Original Literary Work Declaration

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Name of Degree: MASTER OF MEDICINE (SPORTS MEDICINE)

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OCCUPATIONAL PHYSICAL ACTIVITY MEASUREMENT AMONG NURSES IN UNIVERSITI MALAYA MEDICAL CENTRE

Field of Study: SPORTS MEDICINE

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Abstract

Background:

Although many studies have investigated the correlates of physical activity, these were mostly conducted in the leisure time domain. There is still lack of understanding about correlates physical activity exclusively in the workplace setting, as most study in the occupational domain are coupled with transportation domain. This study objectively examined the correlates of physical activity only in the occupational setting, where different backgrounds of female nurses were examined within the similar physical, social and working environment.

Objectives:

The primary objective is to examine relationships between correlates and components of physical activity in occupational setting. Secondary objectives are to investigate the prevalence of nurses who met the minimum recommended bout of physical activity and the characteristics of those who do.

Method:

37 female nurses in an urban hospital were monitored at work with accelerometer. Nurses who met the recommendation are those who performed activities of >3.0 METs for 10 continuous minutes. Linear regression model were fitted to analyse the correlation and association of sedentary time, averaged intensity of the performed occupation and walk amount with nurses' age, BMI and working experience. Independent sample t-test was used to examine differences between 2 groups of nurses – those who met and did not meet the minimum recommended bout.

Results:

Sedentary time is positively associated with age ($r=0.51$, $\beta=1.6$, $p<0.01$), BMI ($r=0.43$, $\beta=1.8$, $p<0.01$) and working experience ($r=0.48$, $\beta=0.14$, $p<0.01$). Averaged intensity of occupation is negatively associated with age ($r=-0.51$, $\beta=-0.03$, $p<0.01$), BMI ($r=-0.59$, $\beta=-0.1$, $p<0.01$) and working experience ($r=-0.41$, $\beta=-0.03$, $p<0.01$). Walk amount is negatively associated with age ($r=-0.40$, $\beta=-178$, $p=0.01$) and working experience ($r=-0.48$, $\beta=-14$, $p=0.04$) but not BMI ($p=0.87$). 56.8% ($n=21$) of the nurses met the minimum recommendation. These nurses are significantly ($p<0.01$) younger, smaller BMI, and less experience. They significantly ($p<0.01$) spent less time being sedentary, scored higher MET values and walked more.

Conclusion:

The findings of this study have not only confirmed the relationships between the correlates occupational physical activity, but further extended the evidence that workplace activities can contribute to meeting the ACSM-AHA 2007 physical activity recommendations. Age, BMI and working experience are important considerations to increase both incidental and structured physical activity interventions at workplace.

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95%CI	95% confidence interval
ACSM	American College of Sports Medicine
AHA	American Heart Association
BMI	Body mass index
BMR	Basal metabolic rate
COPD	Chronic obstructive pulmonary disease
M	Arithmetical mean
MANS	Malaysian Adult Nutrition Survey
MET	Metabolic equivalent of tasks
MoH	Ministry of Health of Malaysia
NCD	Noncommunicable disease(s)
NHMS	National Health Morbidity Survey
NIDDM	Non-insulin dependent diabetes mellitus
PAL	Physical activity level
r	Pearson's correlation
RR	Relative risk
SD	Standard deviation
SWA	Sensewear Pro3 Armband accelerometer
TEE	Total energy expenditure
UMMC	Universiti Malaya Medical Centre
WHO	World Health Organizations
WHPP	Worksite health promotion program(s)