

Abstract

Analysis of Sufficient Conditions in Approving Cerebrovascular and Cardiovascular Disease as Occupational Disease

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Objectives: This study was performed to analyze the factors that affect the decision to approve workers compensation claims for cerebrovascular and cardiovascular diseases and to analyze the worker characteristics.

Methods: Three hundred, sixty-nine cases were collected based on the workers compensation records of three Seoul and Incheon Regional centers of the Labor Welfare Corporation between 1998 and 1999. They contained the general characteristics, injury information and past medical histories. The x2-test and logistic regression were performed to investigate the factors affecting the approvals. Seventy-two survivors were surveyed by telephone for job stress. Job stress was surveyed in three parts: job demands, decision latitude and personal free time.

Results: Of the cases, 167 obtained approval from the Corporation; the others did not. Regardless of approval, 62% of all subjects had more than one of the cerebral and cardiovascular risk factors. Especially, 53.9% of subjects had hypertension.

According to the logistic regression, the fatal cases had a higher approval rate (OR=26.4, CI=9.13-76.22). The cases with working condition change (OR=6.5, CI=3.45-12.07), accidents on worksite (OR=4.9, CI=2.39-10.07), female (OR=4.0, CI=1.21-13.3), accidents at night duty (OR=2.9, CI=.156-5.39), cases occurring on duty (OR=.25, CI=1.34-4.72) and cases without past disease history (OR=1.8, CI=1.02-3.36) also had higher approval rates. Telephone survey found that the approval rate increased with decreasing freedom of personal time schedule. However, the logistic regression revealed that job stress didnt affect the approvals.

Conclusion: To prevent cerebrovascular and cardiovascular diseases, the most important aspect is to control hypertension which is the most common risk factor among the victims. Moreover, job stress and over working should be considered in the just approval of the workers compensation claims.

Key Words: Cerebrovascular and cardiovascular disease, Workers' compensation, Job stress

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Table 1. General characteristics for subjects

Variables	Categories	workers(%)
Sex	Male	346(93.8)
	Female	23 (6.2)
Age(years)	less than 40	54(14.6)
	40 ~ 49	79(21.4)
	50 ~ 59	149(40.4)
	more than 60	87(23.5)
Smoking*	Yes	24(20.2)
	No	95(79.8)
Alcohol drinking**	Yes	33(28.5)
	No	83(71.6)
Life	Survival	310(84.0)
	Death	59(16.0)

*; missing=250, **; missing=253

Table 2. Worker 's compensation approvals by general characteristics

Variables	Categories	Approval or not		2
		Approvals(%)	Disapprovals (%)	
Sex	Male	155(44.8)	191(55.2)	0.474
	Female	12(52.2)	11(47.8)	
Age(years)	less than 40	31(57.4)	23(42.6)	8.534*
	40 ~ 49	42(53.2)	37(46.8)	
	50 ~ 59	62(41.6)	87(58.4)	
	more than 60	32(36.8)	55(63.2)	
Survival	Survival	115(37.1)	195(62.9)	52.116**
	Death	52(88.1)	7(11.9)	
Disease history	Yes	89(38.9)	140(61.1)	9.956**
	No	78(55.7)	62(43.3)	
Disease cartegory	Cerbrovascular	138(44.4)	173(55.6)	0.625
	Cardiovascular	29(50.0)	29(50.0)	
Total		167(45.3)	202(54.7)	

*, p<0.05; **, p<0.01

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Table 3. Worker 's compensation approvals by disease status

Variables	Categories	Approval or not		Total number of disease	2
		Approvals(%)	Disapprovals(%)		
Hypertension	Yes	76(38.2)	123(61.8)	199(53.9)	8.706**
	No	91(53.5)	79(46.5)	170(46.1)	
Diabetes	Yes	16(27.6)	42(72.4)	58(15.7)	8.674**
	No	151(48.6)	160(51.4)	311(84.3)	
Hyperlipidemia	Yes	12(24.5)	37(75.5)	49(13.3)	9.836**
	No	156(48.4)	165(51.6)	320(86.7)	
Any one disease	Yes	89(38.9)	140(61.1)	229(62.1)	9.956**
	No	78(55.7)	62(43.3)	140(37.9)	
Total		167(100.)	202(100.0)		

** , p<0.01

Tables 4. Worker 's compensation approvals by variables associated with accident

Variables	Categories	Approval or not		2
		Approvals(%)	Disapprovals (%)	
Night duty	Yes	79(49.4)	81(50.6)	3.907*
	No	73(38.8)	115(61.2)	
Working condition change	Yes	84(64.6)	46(35.4)	45.867**
	No	64(29.8)	151(70.2)	
Accident place	Worksite	129(54.0)	110(46.0)	21.673**
	Others	38(29.2)	92(70.7)	
Accident time	On duty	108(54.8)	89(45.2)	15.607**
	Off duty	59(34.3)	113(65.7)	

*, p<0.05; **, p<0.01

Table 5. Logistic regression by general characteristics and accident properties

Variables	Regression coefficient	Standard error	Odds ratio	95% Confidence interval
Female	1.391	0.611	4.019	1.214 ~ 13.309
Age	-0.037	0.013	0.966	0.943 ~ 0.990
Death	3.273	0.541	26.389	9.136 ~ 76.226
Night duty	0.923	0.320	2.898	1.559 ~ 5.390
Working condition change	1.865	0.319	6.455	3.453 ~ 12.067
Accident place(worksite)	1.589	0.368	4.900	2.385 ~ 10.069
Accident time(on duty)	0.923	0.320	2.518	1.344 ~ 4.715
No disease history	0.615	0.304	1.849	1.019 ~ 3.356

Table 6. Worker 's compensation approvals by variables associated job stress

Variables	Categories	Approval or not		2
		Approvals(%)	Disapprovals (%)	
Job demend	High	10(35.7)	18(64.3)	1.007
	Low	21(47.7)	23(52.3)	
Job decision latitude	High	3(75.0)	1(25.0)	1.763
	Low	28(41.2)	40(58.8)	
Freedom for personal time	High	29(35.1)	37(64.9)	7.085*
	Low	11(73.3)	4(26.7)	

*, p<0.01

Table 7. Logistic regression by general characteristics, accident properties and job stress

Variables	Regression coefficient	Standard error	Odds ratio	95% Confidence interval
Female	0.0789	1.277	2.202	0.180 ~ 26.913
Age	-0.019	0.043	0.982	0.902 ~ 1.068
Night duty	0.895	0.820	2.446	0.491 ~ 12.197
Working condition change	1.831	0.847	6.239	1.185 ~ 32.837
Accident place(worksite)	2.584	0.860	13.243	2.455 ~ 71.436
Accident time(on duty)	0.452	0.790	1.572	0.334 ~ 7.390
No disease history	0.276	0.743	1.317	0.307 ~ 5.651
Job demand	-0.193	0.716	0.825	0.203 ~ 3.335
Job decision latitude	1.067	1.502	2.905	0.153 ~ 55.173
Freedom for personal time	-1.339	0.972	0.262	0.039 ~ 1.762

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가 369 ,
 199 (53.9%)
 15.7%, 13.3%가
 62% ,
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