



Self-efficacy as the Best Predictor for Doing Low Back Pain Prevention Behavior among Health Care Workers

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Authors

Sarralah Shojaei^{1,2}, PhD
Sedigheh Sadat Tavafian³, PhD
Ahmad Reza Jamshidi³, MD

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¹Clinical Research Development Center, Ghom University of Medical Sciences, Ghom, Iran.

² Health Education and Health Promotion Department, Tarbiat Modares University, Tehran, Iran.

³ Rheumatology Research Center, Tehran University of Medical Sciences, Tehran, Iran.

* Correspondence

Address: Tehran, Jalal Al Ahmad, Nasr Bridge.

P.O. Box: 14115-111

Phone: +98 (21) 82884547

Fax: +98 (21) 82884555

Email: tavafian@modares.ac.ir

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ABSTRACT

Aim: Nursing has obtained the second rank regarding Work – Related MusculoSkeletal Disorders (WRMSDs). This study aimed to assess if self –efficacy could be the best predictor for back Pain Prevention behavior among health care workers.

Method and Instruments: In this cross-sectional study, 452 healthcare workers who were working in different wards of the 6 general hospitals affiliated to Qom University of Medical Sciences were randomly selected through convenience sampling method. Data were collected through 3 scales such as demographic questionnaire, Work Related Low Back Pain Predictors Questionnaire (WRLBPPQ) and a checklist for assessing the preventive behaviors of spinal damage. Data were analyzed through descriptive and analytic tests through SPSS version 16.

Finding: A total of 452 individuals) with a mean age of (37± 8.3) years participated in the study (289 males and 163 females). Multiple linear regression analysis showed that self-efficacy was the most important predictor for back Pain Prevention Behavior (Standardized Coefficients: 0.218, P value < 0.0001)

Conclusion: The results of this study can be used to develop an education program based on self-efficacy training/promoting among healthcare workers.

Keywords: Self- efficacy , Low back Pain, Predictor, Prevention, Health Care Worker.

Introduction

Low Back Pain (LBP) is reported as the most common nurses' health problem in comparison with other professionals ^[1] so that it obtained second rank prevalence among Work – Related MusculoSkeletal Disorders (WRMSDs) ^[2]. In nursing profession psychological, organizational, personal and physical factors of the workplace contribute to incidence of LBP ^[3]. In spite of these factors, repetitive movements and carrying heavy loads through abnormal body postures are effective factors for WRMSDs^[4-6]. In addition, vibration, lifting, pushing and pulling the loads, and staying in static positions for long time can be mentioned as risk factors for musculoskeletal disorders in nursing ^[7-8].

Research shows that in general, people who use appropriate strategies to control their problems in their workplaces are less likely to suffer work burnout, and their assessment of their personal development is more positive than those who do

not use appropriate strategies. Conversely, those who give up or escape from problems are more likely to be exposed to emotional and attitudinal burnout ^[9]. In this regard, previous evidence reported that adjusting environment, performing efficient self-care and improving interpersonal relationships are proper ways of promoting health ^[10]. Back pain and its physical and psychosocial consequences impose heavy costs on families and ultimately, on the entire of health care system of the country and negatively affects the quality of individuals life and their family ^[11]. It is recommended that health educators should pay attention to the type of behavior, target population, and patterns used in previous interventions in the context of the intended subject to select the appropriate pattern for their interventions ^[12]. Theories are a set of interrelated concepts, definitions, and propositions that

present a systematic way of understanding events and situations, or explain or predict events or situations^[13]. The social cognitive theory contains the effective factors and related structures to the behavior by which multidimensional education program could be provided. However, selecting a proper theory should be based on community needs and in accordance with existing scientific evidence and also according to new related evidences^[14]. Self-efficacy is one of most theories' constructs such as social cognitive theory as a comprehensive and multidimensional theory which could identify the factors affecting preventive behaviors.

Since, many studies showed self-efficacy as the strongest predictor of doing healthy behaviors, this study aimed to explore if this variable could predict LBP prevention behavior among health workers in hospitals of Ghom, Iran.

Methods and Instruments

In this study, 452 healthcare workers were randomly selected conveniently. The proportion of potential participants from each ward was based on all employed healthcare workers in that ward. The healthcare worker working in the hospitals with at least one year working experience and with age of 20 to 60 years were allowed to include in the study. However, individuals with history of spine surgery, lumbar disease, congenital abnormalities and other organ defects which prevent them to do LBP preventive behaviors, were excluded from the study.

