

**COMPASSION FATIGUE AND BURNOUT
SYNDROME AMONG MEDICAL WORKERS AT THE
KENYATTA NATIONAL HOSPITAL, NAIROBI**

**A DISSERTATION SUBMITTED IN PART
FULFILMENT FOR THE AWARD OF THE DEGREE,
MASTER OF MEDICINE IN PSYCHIATRY (MMED.
Psych.) OF THE UNIVERSITY OF NAIROBI.**

BY

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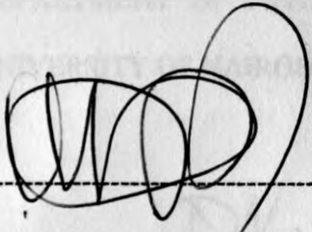
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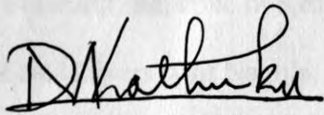
APPROVAL

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ACRONYMS AND ABBREVIATIONS

ACN	-	Assistant Chief Nurse
AIDS	-	Acquired Immune Deficiency Syndrome
ANC	-	Antenatal Care
BSc	-	Bachelor of Science
CES-D	-	Centre for Epidemiological Studies Depression Scale
DAN	-	Diploma in Advanced Nursing
DR/Dr	-	Doctor (Medical practitioner)
DSM IV-TR	-	Diagnostic and Statistical Manual of Mental Disorders VI-Text Revised
ECN	-	Enrolled Community Nurse
ENT	-	Ear Nose Throat
HIV	-	Human Immunodeficiency Virus
ICU	-	Intensive Care Unit
KMA	-	Kenya Medical Association
KMP&DB	-	Kenya Medical Practitioners & Dentists Board
KNH	-	Kenyatta National Hospital
KRCHN	-	Kenya Registered Community Health Nurse
KRN	-	Kenya Registered Nurse
MBBS	-	Bachelor of Medicine and Bachelor of Surgery
MBI	-	Maslach Burnout Inventory
MBI-NL	-	Maslach Burnout Inventory- Netherlands
MBChB	-	Bachelor of Medicine and Bachelor of Surgery
MD	-	Doctor of Medicine
MMed	-	Master of Medicine
MRC-	-	Member of the Royal College (UK)

MOH	-	Ministry of Health
MOPC	-	Medical Out Patient Clinic
MPT	-	Munich Personality Test
MSc	-	Master of Science
NACC	-	National Aids Control Council
Obs-Gynae	-	Obstetrics and Gynaecology
OR	-	Odds Ratio
OSI	-	Organisational Socialisation Inventory
PhD	-	Doctor of Philosophy
POPC	-	Paediatric Out Patient Clinic
PPS	-	Proportionate Probability Sampling
PSC	-	Patient Support Centre
PTSD	-	Post Traumatic Stress Disorder
SCL-90R	-	Symptoms Check-List –90 Revised
SD	-	Standard Deviation
SHO	-	Senior House Officer
SOPC	-	Surgical Out Patient Clinic
SPSS	-	Statistical Package for Social Sciences
TCC	-	Tucker's Coefficient of Congruence
UK	-	United Kingdom
UON	-	University of Nairobi
USA	-	United States of America
VCT	-	Voluntary Counselling and Testing

TABLE OF CONTENTS

	PAGE.
Abstract	1
Chapter 1.0	3
1.1 INTRODUCTION	3
1.1.1 Stages of Burnout syndrome	4
1.1.1.1 Alarm	4
1.1.1.2 Resistance.	4
1.1.1.3. Exhaustion	4
1.1.2 Components of Burnout Syndrome	5
1.1.2.1 Low Personal Accomplishment	5
1.1.2.2 Emotional Exhaustion.	5
1.1.2.3 Depersonalisation	5
1.1.3.0 Social Support Models	5
1.1.4.0 Compassion Fatigue Self Test and Maslach Burnout Inventory (MBI)	6
1.2 BACKGROUND	7
1.2.1 Definitions	7
1.2.2 Signs and Symptoms of Burnout Syndrome.	7
1.2.2.1 Physical	8
1.2.2.2 Emotional	8
1.2.2.3 Behavioural.	8
1.2.4 Contributing Factors	8
1.2.4.1 Time Pressure	8
1.2.4.2 Critical Decisions	9
1.2.4.3 Service Providers-Patients Dissonance.	9
1.2.4.4 Patient Stress	9
1.2.4.5 Professional Relations.	10
1.2.4.6 Technological Advancement	10
1.2.4.7 Institutional System	11
1.2.4.8 Health Systems	11
1.2.4.9 Societal Systems	12
1.2.4.10 Oppressed Group Behaviour.	12
1.2.4.11 Other Causes of Burnout Syndrome.	12
1.3.0 Compassion Fatigue	13

1.4.0 Resume	14
CHAPTER 2.0	16
2.1 LITERATURE REVIEW	16
CHAPTER 3.0	22
3.1 RESEARCH PROBLEM STATEMENT	22
3.2 About the Research.	22
3.3 Study Purpose.	22
3.4 Justification	22
3.5 Study Aim	23
3.6 Objectives	23
3.6.1 General	23
3.6.2 Specific	23
3.7. Expected Outputs	24
3.8 Hypotheses	24
3.8.1 Null	24
3.8.2 Alternative	24
CHAPTER 4.0	25
4.1 METHODOLOGY	25
4.1.1 Study Design	25
4.1.2 Study Setting	25
4.1.3 Reasons for choosing KNH.	25
4.1.4 Study Population	26
4.1.5. Study Period	26
4.1.6 Sample Size	27
4.1.7 Criteria	30
4.1.7.1 Inclusion	30
4.1.7.2 Exclusion	30
4.1.8 The Instrument (Compassion Fatigue Self Test).	30
4.1.8.1 Psychometric Properties	31
4.1.8.2 Utilization of the Instrument	31
4.1.8.3 Interpretation	32
4.1.8.3.1 Scoring for Compassion Fatigue.	32
4.1.8.3.2 Scoring for Burnout Syndrome.	33
4.1.9 Procedure	34

4.2.0 Data Management	36
4.3.0 Ethical Considerations	36
CHAPTER 5.0	37
5.1 RESULTS	37
5.1.1. Socio-demographic characteristics	37
5.1.2 Interpretation of the Results.	38
5.2. Compassion Fatigue.	39
6.0 SUMMARY OF STUDY FINDINGS	96
6.1. Compassion Fatigue	96
6.2. Burnout Syndrome	96
6.3. Compassion Fatigue& Burnout Syndrome	97
7.0 STUDY LIMITATIONS	99
8.0. DISCUSSION	100
8.1. Compassion Fatigue	100
8.2. Burnout Syndrome	103
8.3. Compassion Fatigue & Burnout Syndrome	106
9.0. CONCLUSION	107
10.0. RECOMMENDATIONS	108
11.0. REFERENCES	109
12.0. ANNEXES	117
12.1 Information to Participants.	117
12.2 Consent Form.	118
12.3 Questionnaire (Compassion Fatigue Self Test)	119
A. Socio-Demographic Data	119
B. Items about you (respondent)	124
C. Items about your patients and their families	127
D. Items about being a practitioner and your work environment	130

TABLES

1. Staff Distribution by Institutions	26
2. Staff Establishment.	27
3. Subjects Recruitment Centres	29
4. Scoring for Compassion Fatigue	32
5. Scoring for Burnout Syndrome	33

CHARTS

1. The Crude Prevalence Rates of Compassion Fatigue among the the Medical Workers at KNH, Nairobi	39
2. Gender vs. Compassion Fatigue among the Medical Practitioners	40
3. Gender vs. Compassion Fatigue among the Nurses	41
4. Age vs. Compassion Fatigue among the medical Practitioners	42
5. Age vs. Compassion Fatigue among the Nurses	43
6. Marital Status vs. Compassion Fatigue among the Nurses	44
7. Marital Status vs. Compassion Fatigue among the Medical Practitioners	45
8. Religion vs. Compassion Fatigue among the Medical Practitioners	46
9. Religion vs. Compassion Fatigue among the Nurses	47
10. Professionalism vs. Compassion Fatigue among the Medical Workers	48
11. Department vs. Compassion Fatigue among the Medical Practitioners	49
12. Department vs. Compassion Fatigue among the Nurses	50
13. Education vs. Compassion Fatigue among the Medical Practitioners	51
14. Education vs. Compassion Fatigue among the Medical Practitioners	52
15. Occupation vs. Compassion Fatigue among the Medical Practitioners	53
16. Occupation vs. Compassion Fatigue among the Nurses	54
17. Designation vs. Compassion Fatigue among the Medical Practitioners	55
18. Designation vs. Compassion Fatigue among the Nurses	56
19. Employer vs. Compassion Fatigue among the Medical Practitioners	57
20. Employer vs. Compassion Fatigue among the Nurses	58
21. Duration at KNH vs. Compassion Fatigue among the Medical Practitioners	59
22. Duration at KNH vs. Compassion Fatigue among the Nurses	60
23. Duration of Lifelong Practice vs. Compassion Fatigue among the Medical Practitioners	61
24. Duration of Lifelong Practice vs. Compassion Fatigue among the Nurses	62
25. Compassion Fatigue Regression Analysis Results	63
26. Combination of Factors pertaining to Compassion Fatigue	64

BURNOUT SYNDROM

27. The Crude Prevalence Rates of Burnout Syndrome among the Medical Workers	65
28. Gender vs. Burnout Syndrome among Medical Workers	66
29. Gender vs. Burnout Syndrome among the Medical Practitioners	67
30. Gender vs. Burnout Syndrome among the Nurses	68
31. Marital Status vs. Burnout Syndrome among the Medical Practitioners	69
32. Marital Status vs. Burnout Syndrome among the Nurses	70
33. Marital Type vs. Burnout Syndrome among the Medical Practitioners	71
34. Marital Type vs. Burnout Syndrome among the Nurses	72
35. Religion vs. Burnout Syndrome among the Medical Workers	73
36. Religion vs. Burnout Syndrome among the Medical Practitioners	74
37. Religion vs. Burnout Syndrome among the Nurses	75
38. Professionalism vs. Burnout Syndrome among the Medical Workers	76
39. Department vs. Burnout Syndrome among the Medical Practitioners	77
40. Department vs. Burnout Syndrome among the Nurses	78
41. Education vs. Burnout Syndrome among the Medical Practitioners	79
42. Education vs. Burnout Syndrome among the Nurses	80
43. Designation vs. Burnout Syndrome among the Medical Practitioners	81
44. Designation vs. Burnout Syndrome among the Nurses	82
45. Length of Lifelong Practice vs. Burnout Syndrome among the Medical Practitioners	83
46. Length of Lifelong Practice vs. Burnout Syndrome among the Nurses	84
47. Employer vs. Burnout Syndrome among the Medical Practitioners	85
48. Employer vs. Burnout Syndrome among the Nurses	86
49. Duration at KNH vs. Burnout Syndrome among the Medical Practitioners	87
50. Duration at KNH vs. Burnout Syndrome among the Nurses	88
51. Duration of Practice vs. Burnout Syndrome among the Nurses	89
52. Duration of Practice vs. Burnout Syndrome among the Medical Practitioners	90
53. Duration of Practice vs. Burnout Syndrome among the Nurses	91
54. Regression Analysis Results (Burnout Syndrome)	92
55. Combination of Factors Pertaining to Burnout Syndrome.	93
56. The Crude Prevalence Rates of Compassion Fatigue and Burnout Syndrome among the Medial Workers at the KNH, Nairobi.	94
57. Correlation of Compassion Fatigue and Burnout Syndrome	95

ABSTRACT

Objective: The objective of this study was to establish the prevalence of and factors associated with burnout syndrome and compassion fatigue among medical practitioners and nurses at the Kenyatta National Hospital, Nairobi.

Design: Descriptive and cross-sectional.

Outcome measures: Prevalence rates, socio-demographic characteristics, factors associated with and influencing burnout syndrome and compassion fatigue among the medical practitioners and nurses at the Kenyatta National Hospital, Nairobi.

Procedure: Proportionate Probability Sampling method was used to recruit medical practitioners and nurses on the basis of qualifications, departments and distribution.

Results: The crude prevalence rates of compassion fatigue were 29.6% while that for burnout syndrome was 94.5%. The prevalence rate of compassion fatigue for medical practitioners was 12.9% and 33.1% for the nurses. The prevalence rates for burnout were 96.7% for the medical practitioners and 94.7% for the nurses. The risk factors found in this study for burnout syndrome included being young or recently employed nurses, SHOs (5 times higher than consultants), employed by the University of Nairobi, being in the age bracket 21-25 years, working as a practitioner for less than 16 years, being a nurse and married ($p=0.033$; $OR=0.79$), a nurse graduate of middle college training, young medical practitioner and carrying out bedside medicine and nursing. Working at KNH for more than 10 years ($p<0.0001$; $OR =0.21$) and having been in the medical practice for more than 16 years among the medical practitioners were found to be protective against burnout syndrome.

The factors found to be protective against burnout syndrome in this study included being a medical practitioner ($p=0.036$), being an administrative and long experience nurse, a medical practitioner employed by the Ministry of Health, Republic of Kenya ($p<0.0001$), being a medical officer employed by Kenyatta National Hospital, being male ($p=0.048$), having higher educational levels ($p<0.0001$; $OR=0.56$), a medical practitioner having worked for less than 30 years and between 36 and 45 years, practising Protestant religious faith ($p=0.014$; $OR=0.87$), a medical practitioner in orthopaedic surgery and dental departments and being a consultant. Working at KNH for more than 10 years ($p<0.000$; $OR=0.21$) and practising medicine more than 16 years.

Regression analysis for burnout syndrome showed that 'self-factors' contributed 14.0% for both medical practitioners and nurses equally. Patients and their relatives contributed 42.0% for medical practitioners and 39.0% for nurses while work environment contributed the largest proportion of 54.0% for medical practitioners and 57.0% for nurses. The study found inverse relationship between compassion fatigue and burnout syndrome.

Conclusion: Burnout syndrome was established among nurses and medical practitioners at KNH and the prevalence rate was higher than that found in other countries in the world. The study also established that the syndrome had not been known to the study population before and how it was influencing their outputs at work and at their personal functional levels. It was found out by regression analysis that compassion fatigue did not influence burnout syndrome among medical workers at KNH.

CHAPTER 1.0

1.1 INTRODUCTION

Burnout syndrome or cumulative stress is defined as the state of physical, emotional, and mental exhaustion caused by a depletion of the ability to cope with one's environment resultant from our responses to the on-going demand characteristics (stress) of our daily lives¹. High levels of cumulative stress in the lives of caregivers negatively affect their resiliency; therefore making them more susceptible to compassion fatigue (see also section 1.3 on compassion fatigue). The Silencing Response^{2, 3} is an inability to attend to the stories and experiences of the clients but, instead, to redirect to material that is less distressing for the professional. According to Maslach & Jackson,^{1, 4} burnout syndrome is a process characterised by low personal accomplishment, high emotional exhaustion and depersonalization. Burnout syndrome results from the cumulative effects of stress in a work-related environment. It strikes people in all walks of life and social standing, but those individuals who are in the helping professions are particularly vulnerable. It is a syndrome of physical, mental, social and spiritual exhaustion characterised by progressive loss of energy, idealism and purpose⁵. Burnout syndrome is not an acute or sudden phenomenon. It is like a slowly boiling pot which, if left covered, it may eventually boil over. It may also be likened to a smouldering fire, which if unattended to, may go out of control⁶.

1.1.1 Stages of Burnout Syndrome:

1.1.1.1 Alarm

An individual is no longer able to function at an acceptable level and relies on defence mechanisms to deal with stressors in order to maintain one's reputation⁷.

1.1.1.2 Resistance

This is the second stage that describes burnout syndrome. Cynicism and rigidity characterise this stage. One is fixated on rules and regulations and very inflexible. One becomes withdrawn and isolated from others. This behaviour might be missed because the unpleasant attitude of the person involved might drive colleagues away. If a person who used to join others for after work get-together, parties, and social events suddenly stops, that may be a sign that the individual is burning out⁷.

1.1.1.3 Exhaustion

A person might be lethargic and apathetic or very angry and cruel. This stage demands attention. However, the action against him or her is usually disciplinary in nature and in extreme cases, termination of employment follows. Counselling from a professional who is trained in this area would be a more appropriate alternative⁷.

1.1.2 Components of Burnout Syndrome

1.1.2.1 Low personal accomplishment

This refers to the trend towards negative self-evaluation by the affected professionals. Such an evaluation especially shows that burnout syndrome affects their ability to do their work and the relationship with the people they are attending to^{1, 2, 4, 8}.

1.1.2.2 Emotional Exhaustion

Refers to a state of exhaustion due to daily and sustained contact with people they have to attend to as a matter of duty^{1, 2, 4, 8}.

1.1.2.3 Depersonalisation

Depersonalization is defined as the person's subjective sense of being unreal, strange or unfamiliar^{1, 2, 4, 8}.

1.1.3 Social Support Models

Two models have been proposed that influence the social support in the stress process related to the burnout syndrome. The direct effects model states that social support may help lessen the effects of the syndrome regardless of changes in stress levels. The second model, the buffering model, states that social support at work may result in the impact of stress on the subject or the evaluation that one makes of the stressors being lower. In the literature, there are buffering effects models with the relationship being significant only for workmates' social support in the latter model⁹.

1.1.4 Compassion Fatigue Self Test and Maslach Burnout Inventory (MBI)

The Maslach Burnout syndrome Inventory (MBI)^{1, 4}, the precursor to Compassion Fatigue Self Test¹⁰ used in this study, measures the burnout syndrome levels and it distinguishes two different aspects. The first one comprises emotional exhaustion and depersonalisation dimensions and has an emotional content. The second one is constituted by low personal accomplishment, and has a cognitive-aptitudinal component^{11, 12} though different models exist about the relationship established between antecedents and consequences among the dimensions of the MBI^{13, 14}. Low personal accomplishment may be an antecedent variable for emotional exhaustion and that both variables, in turn, behave as antecedents of depersonalisation. Several studies have shown that professionals are apt to develop the burnout syndrome, which leads to impairment in the quality of services they provided and the institutions they serve¹⁵. In this study, a preference to use the Compassion Fatigue Self Test to the MBI due to the fact that the self test measures both compassion fatigue and burnout syndrome unlike MBI which only measures burnout syndrome.

1.2 BACKGROUND

1.2.1. Definitions

1.2.1.1 Burnout, according to Christine Maslach, is defined as “the syndrome of emotional exhaustion, depersonalisation and reduced personal accomplishment”¹⁶.

1.2.1.2 Compassion Fatigue, according to Figley in 1995 is as the combined effects of the caregiver’s visualisation of the clients’/patients traumatic images added to the effects of burnout to create a condition of progressive debilitation to the caregiver¹⁷.

1.2.2 Signs and Symptoms of Burnout Syndrome

People with burnout syndrome wake up in the morning and struggle to reach their stations of employment, often reaching late and showing increased time of sickness in their lives. While at work, they appear to be working very hard but they accomplish less. They are irritable, insomniac, complain of multiple body aches, experience headaches simulating migraines; they may gain or loose weight. They show few signs of humour, are easily frustrated, tend to isolate themselves, exhibit memory blocks and pay excessive attention to detail. They lose compassion and empathy for patients, family members, co-workers and friends. They are cynical about themselves, others, society, work and their homes. They develop alcohol and drug dependence and generally, experience and cause conflicts at home, which are greater than normal. Frequently, they feel disgusted, bored, bitter, negative and are hostile¹⁸.

1.2.2.1 Physical

The physical signs of burnout syndrome include stiff neck, backache, chest pain, abdominal pains, palpitations, insomnia, diarrhoea, fatigue, overeating or underfeeding and migrainous headaches.

1.2.2.2 Emotional

The emotional features of burnout syndrome include mood/affect, anxiety, inflexibility, fear, powerlessness, rage, frustration and irritability.

1.2.2.3 Behavioural

The Behavioural aspects of burnout syndrome include short attention span, blaming, negativity, short-temperedness and avoidance.

1.2.4 Contributing Factors

The medical professionals are regularly exposed to many factors which predispose them to the possible development of the burnout syndrome¹⁹.

These factors include:

1.2.4.1 Time pressure:

It happens in a charged atmosphere that is overloaded with increased sensory stimuli. Such environment can go from slow to busy in a short time, as the case may be in emergency care and accident units²⁰.

1.2.4.2 Critical decisions:

This includes the professional making decisions such as who would be the first patient to be attended to and the level of illness of those waiting to follow. The professionals may hold different views and approaches, but they may not be able to be accommodating to each other or some may be rigid and biased towards the others' views. This may make the lesser in the team feel oppressed and stressed²⁰.

1.2.4.3 Service Provider-Patient dissonance

This is most evident when the patients overrun the staff manning the station, demanding to see the service providers of their preference or when they anticipate the imminent end to service provision of the day. It is common in health facilities where demand for services outstrips the available manpower and services. This is also common in many third world countries, including Kenya²⁰.

1.2.4.4 Patient Stress

This arises when patients presenting at busy hospital units such as emergency departments with personal crises fail to establish bonds with the medical workers due to personal reasons rather than the failure of the medical workers²⁰.

1.2.4.5 Professional Relations:

This arises for instance, because non-physicians with long experiences at various units end up taking over physicians' responsibilities, causing territorial conflicts and disputes²⁰. Experienced professionals are reported to commit a kind of genocide when dealing with new, young and inexperienced colleagues. This process is viewed as an insidious cannibalism that would destroy the profession more than the outside forces that could be easily dealt with as they come. As new medical workers become members of the team, the other members of staff fail to remember what they went through when they were young and new at work. Unrealistic expectations are placed before them; they are treated unfairly and made to feel bad. These negative attitudes directly have a lifelong impact on the new staff and are reflected at work and at personal level. Unfortunately, the new medical worker does not know that he/she is dealing with a group of staff suffering from burnout syndrome²¹.

1.2.4.6 Technological Advancement

Being a professional may also lead to burnout syndrome. Technology has made a tremendous impact on our lives as a society. Cell phones, pagers, e-mail and laptop computers never let us get away from it all and take time away from us, notwithstanding the disruptions and interruptions they cause to keep professionals in touch. This technology was designed to help us; instead it has made us too accessible. We sometimes don't have adequate time for ourselves and those we serve as such. After burning the candle at both ends, stress takes its toll¹⁸.

1.2.4.7 Institutional System

The medical standards are lowered through short staffing, overtime and faulty equipment so as to meet the financial agenda of the employer. This happens too often in poor countries, where the ratio of the patients to the medical workers is too high against the backdrop of insufficient medical supplies, hospital equipment and cost-cutting measures^{18, 21}.

1.2.4.8 Health Systems

Medical workers are constantly confronted with very heart breaking, frightening conditions that have become their way of life. They have become so angry and frustrated that they take out these emotions of hopelessness and despair on themselves. Due to this bitterness, the medical workers make work environments unfavourable and unwelcoming to others including the patients^{18, 21}.

1.2.4.9 Societal System

There is under-valuation and under-appreciation of the medical professionals' work. They have to fight for their own rights, those of their patients, family as well as pain-free dignified deaths of their patients with end-stage illnesses. Medical professionals promote the belief that there is nothing wrong about dying with dignity and respect; contrary to the societal belief that death is more of a sign of failure of the victim^{18, 21}.

1.2.4.10 Oppressed Group Behaviour

The medical professionals still exhibit the behaviour of perceiving that another group with more power and influence controls them. Classic traits of this behaviour are: low self esteem, horizontal violence, aggression directed at peers rather than externally, passive aggressive behaviour and undermining their peers to their superiors or managers^{18, 21}.

1.2.4.11 Other Causes of Burnout Syndrome

These are some of the aspects that cause burnout syndrome among the medical workers. Other considerations among them include family life, upbringing, past history of violence, previous illnesses, and history of mental illness, among others. The main cushion against burnout syndrome among most of the medical workers is hardiness as a personality trait protecting them and what systematic barriers the supervisors can help break down. When a flaw in a system surfaces, everyone involved looks for a way to fix it but the ultimate solution must be consensus –based²².

1.3.0 Compassion Fatigue

The point at which we notice our ability to listen becoming compromised is the point at which the Silencing Response has weakened our clinical efficacy. Figley & Stamm²³ defined compassion fatigue as: a state of tension and preoccupation with the individual or cumulative trauma of clients as manifested in one or more ways: re-experiencing the traumatic events, avoidance/numbing of reminders of the traumatic event, persistent arousal, combined with the added effects of cumulative stress (burnout syndrome). Compassion Fatigue has many symptoms and often parallel to the symptoms of the traumatized⁸ patients for whom caregivers are working. While compassion fatigue has been most often written about in the rubric of psychotherapy as emotional contagion passed from client/patient to the clinician, there is growing evidence to support the trans-generational and societal transmission of this condition^{2, 17, 24, 25} (see 1.2.1.2 for the definition). Some of the symptoms of compassion fatigue include: increased negative arousal, intrusive thoughts and images of clients' situations/traumas (or clinicians own historical traumas), difficult separating work life from personal life, lowered frustration tolerance and outbursts of anger or rage, dread of working with certain clients, marked or increasing transference and counter-transference issues with certain clients, depression, perceptive and 'assumptive world' disturbances (i.e. seeing the world in terms of victims and perpetrators, decreasing in subjective sense of safety), increase in ineffective, self-destructive and self-soothing behaviours, hyper vigilance, feelings of therapeutic impotence or deskilled with certain clients, diminished sense of purpose and enjoyment in the career. Diminished ego functioning (time, identity, volition), decreased functioning in non-professional situations, loss of hope. Any of these symptoms could be signalling the presence of compassion fatigue.

The eruption of violence, personal degradation, physical and psychological violations disrupts our notions of the sanctity of our assumptive world^{26, 27}. Such traumas can result in symptoms of Post Traumatic Stress Disorder-PTSD characterised by: intrusive thoughts, images and sensations, avoidance of people, places, things and experiences which elicit memories of the traumatic experience, arousal in the form of hyper vigilance; sleep disturbances, irritability and anxiety⁸.

1.4 Resume

There is no literature on compassion fatigue and burnout syndrome and in Kenya to date. Both compassion fatigue and burnout syndrome are yet to be classified in ICD-10 or DSM-IV TR. Compassion fatigue was first described by Figley in 1995¹⁶ while burnout syndrome was first described by Maslach in 1976 and the MBI first used as a research instrument 1982¹⁶. In the year 1991, Maina found out that 19.0-48.0% of all cadres of the health workers at KNH suffered higher levels of stress and that the females experienced more stress than the male health workers²⁸. The Maina study of 1991 was the closest to this one (Compassion Fatigue and Burnout Syndrome). The major difference was that the Maina study did not use the Compassion Fatigue Self Test, but instead, the General Health Questionnaire was the one used. His study sample consisted of all cadres of workers at KNH and addressed stress only while this study focused on doctors and nurses only and addressed Compassion Fatigue and Burnout Syndrome. In the absence of published local scientific information on compassion fatigue and burnout syndrome, the ability of the medical workers to diagnose compassion fatigue and burnout syndrome has been limited. Recent events in which health workers all over Kenya have been agitating for better terms of service followed by their exodus to better paying countries could suggest a possibility of their dissatisfaction at work with subsequent poor performance at work or personal level.

Compassion fatigue and burnout syndrome may have been some of the underlying causes. Studies elsewhere on burnout syndrome among medical practitioners and nurses have demonstrated that all cadres of health personnel suffer from various levels of burnout syndrome^{29, 30}.

CHAPTER 2.0

2.1. LITERATURE REVIEW

A study on full-time female Japanese industrial workers in 1997 in which, out of 1108 questionnaires sent out to assess their general health status, 92.1% responded as follows; excellent health, only 26.0%, fair 9.6% and bad 1.6%. On psycho morbidities, 25.3% were irritable and 15.6% were depressed. Complaints of eye discomfort accounted for 53.6% while fatigue stood at 44.1%, headache accounted for 43.0% and menstrual pain, 32.5%. Those requiring mental health management were 22.2% of the respondents³¹. The Japanese study demonstrated the high level of undiagnosed burnout syndrome in the general population. In Another study of the mental health and job satisfaction among rural physicians in British Columbia in the year 2001 revealed a self-reported burnout syndrome rate of 55.0% on the MBI, a rate that rose to a stunning 80.0% when emotional exhaustion was measured objectively using the Maslach Burnout Inventory³². The 1998 Canadian Medical Association's Physician survey revealed that Canadian medical practitioners felt stressed, overworked, and exhausted³³. These physicians at risk of depression, burnout syndrome and substance abuse, were among those most likely to leave their communities, or even their careers. They were part of a profession that was losing its spirit. Studies showed that burnout syndrome harmed workers and reduced productivity as supported by the Danish study (1997) which aimed at determining the long-term effects of a burnout syndrome –intervention programme among Dutch dentists using a longitudinal study design. 171 dentists were invited to participate in the study that used the Maslach Burnout Inventory, the Dutch version. After the intervention programme, 92 dentists (53.8%) responded to the post-intervention survey in 1998 and were approached for another follow –up to a year after. Seventy-eight out of 92 dentists (84.8%) returned the questionnaires.

Results of this study showed improvement on all sub-scales of MBI-NL and there was an improvement on those who took preventive action in both controls and cases while those who did not relapsed⁷. In another study carried out in America in the year 2001 on burnout syndrome among 582 actively practicing surgeons in America, 32.0% showed high levels of emotional exhaustion, 13.0% showed high levels of depersonalization and 4.0% showed evidence of low personal accomplishment. Younger surgeons were more susceptible to burnout syndrome ($r = -0.28$, $p < 0.01$). Burnout syndrome was not related to case load, practice setting, or percentage of patients insured by a health management organization. Important aetiological factors were a sense that work was “overwhelming” ($r = -0.61$, $P < 0.01$), a perceived imbalance between career, family, and personal growth ($r = -0.56$, $P < 0.01$), perception that career was unrewarding ($r = 0.12$, $P < 0.01$), and lack of autonomy or decision involvement ($r = -0.39$, $P < 0.01$). A strong association was noted between burnout syndrome elements and a desire to retire early ($r = 0.50$, $P < 0.01$). The conclusion made from this study was that burnout syndrome was an important problem for actively practising American Surgeons³⁴. Similar findings were made in a study to determine burnout syndrome in relation to inequity among teachers in the U.S.A. Analysis of a cross-sectional sample ($n=271$) revealed that inequity among the teachers actually led to burnout syndrome³⁵. A study on 30 clinical specialists in the North of England in the Acquired Immune Deficiency Syndrome (AIDS) department, demonstrated a score of 66.0% as moderate or high burnout syndrome cases on the emotional exhaustion and personal accomplishment subscales of MBI³⁶. A similar study carried out on in South Africa to explore and describe aspects that cause and promote burnout syndrome showed the same trend²⁹. In this study, individual in-depth interviews were recorded and certain themes identified during data analysis stage. Based on this, the following conclusions were made: an external locus of control leads to feelings of “Stuckness”.

