

Abstract

The Relationship between Job Stress and Needlestick Injury among Nurses at a University Hospital

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Objectives: This cross-sectional study investigated the relationship between job stress and needlestick injury the nurses at a University hospital in Incheon, Korea.

Methods: A questionnaire survey was conducted targeting 476 nurses, of which 320 (67.2%) questionnaires were returned and 256 (53.8%) were regarded as being reliable data for analyses. We estimated the relation of job stress to needlestick injury using univariate and multiple logistic regression analyses.

Results: One hundred sixty-five nurses (64.5%) had suffered at least one needlestick injury (included sharp injuries) during the previous year. After adjusting for potential confounders, we found that the high job control group was less likely than the other group to experience needlestick injury (OR=0.51, 95% CI=0.27-0.97). Job demand and social support, however, were unrelated to needlestick injury. The high job strain group was more likely to experience needlestick injury (OR=2.57, CI=1.13-5.83) than the low job strain group.

Conclusions: Our results tend to suggest that nurses who were in the low job control or high job strain status were more likely to suffer a high rate of needlestick injury.

Key Words: Needlestick injury, Nurses, Job stress

가 가
HBV가 6~30%(Gerberding &
Henderson, 1992), HCV가 1~10%(Sodeyama et al, 1993), HIV가 0.3%(Henderson et al, 1990)
(CDC)
(NIOSH, 1999),
' universal precaution ' 2000 11
(Needlestick Safety and

Prevention Act: Public Law 106-430); 2001 (Bloodborne Pathogens Standard 1910.1030) (Needlestick Legislation)

(Suzuki et al, 2004).

CDC (scalpels),

1.

(CDC, 1987; CDC, 1988).

476 2005 3 21
10 가
320 67.2%
15

(Park et al, 1997).

9

40 256 (53.8%)

(Park et al,

2002),

(Castella et al, 2003; Dement et al, 2004)

2.

(Suzuki et al, 2004),

(Mohamad & Ismail, 2003)

1)

(Hoffmann & Sretzer, 1996),

Likert 4

(Li et al, 2001),

0-1-2-3

0~21

(Siu et al, 2004)

가

6

; 7

가

(McCormick & Maki, 1981)

2)

가

가 91 59.2%, 7 54.5% (p=0.035).

1 가 39 (15.2%), 2 가 43 77.8%, 77.3%, 76.5%,
 (16.8%), 3~4 가 37 (14.5%), 5 63.2%, 55.6%

가 46 (18.0%) ().

678 1,000 1 64.0%, 66.1%
 2,648 (Table 1). 가 81.8%, 가

2. 가 75.0%, 가 63.6%
 가 66.2%,
 가 57.7%

20~24 80.6% 가
 , 30~34

65.6%, 25~29 60.7%, 35 57.9% 가 4 56.9%,
 67.2%, 가 5~15 58.9%, 16~20 70.8%,
 1 67.7%, 21 73.9%
 69.1% (Table 2). 가 가 가
 (Table 3).

3.

4.

1 1~3 4~6 68.3%, 57.8%

Table 3. Work-related characteristics of participants by needle/sharps injury

		No	Yes	p-value*
Tenure(years)	<1	7 (25.9)	20 (74.1)	0.035
	1~3	18 (24.7)	55 (75.3)	
	4~6	31 (40.8)	45 (59.2)	
	7	30 (45.5)	36 (54.5)	
Department	Clinic	5 (22.7)	17 (77.3)	0.177
	Intensive care unit	28 (44.4)	35 (55.6)	
	Wards	50 (36.8)	86 (63.2)	
	Operative room	4 (22.2)	14 (77.8)	
	Emergency room	4 (23.5)	13 (76.5)	
Break time	No	62 (36.0)	110 (64.0)	0.877
	Yes	21 (33.9)	41 (66.1)	
Employed type	Formal	88 (36.1)	156 (63.9)	0.337
	Informal	2 (18.2)	9 (81.8)	
Shiftwork	No	5 (25.0)	15 (75.0)	0.343
	Yes	86 (36.4)	150 (63.6)	
Grade	Staff nurse	69 (33.8)	135 (66.2)	0.260
	Supervisor nurse	22 (42.3)	30 (57.7)	
Injection job frequency [†]	4	28 (43.1)	37 (56.9)	0.129
	5~15	30 (41.1)	43 (58.9)	
	16~20	21 (29.2)	51 (70.8)	
	21	12 (26.1)	34 (73.9)	

*: performed by χ^2 -test

[†]: Injection, blood withdrawing et al.

