STRESS AMONG MEDICAL DOCTORS WORKING IN PUBLIC HOSPITALS OF THE NGAKA MODIRI MOLEMA DISTRICT (MAFIKENG HEALTH REGION), NORTH WEST PROVINCE

 \mathbf{BY}

ELIE KIRAGA MUTUNZI MD

SUBMITTED IN PARTIAL FULFULMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MMED (FAMILY MEDICINE) IN THE DEPARTMENT OF FAMILY MEDICINE AND PRIMARY HEALTH CARE, FACULTY OF MEDICINE AT THE UNIVERSITY OF LIMPOPO.

SUPERVISOR: Dr.H.I OKONTA MD,DHSM,MMed Fam Med

C0-SUPERVISOR: Dr. I. GOVENDER,
MBBCH,MBA,MMed,FCFP,DOH,Dip HIV/AIDS

DECLARATION

I, ELIE KIRAGA MUTUNZI, hereby declare that the work on which this research is
based is original (except where acknowledgements indicate otherwise) and that neither
the whole work nor any part of it has been, is being or is to be submitted for another
degree at this or any other university.
SIGNATURE DATE

DEDICATION

This work is dedicated to my late brother, Ndeze Kiraga.

ACKNOWLEDGEMENT

I thank Almighty God of Rwanda (Imana) for his protection, blessing and guidance throughout my studies and this project.

I am grateful to the South African Government, through the University of Limpopo, for granting me this great opportunity for post graduate studies.

My special thanks go to my supervisors, Dr. H.I Okonta and Dr. I. Govender, whose guidance steered me to the right direction. Their advice, ideas and constructive criticisms helped me to work through this project from the very first protocol idea to this final dissertation write up.

I would like to thank the members of the Medunsa Research and Ethics Committee (MREC) under the visionary leadership of Professor G A Ogunbanjo for approving our proposal.

I am grateful to all members of staff of the Department of Family Medicine and Primary Health Care, University of Limpopo, Medunsa Campus for the immense assistance received from them. My special thanks to Mr. P. Nkuna and Mrs. Louise Erasmus for their support.

I would like to thank the North West provincial Government, Department of Health: Policy, Planning and Research Directorate and the management of the four hospitals of Ngaka Modiri Molema district for allowing me to conduct this study in their respective hospitals.

Many thanks to my colleagues, the Ngaka Modiri Molema district doctors who volunteered to participate in this study and the Vryburg district hospital doctors for their co-operation during the pilot study.

I would also thank Annah Malanga of the Department of Statistics, UNISA, for helping me with data capturing, analysis and interpretation.

My heartfelt thanks to my wife Liliane Uwera and my children Iriza, Kesha and Nyiragumino for their support and understanding during the family medicine course.

Finally, thanks to members of my extended family, relatives, friends who continuously provided me with their warm support.

ACRONYMS & ABBREVIATIONS

CME: Continuing Medical Education

DoH: Department of Health

GP: General Practitioners

ICN: International Council of Nurses

ILO: International Labor Organization

GHQ: General Health Questionnaire

NMM: Ngaka Modiri Molema

NMMD: Ngaka Modiri Molema district

NWDoH: North West Department of Health

PSI: Public Services International

UK: United Kingdom

USA: United States of America

WHO: World Health Organization

ANOVA: Analysis of Variances

LIST OF TABLES

Tables	Page
Table 1: Occupations with high stress level	7
Table 2: Incidence of violence by occupation	16
Table 3: Reliability statistics	29
Table 4: Distribution of participants according to	
hospitals	32
Table 5: Distribution of participants according to age group, gender, marital sta	tus
and number of Children	33
Table 6: Distribution of participants according to 12-item GHQ values	41
Table 7: One-way ANOVA of 12-item GHQ	44
Table 8: Distribution of participants according to overall GHQ score	45
Table 9: Overall GHQ score comparison with Govender study	45
Table 10: Distribution of participants according to hospitals and overall GHQ so	core46
Table 11: Distribution of participants according to age group and overall GHQ	47
Table 12: Distribution of participants according to gender and overall	
GHQ score	48
Table 13: Distribution of participants according to years of experience	40
and overall GHQ score	
Table 14: Distribution of participants according to average number of patients s	
per day and overall GHQ score	50
Table 15: Distribution of participants according to number of hours worked	
per week and overall GHQ score.	51
Table 16: Distribution of participants according to afterhour work and	
Overall GHQ score	53
Table 17: Distribution of participants according to afterhour studies and	
overall GHQ score	54

LIST OF FIGURES

Figures	Pages
Figure 1: Distribution of participants according to years of experience	34
Figure 2: Distribution of participants according to rank	35
Figure 3: Distribution of participants according to hours worked per week	36
Figure 4: Distribution of participants according to average number of patients	
seen per day	37
Figure 5: Distribution of participants according to afterhour work	38
Figure 6: Distribution of participants according to afterhour studies	39
Figure 7: Distribution of participants according to the feeling of stressed	40

ABSTRACT

Background

There is growing concern about stress among public hospital doctors. Studies about stress in South Africa are lacking. The aim of our study was to ascertain the prevalence and level of stress among NMM district doctors; establish relationship if any, between stress and working condition, and compare the results with findings of a study done among general practitioners in a private practice.

Methods

A cross-sectional study using a standardized questionnaire was carried out among medical doctors working in 4 hospitals of the Ngaka Modiri Molema (NMM) district, North West Province, from 5th March 2010 to 21st April 2010. The 12-item GHQ was used to measure the prevalence and the level of stress. The data were analyzed using statistical software SPSS 17.0. A variety of statitistical analyses were applied to the data, including cross-tabulation, analysis of variance (ANOVA). Duncan's post hoc was applied to establish relationship between stress and working conditions.