High personal standards lead to psychiatric medical workers making themselves available in the work environment with subsequent negative effects on themselves. They take too much responsibility and become indifferent or overly involved (co-dependent) due to vague boundaries leading to feeling of fatigue, apathy and loss of motivation. Lack of support and a need for recognition in the work environment lead to emotional fatigue. Too heavy workload, staff shortage and uncertainty regarding role description in the work environment leads to feelings of fatigue, negativity, “stuckness”, anger and apathy ²⁹. As an example, nursing burnout syndrome has been a known fact for years. Between 1990 and 1992, 152 nurses, midwives, other healthcare professionals killed themselves in the UK, taking the top standing in female suicides¹⁹. In Madrid, the MBI was administered to 354 medical workers in whom high levels of burnout syndrome were detected. Thirty point six percent were in the high range on the emotional tiredness sub-scale, with high scores among men ($P=0.026$). There were more paediatric staff affected in personal achievements. Forty three point nine percent (43.9%) thought that they had suffered from some kind of physical or psychological disorders directly related to exercising their burnout syndrome with excess demand habitually experienced in clinics ³⁷. In Zurich (2001) Switzerland, a study was done to determine burnout syndrome among psychiatric physicians and residents. Potentially burnout syndrome related demographic, work, leisure activities and personality (Munich Personality Test) variables were studied in three sub-groups of 307 probands – psychiatric residents, psychiatrists working as staff members or in teaching positions in psychiatric institutions, and psychiatrists working in private practice. The degree of burnout syndrome was assessed with the Tedium Measure (TM). The results showed that the mean score of the probands was low at 2.9 (SD = 0.7) while TM scores (>3.5) were indicated by 18.0% of the participants. Psychiatric residents scored a high TM as well as neuroticism and lower with frustration tolerance on Munich Personality Test (MPT).

A conclusion was made that neuroticism alone explained a substantial proportion of the total TM variances in individual groups, work-related variables turned out to be of a small importance only, whereas no influence could be demonstrated for different leisure activities³⁰. A study published in March – April 2001 on stress, burnout syndrome and “hardiness” among 95 radiographers at Connecticut hospitals to assess the relationship between occupational stress, “ personality hardiness” and burnout syndrome showed a regression analysis in which indicated a positive correlation between burnout syndrome and occupational stress, and an inverse relationship between personality hardiness and burnout syndrome. Therefore, personality hardiness had a beneficial effect at all stress levels³⁸. In yet another study conducted on 202 nurses at a provincial hospital in Austria to assess burnout syndrome, aetiology, complications and prevention in April 2001, 58.0% turned out to have more or less strongly pronounced symptoms of burnout syndrome. The results also showed that among all variables investigated, the leadership behaviour of ward managers was the variable with the strongest influence on inner burnout syndrome in the care profession. Co-operative work relationships, external vocational training courses and team supervision were important in preventing burnout syndrome. As expected, there were positive correlations between the working hours and burnout syndrome¹⁹. A Barcelona study carried out in the year 2000 to establish personality traits that could be associated with high punctuation at burnout syndrome scales (Maslach Burnout Inventory) among primary care physicians showed that 40.0% of them had some burnout syndrome levels while 12.0% had very high burnout syndrome levels. It was also established that some personality traits like low stability, tension, and anxiety are associated with high punctuation of burnout syndrome³⁸. An Italian study (2000) of 328 physicians (182 General and 146 Hospital Practitioners) to establish psychiatric morbidities and burnout syndrome in the medical profession using the General Health Questionnaire and MBI revealed a global psychiatric morbidity of 22.3%.

Symptoms of emotional exhaustion stood at 27.5%, depersonalization by 25.6% and low personal accomplishment at 12.8%. It was concluded that there was a significant problem of stress among physicians and indicated the need to support health professionals in order to improve their psychological well-being and, possibly, the quality of their relationship with their patients³⁹. In an effort to seek for preventive solution to burnout syndrome through personal stress management and organisational socialisation, 154 nurses in five Hong Kong hospitals completed the MBI, the Organisational Socialisation Inventory (OSI) and the measures of personal stress management. Results indicated that favourable evaluations on the four OSI domains (job training, organisational understanding, co-workers support and future prospects) yielded strongly negative correlation with the burnout syndrome components. Also, the personal stress management measures had strong, negative correlations with depersonalisation and decreased personal accomplishment, but none were related to emotional exhaustion. Stepwise regression analyses indicated that training was the only (inverse) predictor of emotional exhaustion, whereas interpersonal skills and understanding were strong (inverse) predictors of depersonalisation. Additionally, interpersonal skills and co-workers' support were excellent (inverse) predictors of decreased personal accomplishment⁴⁰. A study out in England in the year 2000, investigated the relationship between stresses (Hassles) and burnout syndrome on 30 family caregivers and their institutionalised demented elderly. The Burnout syndrome Measure, the Patient Hassles (cognitive, behaviour) and the Nursing Home Hassles (care-giver –staff, patient-staff, practical/logistical) Scales were used. Most sub-scales correlated to burnout syndrome. The regression analysis showed the nursing home hassles to be the most important stressors, explaining the variance in burnout syndrome among family caregivers⁴¹.

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Three forms of burnout syndrome have been described as; “Under challenged”, which means that an individual is faced not with excessive degrees of stress per se, for instance, overload, but rather with monotonous and un-stimulating work conditions. “Wear out” is when an individual gives up, feeling depleted in confronting stress. Finally, “Classic burnout syndrome” occurs when an individual works increasingly hard in the face of stress ⁴¹. A psychodynamic existential perspective in treating career burnout syndrome was attempted as one of the forms of treatments for burnout syndrome. The study based its argument on the fact that people choose occupations that enable them to replicate significant childhood experiences. Existential theory contributes the idea that people attempt to find existential significance through their work. The study therefore, suggested that prior to the onset of treatment of burnout syndrome, three questions must be asked: why psycho-dynamically, did this person choose the career, and how was it expected to provide existential significance? Why does this individual feel a sense of failure in the existential quest, and how is the sense of failure related to burnout syndrome? What changes need to take place for this individual to derive a sense of existential significance from work? ⁴² It had been thought about for a long time that the police work was the world’s most stressful occupation, but comparative studies of occupational stresses have revealed that other occupations, such as business, emergency medical services, and correctional work are more stressful than policing ⁴³. The symptoms of police stress may be different, however. For one thing, the effects are usually delayed, more closely resembling the symptoms of PTSD or burnout syndrome (sometimes called cumulative stress reaction, but burnout syndrome, a disease of over commitment is the more reversible condition characterised by temper flare-ups).

The symptoms appear one day “out of the blue” in officers who have not shown even the slightest early warning. Research has shown that officers with six to ten years of service usually had the highest mean stressor scores ⁴⁴.

CHAPTER 3.0

3.1 REASERCH PROBLEM STATEMENT

3.2. About the Research.

3.3. Study Purpose

Part fulfilment for the award of the degree, Master of Medicine in Psychiatry of the University of Nairobi.

3.4 Justification

The concern for doing this study arose out of the fact that medical personnel often rush to do stress-related studies on the general population and assume that all is well with them. They shy away from learning about and understanding themselves. There is, therefore, a need to delve into the health status of the valuable Kenyan medical workers in order to understand the extent to which they are affected by compassion fatigue and burnout syndrome. There is hardly any information on compassion fatigue and burnout syndrome among the medical workers in Kenya. The only similar study was done by Maina in 1991 which determined the presence of stress among all the health workers at KNH²⁸. Kenyan health workers' training takes long, is painstaking and rigorous, making them highly qualified and competent but also vulnerable to burnout syndrome due to various factors affecting their lives at personal and professional levels. The Kenyan situation has been complicated by pandemics such as HIV/AIDS, in which Kenya's prevalence rate stood at about 6.7% in the year, 2003⁴⁵ and poor economic growth rate which was running low at between -0.5% and 1.2% as at December 2002⁴⁶. Unemployment due to the world labour economic order accompanied by massive layoffs of workers in the years 1999-2001 in Kenya, coupled with a large, educated white-collar job seeking youths have had deleterious effects on the national economy and the medical services Kenya.

This was demonstrated by highly charged, agitated violent, street demonstrations in the years 1993-2003 which included health workers, hitherto un-involved due to ethical, humanitarian and professional nature of their duties world-wide. Generally, the number of Kenyan health workers in the public hospitals, including parastatals like Kenyatta National Hospital had always been inadequate. KNH in particular, is over-stretched in terms of resources, including human, due to very high and competitive demand on its services, few health workers and high levels of emergency medicine. This situation is made worse by the fact that the hospital has also regional responsibility. The need, therefore for its health workers to be psychologically prepared to cope with the important tasks is quite high. It is not known how psychologically prepared the medical workers are in coping with the institution's challenges and demands and their psychological effects on them. It was therefore, deemed necessary to evaluate the health status of the medical staff involved in the core activities at KNH.

3.5 Study Aim

To study the existence of burnout syndrome among the medical practitioners and nurses at the Kenyatta national Hospital, Nairobi.

3.6. Objectives

3.6.1. General

To determine the prevalence rates of and factors associated with burnout syndrome among the medical practitioners and nurses at the Kenyatta National Hospital, Nairobi.

3.6.2. Specific

3.6.2.1 To determine the prevalence rate of burnout syndrome among medical practitioners and nurses at KNH.

3.6.2.2. To establish the factors associated with burnout syndrome among the medical practitioners and nurses at the KNH, Nairobi.

3.6.2.3 To compare levels of burnout syndrome medical workers at the KNH with those found among similar personnel in similar institutions in other countries.

3.7 Expected Outputs

3.7.1 The study will produce the prevalence rates of and factors influencing burnout syndrome and compassion fatigue among medical workers in Kenya so that interventions can be made promptly.

3.7.2 The results will create a baseline data bank for future related research in Kenya in future.

3.8 Hypotheses

3.8.1 Null

There is no statistically significant difference between the prevalence rate of the burnout syndrome and compassion fatigue among the KNH Medical practitioners and Nurses and that found among medical practitioners and nurses in similar institutions in the rest of the world.

3.8.2 Alternative

Kenyatta National Hospital medical practitioners and nurses suffer from higher rates of burnout syndrome and compassion fatigue than the rest of the world.

CHAPTER 4.0

4.1 METHODOLOGY

4.1.1 Study Design

This was a descriptive and cross-sectional study that evaluated burnout syndrome among the medical practitioners and nurses working at the Kenyatta National Hospital, Nairobi, Kenya.

4.1.2 Study Setting

This study was carried out in the wards, theatres and out-patient clinics at the Kenyatta National Hospital.

4.1.3 Reasons for Choosing KNH

Kenyatta National Hospital is the oldest, largest and also the main national referral hospital in Kenya. Its medical workers are frequently and unexpectedly exposed to high levels of complicated medical cases and workload. This hospital unpredictably and unexpectedly handles huge numbers of patients due to frequent disasters, such as the 1998 US Embassy Bomb Blast in Nairobi. It frequently handles emergencies like mass road traffic accidents mainly involving public transport vehicles, in and around Nairobi. The unprepared health workers are exposed to high demands on their individual human and material resources within a short period in dealing with these emergencies. Many successful national and international researches have been conducted by the medical workers at the institution most of whom work under academic and research atmosphere. This makes it a suitable and ideal study setting for this study.

Study population

Table 1: Staff Distribution by Institutions

	KNH	UON	OTHERS	TOTAL
NURSES	1400(99.60%)	0 (0.0%)	6 (0.4%)	1400 (100.0%)
MEDICAL PRACTITIONERS	295(29.4%)	707(70.6%)	0.0(0.0%)	1002(100.0%)
TOTAL	1695(70.6%)	707(29.4%)	0.0 (0.0%)	2402(100.0%)

Source: Offices of the Personnel & Training Officer and the Deputy Chief Nurse, KNH (2002)

The study reference frame was the medical practitioners and nurses with a minimum of six months work duration at the Kenyatta National Hospital, Nairobi. The six month-cut off period was chosen on the basis that any employee who had been at the institution for less than six months was not well adjusted to the institution and the degree of exposure to the burnout-related factors was likely to be low. The characteristics of the study subjects included medical officers employed by Kenyatta National Hospital, Senior House Officers, Consultants and the Kenya Registered and Enrolled Nurses. The personnel data was based on the KNH information, because it provided the up dated status of the physical presence of the medical practitioners and nurses at the stations and time of recruitment.

4.1.5 Study Period

The study lasted eight weeks, starting from the last week of May to the first week of July 2003.

4.1.6 Sample Size

Table 2: Staff Establishment

Proportionate Probability Sampling (PPS) procedure

CADRE	N	Share	n	Sampling
Consultants	404	0.168	55	1:8
Senior House Officers	303	0.126	42	1:7
Medical Officers	295	0.123	41	1:7
Kenya Registered Nurses	500	0.208	69	1:7
Kenya Enrolled Nurses	900	0.375	125	1:7
TOTAL	2402	1.000	332	1:7

Source: Offices of the Personnel & Training Officer and the Deputy Chief Nurse, KNH (2002)

This study restricted itself to the medical practitioners and nurses at KNH who managed and dealt personally with patients in the wards, theatres and clinics. The expected minimum sample size for nurses was 194 while that for medical practitioners was 138. The recruitment formula for the medical practitioners was based on the ratio: Consultants: SHOs: MOs (2:1:1) in accordance with their proportions in the target study population. At the same time, the data analysis was done by categorization of the subjects into three groups namely, University, MOH and KNH medical practitioners while nurses were almost exclusively KNH staff (99.6%). There were 3 nurses who were employees of the MOH, one self employed nurse and 2 others who belonged to no institutions. The University of Nairobi did not have nurses working at KNH, following the suspension of the Diploma in Advanced Nursing (DAN) studies in preference for the BSc nursing students. The nurses were recruited in the ratio of KRN: KEN (1:2) based on their proportions in the target study population at the hospital.

The majority of the medical practitioners (70.0%) belonged to the University of Nairobi, of whom 34.0% were postgraduate students (SHOs). The contribution of the KNH was 29.4% of the 1002 medical practitioners at the institution at the time the study was carried out. These medical practitioners were distributed in various departments at the hospital. All the 1400 nurses were employees of KNH. The total work-force contributed by KNH was 73.2%, leaving 26.8% to the University of Nairobi. The 2402-workforce was too large to be recruited for this study given the short study period (eight weeks) and limited resources available, which was wholly sponsored by the researcher himself.

Subsequently, the sample size was reduced on the basis of there having been no existing local prevalence rate, hence the need to assume that 50.0% of the population had burnout syndrome, leading to application of the formula for the minimum sample size as:

$$n = \frac{Nz^2 p(1-p)}{d^2} \text{ OR } n = \frac{Nz^2 p(1-p)}{d^2 (N-1) + z^2 p(1-p)}$$

Whereby,

n = the minimum sample size

N = the total study population (1400 nurses + 1002 medical practitioners) = 2402

z = the value corresponding to 95% confidence limit = 1.96

d = absolute precision = 5 % (0.05)

p = assumed prevalence of burnout syndrome = 50 % (0.5).

Hence, the actual sample size will be:

$$\begin{aligned} n &= \frac{2402 \times (1.96)^2 (0.5)(0.5)}{(0.05)^2} \\ &= 2401 \times (0.05)^2 + (1.96)^2 (0.5) (0.5) \\ &= \mathbf{332 \text{ study participants}} \end{aligned}$$

Table 3: Subjects' Recruitment Centres

Department	Number	Weight of Recruitment (n)	%
Wards/Clinics	48	238	71.7
Theatres: Major	12	59	17.8
Satellite	6	30	9.0
Emergency/casualty	1	5	1.5
TOTAL	67	332	100.0

Source: Office of the Deputy Chief Nurse, KNH (2002)

KNH had 48 inpatient wards, twelve outpatient clinics (ENT, Eye, ANC, MOPC, SOPC, POPC, Dental, Oncology/Radiology, orthopaedic, PSC/VCT and family planning-clinic 66). There were twelve major and six satellite (casualty-2, ENT, SOPC, endoscopy and maternity) theatres. This information was provided by the office of the Deputy Chief Nurse, Kenyatta National Hospital in December 2002. In total, there were 67 stations for recruitment of the subjects. This meant that the minimum number of subjects per station was $294/67 = 4$ nurses and $138/67 = 2$ medical practitioners in order to reflect the ratio of the total number of nurses to medical practitioners in the hospital (1.4:1) and strengthen the statistical significance because of the numerical superiority of nurses to the medical practitioners at the institution.

4.1.7 Criteria

4.1.7.1 Inclusion

The study subjects consisted of medical practitioners and nurses who were employed by Kenyatta National Hospital or others similar cadres working at the same hospital and exposed to the same conditions. The participants who voluntarily signed the consent forms as an ethical requirement. Medical workers who had been working for at least six months at the institution. The participants' selection was based on qualifications, shifts of the day and their distribution in the departments and the hospital.

4.1.7.2 Exclusion

All health workers at KNH other than medical practitioners and nurses were not eligible to participate in the study. Any medical practitioner or nurse who did not sign the consent form was not eligible to participate in the study and so were those who had worked at the institution for less than six months. Any incomplete or partially answered questionnaires were excluded from the study.

4.1.8 The Instrument (Compassion Fatigue Self Test)

This instrument was developed by Figley and Stamm^{17, 23}. The population suitable for this instrument includes adult human service field, generalisable to nearly any groups including medical professionals, psychotherapists, teachers, and public safety personnel. It measures both trauma and burnout syndrome symptoms and was therefore, preferred to the Maslach Burnout inventory (MBI) in this study.

The content survey, procedure and process are taken from Pines⁴⁷ for burnout syndrome items while trauma items were gleaned from the trauma literature.

The literature orientation is integrative, but has roots in the secondary traumatic stress literature. The estimated times for the administration and scoring of the instrument is 5-10 minutes Figley & Stamm^{10, 23}. The instrument is simple and only requires a paper and pencil to be administered.

4.1.8.1 Psychometric Properties

One hundred and forty two psychotherapy practitioners whose data showed alpha reliabilities ranging from 0.94 to 0.86 had tested this instrument. Structural analysis yielded at least one stable factor, which is characterized by depressed mood in relationship to work, accompanied by feelings of fatigue, disillusionment, and worthlessness. Structural Reliability (Stability) of this factor, as indicated by Tuckers Coefficient of Congruence (TCC) is 0.9¹⁷.

4.1.8.2 Utilization of the Instrument

The instrument has been used in numerous studies across multiple disciplines, including mental health, education, healthcare and generally, professionals internationally.

The instrument was clearly capable of describing a high level of professional difficulty to which the worker should attend. It can be used as an indicator of potential problems as well as a diagnostic device. Because this was a self-test designed as an educational tool and a warning device, it tended to err on the side of over inclusion, that is, false positive.

4.1.8.3 Interpretation

Each participant responded to all items in order to be included (validity) for analysis and to enhance the reliability of the results on burnout syndrome levels.

4.1.8.3.1 Scoring for Compassion Fatigue

Numbers 14-21, 23-26, 30-33 and 42 measured the risks of Compassion Fatigue which was scored as follows:

Table 4: Scoring for Compassion Fatigue

Level of Risk	Score
Extremely low	26 or less
Low	27-30
Moderate	31-35
High	36-40
Extremely High	41 or more

Source: Figley, C.R (1995) and Figley, C.R & Stamm, B.H (1996)^{17, 23}

4.1.8.3.2 Scoring for Burnout syndrome

Numbers 22, 27-29, 34-41, and 43-53 measure the risk of burnout syndrome which was scored as follows:

Table 5: Scoring for Burnout syndrome

Level of Risk	Score
Extremely low	19 or Less
Low	20-24
Moderate	25-29
High	30-42
Extremely High	43 or more

Source: Figley, C.R (1995) and Figley, C.R & Stamm, B.H (1996)^{17, 25}.

4.1.9 Procedure

A pre-testing of the protocol was carried out by the researcher to assess the feasibility of the study, a month before its commencement. This was meant to identify the obstacles the study would have faced and to iron them out early before the study could start. The pre-testing was done also to pre-determine the cadres of the various study participants in order to easily facilitate sampling as well as to create awareness about it among the participants in advance. During this early phase, it was established that most of the medical practitioners and nurses had very little time to attend to matters other than clinical duties, a further strong justification for this study. The pre-testing also established that there was a need to deal with the divisional nursing officers in charge (Assistant Chief Nurses-ACNs) from the beginning in order to reduce disruptions and inconveniences during working hours and also to make brief introduction of the study to them. It was established that night duty staffs were more at ease to deal with than the day duty staff due to the busy day schedules and that it would be necessary to include all the nurses in the three shifts of the day in order to achieve dependable outcomes. All these preparatory stages and the conduct of the study were carried out solely by the researcher for consistency. On the occasion of carrying out the study, the researcher always reported in time at the recruitment centres. This was followed by introducing himself to the medical practitioners and nurses, then introduction of the study that also included giving details about the questionnaire and how to fill it in. The questionnaire was simple and it elicited very few questions for clarification due to the high literacy rate of the participants and their familiarity with medical questionnaires.

Due to their tight schedules, some medical practitioners and nurses requested to take along their individual questionnaires and to deliver it back duly completed. Most nurses and medical practitioners completed their questionnaires on the spot.

The collection of this data was done in a systematic way, moving from department to department by the Proportionate Probability Sampling (PPS) technique and covering all hours of duty, day and night. This was done mainly between 8.00 am and 2.00 am so as to recruit participants from all the three 8-hourly daily shifts for the nurses and medical practitioners, from all departments and by the participants' gender and qualifications.

The process was carried out with extreme sensitivity to hours and moments of patient care so as not to decompensate service delivery to the patients. The sampling frame was developed from the daily duty rosters at the recruitment centres and it was based on the weighted sample sizes and proportions. The roster were adopted in order to make recruitment systematic and to simplify substitution of absent or reluctant participants. The participants were reminded about the standard time used to complete the questionnaires, which was five to ten minutes for each questionnaire. All the correctly completed questionnaires were collected by the researcher and tucked away in safety plastic bags. The medical practitioners and nurses who requested for more time to complete the questionnaires later were asked to leave their physical and telephone contacts with the researcher as well as the estimated time and date of return of the completed questionnaires and the location of delivery of the questionnaires. All the questionnaires were scrutinised to ensure that they were correctly filled in at the time of collection. The completed questionnaires were kept safely by the researcher for subsequent computer data entry and analysis, while the spoilt ones were discarded.

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4.2.0 Data Management

All data collected was entered and analysed using SPSS computer software version 10.0. The data was analysed to answer the questions asked in the questionnaire to answer the set objectives appropriately and to prove or disapprove the hypothesis. Treated data was presented in the narrative and bar charts.

4.3.0 Ethical Considerations

The study observed the participants' confidentiality and privacy in accordance with the requirements of the KNH ethical and research committee. It recognised the rules and regulations governing the institution and avoided compromising the patients' care.

CHAPTER 5.0

5.1 RESULTS

5.1.1. Socio-demographic characteristics

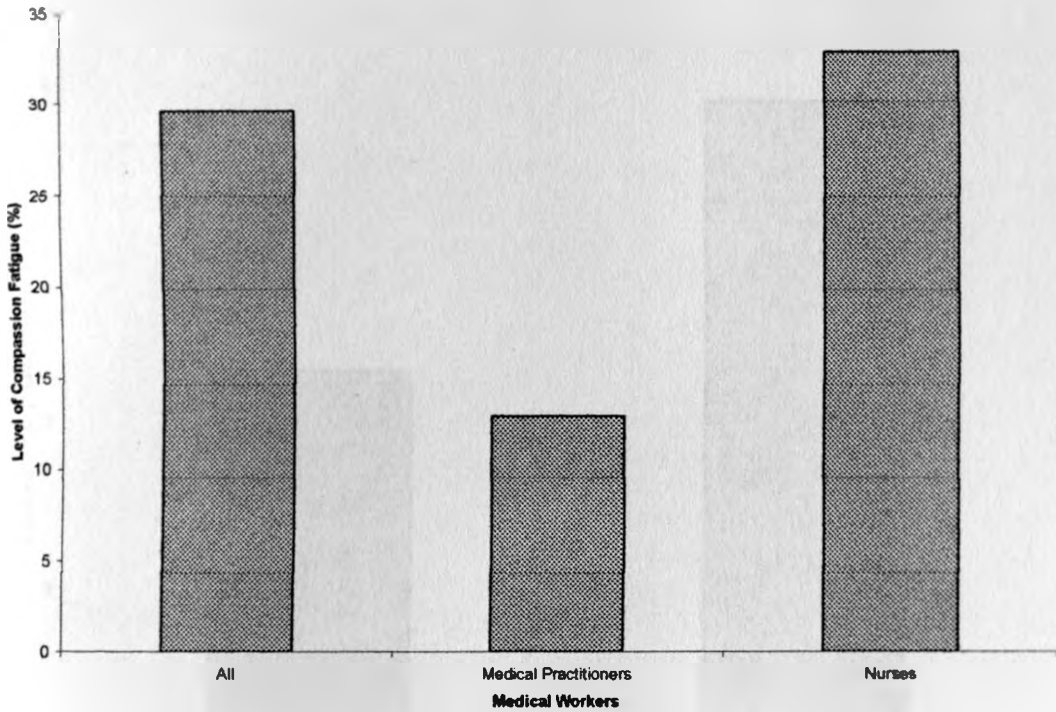
A total of 460 questionnaires were distributed to medical practitioners and nurses at all the 67 selected recruitment centres at the Kenyatta National Hospital for this study. The minimum expected sample size for the study was 332 respondents. Of the 460 questionnaires distributed out to the respondents, 82 were distributed out to the medical practitioners while 378 were distributed out to the nurses in proportion to their weights of recruitment. The respondents returned 357 questionnaires. A few 9/357(2.5%) were spoilt and the majority 348/357(97.5%) were valid for analysis. Of the analysable questionnaires, 62 were from medical practitioners, giving the medical practitioners return rate of 62/357(17.4%) and an analytical value of 62/348(17.8%). The nurses returned 286 valid questionnaires, which gave them an expected minimum return rate of 286/357(80.1%) and analytical value of 286/348(82.2%). There were 94/348(27.0%) male study participants, of whom 47/94(50.0 %) were medical practitioners and 47/94(50.0%) were nurses. The female participants were 252/348(72.4%) of whom 15/252(6.0%) were medical practitioners and 237/252(94.0%) were nurses. The participants' age range was 23-53 years with the youngest (23 years) and oldest (53 years) being nurses in both cases. The mean age was 35.0 years with a standard deviation of 7.6 and the median age of 33 years. The total number of medical practitioners recruited was 62/1002(6.2%) while the number of nurses was 284/1400(20.3%) giving a participation rate of 348/2402(14.5%) of the total number of the medical workers at the Kenyatta National Hospital.

5.1.2 Interpretation of the Results

Both compassion fatigue and burnout Syndrome were measured by the Compassion Fatigue Self Test, a scale between extremely low and extremely high (see sub-sections 4.1.8.3.1 and 4.1.8.3.2). The findings of this study showed that at everyone had at least some compassion fatigue and burnout syndrome. Given that a certain level of stress is necessary for coping with the daily life events, only the high and extremely levels were considered to be of pathological significance in this study. Hence, value was attached to the vulnerability and likelihood of developing the two psychomorbidities, measured in percentage by the increase in their levels from the high to extremely high. In this case, the moderate level was taken as the point of reference (zero), which may also be interpreted to signify the normal.

