



ELSEVIER

Journal of Medical Imaging and Radiation Sciences xx (2014) 1-8

Journal of Medical Imaging  
and Radiation SciencesJournal de l'imagerie médicale  
et des sciences de la radiation

www.elsevier.com/locate/jmir

# Work-related Stress, Musculoskeletal Disorder Complaints, and Stress Symptoms among Radiographers in the Northern Part of Jordan

Mustafa Alhasan, PhD<sup>a\*</sup>, Mostafa Abdelrahman, PhD<sup>a</sup>, Haytham Alewaidat, PhD<sup>a</sup>,  
Khader Almhdawi, PhD<sup>b</sup> and Mohammad Nazzal, PhD<sup>b</sup>

<sup>a</sup> Department of Allied Medical Sciences-Radiology, Jordan University of Science and Technology, Irbid, Jordan

<sup>b</sup> Department of Rehabilitation Sciences-Occupational Therapy, Jordan University of Science and Technology, Irbid, Jordan

## ABSTRACT

**Objective:** The aims of this study were to report the variation in work-related stressor (WRS) and musculoskeletal disorder (MSD) complaints across three major hospitals in the northern part of Jordan and to examine the correlations between stressors, MSD complaints, and stress symptoms using a questionnaire.

**Methods:** A qualified radiographer distributed a questionnaire in the radiology department at three hospitals, including a governmental public hospital (GH), a university educational hospital (UH), and a private hospital (PH). The questionnaire included demographic, WRS, management and responsibility stressors, stress symptoms, stress relievers, and MSD complaints sections. A total of 74 radiographers (GH = 28, UH = 29, PH = 17) agreed to participate after signing a consent form.

**Results:** The average age ranged from  $30.8 \pm 3.3$  to  $33.6 \pm 1.4$  ( $P = .6$ ), and the average experience ranged from  $6.2 \pm 2.5$  to  $8 \pm 1.2$  years ( $P = .7$ ) in the hospitals. The number of men was higher than women only in the UH (ratio = 2.6). The number of diploma degree holders was higher than the number of bachelor's degree holders only in the GH (ratio = 3). Stress symptoms such as depression and MSD complaints such as low back pain in the GH were significantly higher than the other hospitals. There was a significant correlation (Spearman correlation coefficient = 0.61,  $P = .04$ ) between WRS and MSD complaints.

**Conclusion:** The GH had more MSD complaints and stress symptoms than the other hospitals. WRSs were correlated significantly with MSD complaints. Encouraging the radiographers to attend work stress management sessions may help in reducing the level of stress.

*Keywords:* stress; radiographer; computed tomography

## RÉSUMÉ

**Objectif:** Cette étude visait à présenter les variations dans les facteurs de stress liés au travail (WRS) et les plaintes de troubles musculo-squelettiques (MSD) dans trois grands hôpitaux du nord de la Jordanie et à examiner les corrélations entre les facteurs de stress, les plaintes de MSD et les symptômes de stress, à l'aide d'un questionnaire.

**Matériel et méthodes:** Un radiographe qualifié a distribué un questionnaire dans le service de radiologie de trois hôpitaux, dont un hôpital public gouvernemental (GH), un hôpital universitaire (UH) et un hôpital privé (HP). Le questionnaire comprenait des sections sur les renseignements démographiques, les facteurs de stress liés au travail, les facteurs de stress liés à la gestion et aux responsabilités, les symptômes de stress, les réducteurs de stress et les plaintes de MSD. Au total, 74 radiographes (GH: 28, UH: 29, PH: 17) ont accepté de participer, après avoir signé un formulaire de consentement.

