



BUKU LAPORAN AKHIR GERAN USM JANGKA PENDEK

**WORK-RELATED FACTORS OF CARPAL TUNNEL SYNDROME
IN COMPUTER USERS AMONG CLERICAL STAFFS
IN GOVERNMENT HEALTH FACILITIES, KOTA BHARU, KELANTAN**

Researcher

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Dr. Sarimah Abdullah
Dr Mohd Iskandar Mohd Amin

USM Short Term : 304/PPSP/6131578



SENARAI SEMAKAN UNTUK BUKU LAPORAN AKHIR GERAN USM JANGKA PENDEK

NAMA PENYELIDIK UTAMA	: Dr Zaliha Ismail
NAMA CO-RESEARCHER	: Dr. Sarimah Abdullah : Dr Mohd Iskandar Mohd Amin
TAJUK GERAN	WORK-RELATED FACTORS OF CARPAL TUNNEL SYNDROME : IN COMPUTER USERS AMONG CLERICAL STAFFS : IN GOVERNMENT HEALTH FACILITIES, KOTA BHARU, KELANTAN
NO.AKAUN	: 304 / PPSP / 6131578

**SENARAI SEMAKAN SEMASA PENYERAHAN BUKU LAPORAN AKHIR
(Sila Tandakan (4) Pada Kotak Yang Berkenaan)**

NO.	PERKARA	ADA	TIADA
1.	Borang Laporan Akhir Projek Penyelidikan USM Jangka Pendek	√	
2.	Borang Laporan Hasil Penyelidikan, PPSP	√	
3.	i) Salinan Menuskrip	√	
	ii) Salinan surat/email bukti penghantaran kepada mana-mana journal	√	
4.	Penyata Perbelanjaan (Financial Statement) (Sila dapatkan daripada Jabatan Bendahari)		
5.	Laporan Komprehensif (termasuk kertas persidangan atau seminar dan penerbitan saintifik hasil daripada projek ini)	√	
6.	Surat pemakluman penghantaran Laporan Akhir ke Bhg. Penyelidikan	√	

Nota:

- * Sila buat 3 salinan buku laporan Akhir
- * No. 1-5 - Perlu dimasukkan dalam Buku Laporan Akhir
- * No.6 - Hantar terus Kepada Pn. Che Merah Ismail (RCMO) hanya salinan kepada Bhg. R&D, PPSP

My doc/check-list borang2/sue

Laporan Akhir Projek

1. **Nama Ketua Penyelidik: Dr Zaliha Ismail**

Name of Research Leader

Profesor Madya/
Assoc. Prof.

Dr./
Dr.

Encik/Puan/Cik
Mr/Mrs/Ms

2. **Pusat Tanggungjawab (PTJ): Pusat Pengajian Sains Perubatan**

School/Department

3. **Nama Penyelidik Bersama: Dr Sarimah Abdullah, Dr Mohd Iskandar Mohd Amin**

Name of Co-Researcher

4. **Tajuk Projek:**

Title of Project

Work-related Factors of Carpal Tunnel Syndrome in Computer Users among

Clerical Staffs in Government Health Facilities, Kota Bharu, Kelantan

5. **Ringkasan Penilaian/Summary of Assessment:**

	Tidak Mencukupi <i>Inadequate</i>		Boleh Diterima <i>Acceptable</i>	Sangat Baik <i>Very Good</i>	
	1	2	3	4	5
i) Pencapaian objektif projek: <i>Achievement of project objectives</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Kualiti output: <i>Quality of outputs</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Kualiti impak: <i>Quality of impacts</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Pemindahan teknologi/potensi pengkomersialan: <i>Technology transfer/commercialization potential</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
v) Kualiti dan usahasama : <i>Quality and intensity of collaboration</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
vi) Penilaian kepentingan secara keseluruhan: <i>Overall assessment of benefits</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

6. Abstrak Penyelidikan

(Perlu disediakan di antara 100 - 200 perkataan di dalam **Bahasa Malaysia dan juga Bahasa Inggeris**. Abstrak ini akan dimuatkan dalam Laporan Tahunan Bahagian Penyelidikan & Inovasi sebagai satu cara untuk menyampaikan dapatan projek tuan/puan kepada pihak Universiti & masyarakat luar).