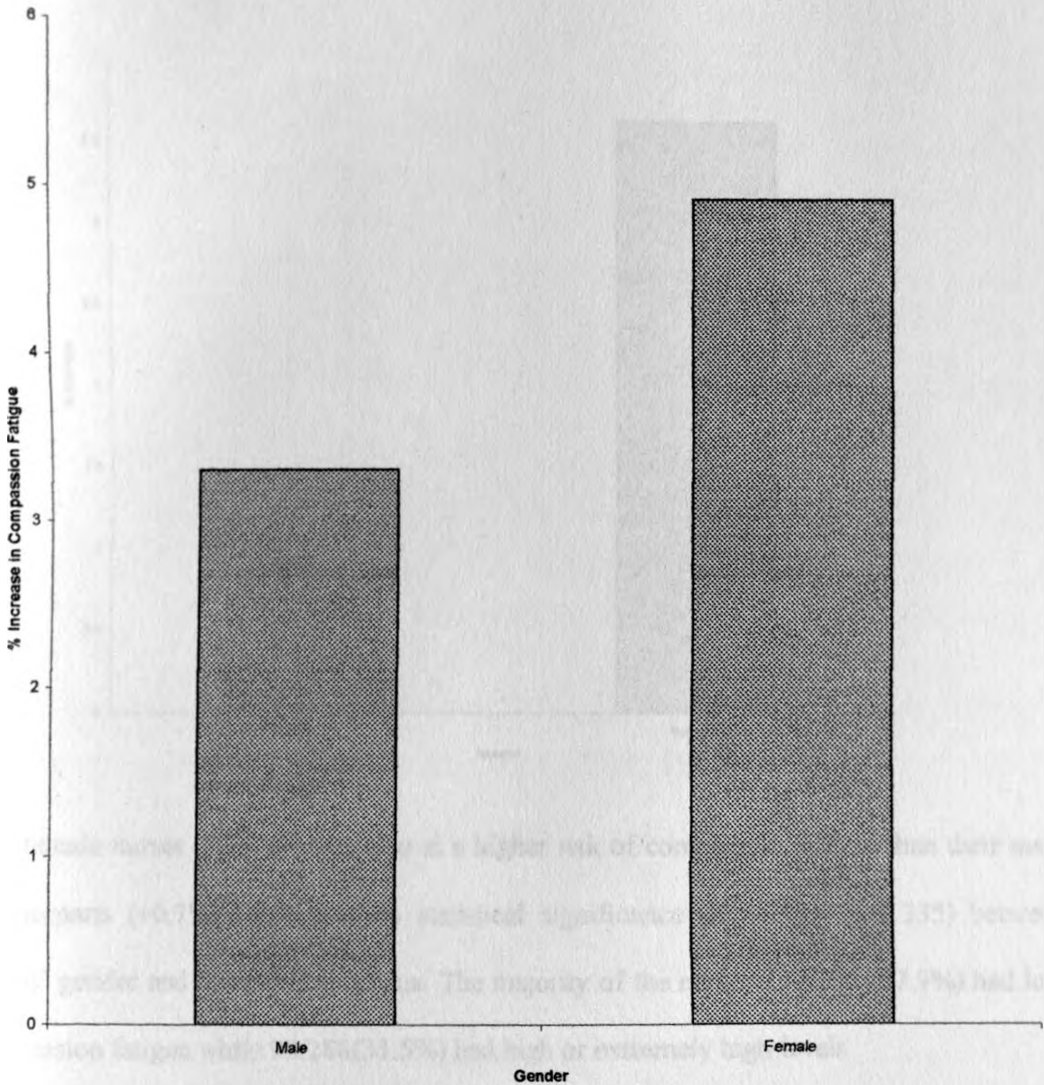
5.2 COMPASSION FATIGUE

CHART 1: The Crude Prevalence Rates of Compassion Fatigue among the Medical Workers at KNH, Nairobi (n=348)



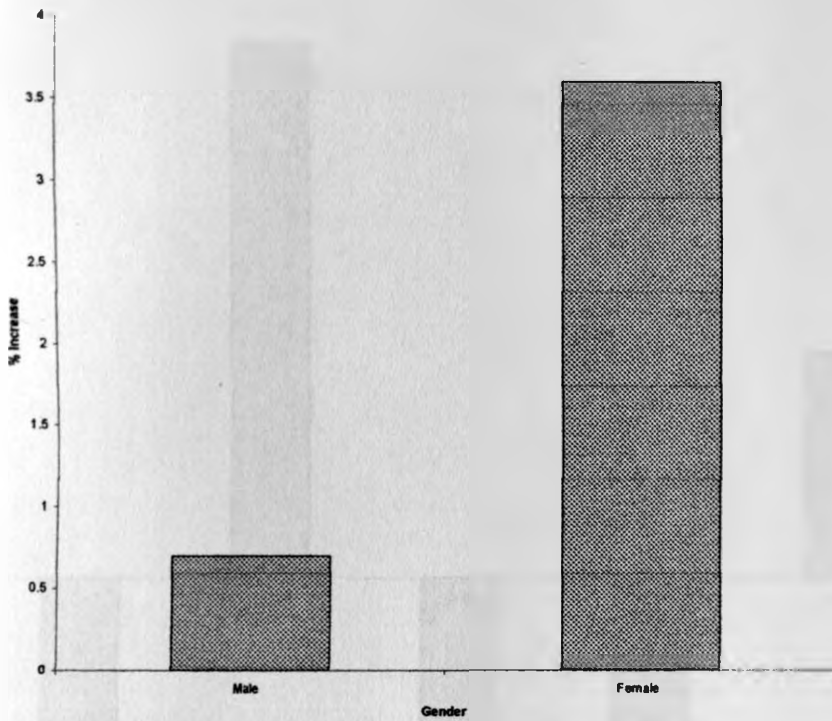
The prevalence rate of all the medical workers (n=348) was 29.9%. The prevalence rate of compassion fatigue among the doctors (n=62) was 12.9% while that for the nurses (n=286) was 32.9%.

CHART 2: Gender vs. Compassion Fatigue among the Medical Practitioners (n=62)



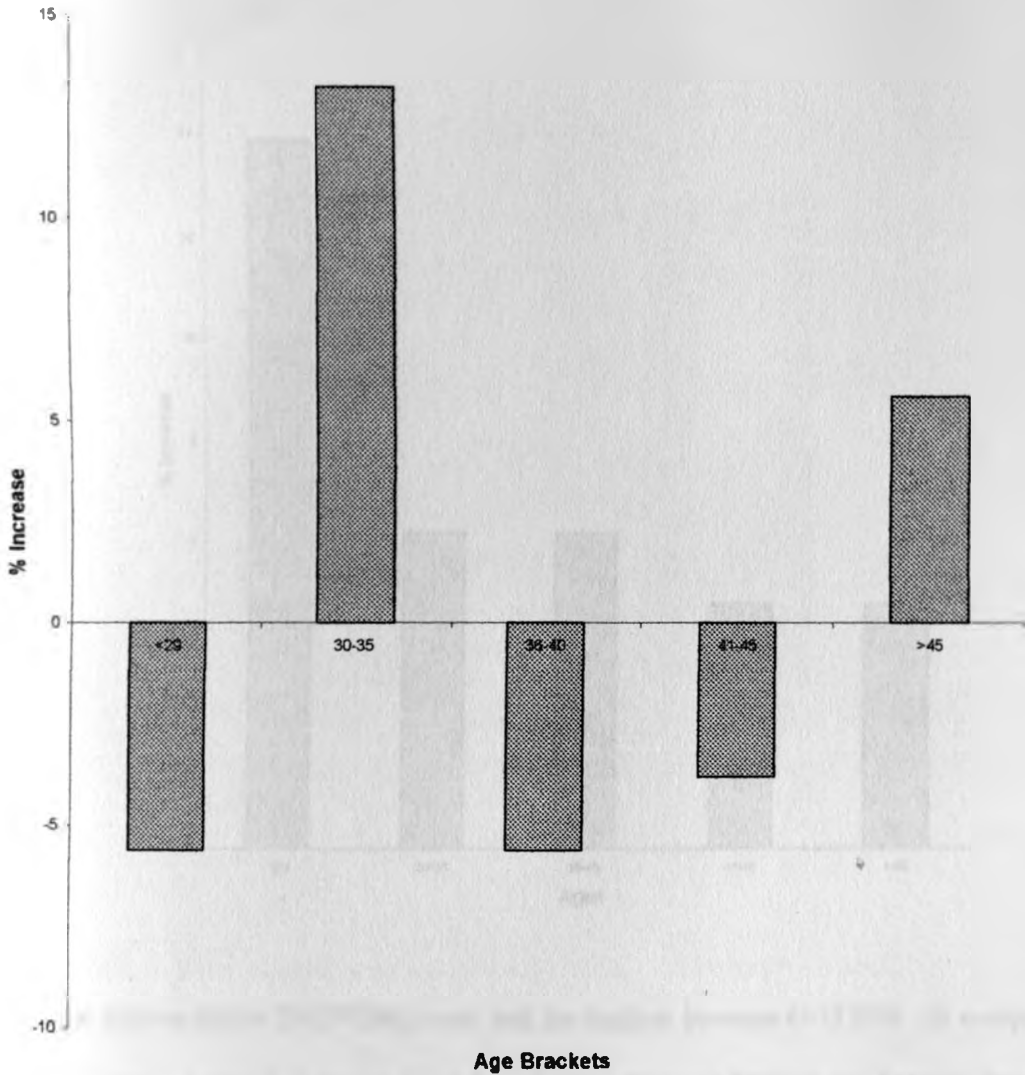
Vulnerability to extremely high burnout syndrome showed that the female medical practitioners (+4.9%) were more at risk than their male (+3.3%) counterparts. There was a statistical significance between the medical practitioners' gender and compassion fatigue ($X^2=12.859$; $p=0.012$). Out of 62 medical practitioners at KNH the majority were males 46/62(74.2%) while the female were 15/62(24.2%). Medical practitioners in the high and extremely high brackets accounted for 7/61(11.3%) of the compassion fatigue.

CHART 3: Gender vs. Compassion Fatigue among the Nurses (n=286).



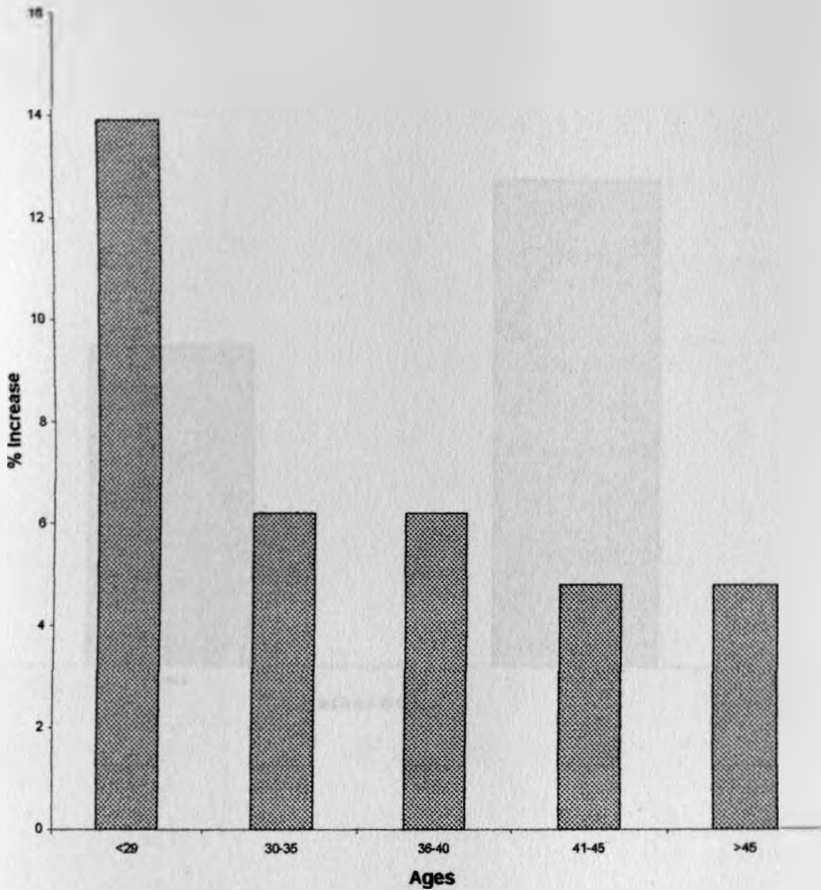
The female nurses (+3.6%) were also at a higher risk of compassion fatigue than their male counterparts (+0.7%). There was no statistical significance ($X^2=4.561$; $p=0.335$) between nurses' gender and compassion fatigue. The majority of the nurses 137/286 (47.9%) had low compassion fatigue while 90/286(31.5%) had high or extremely high levels

CHART 4: Age vs. Compassion Fatigue among the Medical Practitioners (n=62)



Predisposition to compassion fatigue was high in the age group 30-35 years 20/62(+13.2% increase from high to extremely high levels) and above 45 years 5/62 (+5.6% increase) of age while it was low in the age brackets; below 29 years 9/62(-5.6%), 36-40 years 9/62(-5.6%) and 41-45 years 10/62(-3.8%) of age among medical practitioners at KNH. These findings were however, statistically insignificant ($X^2=37.909$; $p=0.152$).

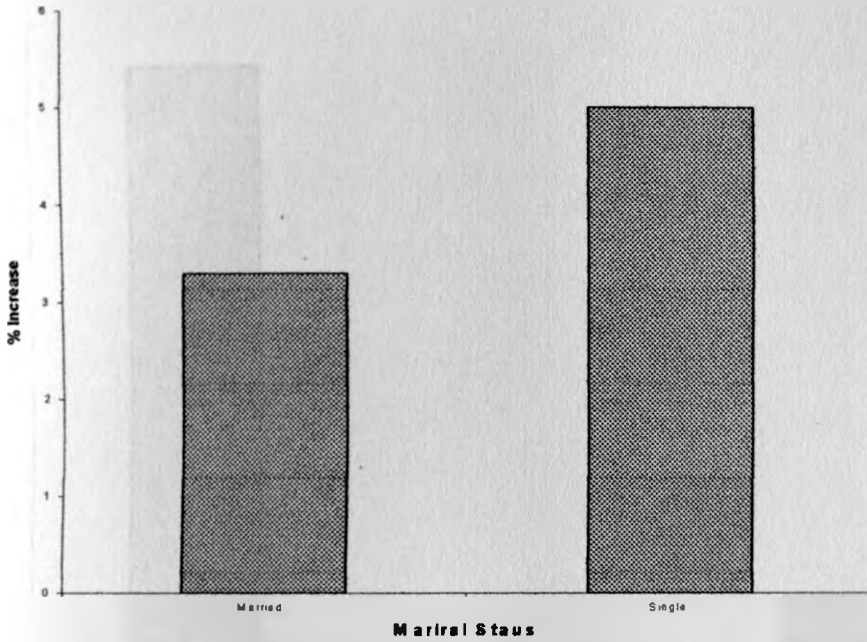
CHART 5: Age vs. Compassion Fatigue among the Nurses (n=286)



The age bracket below 29 (57/286) years had the highest increase (+13.2%) in compassion fatigue among nurses and it was more than double the next highest age bracket, the 30-35 (52/286) and 36-40 (36/286), both of which stood at +6.2% increase from high to extremely high levels. Overall, there was no relationship between nurses' ages and compassion fatigue ($X^2=37.909$; $p=0.152$).

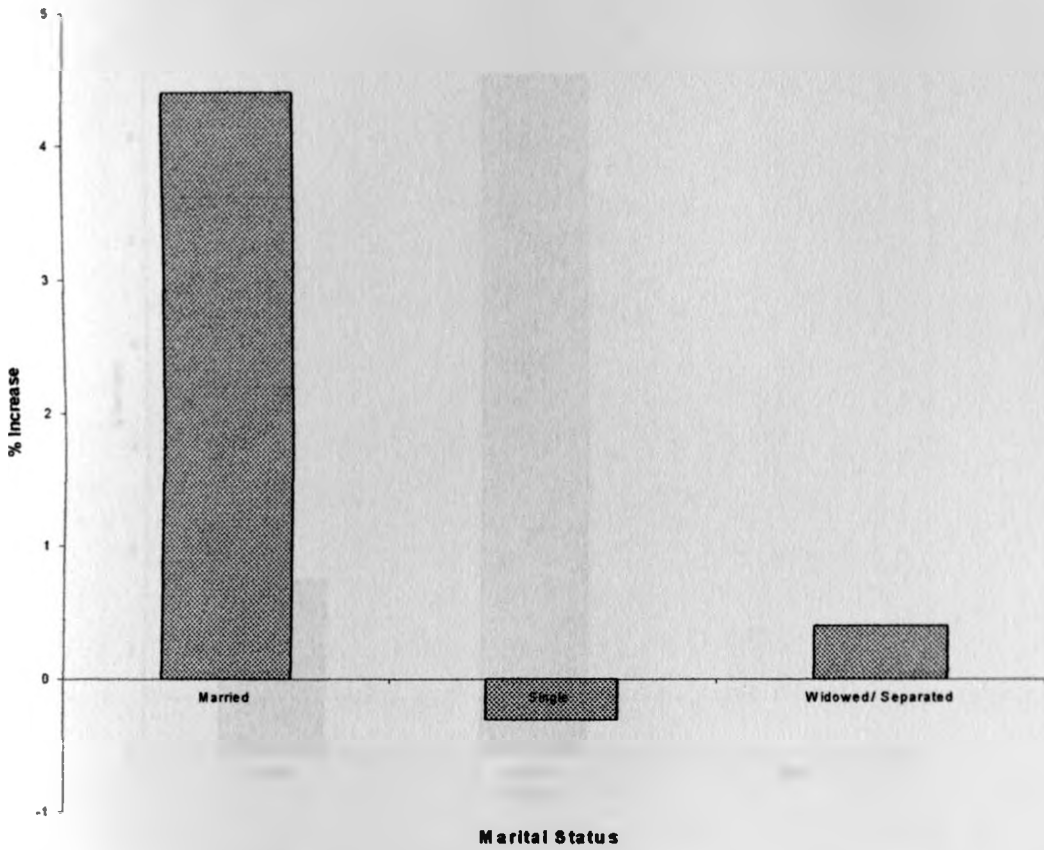
CHART 6: Marital Status vs. Compassion Fatigue among the Medical Practitioners

(n=62)



Among the married medical practitioners only 7/62(11.7%) had high levels of compassion fatigue. Marital status was not a risk factor ($X^2=1.708$; $p= 0.635$) for compassion fatigue although the study found a rapid rise (+5.0%) in compassionate fatigue among single than in married (+3.3%) medical practitioners at KNH.

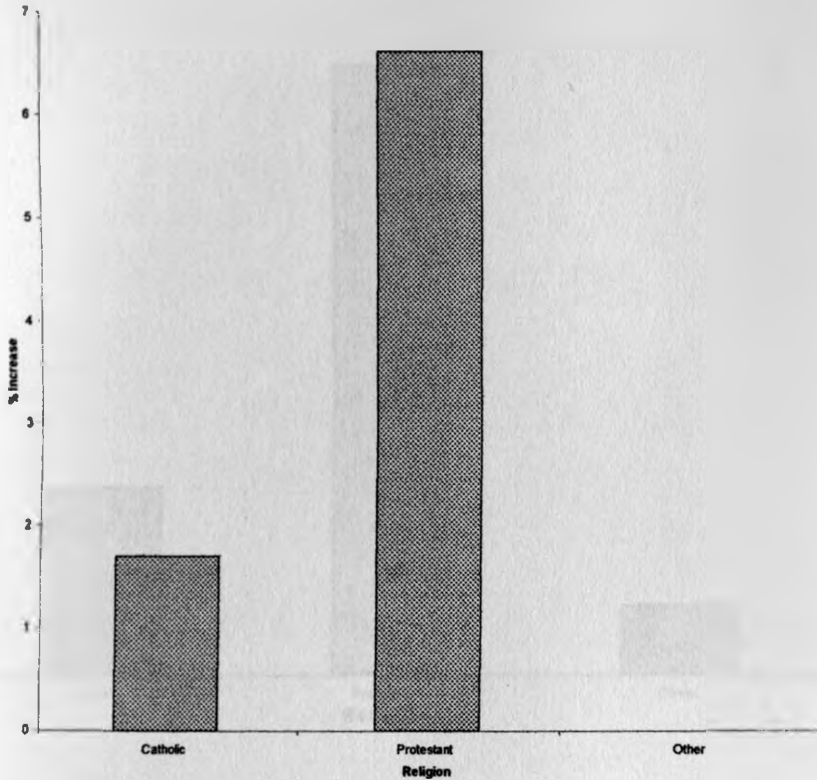
CHART 7: Marital Status vs. Compassion Fatigue among the Nurses (n=286)



The single nurses were found to be at a low risk of compassion fatigue (-0.3%) compared to the married (+4.4%) and the widows (+0.4%), rating them compassionate than the other two categories. However, there was no statistical significance ($X^2=1.978$; $p=0.740$) between marital status and compassion fatigue among the nurses.

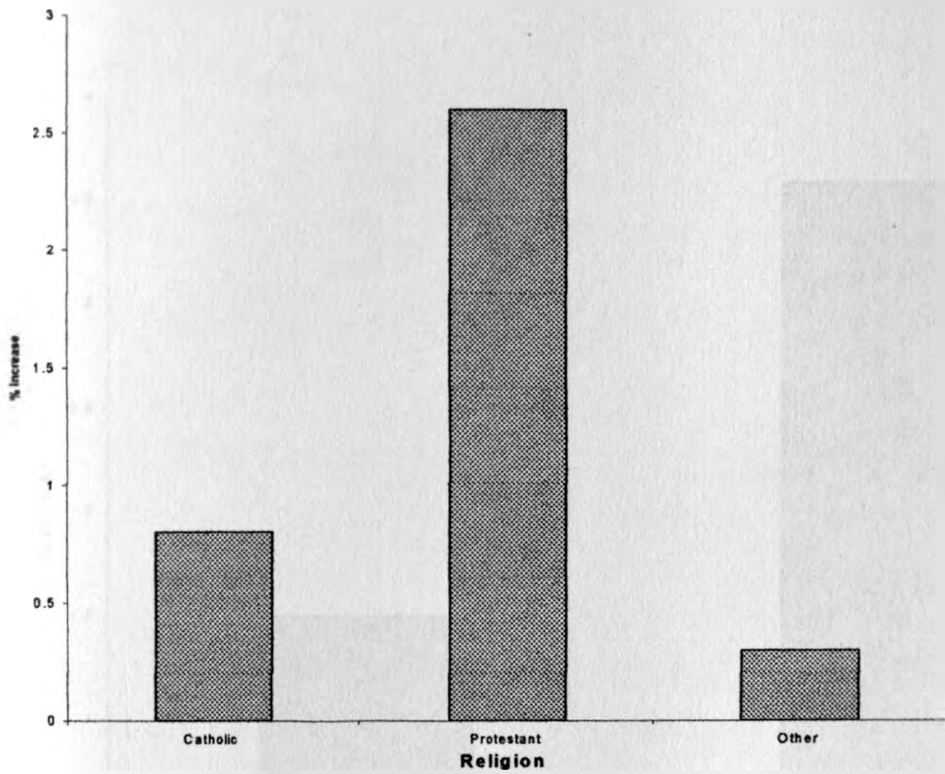
CHART 8: Religion vs. Compassion Fatigue among the Medical Practitioners

(n=62)



The Protestants had the highest increase in levels of severe compassion fatigue at (+6.6%) followed by the Catholics at (+1.7 %) The other religious groups had no respondent with severe forms of compassion fatigue (0.0%). There was no statistical significance ($X^2=7.814$; $p=0.452$) between religion and compassion fatigue among the medical practitioners at KNH. Protestants comprised 39/62(63.9%), followed by the catholics15/62(24.6%) while other religions 7/62(11.5%) came third.

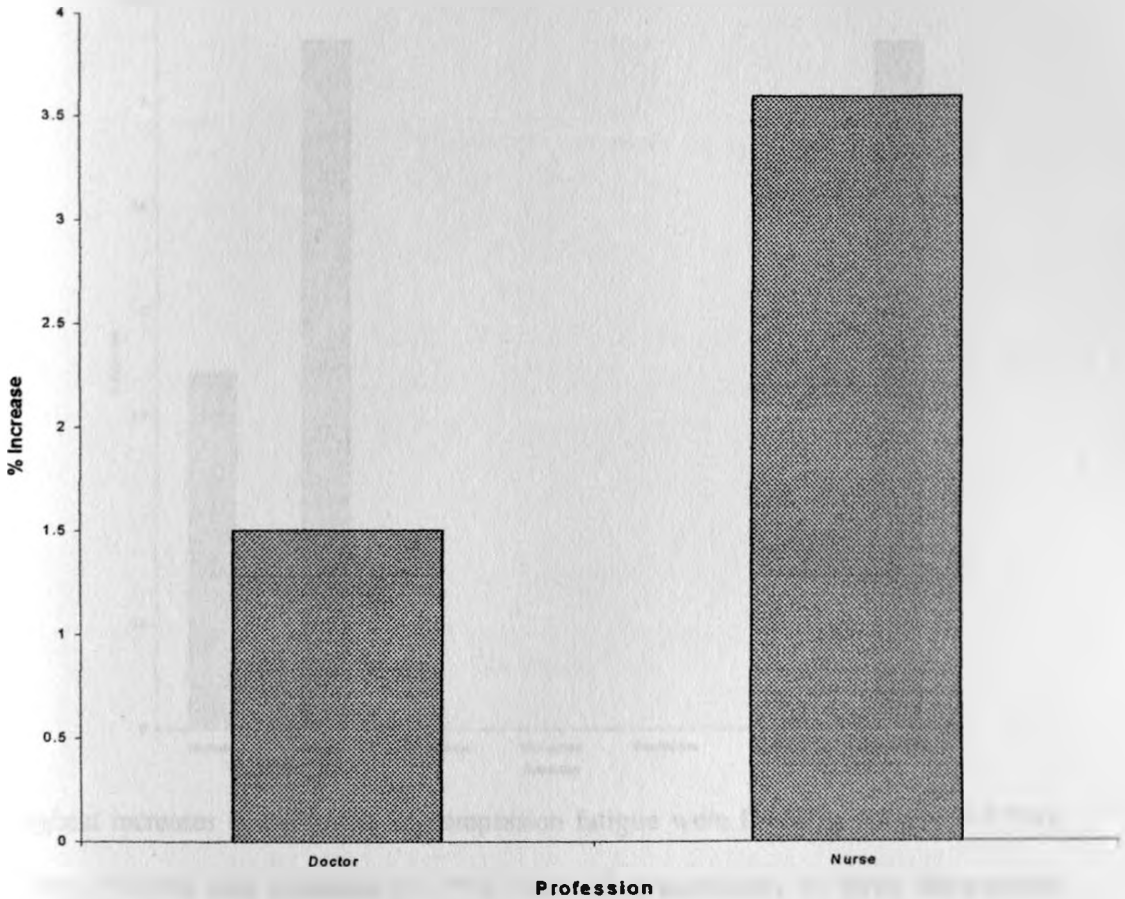
CHART 9: Religion vs. Compassion Fatigue among the Nurses (n=286)



The Protestant nurses had the highest levels of increase (+2.6%) followed by Catholics (+0.8%) and other religions (+0.3%). The difference between religion and compassion fatigue among nurses was not significant ($X^2=5.902$; $p=0.658$). Most of the nurses 182/286(67.9%) were Protestants, followed by the Catholics 78/286(29.1%) and other religious groups at 8/286(3.0%).

CHART 10: Professionalism vs. Compassion Fatigue among the Medical Workers

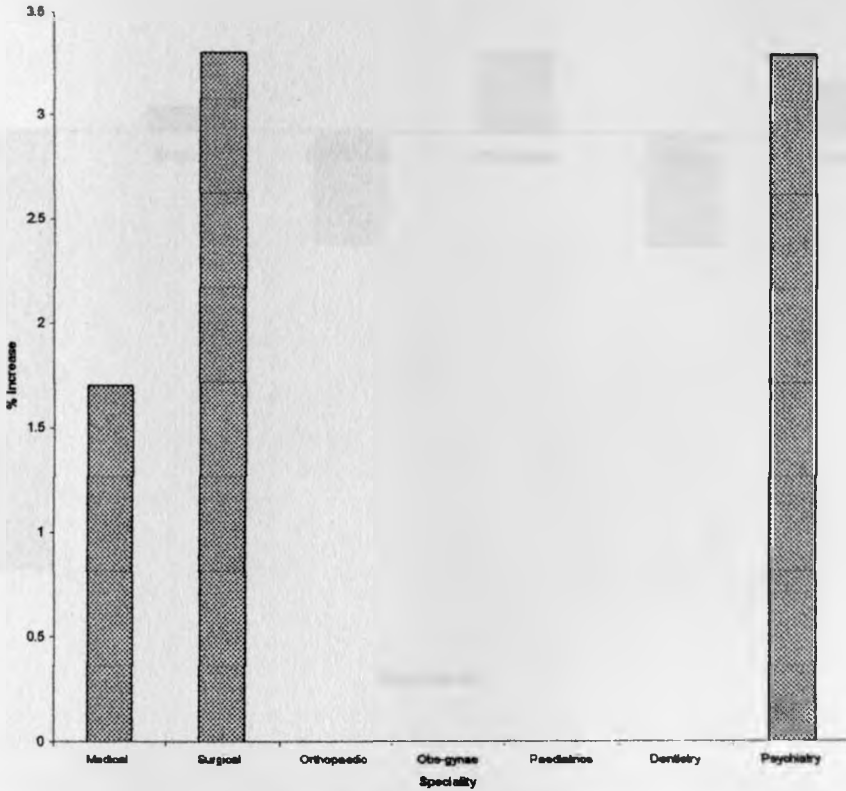
(n=348)



Nurses (+3.6% increase from high to extremely high levels) were found to be at a higher risk of developing compassion fatigue than the medical practitioners (+1.5% increase from high to extremely high levels) at KNH. The nursing profession was found to have a statistical significance with compassion fatigue ($X^2=12.859$; $p=0.012$). Nurses constituted the majority of the study sample 274/348(81.8%) compared with the medical practitioners 61/348(18.2%).

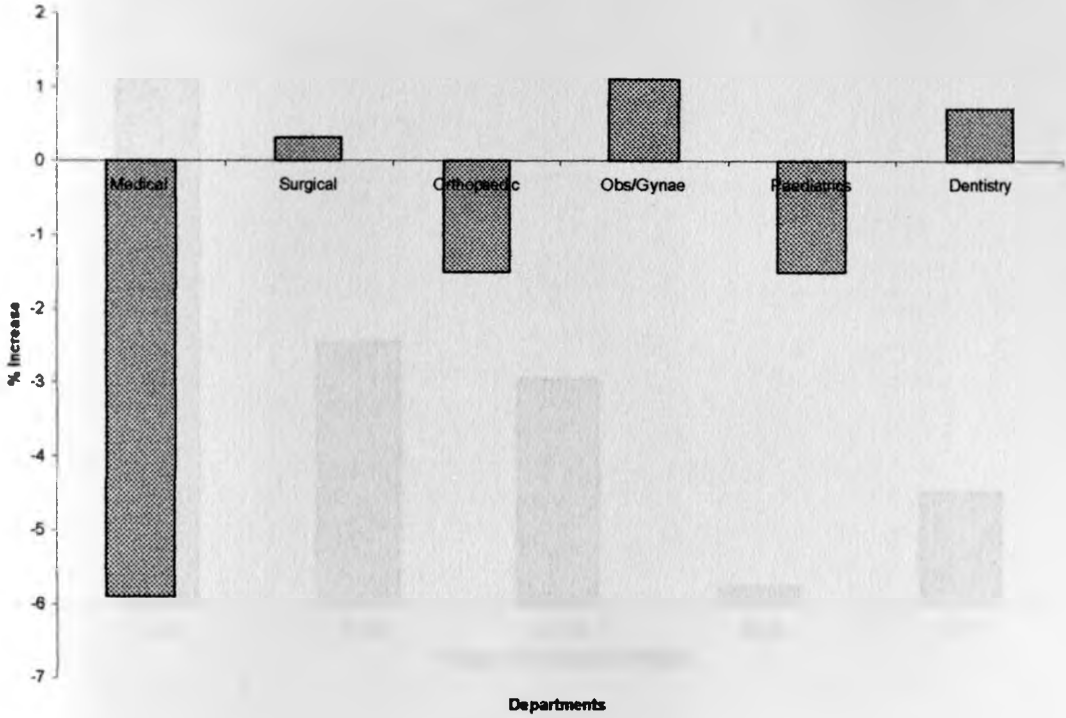
CHART 11: Department vs. Compassion Fatigue among the Medical Practitioners

(n=62)



The highest increases in the levels of compassion fatigue were found in surgery (+3.3%), psychiatry (+3.3%) and medicine (+1.7%). Medical practitioners in three departments showed high prevalence levels of compassion fatigue, namely medical 18/62(30.0%), surgical 22/62(36.7%) and psychiatry 8/62(13.3%). On the other hand, medical practitioners in obstetrics and gynaecology (0.0%) orthopaedic surgery (0.0%) paediatrics (0.0%) and dentistry (0.0%) were found to have no increase compassion fatigue and the prevalence rates were: 6.7%, 3.3%, 3.3% and 6.7% respectively. There was no statistical significance between medical practitioners' departments and compassion fatigue ($X^2=25.953$; $P=0.576$).