가 (Table 4). (p=0.050). 4 78.2%

5. 66.7%, 58.9%, 52.7%

가 70.1% (p<0.01)(Table 5). 58.2% (p=0.051). 73.8% 55.4% 6. (p<0.01), 가 69.6% 57.6%

Table 4. Sleep quality of participants by needle/sharps injury

		No	Yes	p-value*
Sleep quality	Good	46 (42.2)	63 (57.8)	0.110
	Poor	44 (31.7)	95 (68.3)	

*: performed by ²-test

Table 5. Job stress and job strain of participants by needle/sharps injury

		No	Yes	p-value*
Job demands	Low	51 (41.8)	71 (58.2)	0.051
	High	40 (29.9)	94 (70.1)	
Job control	Low	33 (26.2)	93 (73.8)	0.003
	High	58 (44.6)	72 (55.4)	
Supervisor support	Low	41 (30.4)	94 (69.6)	0.050
	High	50 (42.4)	68 (57.6)	
Co-worker support	Low	42 (32.6)	87 (67.4)	0.240
	High	49 (39.8)	74 (60.2)	
Social support	Low	42 (33.1)	85 (66.9)	0.294
	High	49 (39.8)	74 (60.2)	
Job strain model	Low strain	35 (47.3)	39 (52.7)	0.008
	Passive	16 (33.3)	32 (66.7)	
	Active	23 (41.1)	33 (58.9)	
	High strain	17 (21.8)	61 (78.2)	

*: performed by ²-test

Table 6. Odds ratios of related factors for needle/sharps injury by logistic regression

Factor		OR*	95%CI
Job demand	Low	1.00	
	High	1.28	0.72~2.30
Job control	Low	1.00	
	High	0.51	0.27~0.97
Job strain model	Low strain	1.00	
	Passive	1.62	0.67~3.89
	Active	1.08	0.50~2.35
	High strain	2.57	1.13~5.83

*: adjusted for age, tenure, injection job frequency, social support

0.51 (95% C.I.=0.27-0.97) (Akerstedt et al, 2002; Melamed & Oksenberg, 2002),

2.57 (95% C.I.=1.13-5.83) (Lindberg et al, 2001) . 4673 가 1.53 (Table 6). (Wadsworth et al, 2003) .

68.3% 57.8%

256 165 (64.5%) (Gold et al, 1992)

가 1 678

1,000 1 2,648 235 (Hwang et al, 1998)

(Yun, 1998) 1,298 , 92.2%가

4 (1994)

1,474 , (1997)

1,443 가

(Park et al, 1994) (Yoon et al, 1999) 가

(Park et al, 1997) . GHQ-12 (Suzuki et al, 2004)

가 1.55 (Cooper & Sutherland, 1987; Holcom et al, 1993)

가 가 (Hoffmann & Stetzer, 1996),

(92.2%가 (Mearns et al, 2001) 가

가 , (Probst & Brubaker, 2001) .

(Suzuki et al, 2004) (Johnston, 1995) 20 17

가 1.0 4.6 . 3

가 1 .

(Gold et al, 1992) 가

(Guastello et al, 1999)가

. Karasek 가

1

가 가 가 가 가 가 가 가 가 가 가

가 가 가 가 가 가 가 가 가 가 가

(OR=0.51, 95% C.I.=0.27-0.97).

Karasek

가 Karasek

(OR=2.57, 95% C.I.=1.13-5.83).

가 가

“ ”

4 (1995 ~ 1998)

100

8.9(1995) 6.3(1998)

(Tarantola et al, 2003)

가

5 (Marcia &

Paula, 2004)

100

9.2%(1997 ~ 1998) 2.7%(2001 ~ 2002)

(Walsh, 1988).

“ ” 가

63.6%

:

: 476
 320 (67.2%)
 24
 40 256 (53.8%)
 95%
 : 256 1 가
 ()
 165 64.5%
 0.51
 (95% C.I.=0.27-0.97)
 2.57 (95% C.I.=1.13-5.83)
 : 가

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