

Abstract

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Relationship between Predisposing Factors and Risk of Work-Related Musculoskeletal Strain among Poultry Slaughterhouse Workers – A Cross Sectional Study

Benjamaporn Hancharoenkul^{1*}, Peanchai Khamwong², Ubon Pirunsan², Leonard Joseph³, Natharin Boontha^{2,4}

¹Program in Biomedical Sciences, Faculty of Associated Medical Sciences, Chiang Mai University, Chiang Mai 50200, THAILAND

²Department of Physical Therapy, Faculty of Associated Medical Sciences, Chiang Mai University, Chiang Mai 50200, THAILAND

³School of Sports and Health Sciences, University of Brighton, Robert Dodd Building, 49 Darley Road, Eastbourne BN20 7UR, East Sussex, UK

⁴School and Graduate Institute of Physical Therapy, College of Medicine, National Taiwan University, Taipei City, TAIWAN (R.O.C)

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***Conference presenter and corresponding author:**

Benjamaporn Hancharoenkul,
Program in Biomedical Sciences,
Faculty of Associated Medical
Sciences, Chiang Mai University,
Chiang Mai 50200, Thailand

E-mail:

benjamaporn.han@gmail.com

(Benjamaporn Hancharoenkul)

peanchai.k@cmu.ac.th

(Peanchai Khamwong)

ubon.p@cmu.ac.th

(Ubon Pirunsan)

leonardjoseph85@hotmail.com

(Leonard Joseph)

kritsana.b@cmu.ac.th

(Natharin Boontha)

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ABSTRACT

Introduction: In Thailand, the poultry slaughterhouse industry is one of the largest sectors of the food industry which continues to grow as well as the number of poultry workers that increase significantly. The poultry workers are exposed to repetitive movements and prolonged standing for entire working hours, which may predispose to the risk of work-related musculoskeletal strain (WMS) especially at the upper limb and neck region.

Objective: To evaluate the relationship between predisposing factors and the risk of WMS among poultry slaughterhouse workers.

Methods: A cross-sectional observational study was conducted in Thailand among 78 poultry slaughterhouse workers. A self-reported profile of the workers were collected. Rapid Upper Limb Assessment (RULA) was conducted to examine the risk of WMS to upper limb and neck by a physiotherapist. The total RULA score at 7 (high risk level) was used as a cut off point for investigating the relationship between the predisposing factors and WMS risk by using the binary logistic regression analysis (AMSEC-64EX-112).

Results: A total of 78 participants, 48.7% (N=38) men, and 51.3% (N=40) women participated in the study with a mean age of 39.12±9.33 years. The mean work experience and working hours/day were 4.33±4.04 years, and 10.42±1.59 hours, respectively. 37.2% (N=29) were smokers, and 77% (N=60) worked more than 8 hours/day. About 11.5% (N=9) worked in slaughtering task, 41% (N=32) worked in evisceration task, and 47.4% (N=37) worked in cut-up task. 80.7% (N=63) had RULA score at 7. Predisposing factors: working hours (more than 8 hours) ($R^2=0.137$, $\beta=13.33$, $p=0.001$), evisceration ($R^2=0.145$, $\beta=19.33$, $p=0.001$) and cut-up task ($R^2=0.145$, $\beta=10.33$, $p=0.005$), and smoking ($R^2=0.05$, $\beta=0.31$, $p=0.048$) were significantly associated with RULA.

Conclusion: This study identified certain predisposing factors such as working hours, evisceration and cut-up task, and smoking related to risk of WMS to upper limb and neck region among poultry slaughterhouse workers.

Keywords: poultry slaughterhouse workers; predisposing factors; work-related musculoskeletal strain