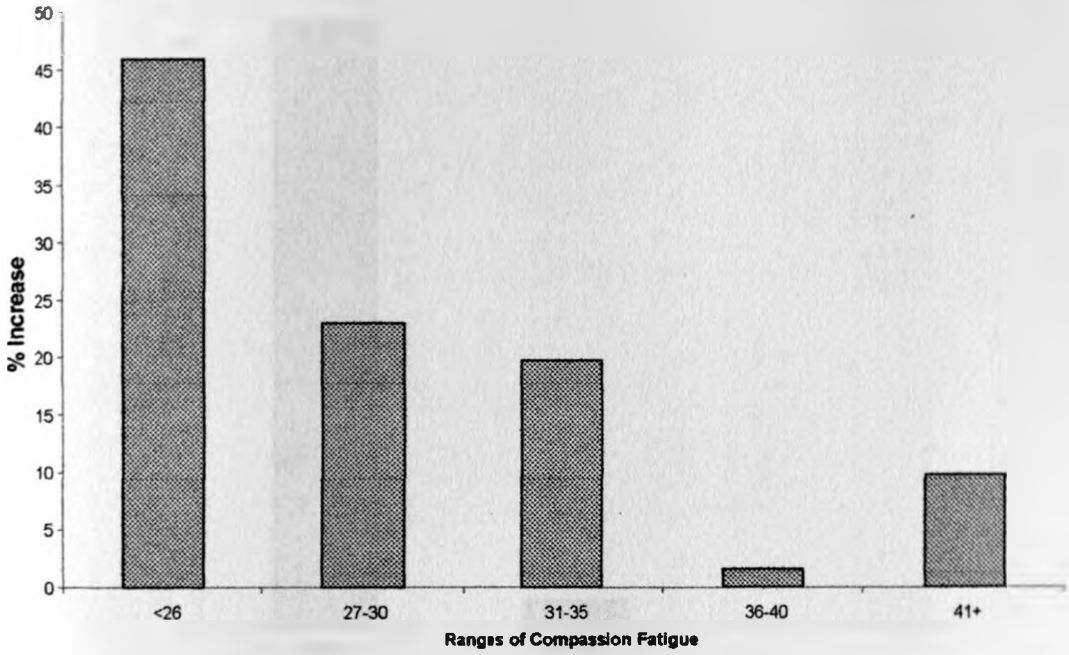
CHART 12: Department vs. Compassion Fatigue among the Nurses (n=286)



There lowest level of compassion fatigue was found in the department of medicine 57/286 (-5.9%), followed by paediatric 27/286 and orthopaedic surgery 30/286 both at -1.5% increase. The department of obstetrics and gynaecology had the highest compassion fatigue 27/286 (+1.1%), followed by dentistry 28/286 (+0.7%) and surgical 117/286 (+0.3%). There was a statistical significance between nurses' departments and burnout syndrome ($X^2=21.642$; $p=0.042$).

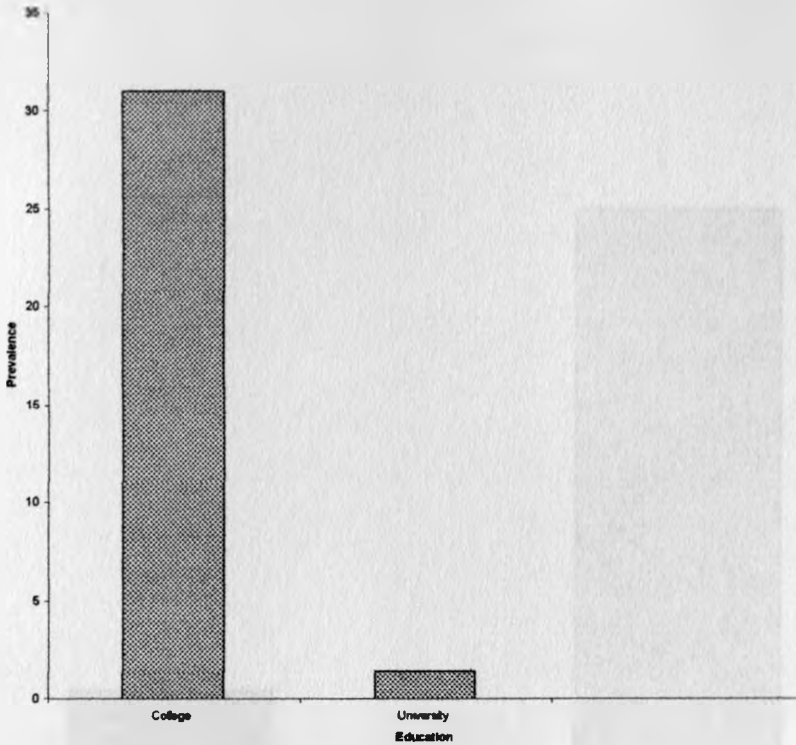
CHART 13: Education vs. Compassion Fatigue among the Medical Practitioners

(n=62)



The majority of the medical practitioners had low compassion fatigue 42/62(68.9%) while 7/61(11.4%) had severe to extremely high compassion fatigue. Provenances of Compassion fatigue decreased with increasing severity among the medical practitioners. All the doctors had a minimum of university education.

CHART 14: Education vs. Compassion Fatigue among the Nurse (n=286)



The majority of the Kenyan nurses had middle level college training (medical training college) 260/286(90.1%) and only 11/286(3.8%) had University educational level. The University graduate nurses had low compassion fatigue levels and only 4/286(1.4%) had high to extremely high compassion fatigue compared to the college trained nurses 84/286(29.4%). The increase in compassion fatigue from severe to extremely severe was +4.4% for the middle college trained nurses and 0.0% for the university educated ones. The relationship between the nurses' education and compassion fatigue was insignificant ($X^2=2.311$; $p=0.970$).

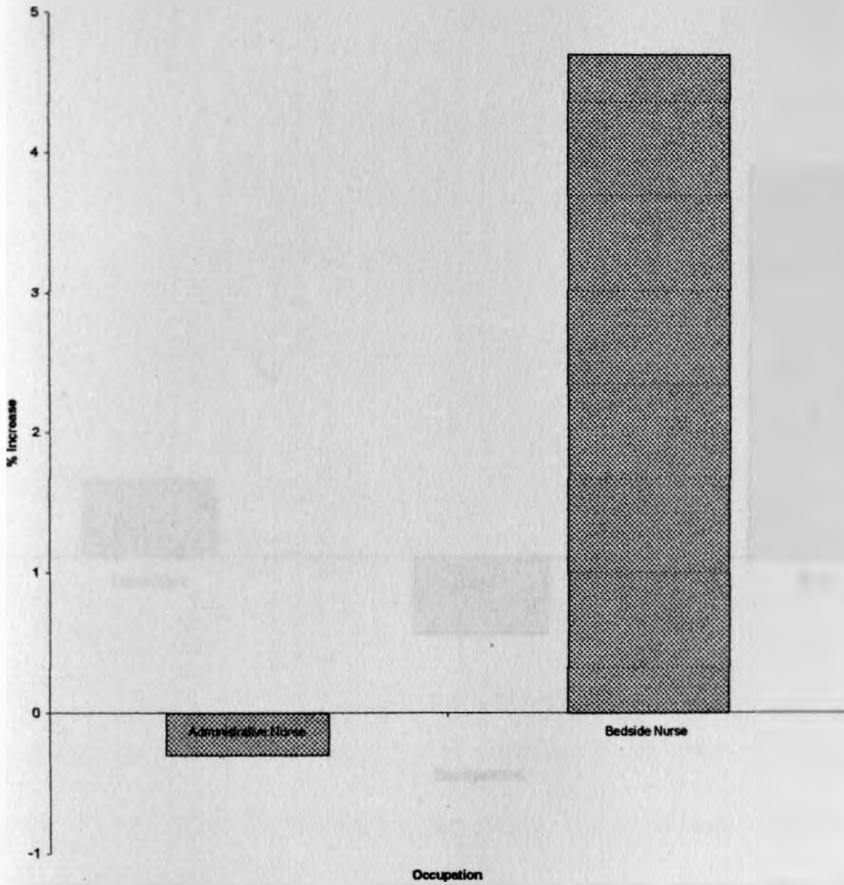
CHART 15: Occupation vs. Compassion Fatigue among the Medical Practitioners

(n=62)



In terms of occupation, the majority of the medical practitioners were found to be suffering from low levels of compassion fatigue 42/62 (67.7%) while 7/62 (11.3%) were found to be suffering from high to extremely high compassion fatigue whose increase was +1.7% and +6.7% among the consultants and medical officers respectively. The medical officers 38/62 (61.3%) were found to be almost four times as affected by compassion fatigue as the consultants 22/62 (35.5%). There was no relationship between the medical practitioners; occupation and compassion fatigue ($X^2=6.423$; $p=0.600$).

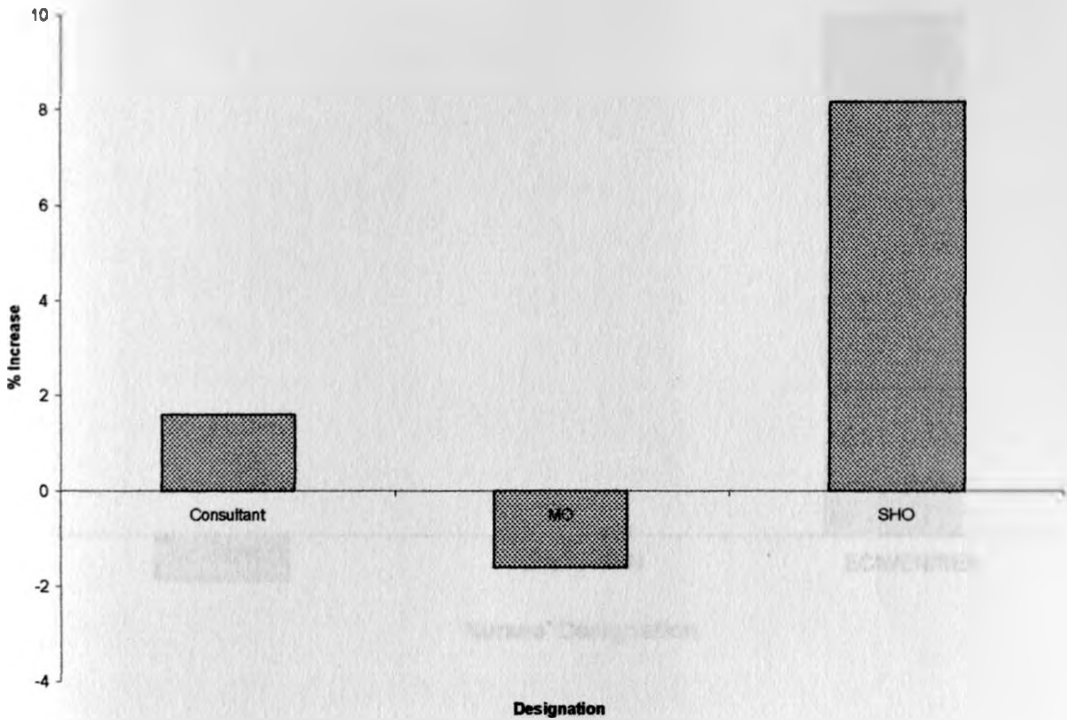
CHART 16: Occupation vs. Compassion Fatigue among the Nurses (n=286)



Bedside Nurses 205/286(71.7%) faced three times as much compassion fatigue than the administrative nurses 69/286(24.1%). The administrative nurses were found to experience a decline in the severity of compassion fatigue (-0.3%) while the bedside nurses experienced an increase in severe compassion fatigues (+4.7%). This relationship was however, found to be statistically insignificant ($X^2=2.219$; $p=0.696$).

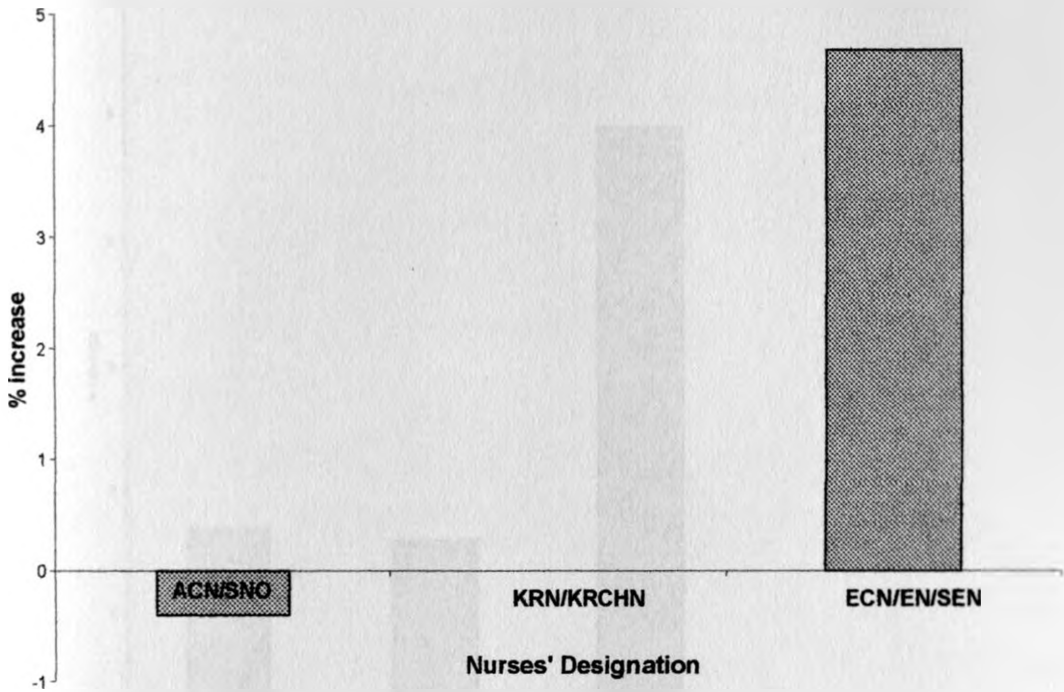
CHART 17: Designation vs. Compassion Fatigue among the Medical Practitioners

(n=62)



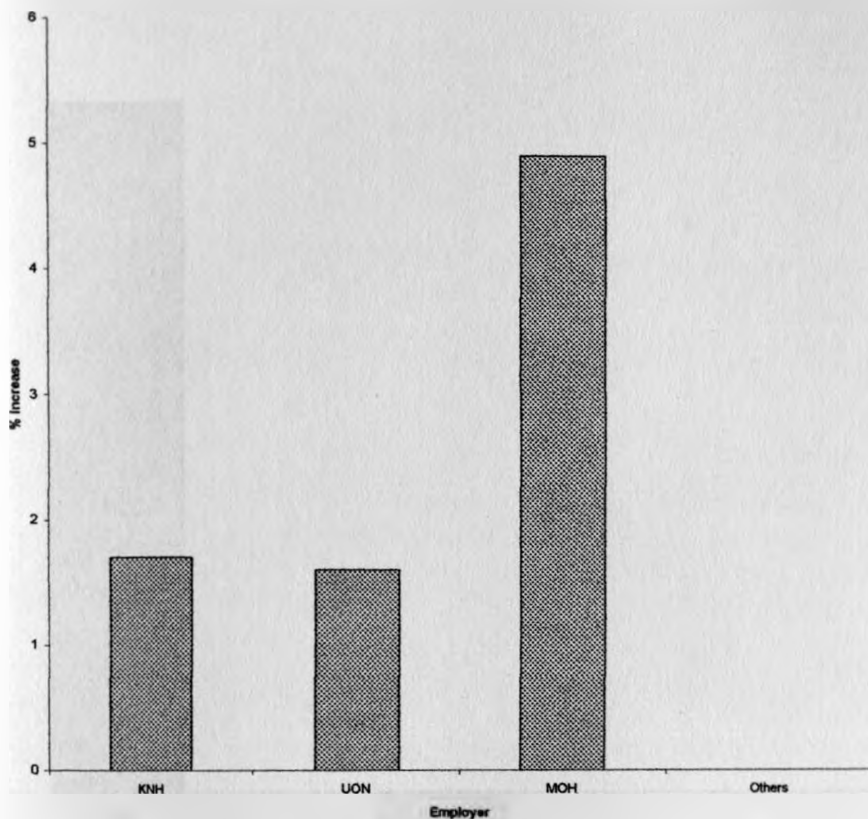
The MOs 12/62 (19.4%) had the lowest (-1.6%), while the SHOs 28/62 (45.2%) experienced the highest increase in compassion fatigue (+8.2%) followed by the consultants 22/62 (35.5%) with an increase of +1.6%. There was no statistical significance between the medical practitioners' designation and compassion fatigue ($X^2=339.724$; $p>0.05$)

CHART 18: Designation vs. Compassion Fatigue among the Nurses (n=286)



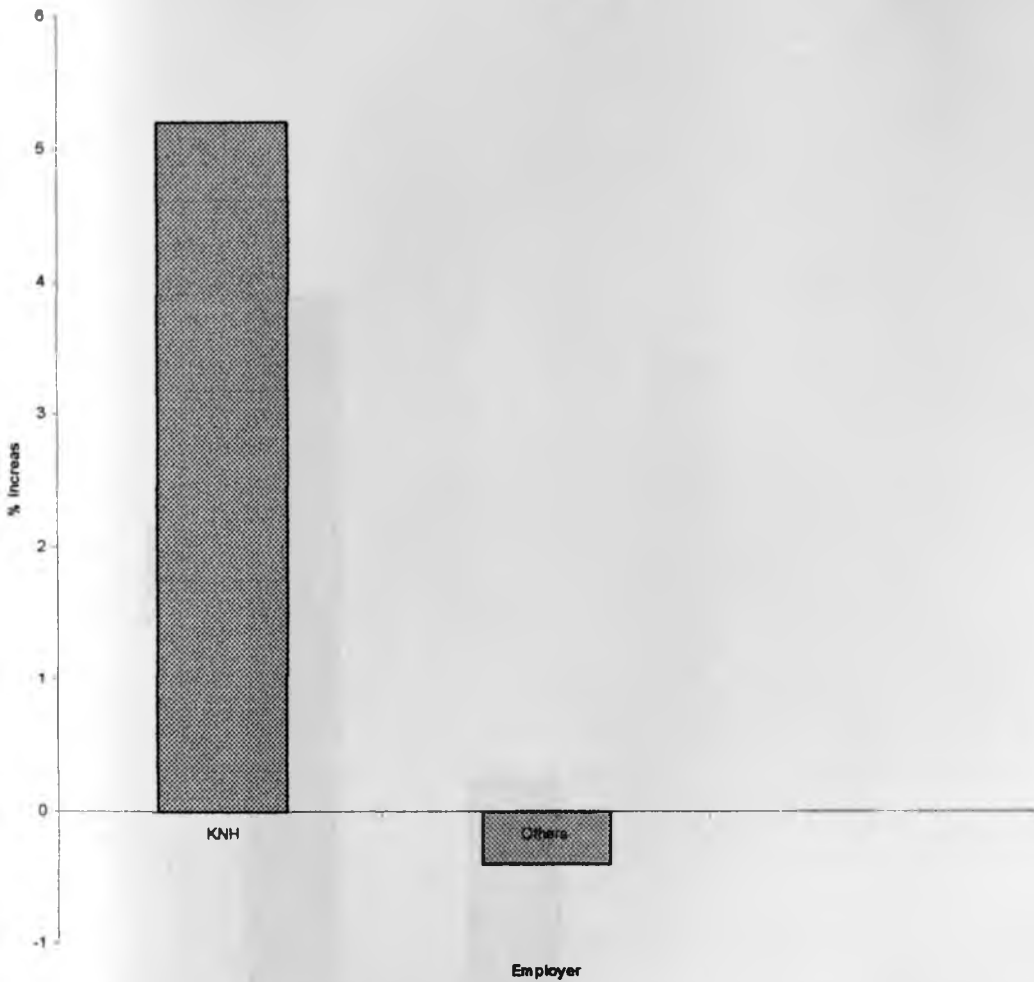
The increase in compassion fatigue among the nurses was as follows: ACN/SNO were at -0.4%, KRN/KRCHN 0.0% and ECN/EN/SEN +4.7%. There was no statistically significant relationship between the nurses' designation and compassion fatigue ($X^2=16.346$; $p=0.176$), though there was a trend in which compassion fatigue progressively increased exponentially with bedside nursing.

CHART 19: Employer vs. Compassion Fatigue among the Medical Practitioners (n=62)



Two major employers of medical practitioners working at KNH were the KNH 27/62 (44.5%) the MOH 26/62 (41.9), both of whom accounted for 53/62 (85.5%). More of the MOH medical practitioners 19/62 (30.6%) had low or extremely low compassion fatigue than the KNH medical practitioners 16/62 (25.8%). The increase in compassion fatigue from severe to extremely severe was KNH (+1.7%), UON (+1.6%), MOH (+4.9%) and others 0.0%. There was no statistically significant difference ($X^2=13.04$; $p= 0.669$) between the medical practitioners' employers and compassion fatigue at KNH.

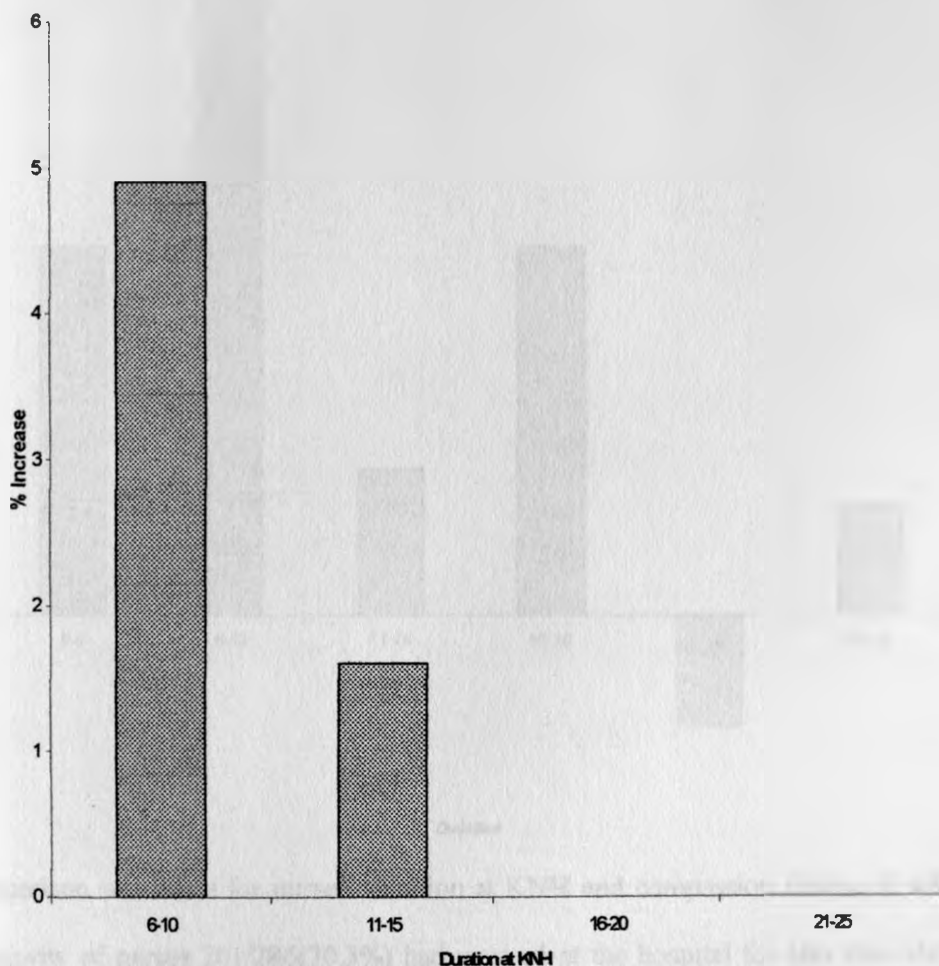
CHART 20: Employer vs. Compassion Fatigue among the Nurses (n=286)



KNH employed 265/286 (92.6%). Other employers 5/286 (1.7%) had a negligible contribution. A third of the nurses were found to suffer from high and extremely high compassion fatigue levels 88/286 (30.8%), while those without or with low levels accounted for 131/286 (45.8%). The increase in compassion fatigue from severe to extremely severe levels were; +5.2% for KNH and -0.4% for others. The compassion fatigue predominantly affected KNH nurses, though this was statistically insignificant ($X^2=13.529$; $p=0.332$).

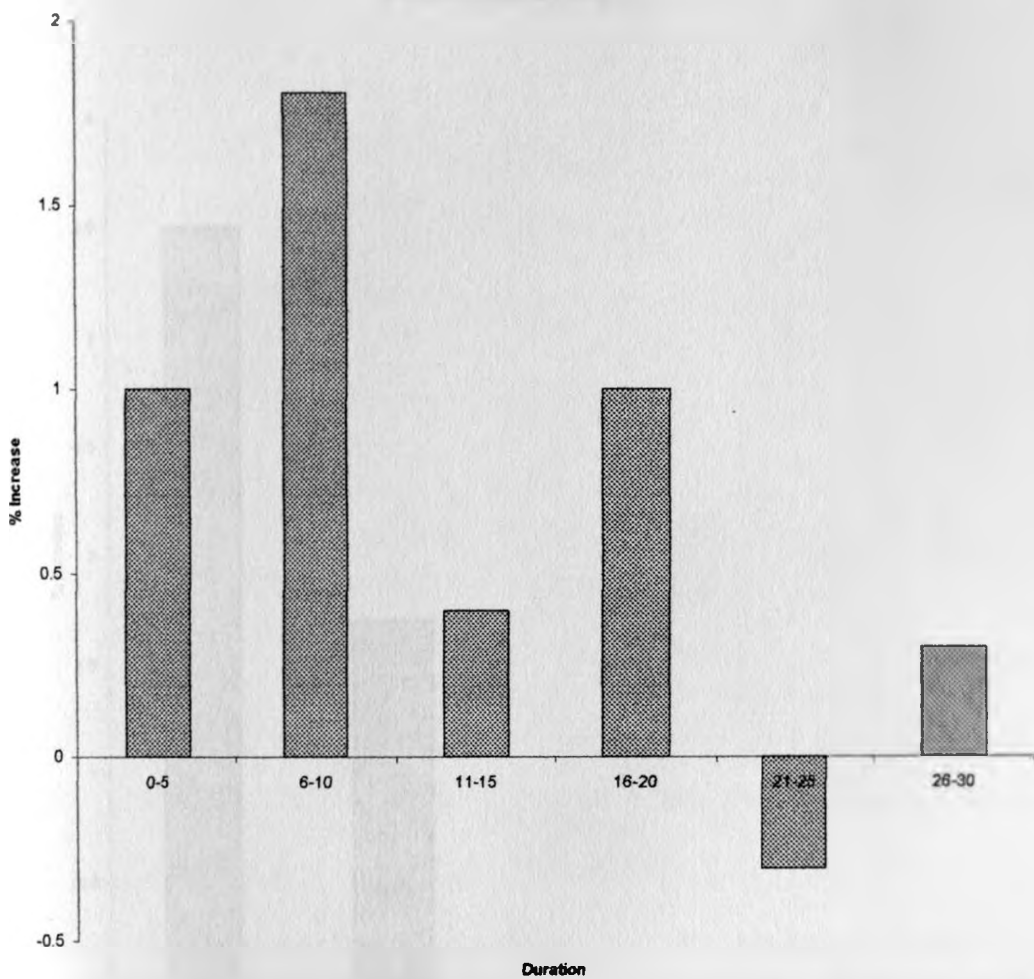
CHART 21: Duration at KNH vs. Compassion Fatigue among the Medical Practitioners

(n=62)



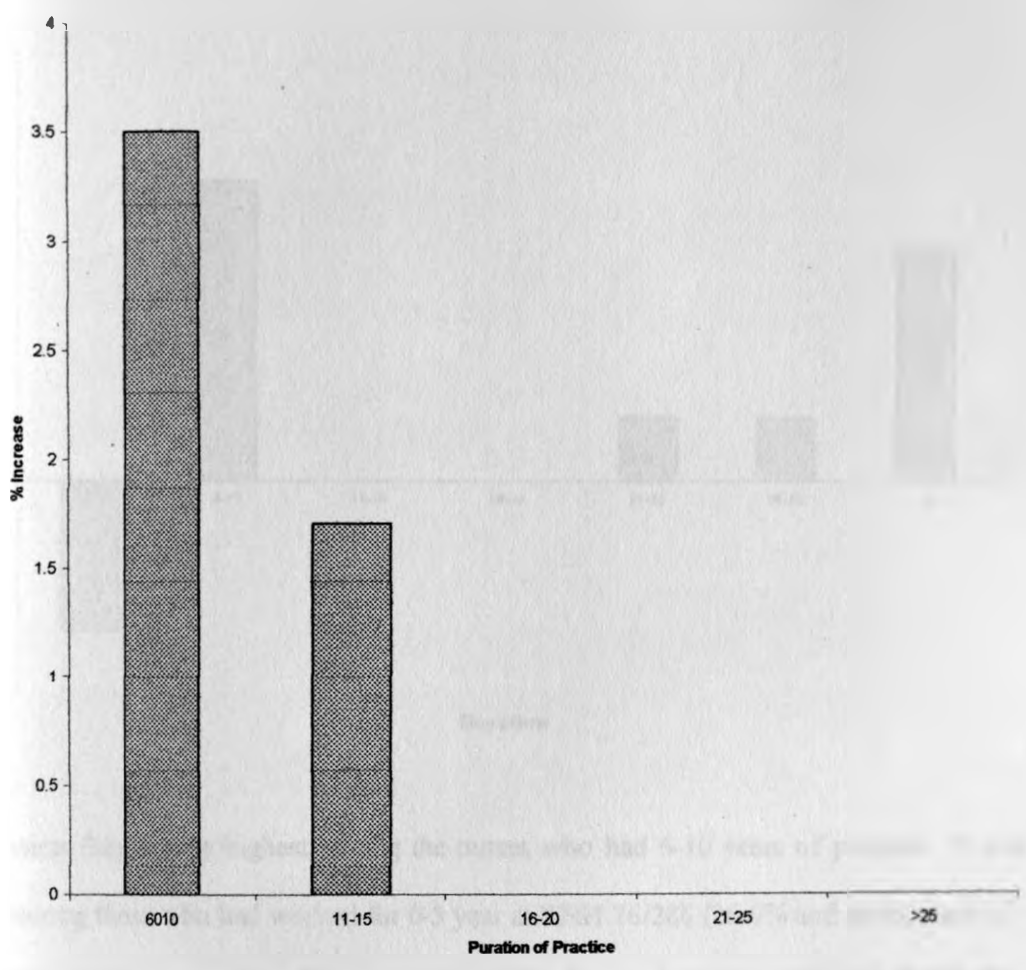
About 43/62 (70.0%) of the medical practitioners at KNH had worked for 6-10 years and the increase in the severity of compassion fatigue was +1.6%. The bracket 5-10 duration at had the highest increase (+4.9%). 30.0% of the medical practitioners had worked at for 11-15 years and did not have any increase (0.0%), and so to the 16-20 year duration (0.0%). There was an inverse relationship between the increase in compassion fatigue and duration of the medical practitioners at KNH. There was no relationship between the duration of the medical practitioners at KNH and compassion fatigue ($X^2=14.804$; $p=0.252$).

