



UNIVERSITI PUTRA MALAYSIA

**PLAYING-RELATED MUSCULOSKELETAL DISORDERS AMONG CLASSICAL
PIANO STUDENTS OF TERTIARY INSTITUTIONS IN KUALA LUMPUR AND
SELANGOR, MALAYSIA**

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By

LING CHIA YING

**Thesis Submitted to the School of Graduate Studies,
Universiti Putra Malaysia, in Fulfilment of the
Requirements for the Degree of Master of Science**

July 2014

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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in
fulfilment of the requirement for the degree of Master of Science

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July 2014

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Pianists often suffer from playing-related musculoskeletal disorders (PRMD) due to the long hours of static playing posture, playing technique, lifestyle, working conditions and other factors. It has been reported that musicians have a risk of injury with incidence ranging from approximately 30% to 90% in the shoulder-arm-hand region and within the spine. PRMD have been extensively studied overseas but injuries caused by piano playing have not been given adequate attention in Malaysia. Thus, this thesis focuses on PRMD among music students who are majoring in classical piano. The purpose of the study is to identify the extent of PRMD among classical piano students in tertiary institutions in Kuala Lumpur and Selangor. This also includes the level of knowledge about PRMD and finding possible risk factors for PRMD. A survey was conducted and 192 sets of questionnaires were collected. A total of 35.4% (68) students were found to suffer from PRMD. The shoulder was the part most commonly affected, followed by PRMD in arm, finger and wrist. Pain, fatigue and stiffness were most cited by those who suffered from PRMD. 58.3% (112) respondents had heard of at least one general term that describes pianists' injuries. However, most of the students (71.4%) were not familiar with the specific examples of PRMD given at all. Results showed significant relationship between practice hours ($p=0.031$), the habit of taking a break in the middle of practice ($p=0.045$), physical cool down exercises ($p=0.037$) and special dietary intake ($p=0.007$) and the occurrence of PRMD when tested via Chi-square analysis. Classical piano students should be educated about the prevention of PRMD since PRMD are reported at various levels. It is hoped that the study will increase awareness of PRMD among musicians and encourage prevention of injury in musicians of different levels in the future because prevention is better than cure.

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

**PENYAKIT OTOT RANGKA AKIBAT BERMAIN ALAT MUZIK DI
KALANGAN MAHASISWA MENGGHUSUS DALAM PIANO KLASIK DI
INSTITUSI PENGAJIAN TINGGI DI KUALA LUMPUR DAN SELANGOR,
MALAYSIA**

Oleh

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Pemain piano sentiasa menghadapi masalah kecederaan seperti “penyakit otot rangka akibat bermain alat muzik” disebabkan oleh latihan piano dengan posisi statik dalam jangka masa panjang, teknik piano, gaya hidup, pekerjaan sebagai pemain piano dan faktor-faktor lain. Kajian telah melaporkan bahawa lebih kurang 30% sehingga 90% pemain muzik mengalami kecederaan pada bahu, lengan, tangan dan tulang belakang. Kecederaan penyakit otot rangka akibat bermain alat muzik telah banyak dikaji di luar negara, tetapi kecederaan yang dialami oleh pemain piano masih belum dikaji di Malaysia. Oleh sebab itu, tesis ini memberi tumpuan kepada mahasiswa program muzik dengan pengkhususan mereka dalam piano klasik. Tujuan utama kajian ini ialah untuk mengenal pasti tahap kecederaan mahasiswa yang disebabkan bermain piano di institusi pengajian tinggi di Kuala Lumpur dan Selangor. Ini termasuk tahap pengetahuan mengenai penyakit otot rangka akibat bermain piano di kalangan mahasiswa dan mengenal pasti faktor-faktor risiko kecederaan. Tinjauan telah dijalankan dan sebanyak 192 set soal selidik telah dikumpul. Hasil kajian mendapati bahawa 35.4% (68) mahasiswa telah mengalami “penyakit otot rangka akibat bermain alat muzik”. Bahagian badan yang paling biasa dihadapi kecederaan ialah di bahu, diikuti oleh lengan, jari dan pergelangan tangan. Kesakitan, kelesuan dan kekakuan merupakan tanda-tanda yang paling banyak dilaporkan oleh mahasiswa yang tercedera. Sebanyak 58.3% (112) mahasiswa memahami paling kurang satu istilah umum yang berkenaan dengan kecederaan di kalangan pemain piano. Kebanyakan mahasiswa (71.4%) langsung tidak mempunyai pengetahuan mengenai contoh-contoh penyakit otot rangka akibat bermain alat muzik. Analisis melalui ujian Khi kuasa dua telah menunjukkan bahawa terdapat hubungan yang signifikan antara jangka masa latihan ($p=0.031$), tabiat untuk berehat semasa menjalani latihan piano ($p=0.045$), senaman untuk menyejukan badan selepas latihan piano ($p=0.037$), pengambilan produk nutrisi ($p=0.007$) dan penyakit otot rangka akibat bermain alat muzik. Pendidikan tentang cara-cara pencegahan penyakit otot rangka akibat bermain alat muzik harus diberikan kepada mahasiswa yang

mengkhusus dalam piano klasik kerana kecederaan disebabkan bermain piano telah didapati di kalangan mereka. Kajian ini diharapkan boleh membawa kesedaran kepada pemain piano untuk mencegah kecederaan ketika bermain muzik kerana pencegahan adalah lebih berkesan daripada rawatan.



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I certify that a Thesis Examination Committee has met on 17 July 2014 to conduct the final examination of Ling Chia Ying on her thesis entitled “Playing-Related Musculoskeletal Disorders among Classical Piano Students of Tertiary Institutions in Kuala Lumpur and Selangor, Malaysia” in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Master of Science.

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