All ethical principals were considered in this study and Informed consent form obtained from the participants. This study was approved by the ethical committee of Tarbiat Modares University. Data were collected from three questionnaires. The first questionnaire was about demographic and occupational variables, the second questionnaire was Work Related Low Back Pain Predictors Questionnaire (WRLBPPQ) that was validated in previous study^[15] and the third one was a checklist for assessing the preventive behaviors of spinal damage.

WRLBPPQ included 7 constructs and 40 items with a 5-point Likert scale from strongly agree (score 5) to strongly disagree (score 1) which the higher score indicates the better position. In addition, a researcher-made 12-item checklist for assessing the preventive unhealthy behaviors towards spinal damage was used. The items of this checklist were selected through reviewing related evidence^[16]. This checklist was a self-reporting and were marked by healthcare workers through "never", "sometimes," "often," and "always" choices with 1 to 4 score and total score of 12 to 48 in which the higher score indicates better situation. Linear regression analysis was used to predict the most important factor of unhealthy behaviors for LBP.

Results

Totally, 452 individuals (289 males and 163 females) with mean age of 37 ± 8.3 years participated in the study. Table 1 shows all assessed demographic characteristics. Multiple linear regression analysis on 452 healthcare workers showed that the construct of Self-efficacy (Standardized Coefficients: 0.218, p value < 0.0001) among other constructs like self-control, outcome reinforcement and emotional coping had the most predictive value for doing prevention behaviors of lumbar injury.

Discussion

In this study self-efficacy among other factors such as emotional coping, self-control, and outcome reinforcement was the best predictor of lumbar injury prevention. This finding is in the line of other previous study that showed self-efficacy as the best influencing factor on behavior change. According literature, Individual morality can have a major impact on self-efficacy beliefs. Furthermore, optimism and positive morals could increase self-efficacy beliefs, and also disappointment and depression could reduce self-efficacy beliefs. The predictive potential of self-efficacy suggests that in order to do lumbar health behavior in the workplace, healthcare workers need to believe that they are capable

Table 1) Demographic characteristics of participants in the study.

Variable	Unit	Mean (SD)
Age	Year	37±8.3
Work experience	Year	10.27 ± 8.1
Gender	Male	289 (63.9)
	Female	163 (33.6)
Employment Status	Permanent employment	31(7)
	Contract- based employment	16(3.5)
	Contract-based service provider	366(81)
	Others	22(4.7)
Marital status	Single	47 (10.4)
	Married	391(86.5)
	Other	14(3.1)
Educational level	Bachelor Degree	58(12.8)
	Associate Degree	14(3.1)
	Diploma	112(24.8)
	Middle School	113(25)
	Primary school	138(34.3)

of doing it. However, previous researches showed that factors such as high working hours, the compression of work shifts, and limited number of workers in workplaces, anxiety, and stress can deprive them of this belief and they cannot put aside the wrong behaviors ^[15].

In the line with the current research, previous study conducted by Tulloch and colleagues showed that social and physical support through self-efficacy and outcome expectations were indirect predictors of physical activity ^[17].

It has been argued that not having desirable feelings in performing a proper health activity, not observing healthy lumbar behaviors, and also not getting necessary coordination with the environment and surrounding as well as feeling disturbed, could encounter problems in conducting or continuing the healthy behavior.

The results of this study also indicated that coping with carrying out healthy lumbar behaviors and observing correct body posture during patient care as well as positive

emotions and feelings of healthcare workers is important for doing healthy behaviors. Thus, self - efficacy was recognized as one of the most important predictors of doing preventive behaviors in this study. Because, doing healthy behavior is so easier by recognizing and satisfying ones' needs in a desirable manner such as belonging, affection, success, security, sympathy, freedom from sin and encouragement ^[18].

Lumbar health behaviors could create good mental health and resistance to complications of mental stress, positive morality and personal life satisfaction, and proper coordination between feelings, activities and thoughts ^[19]. However, given the obtained satisfaction of doing these behaviors, could lead to higher self - efficacy and so can be used to manage and overcome problems. This study caused participants' knowing the consequences of health care prevention behavior due to spine damage and provide a way to modify their behavior by controlling the emotions and overcoming the inhibitory emotional responses that

leading to high self-efficacy.

In addition, this study showed, the emphasis on the consequences of these behaviors and their compatibility with healthcare workers, morale could be effective for doing the behavior.

Despite strong points of this study such as large sample size, there were few limitations such as self-reporting and non-causative study that is recommended to be considered in future studies.

Conclusion

The results of this study can be used to develop an education program based on self-efficacy improving regarding doing low back pain preventive behavior among healthcare workers.