CHART 22: Duration at KNH vs. Compassion Fatigue among the Nurses (n=286)



A comparison was made for nurses' duration at KNH and compassion fatigue in which the majority of nurses 201/286(70.3%) had worked at the hospital for less than eleven years, while 32/286(11.2%) had worked at the institution for over twenty years. The nurses in the duration group 6-10 had the highest compassion fatigue at +1.8%, followed by 0-5 and 16-20 tying at +1.0%. The duration brackets 21-25 had compassion fatigue at -3.0%. A substantial number of nurses 94/286(32.7%) were found to be having high to extremely high compassion fatigue though it did not bear statistical significance ($X^2=21.560$; $p=0.365$).

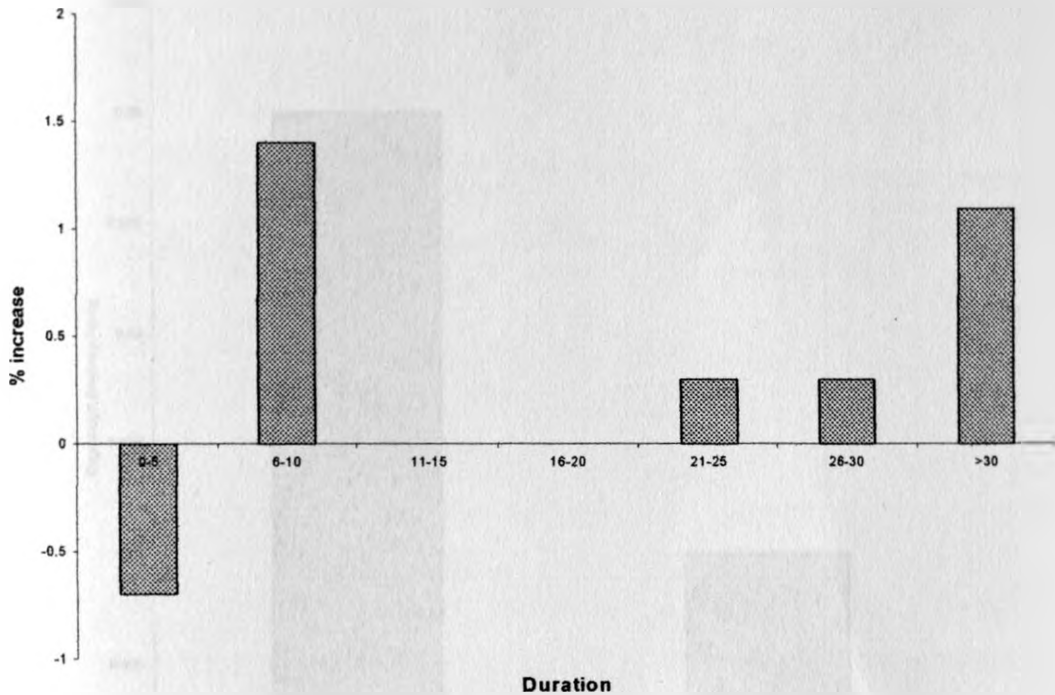
CHART 23: Duration of Lifelong Practice vs. Compassion Fatigue among the Medical Practitioners (n=62)



There was high compassion fatigue in early years of the medical practice among the medical practitioners at KNH. The increase in compassion fatigue had an inverse relationship with the medical practitioners' duration of practice. The duration of practice with the highest increase in compassion fatigue was 6-10 (+3.5% and 11-15% while the rest exhibited no increase in compassion fatigue. The difference however was not statistically significant ($X^2=13.881$; $p=0.302$).

CHART 24: Duration of Lifelong Practice vs. Compassion Fatigue among the Nurses

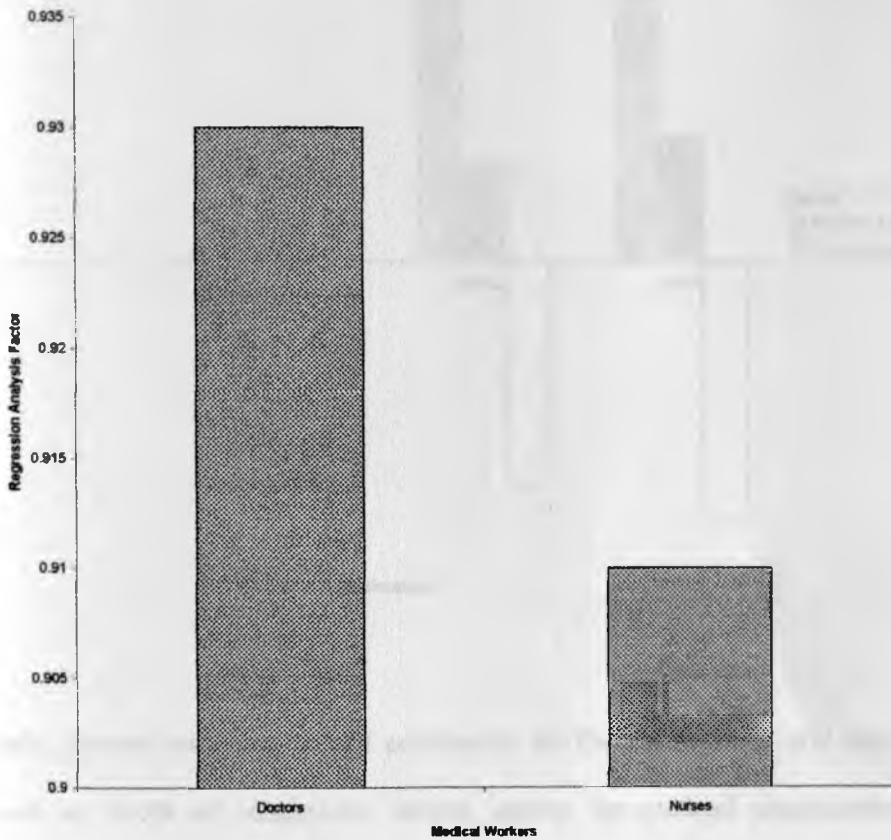
(n=286)



Compassion fatigue was highest among the nurses who had 6-10 years of practice. It was lowest among those who had worked for 0-5 year at KNH 76/286 (26.6% and an increase of -0.7%). Generally, compassion fatigue increased the longer a nurse worked at KNH. The following duration brackets had increase in levels of compassion fatigue from severe to extremely severe: 0-5 (-0.7%), 6-10 (+1.4%), 16-20 (2.1%), 26-30 (+0.3%) and more than 30 (1.1%). This relationship did not yield statistical significance ($X^2=7.505$; $p=0.823$).

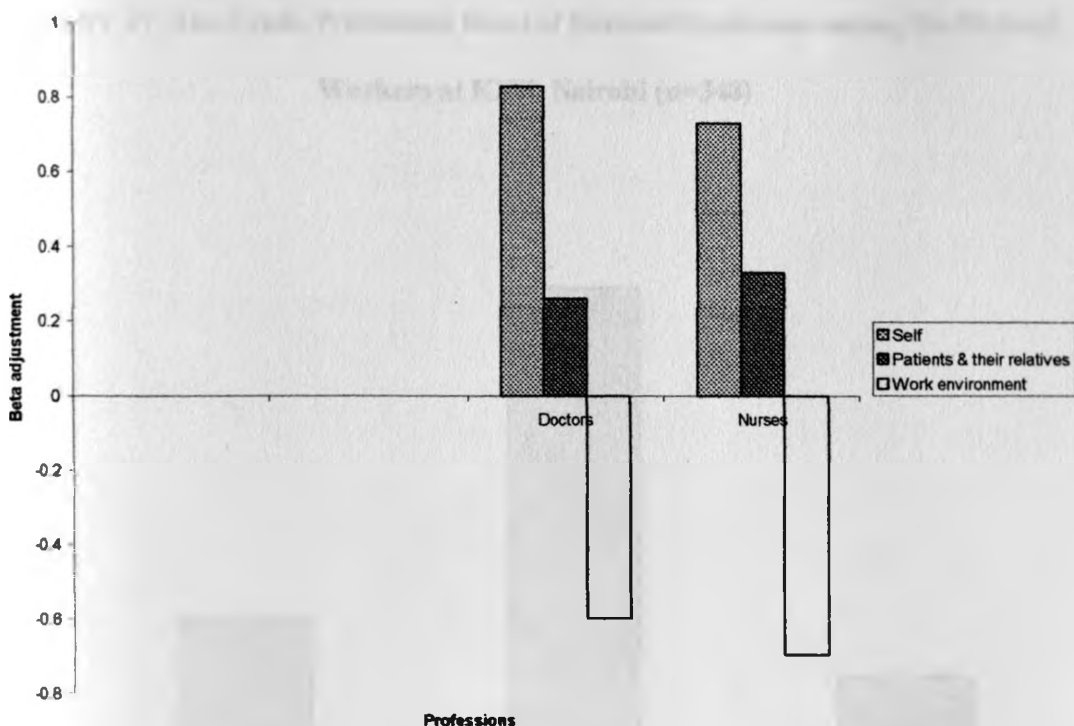
Overall Causes of Compassion Fatigue

CHART 25: Compassion Fatigue Regression Analysis Results



Regression analysis showed that 93.0% of compassion fatigue among the medical practitioners at H could be explained by a combination of factors attributable to 'self,' 'patients and their relatives', and the 'practitioner's work environment'. This implied that 7.0% of compassion fatigue among them could only be attributable to unexplained factors, not captured by the questionnaire. A combination of factors pertaining to self; patients' and their relatives, and practitioners' work environment were attributable to 91.0% of compassion fatigue among the nurses while unexplained factors contributed 9.0% of their compassion fatigue.

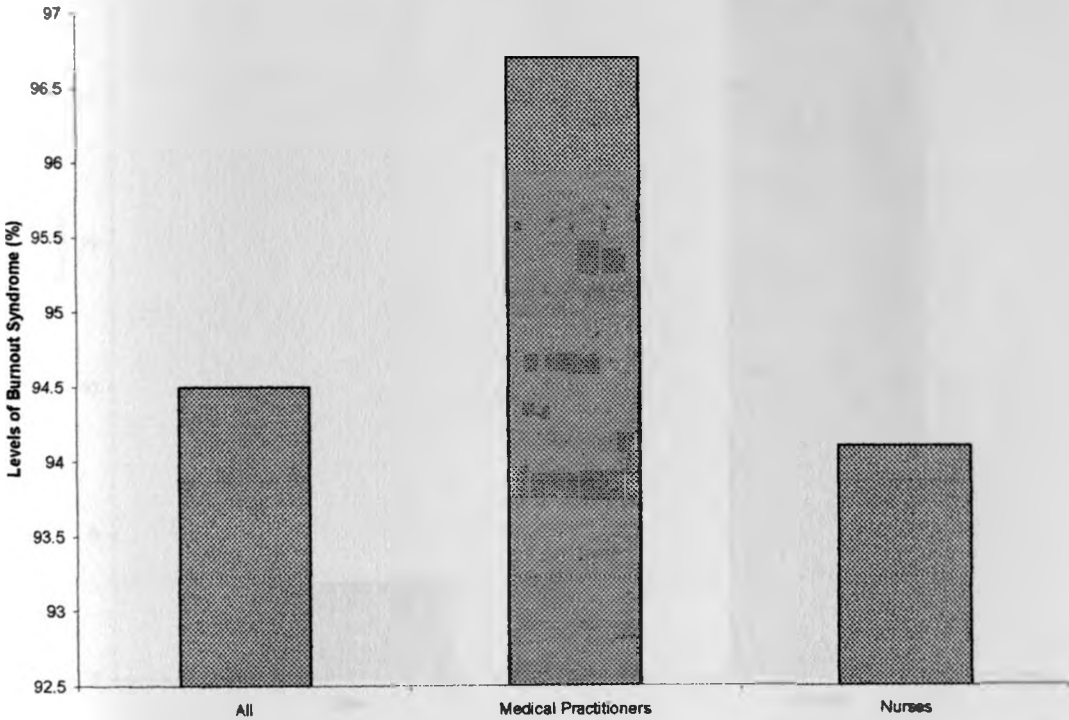
CHART 26: Combination of Factors pertaining to Compassion Fatigue



Individually, factors pertaining to self contributed 83.0% and patients' and their relatives contributed to 26.0% of compassion fatigue among the medical practitioners. Factors pertaining to self accounted for 73.0% of compassion fatigue amongst the nurses while factors pertaining to patients' and their relatives contributed to 33.0%. The practitioner's work environment did not contribute to compassion fatigue among medical practitioners and nurses.

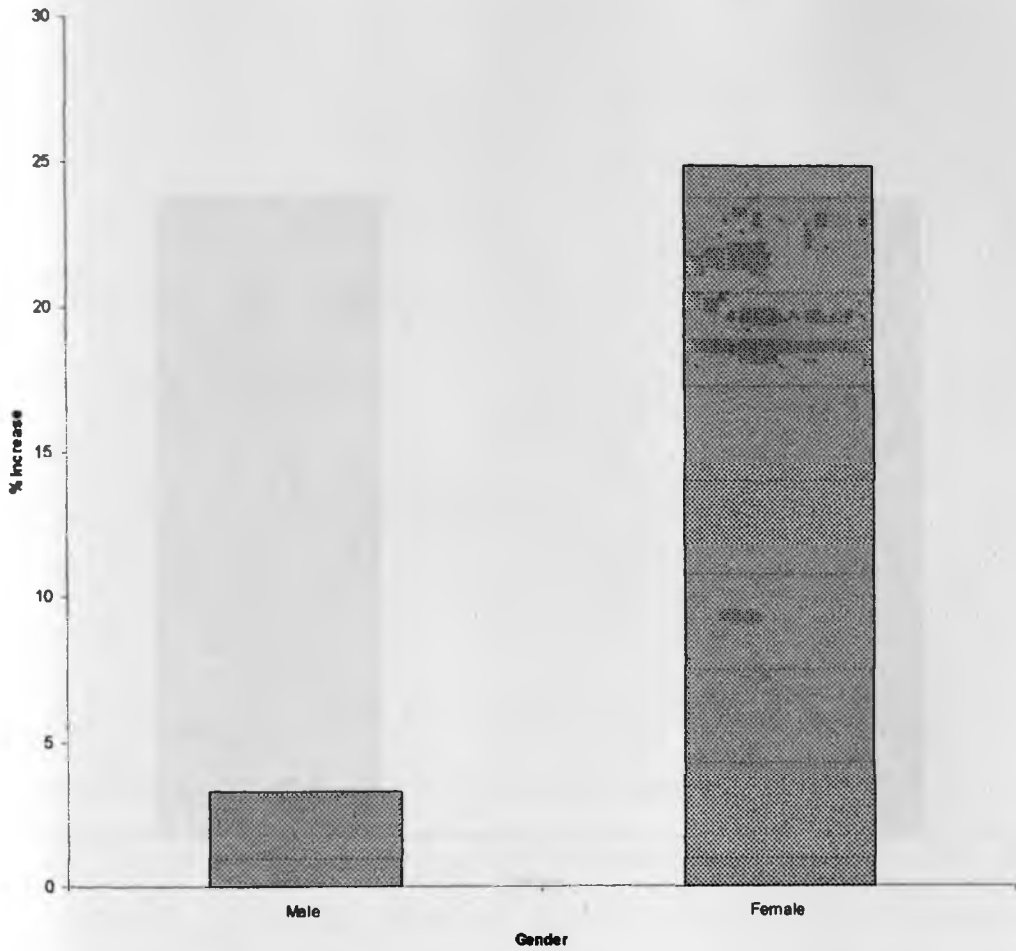
BURNOUT SYNDROME

CHART 27: The Crude Prevalence Rates of Burnout Syndrome among the Medical Workers at KNH, Nairobi (n=348)



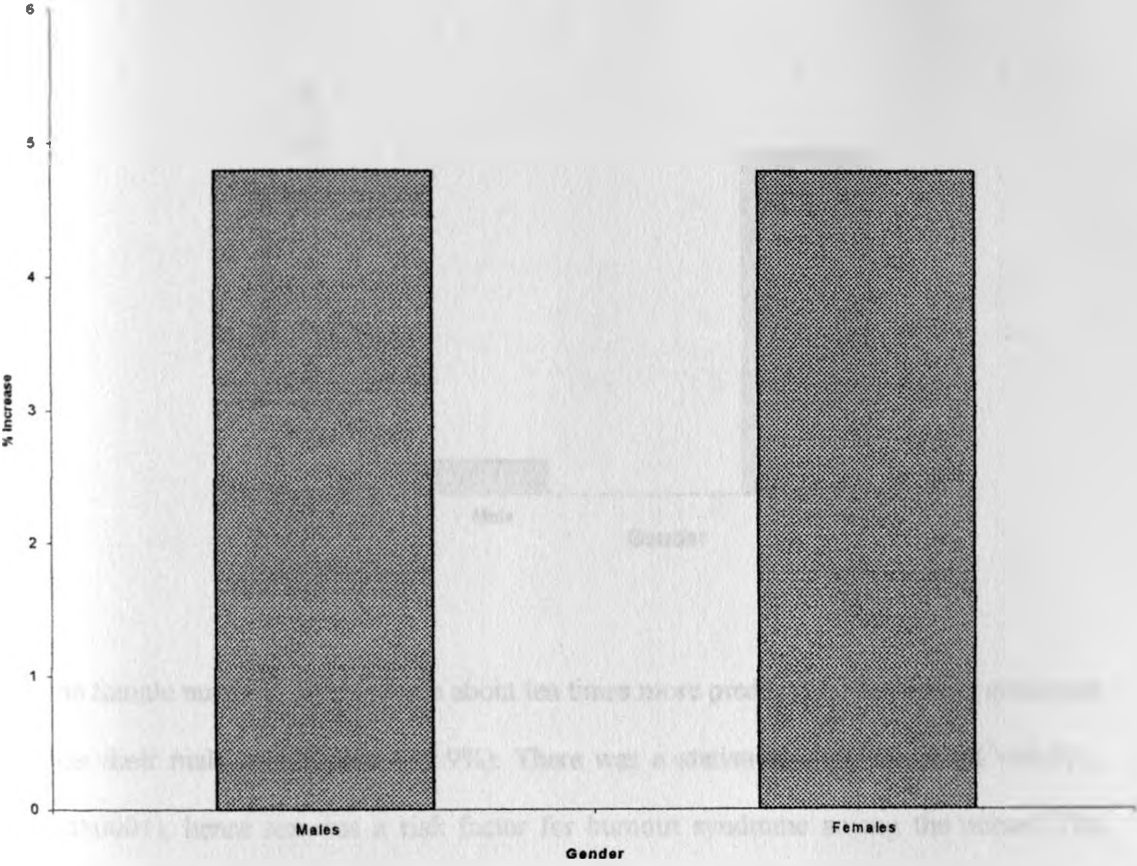
The prevalence rates of burnout syndrome among all the medical workers (n=348) was 94.5%. The prevalence rate of compassion fatigue among the doctors (n=62) was 96.79% while that for the nurses (n=286) was 94.1%.

CHART 28: Gender vs. Burnout Syndrome among Medical Workers (n=348)



The ratio of males to females suffering from burnout syndrome was almost 1:3, while the increase by gender from high to extremely high burnout syndrome was about 1:8 (3.3% for the males and 24.9% for the females). There was a statistical significance by gender among the medical workers ($X^2=7.925$; $p=0.048$). However both males 89/96(92.7%) and females 229/252(90.9%) had almost equal and extremely high levels of burnout syndrome.

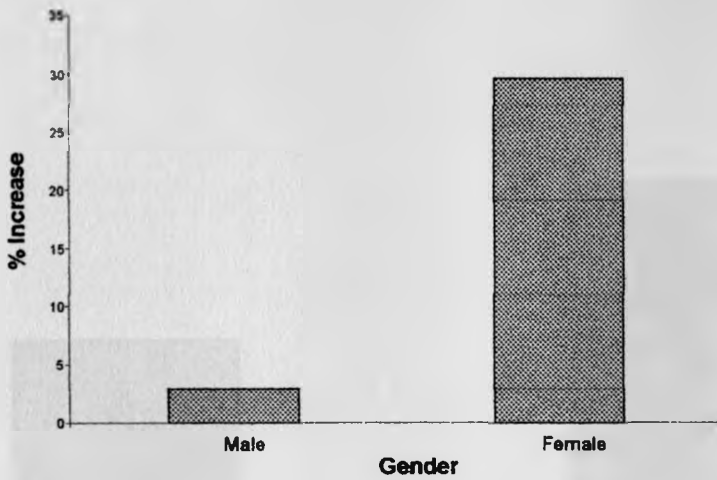
CHART 29: Gender vs. Burnout Syndrome among the Medical Practitioners (n=62)



The gender aspect did not show any differences in the increase of burnout syndrome from severe to extremely severe forms between the male (+4.8%) and female (+4.8%) medical practitioners.

There was no statistical significance ($X^2=0.866$; $p=0.834$) between gender and burnout syndrome among medical practitioners at the Kenyatta National Hospital.

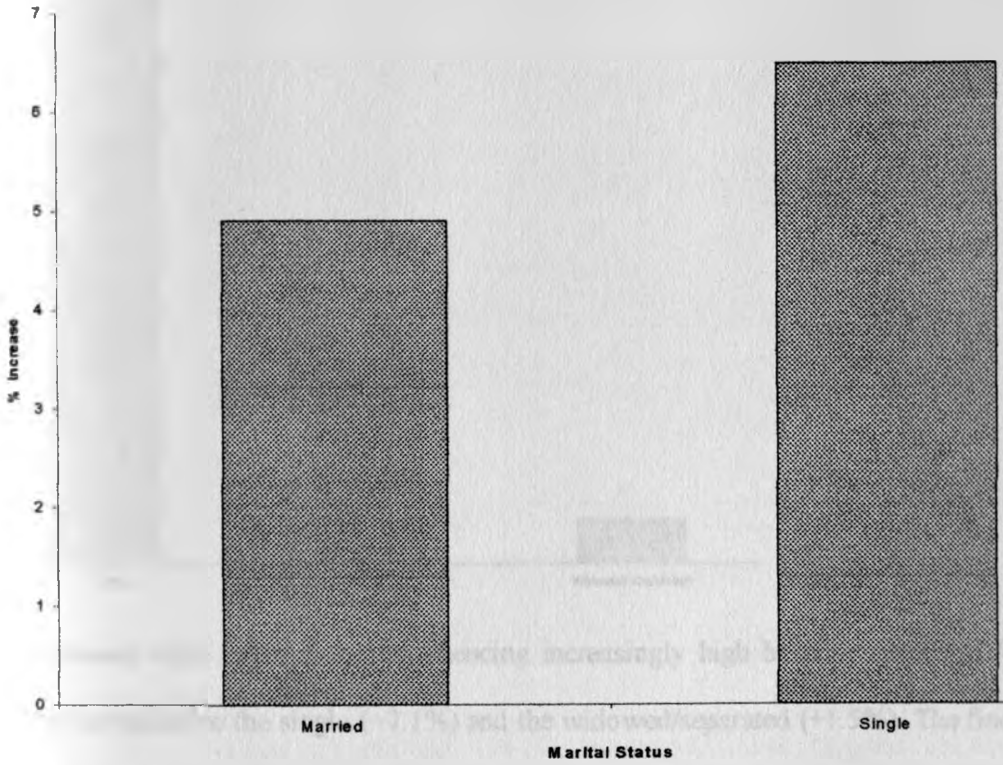
CHART 30: Gender vs. Burnout Syndrome among the Nurses (n=286)



The female nurses (+29.6%) were about ten times more predisposed to burnout syndrome than their male counterparts (+2.9%). There was a statistical significance ($X^2=90.311$; $p<0.0001$), hence sex was a risk factor for burnout syndrome among the nurses. The nursing workforce at KNH had a significant amount of burnout syndrome; the majority of whom 269/286(94.1%) were suffering from high and extremely high forms of burnout syndrome

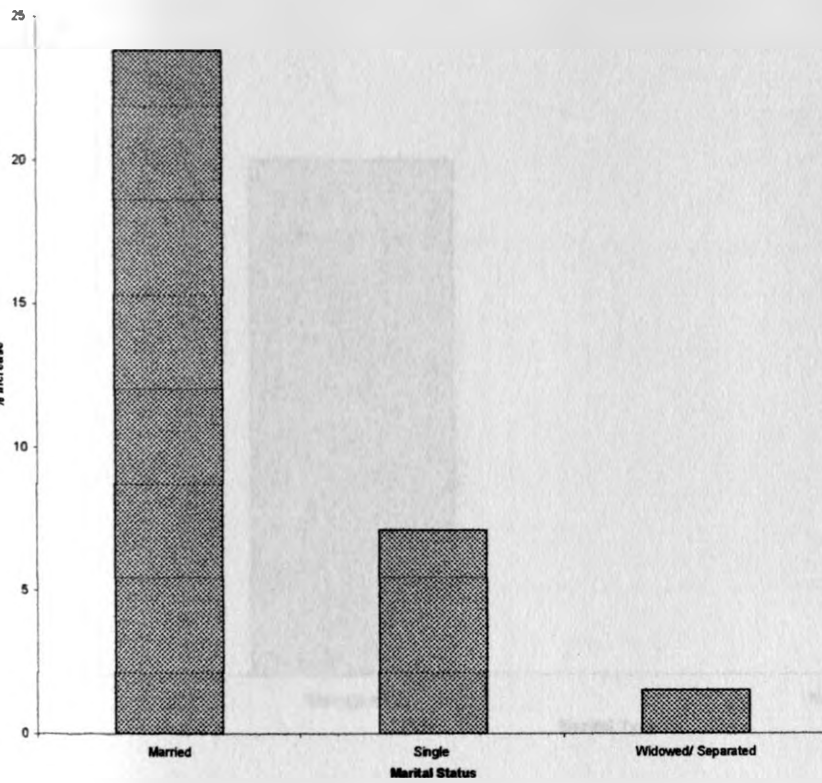
CHART 31: Marital Status vs. Burnout Syndrome among the Medical Practitioners

(n=62)



There was a higher degree of burnout syndrome among the single medical practitioners than married ones (about +6.4% increases from high to extremely high burnout among the single and about +4.9% among the married). There was no statistical significance between the medical practitioners' marital status and burnout syndrome ($X^2 = 1.228$; $p = 0.746$).

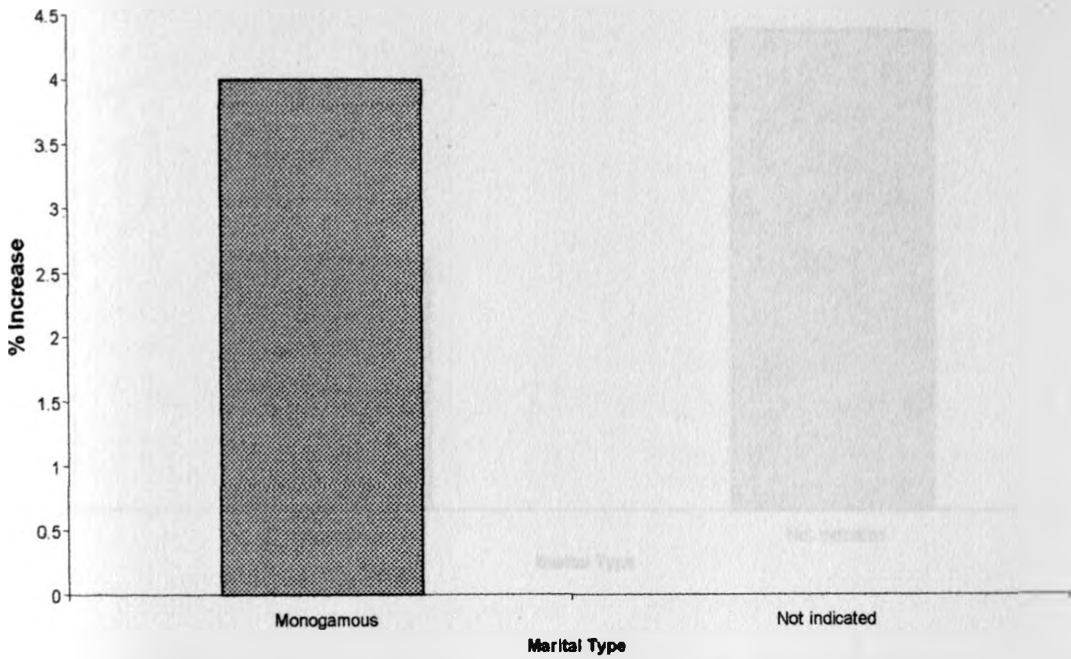
CHART 32: Marital Status vs. Burnout Syndrome among the Nurses (n=286)



Married nurses were found to be experiencing increasingly high burnout syndrome levels (+23.8%) compared to the single (+7.1%) and the widowed/separated (+1.5%). The findings showed no statistical relationship between nurses' marital status and burnout syndrome ($X^2=4.766$; $p=0.312$).

