Original Literary Work Declaration

Name of Candidate: Dr SYAMSUL RIZAL BIN ABU AMIN
I.C/ No: 790516-01-6281
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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.
Acknowledgement

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