

NIOSH-CPWR

jnsaraji@tums.ac.ir

National Institute of Occupational Health-Center to Protect Workers Rights (NIOSH-CPWR)

SPSS

/ ± /

(% /)

NIOSH-CPWR

(% /) (% /)
(Chubine 2003) (%)

(NIOSH 1997)

%
(Welch et al. 1998)

%
(Anderson 1992)
% /

(Hildebrandt 1995)

% %
(Cook et al. 1996)

%
% % %
%
% % %
(Zimmerman et al. 1997)

lundholm and Swartz)

(2006

% % % % %
% % % % %

(%) .(Goldshyder 2002)

CPWR

Chaffin and Anderson 1984; Keyserling)
et al. 1988; Alazab 2004; Rosecrance et al.
(2002

%
%

Chaffinand and Anderson)
1984; Buchholz 1996; kittusamy 2004;
(Keyserling et al. 1988

Posture-
Activity-Tools and Handling (PATH)

()

(% /)
(% /)
(% /) (% /)
(% /) (% /) (% /) (% /)

CPWR

(Hajaghazadeh 2006)

CPWR

Center to Protect Workers

Rights (CPWR)

(Elcosh 2004)

NIOSH

/...

(% /)

(% /)

(% /)

(Kuorinka et al. 1987)

(% /)

/ / (%) CPWR

(/)

(/)

.(/)

(%) -

(%)

(% /)

(% /)

(%)

($p < /$)

($p < /$)

SPSS

T-test

Chi-square

($p < /$)

/

($p < /$)

($p < /$)

/ ± /

/ ± /

/ ± /

($p < /$)

(/)

(%)

(% /)

(% /)

%)

(%

;Zimmerman et al. 1997) .

(Goldshyder 2002

.(Hajaghazade 2006) % /

(OR)

()

OR

/

/

($p < /$)

($p < /$)

.()

(% /)

CPWR

(r= /)

(%)

.(Rosecrance et al. 2002)

Chaffinand and)

Anderson 1984; Buchholz 2003; kittusamy
(2004; Keyserling et al. 1988

(r= /)

NIOSH

NIOSH-

CPWR

(r= /)

(r= /)

CPWR

/

()

()
()

CPWR

-

/

/

/

/

/

/

/

NIOSH-CPWR

CPWR

/

/ /

/ /

/

Min: /

Max: /

SD: /

References

- Alazab, R., 2004. Work-Related Diseases and Occupational injuries among Workers in the construction industry. *J Afr Newslett Occup Health and safety*, **14**, pp. 37-42.
- Andersson, GBj., 1999. Epidemiological features of chronic low-back pain. *The Lancet*, **354**(9178), pp. 581-585.
- Buchholz, B., 1996. PATH; A work sampling –based approach to ergonomic job analysis for construction and other non-repetitive work. *J Applid Ergonomics*, **27**(3), pp. 177-187.
- Buchholz, B., 2003. Quantifications of Ergonomic Hazards for Ironworker performing Concerte Reinforcement Task during Heavy Highway Construction. *AIHA journal*, **64**, pp. 243-250.
- Chaffin, DB. and Anderson, G., 1984. Occupational Biomechanics. New York: wiley.
- Chubine, A., 2003. *Methods of assessment Posture in occupational Ergonomy*, Fanavaran, Tehran [In Persian].
- Cook, TM., Rosecrance, JC. and Zimmerman, CL., 1996. The university of Iowa constration survey. The center to protect workers right. (Report No.E1-96).washington, DC.
- ELCOSH Construction Ergonomics Checklist.htm Copyright., 2004. CPWR – Center for Construction Research and Training (CPWR).
- Goldsheyder, D., 2002. Prevention of work-related musculoskeletal disorder in construction labores.
- Hajghazade, M.F., 2006. *Assessment moscoloskeletal disorders risk factor in construction workers by PATH method.a case study of the oromia.MS tehran university* [In Persian].
- Hildebrandt, VH., 1995. Back pain in the working population, *prevalence rate in Dutch trades and professions.Ergonomics*, **38**(6), pp. 1283-1298.
- Keyserling, NK., Punnett, L. and Fine, LJ., 1988. Trunk posture and back pain: Identification and contorol of occupational risk factors. *Applied Industrial Hygiene*, **3**, pp. 87-92.
- Kittusamy, NK., 2004. Wole body vibration and postural stress among operator of construction equipment:Aliterature review.
- Kuorinka, I., Jonsson, Kilbom, A., Vinterberg H. and Biering-Sorensen, F., 1987. Standardize Nordic Questionnaires for the Analysis of musculoskeletal symptoms. *Appl Ergon.* **18**, pp. 233-237.
- Lundholm, L. and Swartz H., 2006 Musculoskeletal ergonomic in the consruction industry, Swedish work Environment authority, Statistics division, SE-171 84 Solna.
- National Institute for Occupational Safty and Health [NIOSH]., 1997. Musculoskeletal disorders and workplace risk factor: A critical review of epidemiological evidence for work-related musculoskeletal disorders of the neak, uper extremity, and low back (NIOSH publication 97-141).cincinnati,OH:author.
- Rosecrance, J., Cook, T., Fেকেce, E. and Merlinol, F., 2002. 2: Musculoskeletal disorders among construction apprentices in Hungary. *Cent Eur J Public health*, **9**(4), pp. 183-7.
- Welch, LS., Hunting, KL. and Mendez, M., 1998. Disability among sheet workers (abstract). *American public Health Association*. Washington, D.C.
- Zimmerman CL., Cook, TM. and Rosecrance, JC., 1997. Operating Engineers: Work-related musculoskeletal disorders and the trade. *Applied Occupational and Environmental Hygiene*, **12**, pp. 670-680.