Abstract of Research

(An abstract of between 100 and 200 words must be prepared in Bahasa Malaysia and in English). This abstract will be included in the Annual Report of the Research and Innovation Section at a later date as a means of presenting the project findings of the researcher/s to the University and the community at large)

Lampiran 1

7. Sila sediakan laporan teknikal lengkap yang menerangkan keseluruhan projek ini.

[Sila gunakan kertas berasingan]

Applicant are required to prepare a Comprehensive Technical Report explaining the project. (This report must be appended separately)

Lampiran 2

Senaraikan kata kunci yang mencerminkan penyelidikan anda:

List the key words that reflects your research:

Bahasa Malaysia
Sindrom terowong karpal, pengguna
komputer, prevalen, faktor risiko
berkaitan pekerjaan

Bahasa Inggeris
Carpal tunnel syndrome,
computer user, prevalence,
work-related factors

8. Output dan Faedah Projek

Output and Benefits of Project

(a) * Penerbitan Jurnal

Publication of Journals

(Sila nyatakan jenis, tajuk, pengarang/editor, tahun terbitan dan di mana telah diterbit/diserahkan) (State type, title, author/editor, publication year and where it has been published/submitted)

1. Reliability of Questionnaire for Work-Related Risk Factors of Carpal Tunnel Syndrome in Computer User Among Clerical Staffs in Health Facilities; *Malaysian Journal of Public Health Medicine* 2008; vol.8; supp.1
2. Work-related Risk Factors of Carpal Tunnel Syndrome in Computer Users among Clerical Staffs in Government Health Facilities, Kota Bharu, Kelantan; *Malaysian Journal of Public Health Medicine*, vol.9 (Supplement 1) 2009
3. Prevalence and Respondent's Characteristics of Carpal Tunnel Syndrome in Computer Users among Clerical Staffs in Government Health Facilities, Kota Bharu, Kelantan ; *Malaysian Journal of Public Health Medicine*, vol.9 (Supplement 1) 2009

(b) **Faedah-faedah lain seperti perkembangan produk, pengkomersialan produk/pendaftaran paten atau impak kepada dasar dan masyarakat.**

State other benefits such as product development, product commercialisation/patent registration or impact on source and society.

Nil

* Sila berikan salinan/Kindly provide copies

(c) **Latihan Sumber Manusia**
Training in Human Resources


i) Pelajar Sarjana: Dr Raja Mohd Azim bin Raja Haron
Graduates Students
(Perincikan nama, ijazah dan status)
(Provide names, degrees and status)

Master of Community Medicine (Occupational Health)

ii) Lain-lain: Nil
Others

9. **Peralatan yang Telah Dibeli:**
Equipment that has been purchased

Portable weighing/height machine


Tandatangan Penyelidik
Signature of Researcher

20/4/2011
Tarikh
Date

Komen Jawatankuasa Penyelidikan Pusat Pengajian/Pusat
Comments by the Research Committee/s of Schools/Centres

The project was been successfully completed and all objectives achieved.

The output include a manuscript submission to Journal of Occupational Health, two abstracts in Malaysia J of Public Health Medicine and a Month of Community Medicine (Occupational Health) project.

This report has been assessed by an independent assessor and approved by the PTJ PPD committee

PROFESSOR AHMAD SUKARI HALIM
Chairman of Research Committee
School of Medical Sciences
Health Campus
Universiti Sains Malaysia
16150 Kubang Kerian, Kelantan

TANDATANGAN PENERUSI
JAWATANKUASA PENYELIDIKAN
PUSAT PENGAJIAN/PUSAT
Signature of Chairman

[Research Committee of School/Centre]

1/11/16

Tarikh
Date

ABSTRAK – Bahasa Malaysia

FAKTOR BERKAITAN PEKERJAAN SINDROM TEROWONG KARPAL
DALAM KALANGAN PENGGUNA KOMPUTER KAKITANGAN PERKERANIAN
DI KEMUDAHAN KESIHATAN KERAJAAN, KOTA BHARU, KELANTAN

PENGENALAN: Sindrom terowong karpal (STK) adalah situasi di mana saraf median terhimpit di terowong karpal dan menyebabkan berlaku gejala dan tanda penyakit. Ketidakpastian prevalen tempatan dan kegagalan untuk menyingkirkan sumbangan faktor-faktor pekerjaan boleh menyebabkan kejadian semula atau perkembangan tanda-tanda STK, perubahan penggunaan tangan, dan keperluan rawatan pembedahan. Tujuan kajian ini dilaksanakan bagi menentukan prevalen dan faktor-faktor hubungan STK berkaitan pekerjaan, dalam kalangan pengguna komputer kakitangan perkeranian, di kemudahan kesihatan kerajaan, Kota Bharu, Kelantan.