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Conflicts of Interest: There is no conflict of interest for this study.

Author Contribution. SSh was the principal researcher. SST supervised the study. ARJ advised the study.

Ethical Permission. In this study, all ethical principals were considered and it was approved in Tarbiat Modares University as a post doc project.

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References

1. Szeto GPY, Law KY, Lee E, Lau T, Chan SY, Law SW. Multifaceted ergonomic intervention programme for community nurses: pilot study. *J Adv Nurs*. 2010;66(5):1022-34.
2. Villarroya A, Arezes P, Díaz-Freijo S, Fraga F. Comparison between five risk assessment methods of patient handling. *Int J Ind Ergon*. 2016;52:100-8.
3. Abedini R, Choobineh A, Hasanzadeh J. Evaluation of effectiveness of MAPO and PTAI methods in estimation musculoskeletal disorders risk. *Iran Occupational Health*. 2013;10(4):33-42.
4. Zamanian. Risk Assessment of Musculoskeletal Disorders and Determination of the Associated Factors among Workers of a Dairy Products Factory. *J Health Sci Surveillance Sys*. 2014;2(4):134-9.
5. Amini A, Sazandeh Z ,Varmazyar S. Survey Musculoskeletal disorders restaurant workers in Qazvin. The Ninth National Congress of Occupational Health and Safety. 2014.
6. Haukka E. Co-occurrence of musculoskeletal pain among female kitchen workers. *Int Arch Occup Environ Health*. 2006;80:141-8.
7. Jafari SM, Fazli B, Nurani M, Sharifpoor Z, Soltani gerdfaramarzi R. Risk assessment of musculoskeletal disorder by RULA method, and effect evaluation of ergonomic training on tailor working conditions. *occupational Medicine Quarterly Journal*. [Applicable]. 2013;5(2):43-50.
8. Chim J. Ergonomics Workload Analysis For The Prevention of Musculoskeletal Disorders in Food Services in The Health Sector. *Human Factors & Ergonomics Society of Australia*. 2006;42nd Annual Conference.
9. Shakerinia I, Mohammadpour M. Relationship between job stress and resiliency with occupational burnout among nurses. *Journal of Kermanshah University of Medical Sciences (J Kermanshah Univ Med Sci)*. 2010;14(2):161-9.
10. McElligott D, Siemers S, Thomas L, Kohn N. Health promotion in nurses: Is there a healthy nurse in the house? *Appl Nurs Res*. 2009;22(3):211-5.
11. Tavafian SS, Jamshidi AR, Mohammad K. Treatment of chronic low back pain: A randomized clinical trial comparing multidisciplinary group-based rehabilitation program and oral drug treatment with oral drug treatment alone. *Clin J Pain*. 2011;27(9):811-8.
12. World Health O. Health education: theoretical concepts, effective strategies and core competencies: a foundation document to guide capacity development of health educators. Regional Office for the Eastern Mediterranean; 2012.
13. Glanz K, Rimer BK, Viswanath K. How Individuals, Environments, and Health Behaviors Interact Social Cognitive Theory. In: McAlister A, Perry C, Parcel G, editors. *Health behavior and health education: theory ,research, and practice*: John Wiley & Sons; 2008. p. 176.
14. Glanz K, Rimer BK, Viswanath K. *Health behavior and health education: theory, research, and practice*. John Wiley & Sons; 2008.
15. Shojaei S, Tavafian SS, Jamshidi AR, Wagner J. A Multidisciplinary Work-Related Low Back Pain Predictor Questionnaire: Psychometric Evaluation of Iranian Patient-Care Worker. *Asian Spine J* 2016;10(3): 501-8.
16. Trinkoff AM, Lipscomb JA, Geiger-Brown J, Storr CL, Brady BA. Perceived physical demands and reported musculoskeletal problems in registered nurses. *Am J Prev Med*. 2003;24(3):270-5.
17. Tulloch H. Social cognitive determinants of exercise

- intentions and behaviour in patients with coronary artery disease [Electronic Theses and Dissertations]. Canada University of Ottawa Hospital Ottawa,; 2007.
18. Soukup MG, Linn J, Glomsrød B, K, Larsen S. Exercises and education as secondary prevention for recurrent low back pain. *Physiother Res Int.* 2001;6(1):27-39.
 19. Dean SG, Smith JA, Payne S, Weinman J. Managing time: an interpretative phenomenological analysis of patients' and physiotherapists' perceptions of adherence to therapeutic exercise for low back pain. *Disabil Rehabil.* 2005;27(11):625-36.