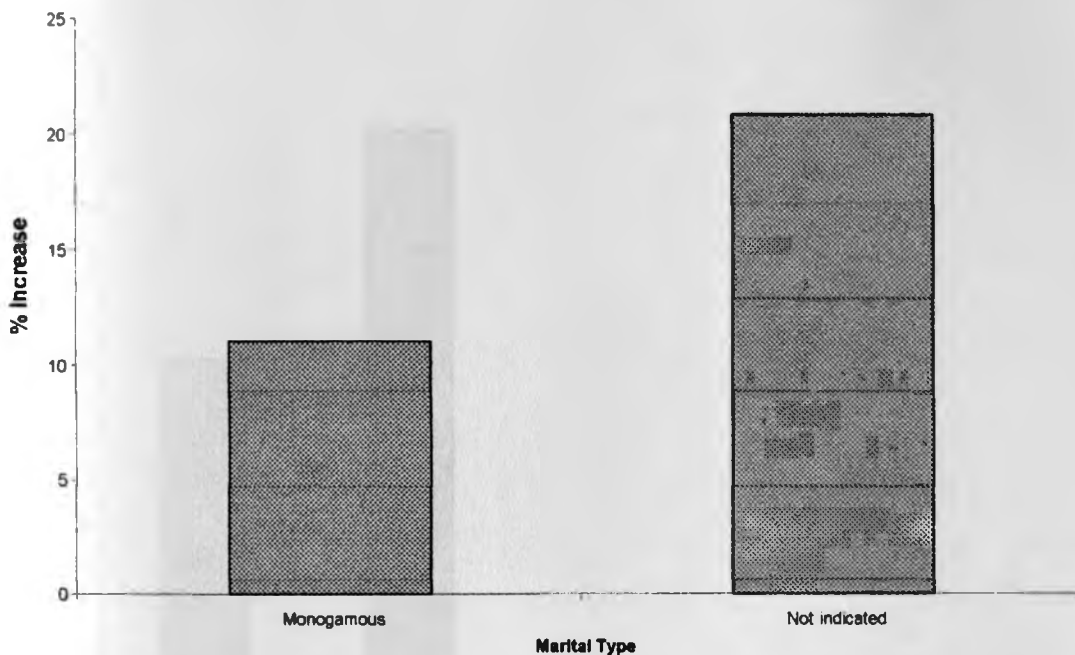
CHART 33: Marital Type vs. Burnout Syndrome among the Medical Practitioners

(n=62)



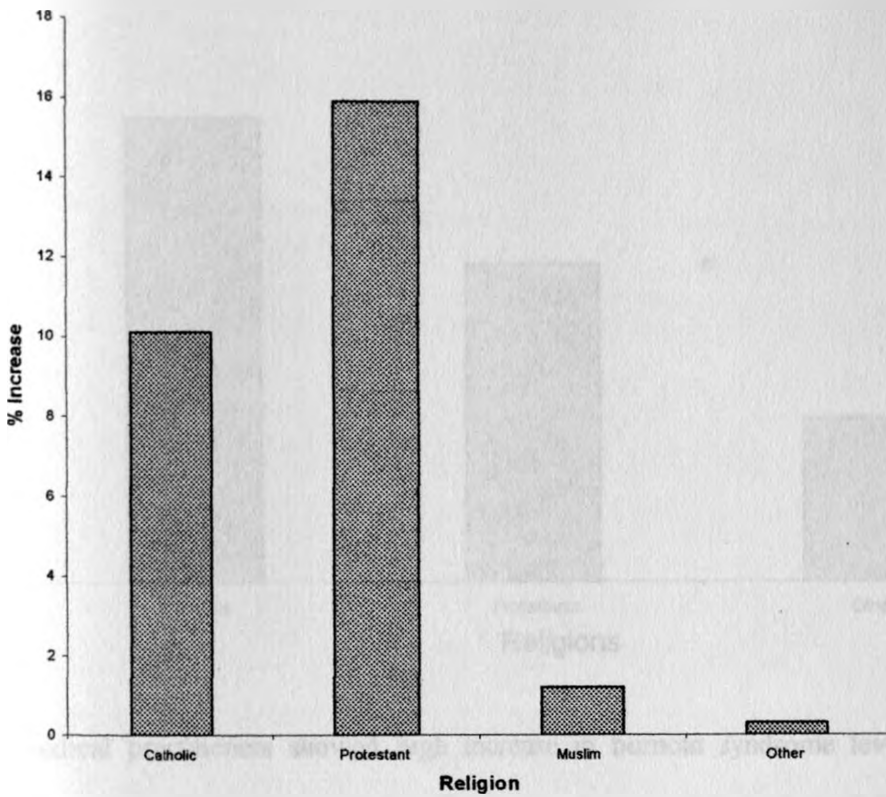
The monogamous medical practitioners (28/62) experienced high increase (+4.0%) in burnout syndrome than those who did not indicate (22/62) their marital type (0.0%). There were 26/62 (52.0%) monogamous and 22/62 (44.0%) who did not indicate their marital types medical practitioners with high to extremely high burnout syndrome. There was no statistical significance between marital type and burnout syndrome among medical practitioners ($X^2 = 1.703$ and $p=0.635$).

CHART 34: Marital Types vs. Burnout Syndrome among the Nurses (n=286)



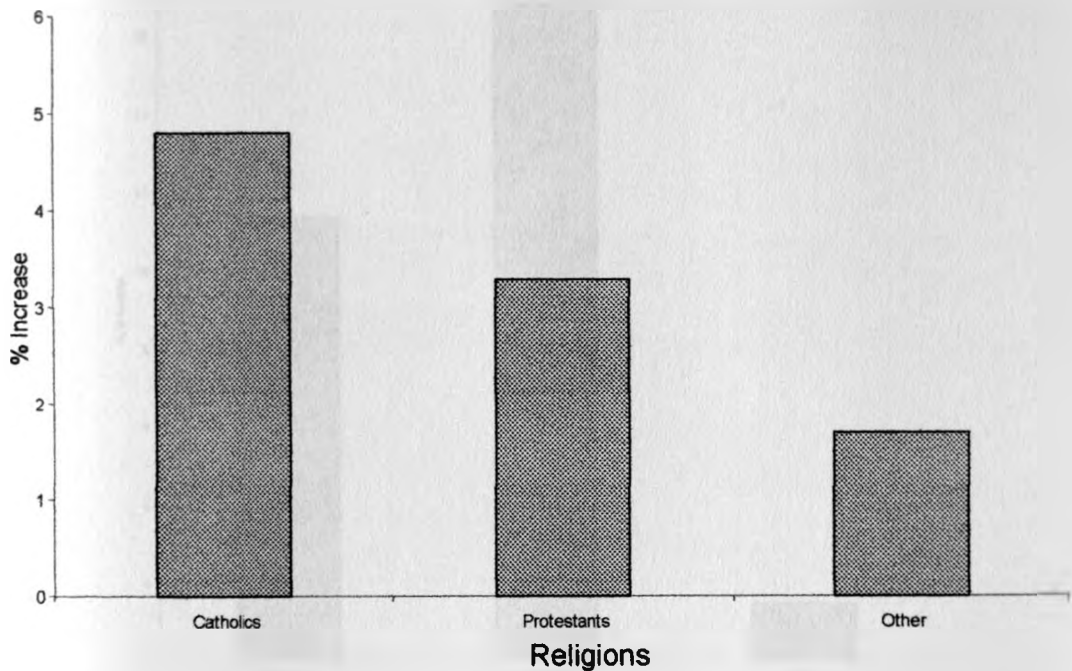
145/286(69.0%) that did not indicate their marital type and had higher increase in burnout syndrome level (+20.9 %) compared to the monogamous ones 65/286 (+11.0%). There was no statistical significance between the marital type and burnout syndrome among the nurses ($X^2 = 0.320$; $p=0.852$).

CHART 35: Religion vs. Burnout Syndrome among the Medical Workers (n=348)



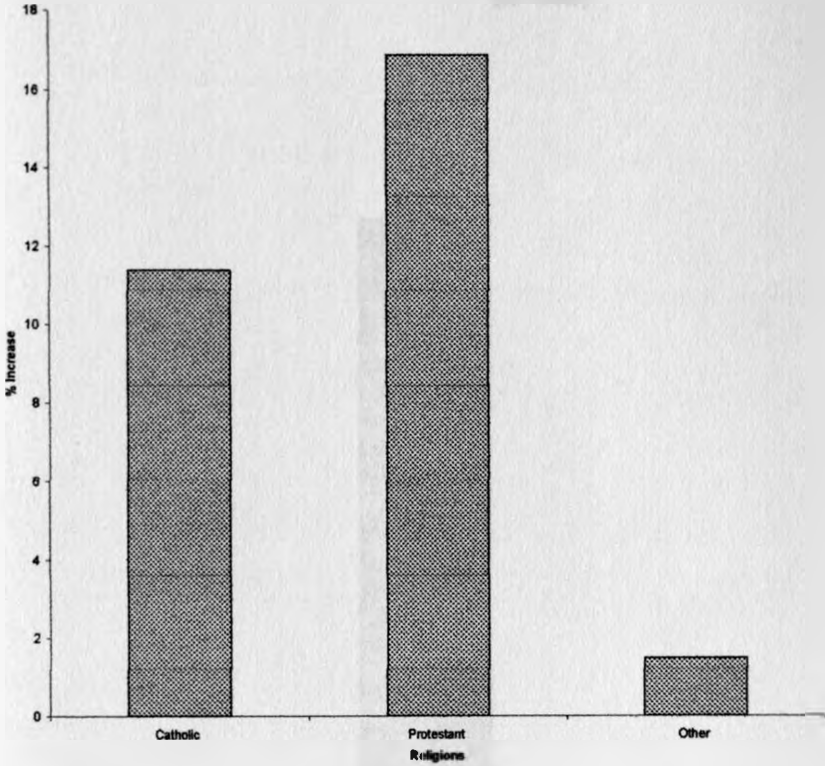
The Protestants (+15.9%) and Catholics (+10.1%) had the highest increases in burnout syndrome respectively. Religious affiliation had no statistical significance ($X^2=6.256$; $p=0.714$) in this study. However the Protestants were the leading religious faith 219/348(67.0%) followed by the Catholics 94/348(28.7%), and the other groups constituted 14/348(4.3%) of the study population.

CHART 36: Religion vs. Burnout Syndrome among the Medical Practitioners (n=62)



The medical practitioners showed high increase in burnout syndrome levels among the catholic (+4.8%) faithful followed by the Protestants (+3.3%) and others (1.7%). There was no statistical significance between religion and burnout syndrome among the medical practitioners ($X^2=3.736$; $p=0.712$). Protestants constituted 39/62(62.9%), Catholics 16/62(25.8%) while the rest accounted for 7/62(11.3%).

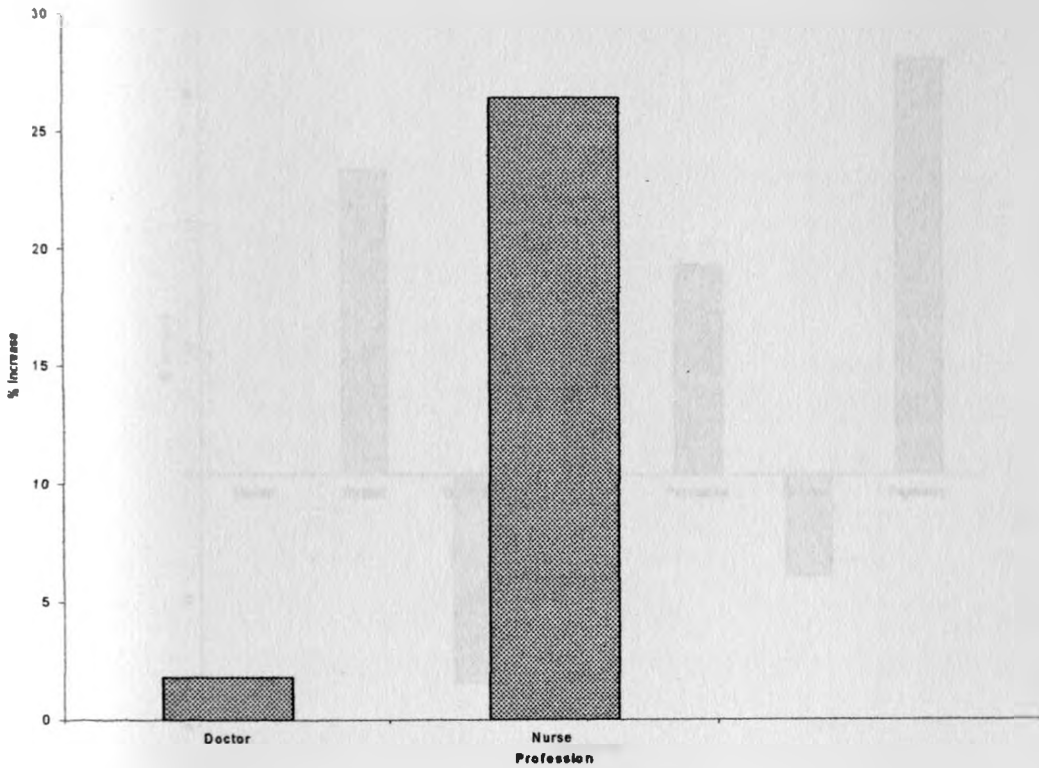
CHART 37: Religion vs. Burnout Syndrome among the Nurses (n=286)



The rise in levels of burnout syndrome between the Protestant faithful (+16.9%) was the highest followed by the Catholics (+11.4%) and least among other religions (+1.5%) There was no statistical significance ($X^2=3.071$; $p=0.546$) between religions among nurses at KNH. Protestant nurses were 180/286(68.2%) followed by Catholics nurses 77/286(29.1%).

CHART 38: Professionalism vs. Burnout Syndrome among the Medical Workers

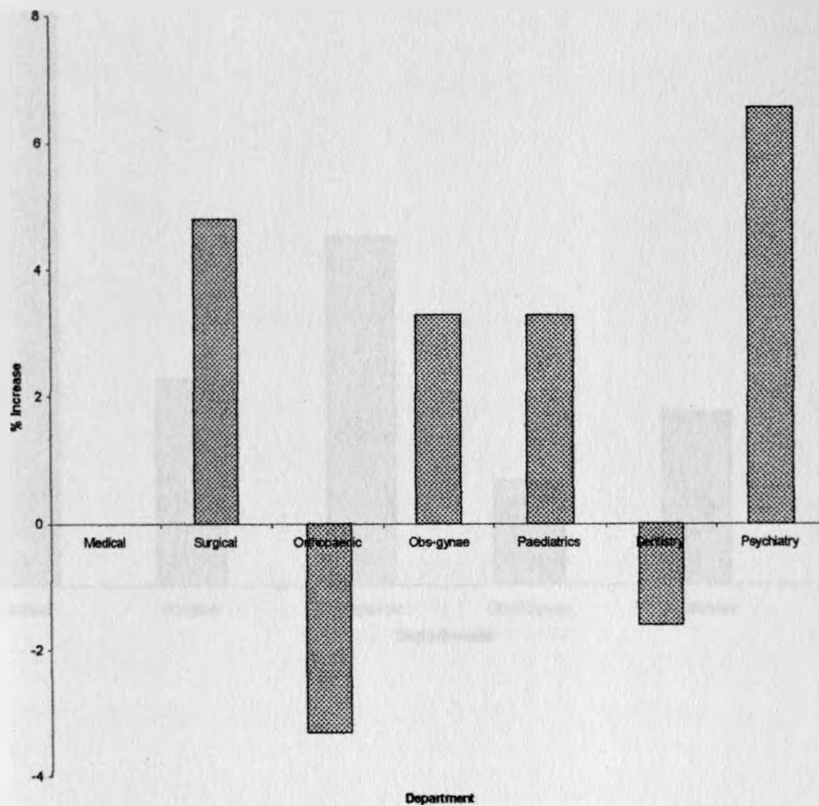
(n=348)



Both cadres of medical workers had burnout syndrome, with nurses showing a much higher increase in burnout syndrome (+26.5%) compared to the medical practitioners (+1.8%). This finding had a statistical significance ($X^2=8.520$; $p=0.036$). Nurses were almost 15 times more predisposed than the medical practitioners. Nurses constituted 270/348(81.3%) while the medical practitioners were only 62/348(18.7%) of the respondents.

CHART 39: Department vs. Burnout Syndrome among the Medical Practitioners

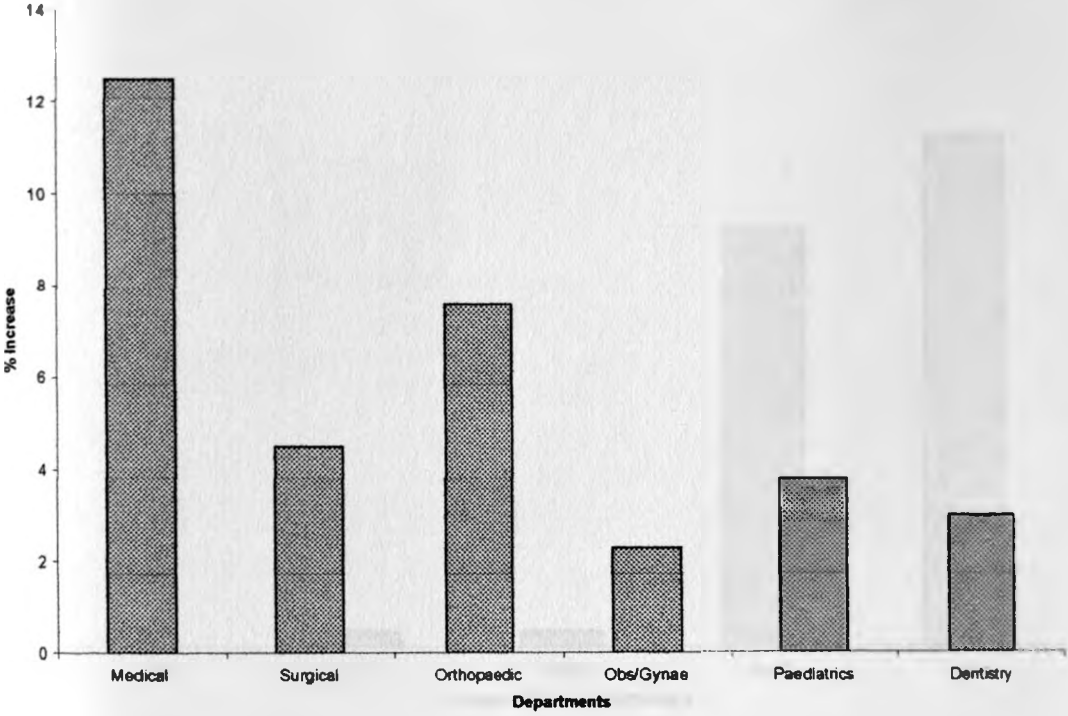
(n=62)



The departments that had low increase in burnout syndrome levels were, medicine (0.0%) dentistry (-1.6%) and orthopaedic surgery (-3.3%). The departments that were found to have increasing levels of burnout syndrome were led by psychiatry (+6.6%), Surgery (+4.6%), paediatrics and obstetrics/gynaecology (+3.3% each). There was no statistical significance ($\chi^2=10.160$; $p=0.977$) between the medical practitioners' department and burnout syndrome.

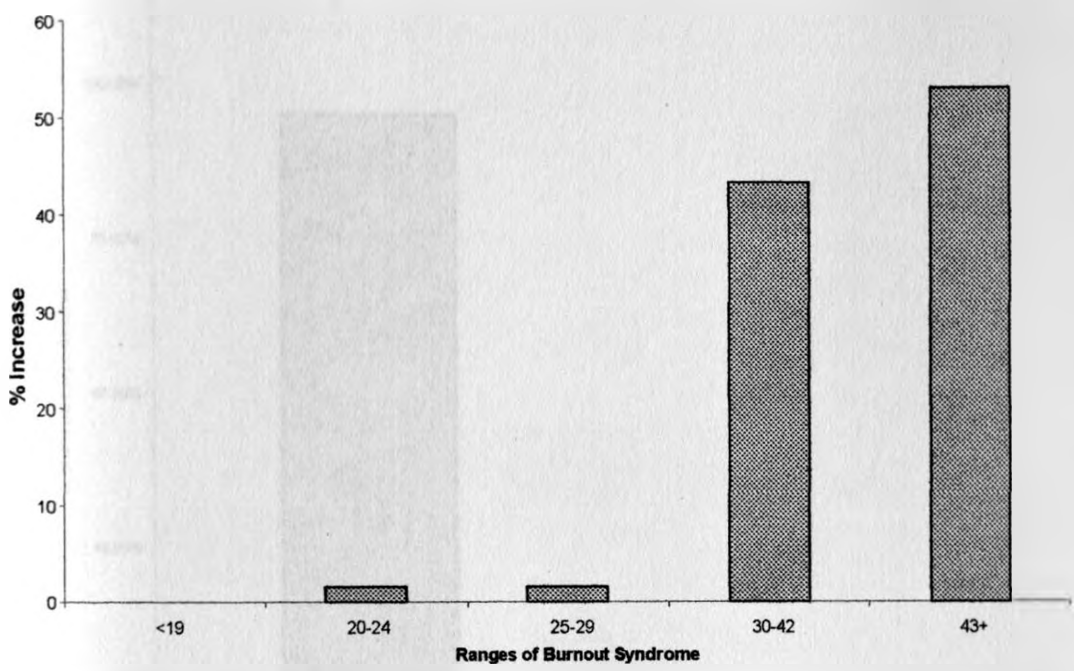
Only 2/62(3.3%) had low levels of burnout syndrome. The rest 59/62(96.7%) had high or extremely high burnout syndrome.

CHART 40: Department vs. Burnout Syndrome among the Nurses (n=286)



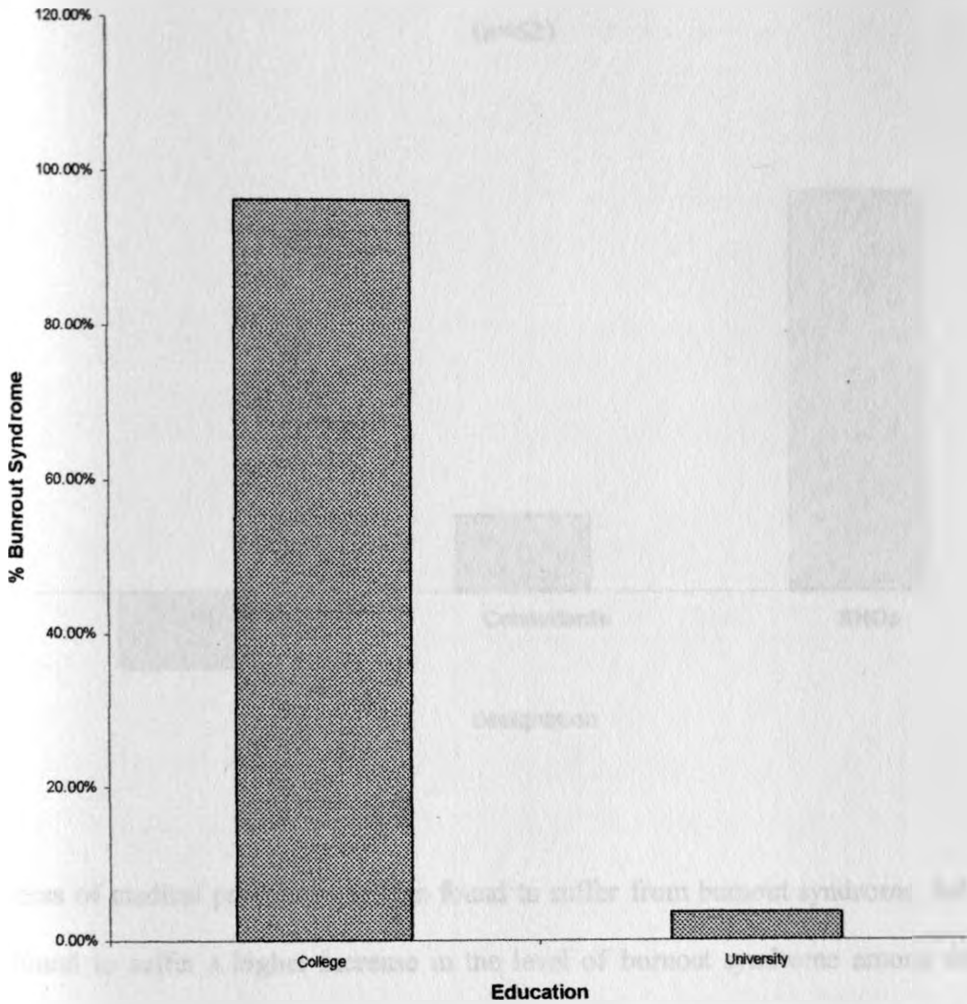
The highest increases in burnout syndrome among the nurses at KNH were found in the departments of medicine 59/286 (+12.5%), orthopaedic surgery 29/286 (+7.5%) and surgery 114/286 (+4.5%). The departments with the lowest levels of burnout syndrome were obs/gynae 32/286 (+2.3%) and dentistry 23/286 (+3.0%). There was statistical significance between the nurses' departments and burnout syndrome ($X^2=48.992$; $p=0.002$).

CHART 41: Education vs. Burnout Syndrome among the Medical Practitioners (n=62)



There was no statistical significance ($X^2 = 1.816$ and $p > 0.05$) between medical practitioners' education and burnout syndrome. The majority of the medical practitioners 60/62 (96.8%) suffered high to extremely high levels of burnout syndrome.

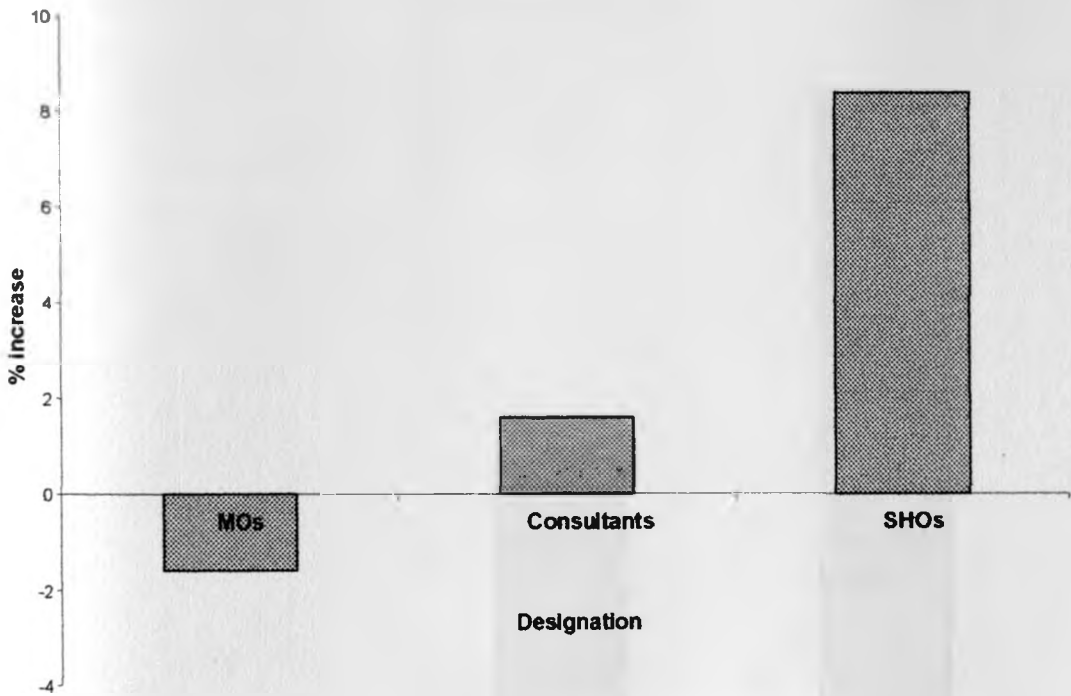
CHART 42: Education vs. Burnout Syndrome among the Nurse (n=286)



257/286(89.9%) nurses had college level of education while nurses who had attained university level of education were 10/286(3.5%) There was no statistical significance between the nurses' education and burnout syndrome ($X^2=2.246$; $p=0.591$). The increase in burnout syndrome among the college trained nurses from the severe to extremely severe levels was +30.0% while that for university educated ones was +2.3%.