KAEDAH KAJIAN: Satu kajian hirisan lintang telah dilaksanakan di dua kemudahan kesihatan kerajaan, di Kota Bharu, Kelantan dari bulan Januari hingga Jun 2008. Prevalen dan faktor-faktor hubungan STK berkaitan kerja telah dikenalpasti dikalangan pekerja perkeranian. Pendedahan terhadap factor-faktor hubungan terbabit telah dinilai melalui jawapan borang soalselidik, sukatan antropometri, dan pemerhatian terus. Status penyakit telah disahkan melalui sejarah yang menjurus kepada sindrom terbabit dan ujian provokatif atau ujian konduksi saraf. Data telah dianalisa melalui analisa 'simple' dan 'multiple logistic regression'.

Lampiran 1

HASIL KAJIAN: Sejumlah 300 pekerja (108 STK dan 192 bukan STK) telah mengambil bahagian dalam kajian ini. Prevalen STK adalah 36.0% (95% Selang keyakinan: 31.5, 41.5). Faktor-faktor yang termasuk dalam model akhir adalah satu faktor individu - sejarah keluarga STK dan satu faktor masa berkaitan kerja - masa papan kekunci (jam/hari). Seseorang yang mempunyai sejarah keluarga STK mempunyai 9.41 (95% Selang keyakinan: 1.09, 81.65, nilai P: 0.039) kali ganda odd untuk mendapat STK berbanding tiada sejarah keluarga STK, dan peningkatan satu jam sehari masa penggunaan papan kekunci mempunyai 1.11 (95% Selang keyakinan: 1.01, 1.23, nilai P: 0.039) kali ganda odd untuk mendapat STK.

KESIMPULAN: Prevalen sindrom terowong karpal dikalangan pengguna komputer adalah tinggi menunjukkan tingginya morbiditi di dalam kumpulan pekerjaan ini . Kaitan antara masa papan kekunci dan sindrom terowong karpal menunjukkan STK dikalangan pengguna komputer adalah berkaitan pekerjaan. Program-program kesihatan terutamanya pendidikan dan promosi kesihatan perlulah direkabentuk berdasarkan faktor-faktor yang menyumbang kepada risiko sindrom terowong karpal.

Kata kunci: Sindrom terowong karpal, pengguna komputer, prevalen, faktor risiko berkaitan pekerjaan

ABSTRACT - English

**WORK-RELATED FACTORS OF CARPAL TUNNEL SYNDROME
IN COMPUTER USERS AMONG CLERICAL STAFFS
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INTRODUCTION: Carpal tunnel syndrome (CTS) is the situation when the median nerve is compressed within the carpal tunnel and causes the signs and symptoms. Uncertainty of local prevalence and failure to eliminate contributory job factors can result in recurrence or progression of CTS symptoms, impaired use of the hand, and the need for surgical treatment. The aim of this study was to determine the prevalence and work-related associated factors of CTS in computer user among clerical staffs in government health facilities, Kota Bharu, Kelantan.

METHODOLOGY: A cross sectional study was carried out at two government health facilities in Kota Bharu, Kelantan, from January until June 2008. Prevalence and work-related factors of CTS were identified in clerical workers. Exposure to associated factors was assessed by worker's responses on self-administered questionnaire, anthropometric measurement, and direct observation. Disease status was confirmed by history that was suggestive to the syndrome and provocative test performed by a hand surgeon or nerve conduction study. Data was analysed by using simple and multiple logistic regression analyses.

Lampiran 1

RESULTS: A total of 300 workers (108 CTS and 192 non-CTS) participated in the study. The prevalence of CTS was 36.0% (95%CI: 31.5, 41.5). The final model included one personal factor - family history of CTS and one work-related time factor - keyboard time (hrs/day). A person with family history of CTS has 9.41 (95%CI: 1.09, 81.65, P value 0.039) times the odds to get CTS as compared to no family history of CTS, and an increase in 1 hour/day of keyboard time has a 1.11 (95% CI: 1.01, 1.23, P value 0.039) times the odds to have CTS, when adjusted for keyboard time and family history of CTS, respectively.

CONCLUSION: The prevalence of carpal tunnel syndrome in computer users was high, indicates high morbidity in this occupation. The relationship of keyboard time and carpal tunnel syndrome showed that carpal tunnel syndrome in computer users was work-related. Health programmes especially health educations and promotions should be designed based on the factors that influenced the association of carpal tunnel syndrome.

Keywords: carpal tunnel syndrome, computer user, prevalence, work-related factors