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Personal and workplace factors for the risk of low back pain among institutional caregivers of people with intellectual, autistic or multiple disabilities



Jin-Ding Lin^{a,b,c,*}, Lan-Ping Lin^a, Sheng-Fang Su^a, Shang-Wei Hsu^{d,e},
Ching-Hui Loh^f, Jia-Ling Wu^b, Cordia M. Chu^{a,c}

^a School of Public Health, National Defense Medical Center, Taipei, Taiwan

^b Chung-Hua Foundation for Persons with Intellectual Disabilities, New Taipei City, Taiwan

^c Center for Environment and Population Health, Griffith University, Brisbane, Australia

^d Department of Healthcare Administration, Asia University, Taichung, Taiwan

^e Department of Public Health, China Medical University, Taichung, Taiwan

^f Tri-Service General Hospital SongShan Branch, National Defense Medical Center, Taipei, Taiwan

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ABSTRACT

The aims of the present study were to investigate the prevalence of LBP among institutional caregivers of people with intellectual, autistic or associated multiple disabilities and to examine the risk factors for LBP among this population. A cross-sectional, purposive sampling method was used to recruit into the study 1073 staff who were working in 15 disability welfare institutions. The survey materials included an introduction letter, an informed consent, and a structured questionnaire that queried the participant's demographic and working characteristics, healthy lifestyle, and previous and current LBP experiences. The present study results showed that 63.2% of the participants reported that they had LBP in the previous year. Many factors of the participants' demographic characteristics (gender, BMI, and marital status), working conditions (years of working experience, weekly work days, labor-oriented work, and direct care staff), and health status (exercise habit, perceived health status, previous and more recent medication experience of musculoskeletal discomfort) associated with LBP occurrence were analyzed in univariate Chi-square analyses. Finally, multiple logistic regression analyses revealed that the factors of female gender (OR = 1.534, $p = 0.039$), being married (OR = 1.469, $p = 0.027$), being direct care staff (OR = 1.844, $p = 0.025$), having fair health status (OR = 1.518, $p = 0.012$), or previous (OR = 1.996, $p < 0.001$) and more recent (OR = 2.744, $p < 0.001$) medication experience of musculoskeletal discomfort were found to be more likely to have LBP than their counterparts. This study highlights that we should pay much closer attention to LBP risk factors and to plan necessary initiatives to avoid the progression of LBP in the workplace.

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1. Introduction

People with intellectual, autistic or associated multiple disabilities are more prone than the general population to particular diseases or disorders (Hsu, Chiang, Lin, & Lin, 2012; Hsu, Yen, et al., 2012; Lin, Liu, Liou, Hsu, & Lin, 2012; Lin, Kuan,

* Corresponding author at: School of Public Health, National Defense Medical Center, No. 161, Minquan East Road, Section 6, Nei-Hu, Taipei 114, Taiwan. Tel.: +886 2 8792 3100x18447; fax: +886 2 8792 3147.

E-mail addresses: a530706@ndmctsgh.edu.tw, jack.lin1964@gmail.com (J.-D. Lin).

et al., 2013; Lin, Wu, et al., 2013) and their caregivers often experience a high prevalence of ill-health, depression, burden and psychological distress (Lin, Lee, Loh, et al., 2009; Lin, Lee, Yen, et al., 2009; Olsson & Hwang, 2001). Consequently, these negative occupational health risks have been found to be associated with health, intended turnover, and absenteeism of the staff who work in disability service organizations (Hatton & Emerson, 1993; Lin et al., 2014; Razza, 1993; Rose, 1995) and have a negative impact on staff well-being, on their clients and on the service organizations (Hastings, 2002; Lin, Lee, Loh, et al., 2009; Lin, Lee, Yen, et al., 2009; Lin & Lin, 2013; Rose, 1995).

Our previous study found the generic physical and mental health status of staff working with people with intellectual disabilities was significantly poorer than in the general Taiwanese population (Lin, Lee, Loh, et al., 2009). Many studies have also confirmed that workers with a high physical work load had a higher risk for developing low back pain (LBP) than workers with a low physical work load (Jensen et al., 2012; Karahan, Kav, Abbasoglu, & Dogan, 2009), particularly in health care workers (Andersen, Clausen, Carneiro, & Holtermann, 2012; Andersen, Clausen, Mortensen, Burr, & Holtermann, 2012; Johansson, 1995). In addition, psychosocial factors were also associated with LBP; Urquhart et al. (2013) indicated that fifty-six percent of hospital nurses had reported LBP in the previous year; and somatization and low job security were found to be independently associated with occupational LBP.

The disability service workplace is one of the high-risk work sectors for LBP; in caring for people with special needs, care workers must transport heavy loads, provide mental assistance and solve complex problems. Therefore, the aims of the present study were to evaluate the self-reporting of LBP occurrence among staff working with people with intellectual, autistic or associated multiple disabilities and to investigate the risk factors for LBP among this population.

2. Methods

This study employed a cross-sectional questionnaire survey “Musculoskeletal Discomfort, Low Back Pain and Associated Living Limitations among Institutional Staff Working for People with Developmental Disabilities in Taiwan” that was part of a three-year study of “Healthy Aging Initiatives for Persons with Intellectual Disabilities in Taiwan: A Social Ecological Approach (grant no. NSC 101-2314-B-016-026-MY3)”. The present entire study population was composed of 9349 staff working in all 271 registered disability welfare institutions caring for people with intellectual, autistic, and associated multiple disabilities at the end of year 2012 in Taiwan (Ministry of the Interiors, 2013). We used a purposive sampling method to choose the institutional staff for the study based on the proportion of the institutions in the four geographic areas of Taiwan. In choosing the institutions, we applied for the institutional approvals and then mailed the structured questionnaires to the institutions for the survey. Finally, 15 institutions primarily focused on caring for people with intellectual, autistic and multiple disabilities agreed to participate in this study.

The survey materials included an introduction letter, an informed consent, and a structured questionnaire that queried the participants’ demographic and working characteristics, healthy lifestyle, and previous and current LBP experiences which were measure by the following instruments: the Nordic Musculoskeletal Questionnaire (NMQ), the Roland and Morris Sickness Impact Profile (SIP), the Brief pain Inventory – Short Form (BPI-SF), and the Wong-Baker FACES Pain Rating Scale.

Table 1
Demographic characteristics of the caregivers in the study.

Variable	n	%	Mean ± S.D. (range)
Working area (n = 1073)			
Northern Taiwan	283	26.4	
Central Taiwan	354	33.0	
Southern Taiwan	284	26.5	
Eastern Taiwan	152	14.2	
Gender (n = 1073)			
Male	175	16.3	
Female	898	83.7	
Age (n = 1035)			
<42years	499	48.2	42.0 ± 11.1 (17.9–71.7)
≥42 years	536	51.8	
BMI (n = 1027)			
BMI < 18.5	53	5.2	24.0 ± 4.2 (15.8–55.1)
18.5 ≤ BMI < 24.0	518	50.4	
24.0 ≤ BMI < 27.0	235	22.9	
BMI ≥ 27	221	21.5	
Marital status (n = 1070)			
Unmarried	374	35.0	
Married	696	65.0	
Educational level (n = 1068)			
Senior high school and less	412	38.6	
College and more	656	61.4	

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