**Résultats:** L'âge moyen allait de  $30,8 \pm 3,3$  à  $33,6 \pm 1,4$  ( $p = 0,6$ ) et l'expérience moyenne de  $6,2 \pm 2,5$  à  $8 \pm 1,2$  ans ( $p = 0,7$ ) dans les hôpitaux. Le nombre d'hommes était plus élevé que le nombre de femmes à UH seulement (ratio : 2,6). Le nombre de titulaires de diplômes était plus élevé que le nombre de titulaires de baccalauréat à GH seulement (ratio : 3). Les symptômes de stress comme la dépression et les plaintes de MSD comme les douleurs lombaires à GH étaient notablement plus élevés que dans les autres hôpitaux. Il y avait une corrélation significative (coefficient de corrélation de Spearman = 0,61,  $p = 0,04$ ) entre les facteurs de stress liés au travail et les plaintes de troubles musculo-squelettiques. Encourager les radiographes à suivre des séances de gestion du stress lié au travail pourrait aider à réduire le niveau de stress.

## Introduction

Stress is known as a disturbance of the physical and mental status of individuals [1]. It is characterized by the response of body systems to external physical and emotional factors

\* Corresponding author: Mustafa Alhasan, PhD, Department of Allied Medical Sciences-Radiology, Faculty of Applied Medical Sciences, Jordan University of Science and Technology, PO Box 3030, Irbid 22110, Jordan.

E-mail address: [mkalhasan@just.edu.jo](mailto:mkalhasan@just.edu.jo) (M. Alhasan).

Table 1  
Questionnaire Sections

Section	Factor	Choices
1. Demographic information	1. Age	NA
	2. Sex	Male/female
	3. Experience	NA
	4. Degree	Bachelor/diploma
	5. Job category	General X-ray/fluoroscopy/computed tomography/magnetic resonance imaging/angiography/portable/mammography/nuclear medicine/dental X-ray/ultrasound
6. Work-related stressors	1. Working hours	35 hours or less/more
	2. Working over weekend	Yes/no
	3. Using digital radiography	
	4. Staff shortage	
	5. On call work	Never/rarely/usually/always
	6. Using daylight processor	
	7. Using darkroom facility	
	8. Carrying large cassette	
	9. Using lead apron	
	10. X- ray tube adjustment	
	11. Radiographic table adjustment	
	12. Dealing with patients	
	13. Radiation exposure during work	
9. Management and responsibility stressors	1. Awareness of duties	Never/rarely/usually/always
	2. Troubles with superiors	
	3. Working apart from duties	
10. Stress symptoms	1. Anger	Never/rarely/usually/always
	2. Anxiety	
	3. Violence	
	4. Depression	
	5. Insomnia	
	6. Fatigue	
	7. Headache	
	8. High blood pressure	
11. Musculoskeletal disorders complaints	1. Low back pain	Never/rarely/usually/always
	2. Shoulder pain	
	3. Neck pain	
	4. Legs pain	
	5. Hand pain	
12. Stress relievers	1. Exercise	Never/rarely/usually/always
	2. Eating	
	3. Medication	
	4. Smoking	
13. Staff support and stress awareness lectures	1. Stress-management lectures	Never/rarely/usually/always
	2. Staff support	

in order to adapt to a situation. Stress can be divided into two components: social and mechanical stress [1]. In the literature, two models were reported to explain the stress mechanism: a systemic reaction model studies the effects of prolonged stimuli, whereas a psychological model focuses on the response of individuals to manage their demands [2]. As a consequence of untreated stress, burnout can take place [1, 3].

Musculoskeletal disorders (MSDs) have been reported to be the most common illness related to work in Britain [4]. Staff shortage, increased workload, and pressure are significant stressors associated with MSDs [4]. Moreover, physical factors such as manual handling, bending, and twisting can lead to MSDs [5].

Many studies have investigated work-related stressors (WRSs) and MSD complaints among radiographers. A study

Table 2  
Age Variation in Hospitals

Hospital	GH	UH	PH
Mean	33.57	31.66	30.76
SE	1.410	1.329	3.266

GH, governmental public hospital (n = 28); PH, private hospital (n = 17); SE, standard error; UH, university educational hospital (n = 29).

Table 3  
Sex Distribution in Hospitals

Hospital	Male	Female
GH	11	17
UH	21	8
PH	8	9

GH, governmental public hospital; PH, private hospital; UH, university educational hospital.

Download English Version:

<https://daneshyari.com/en/article/2735499>

Download Persian Version:

<https://daneshyari.com/article/2735499>

[Daneshyari.com](https://daneshyari.com)