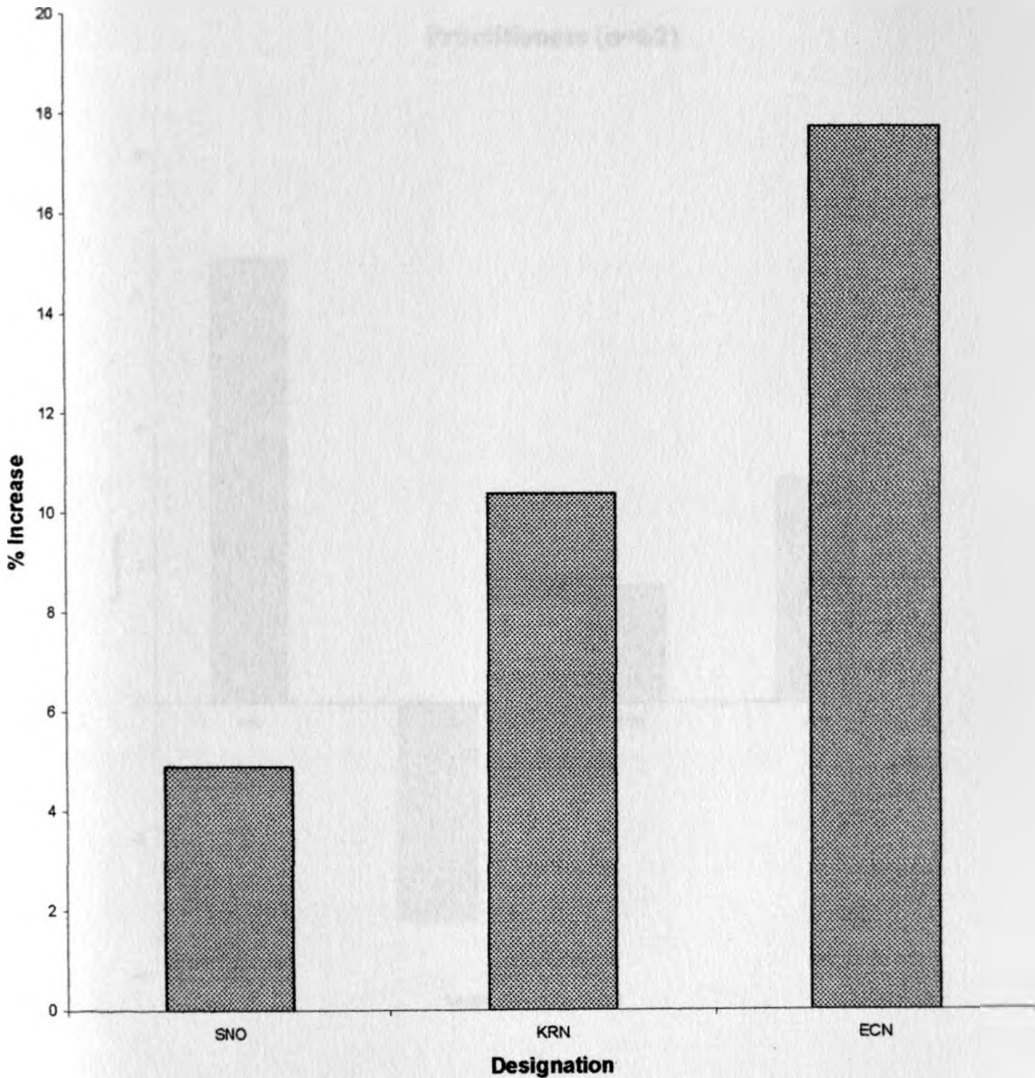
CHART 43: Designation vs. Burnout Syndrome among the Medical Practitioners

(n=62)



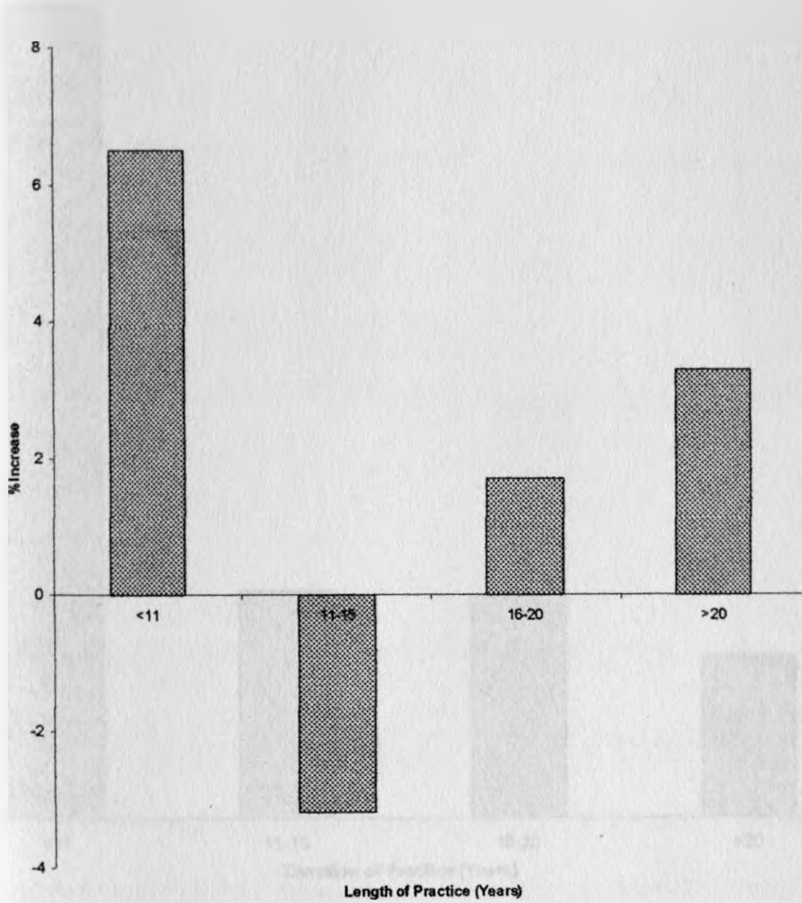
All cadres of medical practitioners were found to suffer from burnout syndrome, but SHOs were found to suffer a higher increase in the level of burnout syndrome among the three groups of medical practitioners (MOs: -1.6%; Consultants: +1.6%; SHOs: +8.2%). There was no statistical relationship between the medical practitioners' designation and burnout syndrome ($X^2=4.568$; $p=0.870$).

CHART 44: Designation vs. Burnout Syndrome among the Nurses (n=286)



All nurses had burnout syndrome that decreased with seniority though statistically insignificant ($X^2=6.115$; $p=0.41$). The KRN, whose sample size was equal to that of SNOs, had higher increase (+10.4) in burnout syndrome compared to the SNOs (+4.9) while the ECNs whose docket is primarily bedside nursing, had even higher levels (+17.8 - a 33.1% increase).

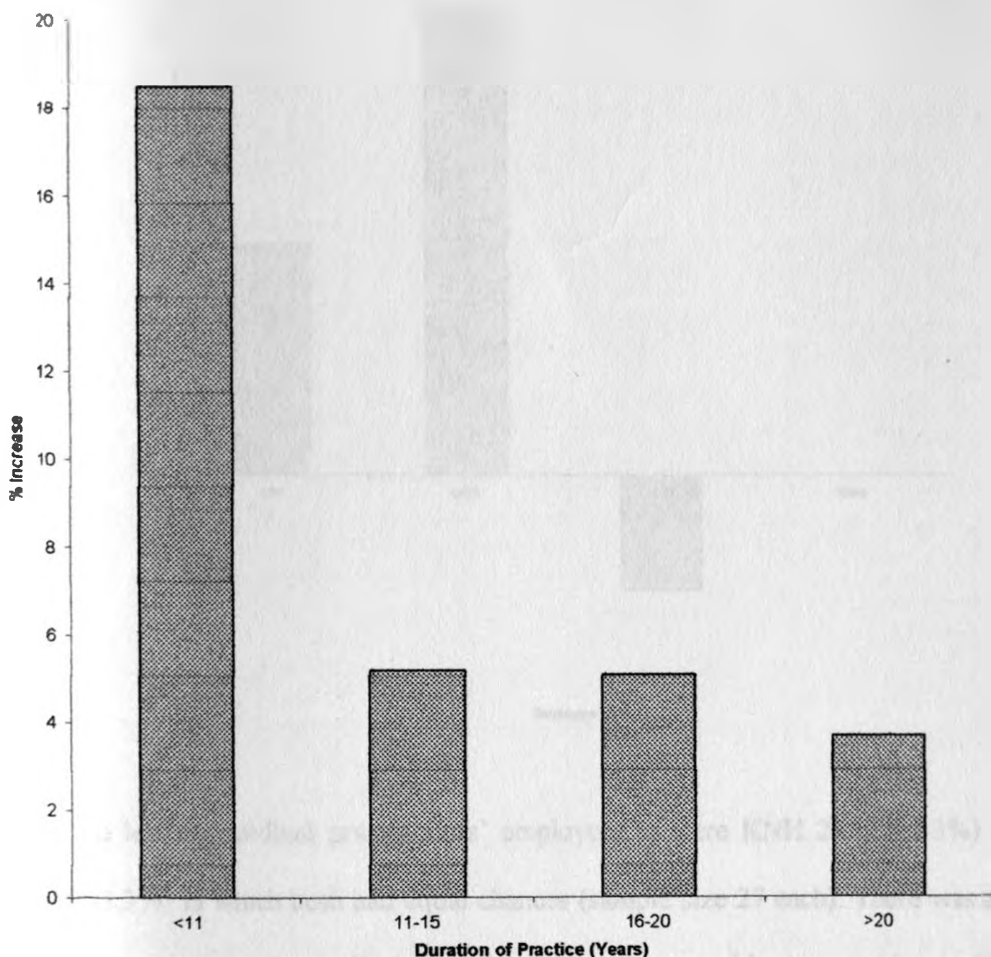
CHART 45: Length of Lifelong Practice vs. Burnout Syndrome among the Medical Practitioners (n=62)



There was no statistical significance between the medical practitioners' duration of practice and burnout syndrome ($X^2=13.389$; $p=0.146$). However results indicated that the most vulnerable years of service were 0-10 range (+6.5% increase from severe to extremely severe levels), followed by the duration bracket 21-25 years (+3.3% increase) and the duration bracket 16-20 years (increase of +1.7%) while the duration bracket 11-15 years had negative increase by -3.2%.

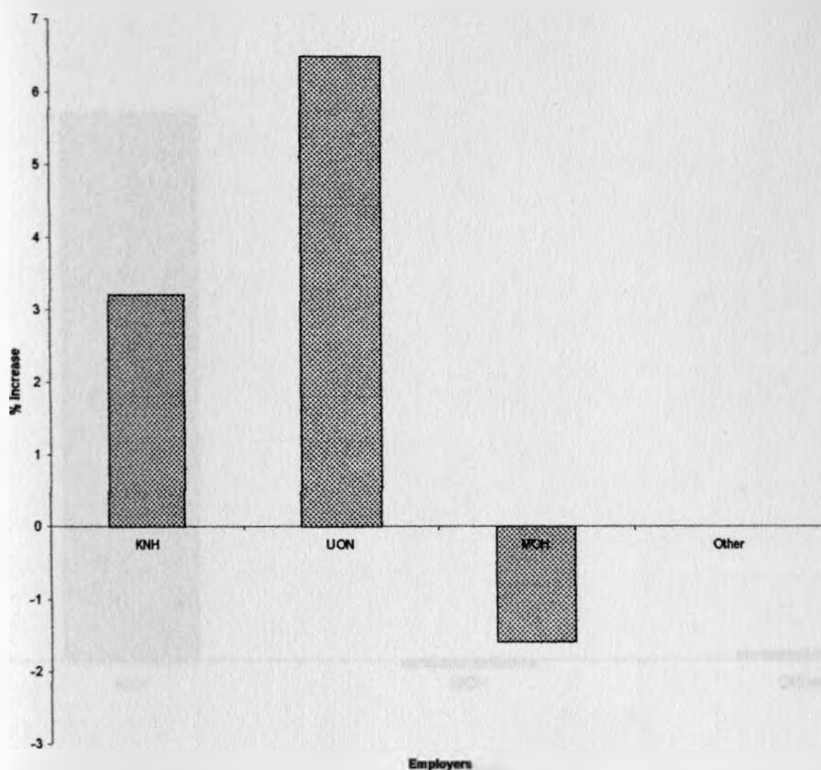
CHART 46: Length of Lifelong Practice vs. Burnout Syndrome among the Nurses

(n=286)



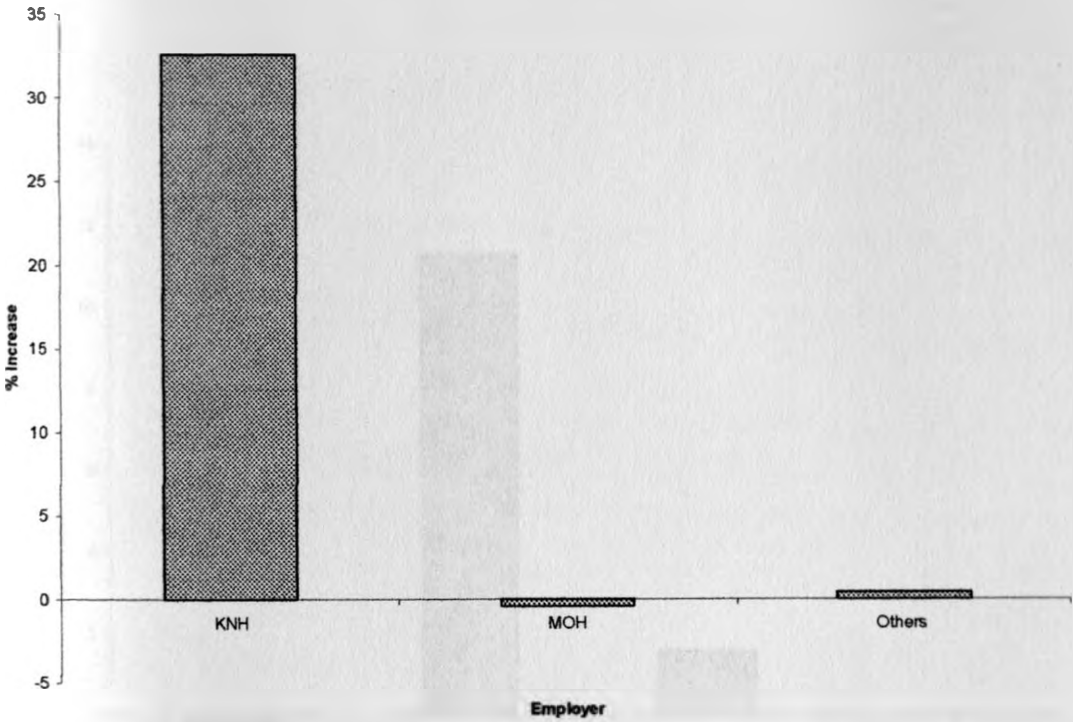
There was no statistical significance between the nurses' years of practice and burnout syndrome ($X^2=4.748$; $p=0.576$) although majority of the nurses 173/286(64.1%) had high burnout syndrome. The vulnerable length of service at KNH was the 6-10 (+18.5% increase from severe to extremely severe levels), the 11=15 bracket with +5.2% increase, the 16-20 category in which the increase was +5.1% and the bracket above 20 years of practice with +3.7% increase in the levels of burnout syndrome.

CHART 47: Employer vs. Burnout Syndrome among the Medical Practitioners (n=62)



The two leading medical practitioners' employers at were KNH 27/62(43.3%) and MOH 27/62(43.3%) in which both had equal chances (sample size 27 each). There was a statistical significance between the medical practitioners' employer and burnout syndrome ($X^2=66.701$; $p<0.0001$). KNH medical practitioners were found to have higher burnout syndrome than UON (OR=0.85). The highest increase in burnout syndrome levels was UON (+6.5%), followed by KNH at +3.2% and the self employed at +1.6%. The MOH and other employers had negative burnout syndrome levels (-0.4% and -1.6% respectively).

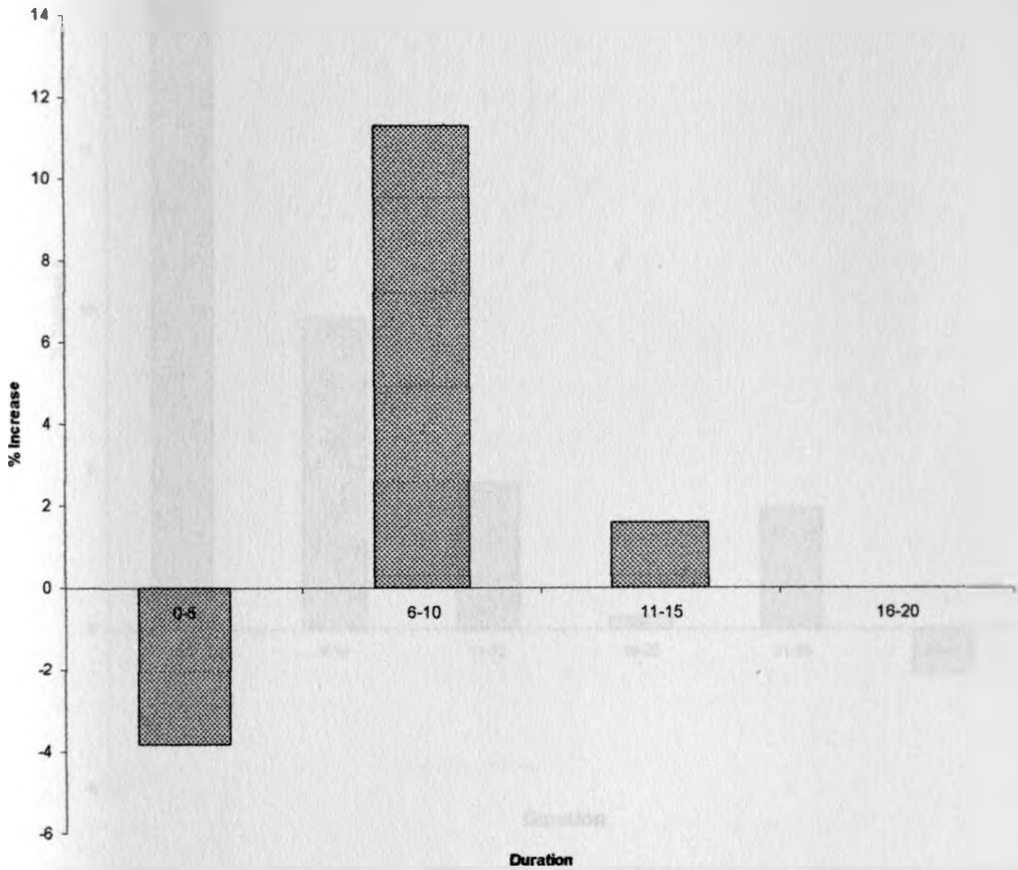
CHART 48: Employer vs. Burnout Syndrome among the Nurses (n=286)



The lowest levels of burnout syndrome were found among the MOH nurses 6/286 (2.1%) and an increase in burnout syndrome of -0.4%, followed by other nurses who were not employed 6/286(0.0%) and an increase of +0.4%. The largest population of the nurses at KNH 171/286 (59.8%) had extremely high burnout syndrome whose increase from severe to extremely severe in the levels was +32.6%. There was no statistical significance between the employer and burnout syndrome ($X^2=2.715$; $p=0.844$)

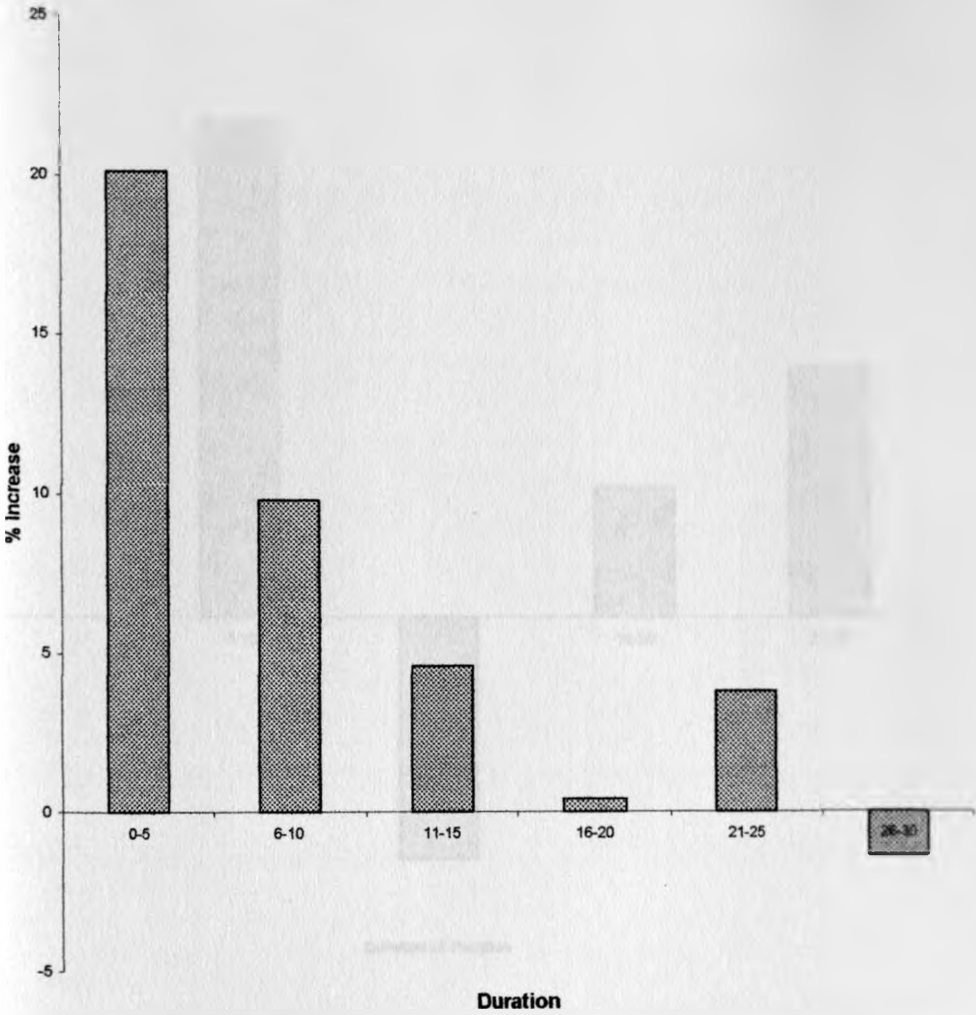
HART 49: Duration at KNH vs. Burnout Syndrome among the Medical

Practitioners (n=62)



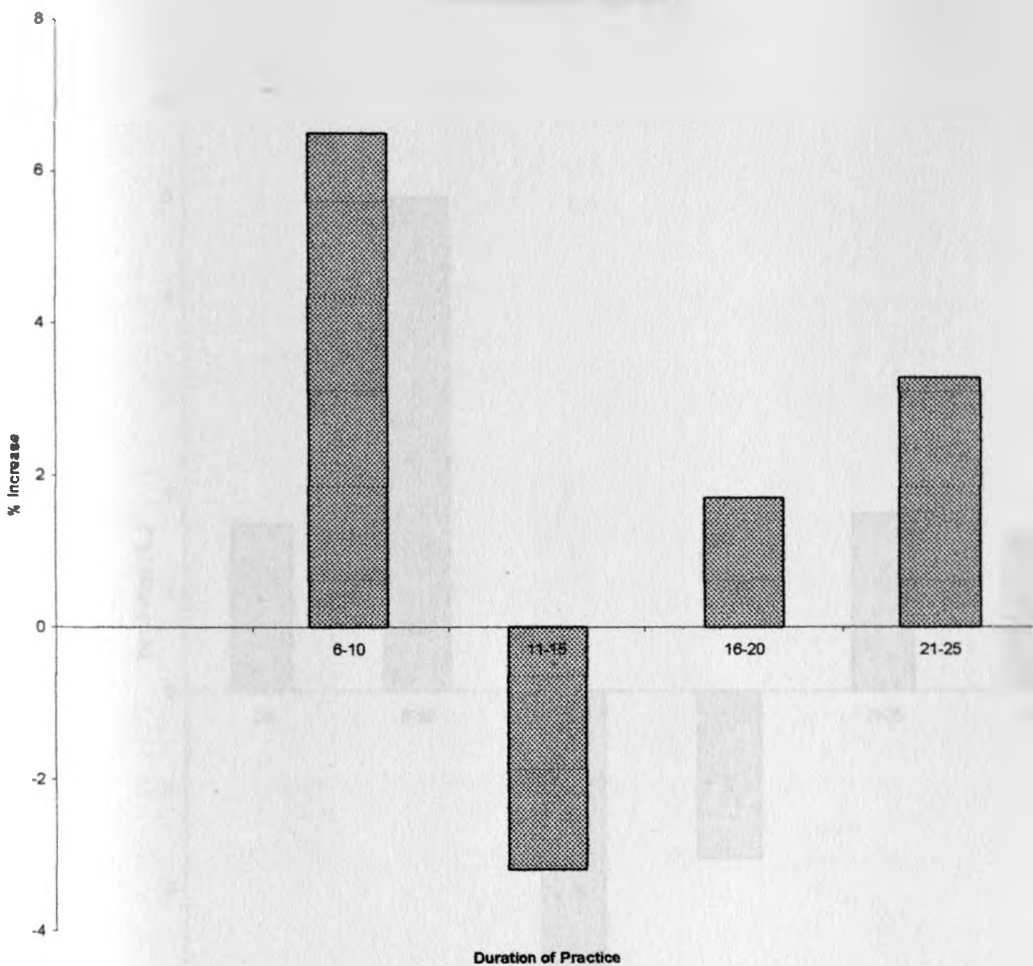
The medical practitioners who had worked for 6-10 years (+11.3%) were predisposed to burnout syndrome than the 0-5 (-3.8%) and 11-15 (+1.6%) years' brackets. ($X^2=17.340$; $p= 0.044$). The medical practitioners who had worked at KNH for 16-20 years did not have any burnout syndrome. However there was a statistical significance between the working duration of medical practitioners at KNH and burnout syndrome

CHART 50: Duration at KNH vs. Burnout Syndrome among the Nurses (n=286)



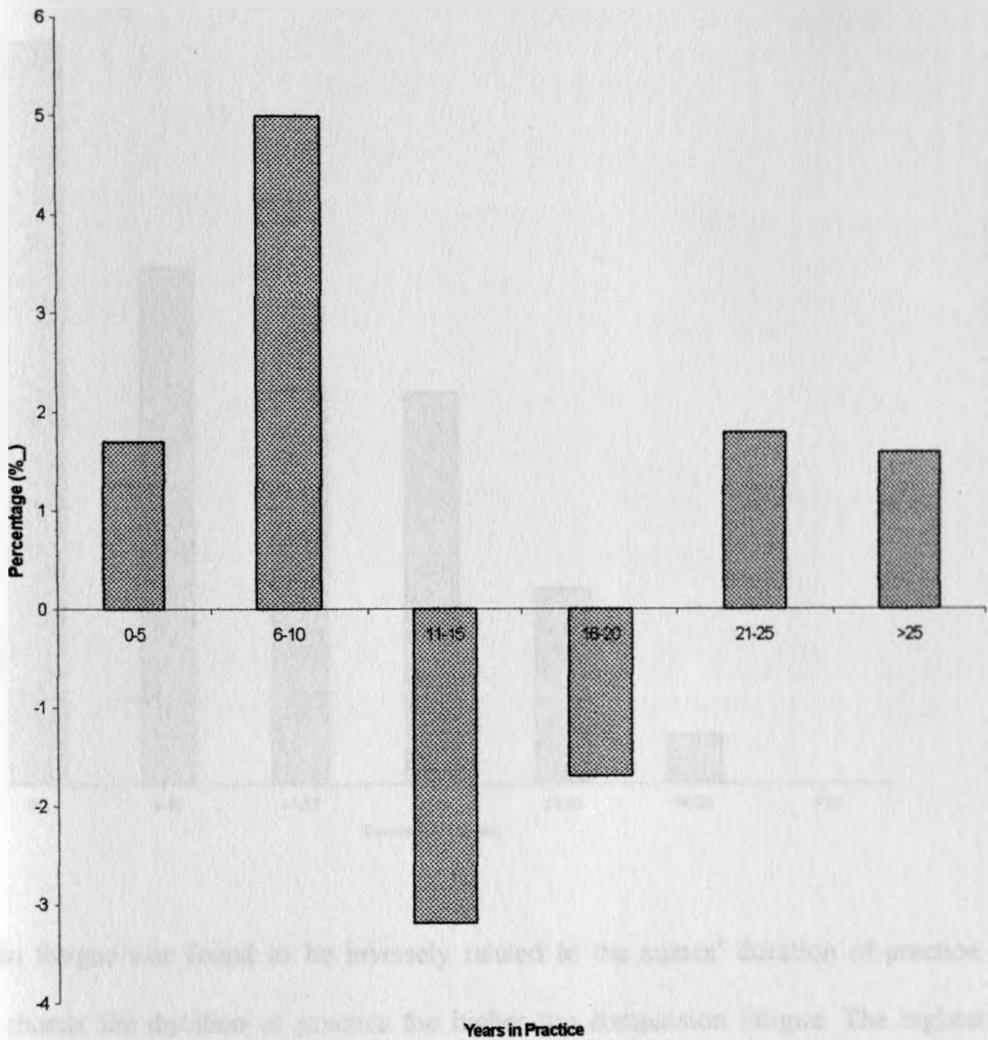
Nurses who had 0-5 years of practice at KNH showed +20.1% increase in burnout syndrome and were more than twice exposed to high levels of burnout syndrome than their nearest category, the 6-10 year (+9.8 %), followed by 11-15 (+4.6%) then the 21-25 duration bracket at +2.8%. This was followed by the 16-20 years at +0.4% while the duration bracket of 26-30 (-0.4). The lowest levels were in the 26-30 years whose increase was -1.4%. There was no statistical significance between the duration of work for nurses at KNH and burnout syndrome ($X^2=23.963$; $p= 0.066$).

CHART 51: Duration of Practice vs. Burnout Syndrome among the Nurses (n=286)



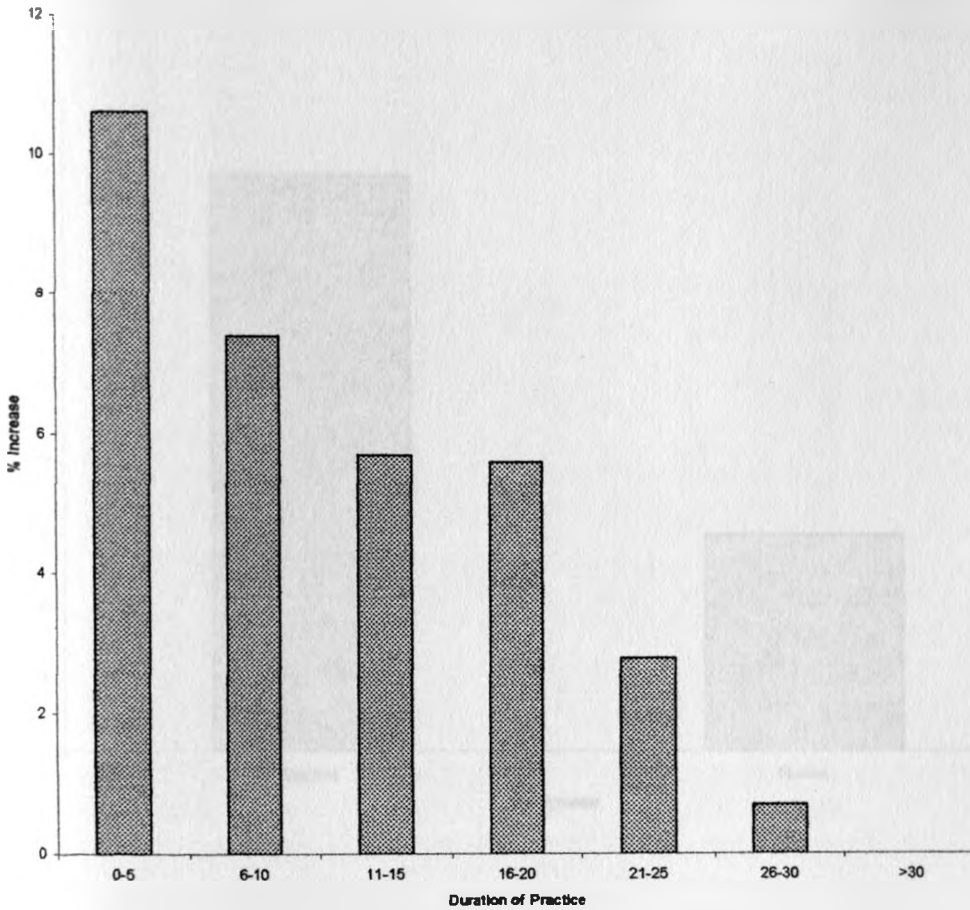
The majority of the nurses 144/286 (50.3%) at KNH had worked for less than ten years. The nurses who had worked for less than ten years at KNH were the most predisposed to burnout syndrome (+6.5% increase). The nurses who had worked longest 21-25 years (+3.3 increase) at KNH were also vulnerable. The least affected bracket of work duration at KNH was the 11-15 year (-3.2% increase). There was no statistical significance for the work duration and burnout syndrome among nurses at KNH. ($X^2= 13.389$; $p= 0.146$).

