UNIVERSITI PUTRA MALAYSIA

ASSESSMENT OF WORK-RELATED HAND INJURIES AT HOSPITAL SERDANG, SELANGOR, MALAYSIA

AMEER NAJAH ABOOD AL-HUSUNY

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ASSESSMENT OF WORK-RELATED HAND INJURIES AT HOSPITAL SERDANG, SELANGOR, MALAYSIA

By

AMEER NAJAH ABOOD AL-HUSUNY

Thesis submitted to the School of Graduate Studies of University Putra Malaysia in the fulfillment of the requirements for the Degree of Master of Science

APRIL 2011
DEDICATION

This thesis is dedicated to

My dearest Parents, Brothers and Sisters

The understanding and encouragement they provided during all these years of the study
Abstract of the thesis presented to the School of Graduate Studies of University Putra Malaysia in the fulfillment of the requirement for the degree of Master of Science

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Chairman: Prof. Lekhraj Rampal, PhD
Faculty: Faculty of Medicine and Health Sciences

Introduction: Work-Related Hand Injuries (WRHIs) contribute to a significant workload of all accidents received at the Emergency Departments. The aim of this study is to determine the proportion and severity WRHI cases and factors associated at Hospital Serdang. Methodology: A cross-sectional study design was used in this study. The study duration was from January 2009 to December 2010 and the data collection continued five months from January 2010 to June 2010. Categorical variables were presented as frequencies and percentages. Continuous variables were presented as means with their 95% confidence interval (CI) and standard deviation. The Pearson's chi-square test ($\chi^2$) was used to determine the associations between categorical variables. Binary Logistic regression was done for multivariate analysis. A $p$-value of $<0.05$ was considered as statistically significant. Results: The results showed that out of
428 industrial accidents, 106 (24.7%) were WRHIs. Among those with WRHI, 46.2% of them had severe WRHI. The overall mean age of the respondents was 30.27 (± 8.71 SD) years. Majority (95.3%) was male and 76.4% of the respondents were aged between 18 and 35 years. Majority (81.1%) of the injuries occurred between Monday to Friday and machines were the source in 68.9% of the WRHIs. Majority (53.8%) of the respondents were involved in metal-machinery industry. The most common mechanism of the hand injury (48.1%) occurred when the hand was caught in the operating part of the machine. Open fracture occurred in 32.1% of the WRHIs. Majority (62.2%) of the respondents had finger’s injuries. There was significant association between severity of WRHI with locations of injury, mechanisms of injury, sources of injury, sectors of industry and workplace crowding ($p < 0.05$). **Conclusion**: Among all the industrial accidents seen at Serdang Hospital, 24.7% were WRHI, with 46.2% of those with WRHIs faced severe hand injuries. Mechanical machine and metal-machinery sector of industry were the strongest predictors to indicate severe WRHI. Respondent’s medical history and social habits had no affect on Severity of WRHI.

*Key words*: WRHI, MHISS and Hospital Serdang.
Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Master Sains

PENAKSIRAN KECEDERAAN TANGAN BERKAITAN DENGAN KERJA DI HOSPITAL SERDANG, SELANGOR, MALAYSIA

Oleh

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membabitkan WRHIs, 46.2% daripada mereka yang cedera telah mengalami kecederaan tangan yang dasyhat. Umur purata keseluruhan responden adalah 30.27 (±8.71 SD) tahun. Sebahagian besar (95.3%) adalah lelaki dan 76.4% dari responden berumur di antara 18 hingga 35 tahun. Kebanyakan (81.1%) dari kecederaan terjadi antara Isnin hingga Jumaat dan penggunaan mesin adalah punca kepada 68.9% daripada WRHIs. Majoriti (53.8%) responden yang terlibat dalam industri logam mesin. Paling kerap mekanisma kecederaan tangan (48.1%) berlaku apabila tangan terperangkap di dalam mesin semasa pengendalian. Keretakan tulang terbuka berlaku kepada 32.1% daripada WRHIs. Sebahagian besar (62.2%) responden mengalami kecederaan jari. Terdapat perkaitan yang nyata di antara kedasyatan WRHIs dengan bahagian tercedera, mekanisma kecederaan, sumber kecederaan, sektor-sektor industri dan kesesakan ($p<0.05$). Kesimpulan: Di antara kemalangan industri dilihat di Hospital Serdang, 24.7% adalah WRHIs, dengan 46.2% dari mereka yang WRHIs menghadapi kecederaan tangan yang dasyat. Sektor industri mesin mekanikal dan mesin logam merupakan prediktor yang kuat menandakan kedasyatan WRHIs. Sejarah perubatan dan tabiat sosial tiada pengaruh kepada kedasyatan WRHIs.

**Kata kunci:** WRHI, MHISS and Hospital Serdang.
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DECLARATION

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

AMEER NAJAH ABOOD AL-HUSUNY

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