient informed consent for HIV testing may be standing in the way of responding to exposures as emergencies.

This survey project had a series of strengths and weaknesses. The survey's results are treated as pilot data because of a low response rate (there are 23,000 MNA members and 356 nurses responded to the survey). There is also a possibility for recall bias to affect the surveys results, especially considering that exposure to bloodborne pathogens were assessed over a 10 year period. Lastly, "Other" options were not always included in the analysis. Despite these weaknesses the survey explored questions that had not been asked of nurses before, such as their understanding of a bloodborne pathogen exposures and what types of obstacles they face when seeking a rapid and appropriate post-exposure responses.

Resources

Lazar, K. (September 20, 2011). Advocates, doctors split on HIV-test bill: Privacy, health issues thwart legislators. *The Boston Globe*. Accessed on October 31, 2011. http://www.bostonglobe.com/metro/2011/09/19/advocates-doctors-split-hiv-test-bill/2M4jz2UNstOhh1ak5oa4WM/story.html

United States Department of Labor (USDL). (2004). Occupational Safety & Health Administration. *Bloodborne Pathogen Regulation 1910.1030*. Accessed on December 2, 2011. http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10051