Results

Of the 67 participants in the study, 89.6% claimed feeling stressed, while 50.7% were found to be objectively stressed. The result also revealed that 26.8% of the participants were highly stressed (morbidly).

Despite the evidence of heavy workload among doctors in NMM district, no significant association was found between levels of stress and working conditions.

Conclusion:

The prevalence and level of stress among medical doctors working in NMM district are very high and they are much higher than the prevalence and level of stress found amongst General Practitionners in Kwa-Du kuza.

Doctors were all stressed irrespective of their gender, number of patients seen per day and hours worked per week.

TABLE OF CONTENTS

CONTENTS	S	PAGES
Title Page		i
Dedication		iii
Acknowledge	gement	iv
Acronyms &	Abbreviations	vi
-	es	
	res	
	itents	
	ndices	
Chapter 1	INTRODUCTION	1
1.0	BACKGROUND OF THE RESEARCH	1
1.1	RESEARCH SETTING	3
1.2	RESEARCH PROBLEM.	4
Chapter 2	LITTERATURE REVIEW	6
2.0	INTRODUCTION	6
2.1	LITERATURE SEARCH	6
2.2	MAGNITUDE OF THE PROBLEM	7
2.2.1	GLOBAL PERSPECTIVE	7
2.2.2	SOUTH AFRICAN PERSPECTIVE	9
2.3	STRESS AND PHYSICAL DYSFUNCTION	10
2.3.1	Physiological stress response system and	
	allostatic load model	11
2.3.2	Stress, endocrine and immune system	11
2.3.3	Stress and cardiovascular system.	12

2.3.4	Stress and metabolic syndrome	12
2.3.5	Stress and risk of cancer.	13
2.3.6	Stress and gastrointestinal system.	13
2.4	STRESS AND SOCIAL DYSFUNCTION	14
2.4.1	Stress, alcoholism and drugs abuse	14
2.4.2	Stress and violence.	15
2.5	STRESS AND PSYCHOLOGICAL DYSFUNCTION	17
2.6	DOCTORS AND STRESS	18
2.6.1	Possible sources of stress among doctors.	19
2.6.2	Consequences of stress among doctors.	21
2.7	STRESS PREVENTION	22
2.8	STRESS MANAGEMENT	22
2.9	SUMMARY OF THE LITERATURE	23
Chapter 3	METHODOLOGY	25
3.1	STUDY DESIGN	25
3.2	THE AIM	25
3.3	OBJECTIVES OF THE RESEARCH	25
3.4	RESEARCH QUESTION	25
3.5	STUDY POPULATUON	25
3.6	PILOT STUDY	26
3.7	SAMPLING	26
3.8	SAMPLE SIZE	27
3.9	MEASUREMENT OF VARIABLES	27
3.10	DATA COLLECTION	28
3.11	DATA ANALYSIS	28
3.12	RELIABILITY	29
3.13	VALIDITY	29
3.14	BIAS AND LIMITATIONS	30
3.15	ETHICAL CONSIDERATIONS	30
Chapter 4	RESULTS	32
-		
4.1	Distribution of participants according to hospitals	32
4.2	Distribution of participants according to age group, gender,	20
4.2	marital status and number of children	
4.3	Distribution of participants according to years of experience	34

4.4	Distribution of participants according to rank	
4.5	Distribution of participants according to hours worked per week36	
4.6	Distribution of participants according to average number of	
	patients seen per day	7
4.7	Distribution of participants according to after hour work	3
4.8	Distribution of participants according to afterhour studies39	
4.9	Distribution of participants according to the feeling of stressed40	
4.10	Distribution of participants according to 12-item GHQ values41	
4.11	One-way ANOVA of 12-item GHQ4	4
4.12	Distribution of participants according to overall GHQ score4	5
4.13	Overall GHQ score comparison with Govender study4	5
4.14	Distribution of participants according to hospitals and	
	Overall GHQ score46	5
4.15	Distribution of participants according to age group and	
	Overall GHQ score47	7
4.16	Distribution of participants according to gender and	
	overall GHQ score48	j
4.17	Distribution of participants according to years of experience	
	and overall GHQ score49)
4.18	Distribution of participants according to number of patients	
	seen per day and overall GHQ score50)
4.19	Distribution of participants according to number of hours	
	worked per week and overall GHQ score51	
4.20	Distribution of participants according to afterhour work	
	And overall GHQ score53	3
4.21	Distribution of participants according to afterhour studies	
	and GHQ score53	3
Chapter 5	DISCUSSION55	5
5.1	Distribution of participants according to hospitals55	
5.2	Distribution of participants according to age group55	;
5.3	Stress and gender	
5.4	Stress and years of experience	
5.5	Stress and workload	
5.6	Distribution of participants according to overall GHQ score59	

Chapter 6	CONCLUSIONS	60
Chapter 7	RECOMMENDATIONS	61
REFERENCES		62-68
LIST OF APPEN	NDICES	
APPENDIX		PAGES
1. Approved Proto	ocol & Questionnaire	69-88
2. Consent Form		89
3. MREC Clearance	re Certificate	90
4. Approval letter f	From North West Department of Health: Policy	
	esearch Directorate	91
5. Approval letter	from Mafikeng/Bophilong Provincial Hospital	92
7. Approval letter	from general De La Rey/ Thusong District Hos	spital93
6. Approval letter f	from Gelukspan District Hospital	94
8. Approval letter f	From Zeerust/Lehurutse Complex Hospital	95