

**A PHYSICAL ACTIVITY INTERVENTION DEMONSTRATION PROJECT  
AMONG EMPLOYEES OF UNIVERSITI PUTRA MALAYSIA**

**BY**

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**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in  
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**Chairman: Associate Professor Mirnalini Kandiah, PhD**

**Faculty: Medicine and Health Sciences**

Physical activity is important for enhancing health and to reduce risk of various chronic diseases. Despite the well-known benefits of physical activity, lack of physical activity is now a global health hazard. Worldwide, more than 60% of adults do not engage in sufficient levels of physical activity to achieve health benefits (WHO, 2003a). In Malaysia, approximately 31% of adults do not exercise regularly (MOH, 1998). The study objective was to evaluate the effects of a six-week physical activity intervention at worksite on anthropometric measurements, percentage of body fat, physical activity levels, physical activity stages of change, walking energy expenditures and barriers to exercise. A total of 110 employees from six randomly selected faculties in Universiti Putra Malaysia were randomly allocated into control (3 faculties, n=55) and intervention groups (3 faculties, n=55). Over the six-week period, the intervention group received a multi-component intervention consisting of lecture-discussion sessions, group counselling sessions, exercise demonstrations, posters, weekly booklets and telephone

reminders. The control group received weekly booklets only. Baseline and post-intervention assessments were conducted by using the same questionnaires (interview-administered format). Interviews, intervention activities and written information were conducted in Bahasa Melayu. At the end of the study, a significant positive change ( $p < 0.05$ ) was found for the percentage of body fat, physical activity level, physical activity stages of change, walking energy expenditure and three categories of barriers to exercise namely, lack of time, social influence and lack of willpower in the intervention group. A non-significant improvement in physical activity level, physical activity stages of change and barriers to exercise was observed for the control group. This finding may indicate that the written information (booklets) may have had some impact on promoting a physically active lifestyle or may also be due to external factors that were not controlled for. In conclusion, more than 60% of all the participants were engaged in little or no exercise at the beginning of the study. The recorded positive changes after the six weeks intervention provide evidence to support that a short-term intervention could help to increase the proportion of individuals meeting the recommendations of physical activity, adopt positive physical activity behaviour and decrease the number of barriers to exercise. Therefore, the implementation of physical activity interventions at worksites should be encouraged.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Master Sains

**PROJEK DEMONSTRASI AKTIVITI FIZIKAL DI KALANGAN  
KAKITANGAN UNIVERSITI PUTRA MALAYSIA**

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Aktiviti fizikal adalah penting untuk meningkatkan tahap kesihatan dan untuk mengurangkan pelbagai risiko penyakit kronik. Walaupun kebaikan aktiviti fizikal terhadap kesihatan adalah dikenali secara umum, namun kekurangan aktiviti fizikal merupakan satu isu global yang mengancam pada masa kini. Di seluruh dunia, lebih dari 60% golongan dewasa tidak mengamalkan aktiviti fizikal dengan tahap yang mencukupi untuk mencapai kebaikan bagi kesihatan (WHO, 2003a). Di Malaysia, lebih kurang 31% golongan dewasa tidak melakukan senaman dengan lazim (MOH, 1998). Objektif kajian ini adalah untuk menilai keberkesanan intervensi aktiviti fizikal yang intensif selama enam minggu di tempat kerja ke atas pengukuran antropometri, peratus lemak tubuh, tahap aktiviti fizikal, tahap pengubahan aktiviti fizikal, penggunaan tenaga untuk aktiviti jalan kaki dan halangan untuk bersenam. Seramai 110 pekerja dipilih dari 6 fakulti di Universiti Putra Malaysia dan dibahagikan kepada kumpulan kawalan (n=55)

dan kumpulan intervensi (n=55) secara rawak. Selama enam minggu, kumpulan intervensi menerima intervensi multi komponen yang merangkumi sesi kuliah dan perbincangan, kaunseling secara berkumpulan, pertunjukan senaman, poster, bahan bacaan mingguan dan panggilan telefon. Kumpulan kawalan hanya menerima bahan bacaan mingguan sahaja. Pengumpulan data sebelum dan selepas intervensi dijalankan dengan menggunakan borang soal-selidik yang sama, secara temuduga dalam Bahasa Malaysia. Selepas intervensi, didapati kumpulan intervensi menunjukkan perubahan positif yang signifikan ( $p < 0.05$ ) bagi peratus lemak tubuh, tahap aktiviti fizikal, tahap perubahan aktiviti fizikal, penggunaan tenaga untuk aktiviti jalan kaki dan tiga kategori halangan untuk bersenam iaitu kekurangan masa, pengaruh sosial dan kekurangan keinginan. Kumpulan kawalan menunjukkan kemajuan bagi tahap aktiviti fizikal, tahap perubahan aktiviti fizikal dan halangan untuk bersenam, walaupun kemajuan ini tidak signifikan, ia dapat menunjukkan bahawa bahan bacaan juga berkesan untuk mempromosikan gaya hidup yang aktif ataupun disebabkan oleh faktor luaran yang tidak dikawal dalam kajian ini. Kesimpulannya, sebelum intervensi dijalankan, lebih daripada 60% peserta adalah tidak aktif pada permulaan kajian ini. Intervensi yang dijalankan selama enam minggu ini telah meningkatkan peratusan peserta mencapai saranan aktiviti fizikal, memelihara tabiat senaman yang positif serta mengurangkan faktor halangan untuk bersenam. Oleh yang demikian, intervensi aktiviti fizikal di tempat kerja harus digalakkan.

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I certify that an Examination Committee met on 23<sup>rd</sup> November 2005 to conduct the final examination on Sin Yong Wai on her Master of Science thesis entitled “The Physical Activity Intervention In A Worksite Setting: A Demonstration Project In UPM” in accordance with Universiti Pertanian Malaysia (Higher Degree) Act 1980 and Universiti Putra Malaysia (Higher Degree) Regulations 1981. The Committee recommends that the candidate be awarded the relevant degree. Members of the Examination Committee are as follows:

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## **DECLARATION**

I hereby declare that the thesis is based on my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at UPM or other institutions.

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**SIN YONG WAI**

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