CHART 52: Duration of Practice vs. Burnout Syndrome among the Medical Practitioners (n=62)



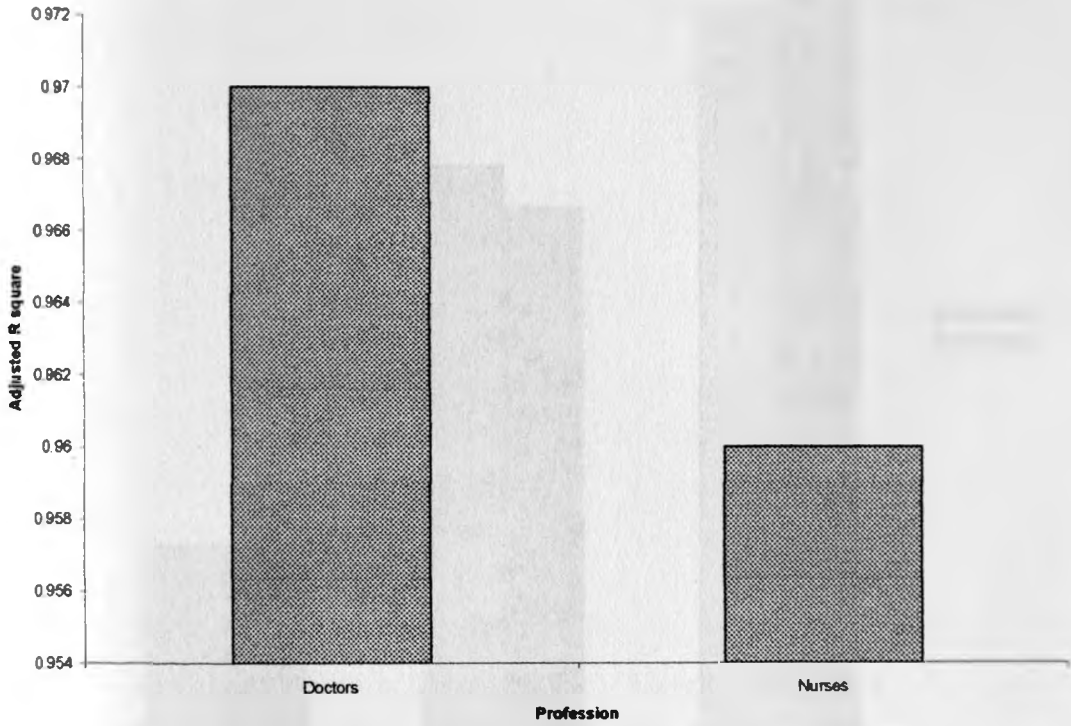
Over 39/62(62.9%) of the medical practitioners had worked for up to ten years and 5/62(8.1%) had worked for over twenty years at the institution. The highest risk with burnout syndrome was in the 6-10 year duration of practice bracket (+5.0% increase) followed by 0-5 (+1.7%), 21-25 year bracket (+1.8%) and more than 25 years (+1.6). There was no relationship statistically between the medical practitioners' duration of work at KNH and burnout syndrome($X^2= 13.981$; $p=0.302$).

CHART 53: Duration of Practice vs. Burnout Syndrome among the Nurses (n=286)



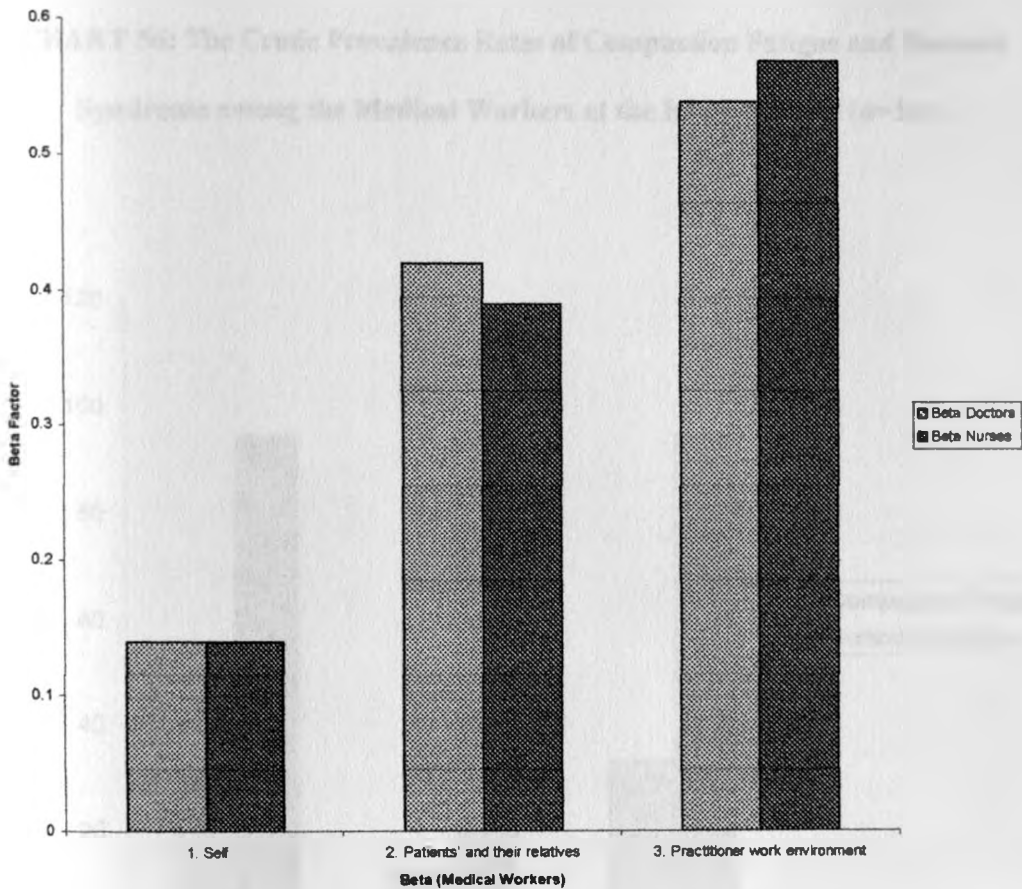
Compassion fatigue was found to be inversely related to the nurses' duration of practice. Thus, the shorter the duration of practice the higher the compassion fatigue. The highest increase in compassion fatigue was in the duration of 0-5 years (+10.6%), followed by the 6-10 year category (+7.4%), the 11-15 year category at +5.7%, the 16-20 year category at +5.6%, the 21-25 years duration at +2.8%, the 26-30 year duration at +0.7% and the over 30 years duration at 0.0%. There was no statistical significance between duration of practice of nurses and burnout syndrome ($X^2= 4.748$; $p=0.576$).

CHART 54: Regression Analysis Results (Burnout Syndrome)



Regression analysis showed that 97.0% of burnout syndrome among the medical practitioners at KNH was explained by a combination of factors pertaining to self; patients', their relatives, and practitioner's work environment. This implied that 3.0% of burnout syndrome was attributed to unexplained factors. A combination of factors pertaining to self; patients' and their relatives, and practitioner's work environment explained 96.0% of burnout syndrome among the nurses while unexplained factors contributed 4.0 %.

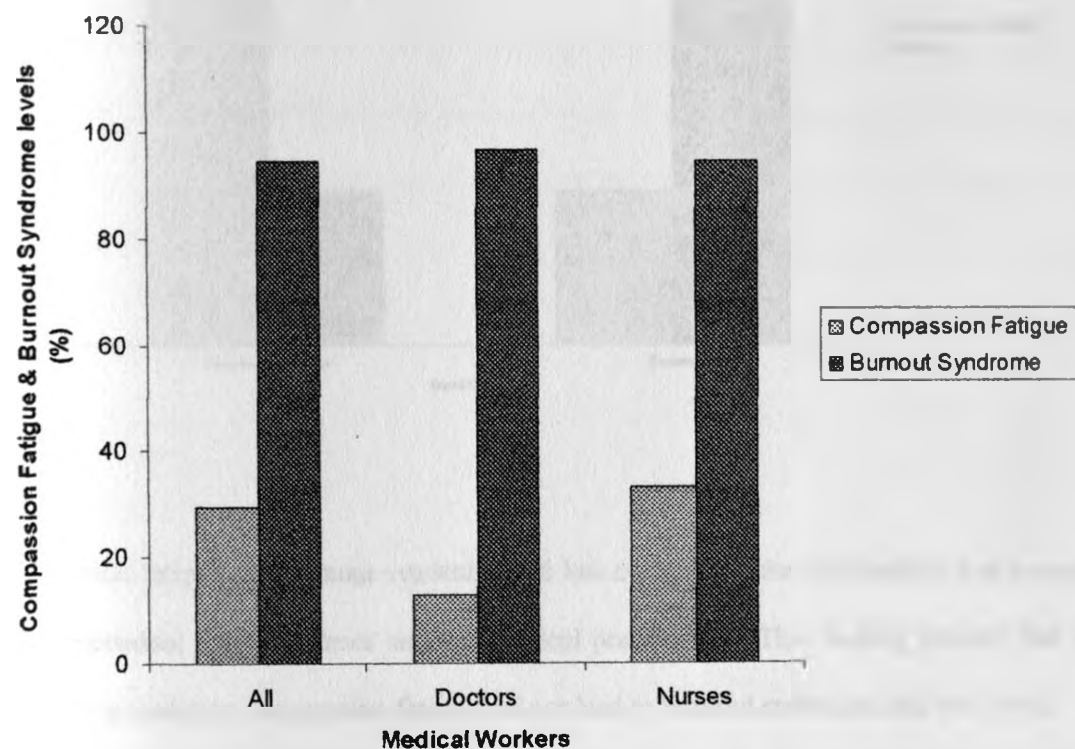
CHART 55: Combination of Factors Pertaining to Burnout Syndrome



Individually, factors pertaining to self contributed 14.0% while patients' and their relatives contributed to 42.0% of burnout syndrome among the medical practitioners at KNH. Factors pertaining to self accounted for 14.0% of burnout syndrome among the nurses while factors pertaining to patients and their relatives contributed to 39.0%. The practitioner's work environment contributed 54.0% and 57.0% of burnout syndrome among the medical practitioners and nurses respectively.

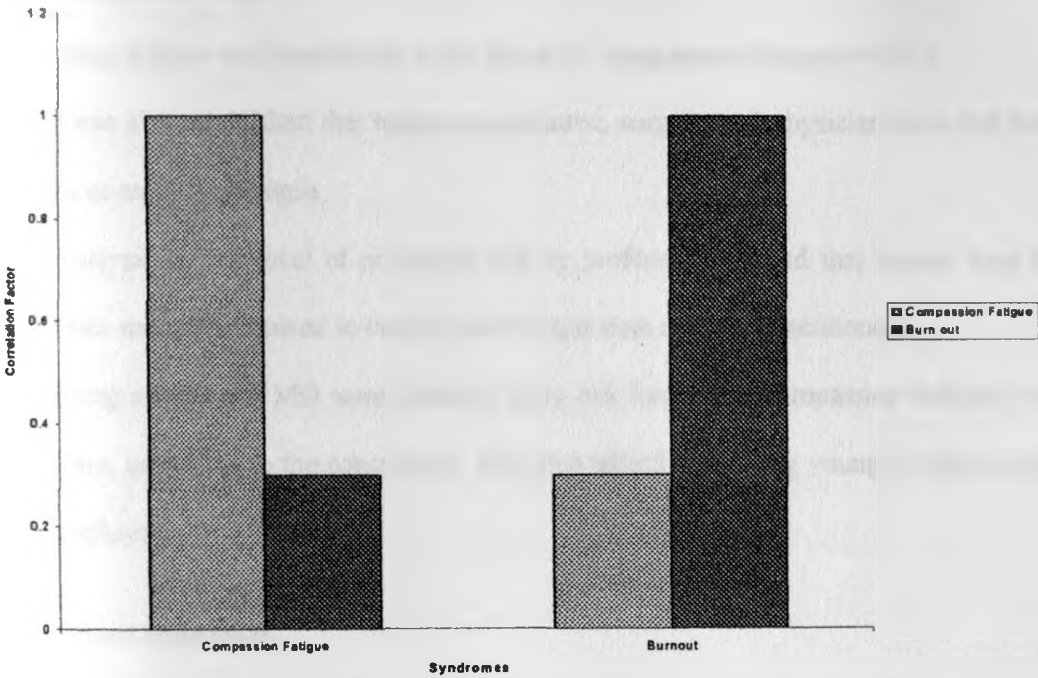
SUMMARY OF COMPASSION FATIGUE AND BURNOUT SYNDROME

CHART 56: The Crude Prevalence Rates of Compassion Fatigue and Burnout Syndrome among the Medical Workers at the KNH, Nairobi (n=348).



The prevalence rate of compassion fatigue among all the medical workers at KNH was found to be 103/348(29.6%) while that for burnout syndrome for the same population was 29/348(94.5%). The prevalence rate of compassion fatigue for the medical practitioners was 13/62(12.9%) while that for the nurses was 94/286(32.9%). The prevalence rate of burnout syndrome for the medical practitioners was found to be 60/62(96.7%) while that for the nurses was 269/284(94.1%).

CHART 57: Correlation of Compassion Fatigue and Burnout syndrome



Compassion fatigue and burnout syndrome had low correlation; the relationship was inverse and independent for both nurses and the medical practitioners. This finding implied that in this study population, compassion fatigue did not lead to burnout syndrome and vice versa.

6.0: SUMMARY OF THE STUDY FINDINGS

6.1 Compassion Fatigue

- 6.1.1 Being a nurse was found to be a risk factor for compassion fatigue $p=0.012$.
- 6.1.2 It was also established that being a psychiatrist, surgeon and physician were risk factors for compassion fatigue.
- 6.1.3 Analysis by the level of education and by profession showed that nurses were three times more predisposed to compassion fatigue than medical practitioners.
- 6.1.4 Being a SHO and MO were found to carry risk factors for compassion fatigue 3 times more, compared to the consultants. This also tallied with being young or being recently employed.

6.2 Burnout Syndrome

- 6.2.1 Being female was found to be a risk factor for burnout syndrome ($p=0.048$).
- 6.2.2 In virtually all results, compassion fatigue had a shift to the left while burnout syndrome had a shift to the right, meaning that the two attributes were independent.
- 6.2.3 Being SHO was found to be a risk factor by age, profession, years of practice and designation at KNH. They were the majority in the most risky age group (30-35 years)
- 6.2.4 It was found out that being a catholic by faith was a risk factor for burnout syndrome among the nurses. and the high-risk age for burnout syndrome.
- 6.2.5 The two professions, specialties and departments that showed the highest risks for burnout syndrome were psychiatry and surgery.
- 6.2.6 However, nurses in the departments of orthopaedic surgery, dentistry, paediatrics and medicine were found to be at risk of burnout syndrome alone.
- 6.2.7 In all factors analysed for the different cadres of nurses, bedside nursing was found to be an extremely high risk factor for burnout syndrome. This was also consistent with

seniority by designation in nursing, in that those doing bedside nursing were found to belong to the low cadres of nursing and they were young in the profession.

6.2.8 Medical practitioners employed by the University of Nairobi were found to be more predisposed to burnout syndrome than those of the MOH and KNH.

6.2.9 The nurses and medical practitioners who had been in the professional practice for the duration of <11 years were found to be at risk of developing burnout syndrome.

6.3 Compassion Fatigue and Burnout Syndrome

6.3.1 Departments of psychiatry, medicine, surgery, orthopaedic surgery and dentistry were found to have high inherent risks for both compassion fatigue and burnout syndrome in that order. They showed a rapid rise from high to extremely high levels for both compassion fatigue and burnout syndrome among all the medical workers at KNH.

6.3.2 The age bracket 30-35 years among nurses and medical practitioners at KNH was found to carry high risks for both compassion fatigue and burnout syndrome and it also comprised the largest number of employees at KNH.

6.3.3 The marital status of medical practitioners was found not to have significant risks for both compassion fatigue and burnout syndrome. However, the dominance of male medical practitioners against the females might have diluted the true picture since being male and being medical practitioner were found to be protective factors against compassion fatigue and burnout syndrome. But those who were married carried 3 times inherent risk compared to those who were single. The largest part of the study sample was married (80.0% of the medical practitioners and 72.0% of the nurses).

6.3.4 The study established that being a medical practitioner and at the same time a Protestant by religion was a risk factor for both compassion fatigue and burnout syndrome for both medical practitioners and nurses.

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- 5.3.5 Nurses who were working in the departments of medicine, obstetrics and gynaecology and surgery were found to be at risk of both burnout syndrome and compassion fatigue.
- 5.3.6 Working at KNH for <11 years was found to be a risk factor for both compassion fatigue and burnout syndrome. Being young and newly employed at KNH was found to be a risk factor for both compassion fatigue and burnout syndrome for both nurses and the medical practitioners.
- 5.3.7 Compassion fatigue and burnout syndrome were found to have low correlation with each other, and therefore, they were independent attributes. Virtually all results showed that compassion fatigue had a shift to the left while burnout syndrome had a shift to the right of the charts.
- 5.3.7 Regression analysis showed that medical practitioners' and nurses' compassion fatigue was attributable to self-causes in 83.0% and 73.0% of the cases respectively. Patients and their relatives contributed 26.0% and 33.0% and work environmental factors up to -6.0% and -7.0% respectively.
- 5.3.8 In the regression analysis for burnout syndrome, the questionnaire identified 97.0% of the causes of burnout syndrome among the medical practitioners and 96.0% among the nurses. 3.0% of the medical practitioners' and 4.0% of the nurses' burnout syndrome could not be explained. This meant that there were some 'hidden' factors and causes of burnout syndrome in the study population that could not be captured by the instrument used (Compassion Fatigue Self Test).
- 5.3.9 Still on regression analysis for burnout syndrome, self factors contributed 14.0% equally for both medical practitioners and nurses. Patients contributed 42.0% for the medical practitioners and 39.0% for the nurses while work environment contributed the largest proportion of 54.0% for medical practitioners and 57.0% for nurses.

7.0 STUDY LIMITATIONS

1 The study was carried out at a time when Kenyatta National Hospital Workers had come out of sit-ins and go slows to press for betterment of their remuneration. This might have partly contributed to the high levels of burnout syndrome established in this study. They might have considered responding to the questionnaire as amounting to being heard or putting across their point.

2 The high prevalence rates of compassion fatigue and burnout syndrome could also have had to do with the over inclusiveness of the instrument used in this study as observed by the designer and other users in Europe and America.

3 The instrument did not have provision for normal the level; hence, the pathological levels were taken to be any scores above moderate (taken as the reference point or the normal or the zero point). Thus high or extremely high of the compassion fatigue and burnout syndrome were regarded as pathological.

8.0 DISCUSSION

1 Compassion Fatigue

Medical workers are called upon to care for the ill, assist victims of violent crime, natural disasters, childhood abuse, torture, persecution, war, and now terrorism. The reactions of therapists and other helpers in caring for the survivors of trauma are in traumatology literature^{10, 17}. Medical workers who listen to reports of trauma, horrifying experiences, human cruelty, extreme loss and regular care for the ill may become overwhelmed and begin to experience feelings of fear, pain and suffering similar to that of their clients. They may also experience PTSD symptoms similar to their clients', such as intrusive thoughts, nightmares, avoidance and arousal, as well as changes in their relationships to their selves, their families, friends and communities. They may require assistance to cope with the effects of listening to others' traumatic experiences^{2, 10, 17}.

Secondary traumatic stress occurs when one is exposed to extreme events directly experienced by another and becomes overwhelmed by this secondary exposure to trauma^{2, 10}. The mechanism that explains the modes transmission of traumatic stress from one individual to another have not been elucidated. But, it has been hypothesised that the caregiver's level of empathy with the traumatised individual plays a significant role in this transmission^{10, 17}.

The combined effects of the caregiver's continuous visualizing of clients' traumatic images added combined with the effects of burnout can create a progressively debilitating condition to the caregiver that was described by Figley as "compassion stress." This condition or experience supposes that exposure to clients' stories of traumatisation can produce a form of posttraumatic stress disorder in which a diagnosis of compassion fatigue is met through listening to, rather than experiencing of, a traumatic event^{2, 10, 17, 50}.

The crude prevalence rate of compassion fatigue among all the medical workers (both nurses and medical practitioners) was found to be 29.6%. The crude prevalence rate of compassion fatigue for the medical practitioners was 12.9% while that for the nurses was 33.1%.

One would have expected that compassion fatigue led to burnout syndrome, but this was clearly not the case in this study. The majority of the cases of compassion fatigue were on the lower scale.

Thirty two point eight percent (32.8%) of the nurses had high levels of compassion fatigue. This was about 3 times more than that found among the medical practitioners (11.4%), making nursing a risk factor for compassion fatigue. Seniority and old age among the medical practitioners and nurses at KNH were found to be protective while bedside medicine and nursing were found to be risk factors for compassion fatigue. Controlling for the sample size (ratio medical practitioners: nurses was about 1:6), the level of compassion fatigue among nurses was about 3 times higher than that found among the medical practitioners. Medical practitioners in three departments showed a high rise in the levels of compassion fatigue, namely medical (+1.7%), surgical (+5.0%) and psychiatry (+3.3%), suggesting a possibility of higher inherent risks for compassion fatigue at the KNH.

The highest increases in the levels of compassion fatigue among the medical practitioners were found in surgery (+3.3%), psychiatry (+3.3%) and medicine (+1.7%). On the other hand, medical practitioners in obstetrics and gynaecology (0.0%) orthopaedic surgery (0.0%) paediatrics (0.0%) and dentistry (0.0%) were found to have no increase compassion fatigue and the prevalence rates were: 6.7%, 3.3%, 3.3% and 6.7% respectively. There was no statistical significance between medical practitioners' departments and compassion fatigue ($\chi^2=25.953$; $P=0.576$). There lowest increase in compassion fatigue was found in the department of medicine 57/286 (-5.9%), followed by paediatric 27/286 and orthopaedic surgery 30/286 both at -1.5% increase.

The department of obstetrics and gynaecology had the highest increase in compassion fatigue (1.1%), followed by dentistry (+0.7%) and surgical (+0.3%). There was a statistical significance between nurses' departments and burnout syndrome ($X^2=21.642$; $p=0.042$). Regression analysis showed that 93.0% of compassion fatigue among the medical practitioners at KNH could be explained by a combination of factors attributable to 'self; patients and their relatives', and the 'practitioner's work environment'. This implied that 9.0% of compassion fatigue among them could only be attributable to unexplained factors, not captured by the questionnaire. A combination of factors pertaining to self; patients' and their relatives, and practitioners' work environment were attributable to 91.0% of compassion fatigue among the nurses while unexplained factors contributed 9.0% of their compassion fatigue. Individually, factors pertaining to self contributed 83.0% and patients' and their relatives contributed to 26.0% of compassion fatigue among the medical practitioners. Factors pertaining to self accounted for 73.0% of compassion fatigue amongst the nurses while factors pertaining to patients' and their relatives contributed to 33.0%. The practitioner's work environment did not contribute to compassion fatigue among medical practitioners and nurses. Factors pertaining to self accounted for 14.0% of compassion fatigue among the nurses while factors pertaining to patients and their relatives contributed to 0.0%. The practitioner's work environment contributed 54.0% of Burnout syndrome among the medical practitioners and 57.0% among the nurses at KNH.

2 Burnout Syndrome

Burnout syndrome is also known as cumulative stress and is characterised by exhaustion of physical, emotional and mental states, leading to one's inability to cope with his environmental demands. It is with this appreciation that the case may be the same in Kenya, that this study was undertaken, to determine the local prevalence rates, factors associated with it and to compare its effect on medical workers Kenya and elsewhere in the world.

Many quantitative and qualitative studies^{1, 4,5,7,31,32,33,37,39,42.} have been carried out in Europe and the United States of America which have demonstrated beyond doubt the existence and impact of burnout syndrome among their health care professionals, care-givers and others in different fields of specialisation. The highest burnout syndrome level in Europe (66.0%) was found among clinical specialists in the HIV/AIDS department in Northern England in 1999³⁶ and as high as 80.0% of the rural physicians in the British Columbia in the year 2001³², likelihood that the Kenyan medical workers may be no exception, given the universality of the medical practice.

These were lower than the one found in this study in which the crude prevalence rate was 44.5%. The high and closely related levels of burnout syndrome among the nurses and medical practitioners at KNH may have to do with the fact that they had just come out of sit-ins and go slows in agitation for better terms of service in April 2003. Subsequently, they might have treated the chance of participating in this study as an avenue of expressing the extent of their mental affliction.

The extent of burnout syndrome among nurses was demonstrated by suicide cases (152) between 1990 and 1992 in UK, which took the top standing among female suicides reported³⁷. This may be happening in Kenya but is yet to be documented. All the medical workers were found to suffer from burnout syndrome.

the ratio of males to females among the medical workers suffering from burnout syndrome was almost 1:3, while the increase from high to extremely high burnout syndrome by gender was about 1:8, meaning that the female medical practitioners were more predisposed to burnout syndrome than their male counterparts. There was a significant statistical difference between the males and females ($p=0.048$) in their levels of burnout syndrome.

The female nurses (+29.6%) were about ten times more predisposed to increase in burnout syndrome than the males (+2.9%). Like the medical practitioners, single nurses were at a higher risk of burnout syndrome compared to the married ones, though all nurses were at risk of increasing levels of burnout syndrome. From the raw data, there were more married medical practitioners (80.0%) than nurses (73.0%). Religious affiliation had no significant relationship ($p=0.714$). This implies that Christianity, as dominant religious faith in this study had no protective value against burnout syndrome among the medical workers at KNH. All religious groups showed high levels of burnout syndrome. The nurses constituted the majority of the study sample (81.8%) compared to the medical practitioners (18.2%). A comparison was made between professionalism and burnout syndrome in which the nurses constituted 82.2% of the respondents for burnout syndrome while the medical practitioners were only 17.8%. The nurses showed a higher rise in burnout syndrome from high to extremely high (+28.3%) compared to the medical practitioners (+1.8%). This was statistically significant ($p=0.036$). The departments that were found to have increasing levels of burnout syndrome at KNH were led by psychiatry (+6.6%), Surgery (+4.6%), paediatrics and obs/gynae (+3.3% each). The departments that had low values for burnout syndrome included, medicine (0.0%) dentistry (-1.6%) and orthopaedic surgery (-3.3%). The middle level college education (96.3% of the nurses) mainly dealing with bedside nursing was found to be a risk factor for burnout syndrome compared to the University education (+4.0%).

HOs (+8.2%) suffered experienced increasing burnout syndrome, compared to consultants (-1.6%) and MOs (-1.6%). There was a decline in burnout syndrome with seniority and designation among nurses; ACN/SNO –administrative (+7.0%), KRN/KRCHN-semi-administrative/bedside nursing (+7.0%) and ECN/EN/SEN-pure bedside nursing (+18.7%). There was a statistical significance between the medical practitioners' employer and burnout syndrome ($p < 0.0001$). Odds ratio (OR=0.85) showed that employees of KNH were more predisposed to burnout syndrome than those of the MOH. There was a statistical significance for the work duration of medical practitioners at KNH and burnout syndrome ($p = 0.044$) in which the longer the medical practitioners had worked the lesser the burnout syndrome was. In the correlation studies, the two syndromes (compassion fatigue and burnout syndrome) had a reverse and independent relationship. Regression analysis indicated that 97.0% of burnout syndrome among the medical practitioners at KNH was explained by a combination of factors pertaining to self; patients', their relatives, and practitioner's work environment. This implied that 3.0% of burnout syndrome was attributed to unexplained factors. A combination of factors pertaining to self; patients' and their relatives, and practitioner's work environment explained 96.0% of burnout syndrome among the nurses while unexplained factors contributed 4.0 %. Factors pertaining to self contributed 14.0% while patients' and their relatives contributed to 42.0% of burnout syndrome among the medical practitioners at KNH.

3 Compassion Fatigue and Burnout Syndrome

Being male was protective to both burnout syndrome and compassion fatigue among the medical practitioners and nurses at KNH, irrespective of the profession. There was a significant statistical relationship ($p < 0.0001$) for this. There was statistical significance between the nurses' departments and compassion fatigue ($p = 0.002$) and burnout syndrome ($p = 0.042$).

The study did not establish proportionality, but the consistent finding was that compassion fatigue had inverse relationship with burnout syndrome among both nurses and medical practitioners at KNH, a finding that confirmed their independent relationship.

Finally, this study established that there were high levels of compassion fatigue (29.6%) and burnout syndrome (94.5%) among the medical workers at KNH. Also, it established that several factors interacted, contributing the two syndromes. The environmental factors contributed the single largest source of burnout syndrome (54.0%) to the medical workers.

9.0: CONCLUSION

The hypothesis had been that there is no statistically significant difference between the prevalence rate of the burnout syndrome among the Kenyatta National Hospital Medical practitioners and Nurses and that found among similar personnel in the rest of the world. The general objective of this study was to establish the prevalence of, factors associated with burnout syndrome among medical practitioners and nurses at Kenyatta National Hospital. The study also established the existence of burnout syndrome and given that no other study had been conducted before, the syndrome might not have been known to the study population. It can, therefore, be summarised that burnout syndrome exists among nurses and medical practitioners working at KNH and that the level is even higher (94.5%) than that found in other countries in the world (80.0% in British Columbia)³². The syndrome therefore, may have been influencing their outputs negatively at work and individually. The study was able to establish the prevalence rates and the risk factors among the nurses and medical practitioners at KNH and, a comparison on how it differs and affects the two professional groups (medical practitioners and nurses at KNH) made socio-demographically, by compassion fatigue and burnout syndrome. This study confirmed the existence of extremely high levels of burnout syndrome among the medical practitioners and nurses at KNH. Burnout syndrome was much higher (94.5%) than that found in the developed countries in Europe (66.0%)³⁶ and North America (80.0%)³². Different factors were found to affect the medical workers and compassion fatigue and burnout syndrome were independent of each other among the medical workers at KNH. It was therefore, likely that one of the major causes of problems in the healthcare delivery system in Kenya might have been burnout syndrome, and there was urgent need for intervention by the Ministry of Health, KMA, KMP&DB⁴⁹, other medical staff and the Nursing Council of Kenya.

10.0. RECOMMENDATIONS

view of the findings of this study:

- 0.1 Delve into the four major areas namely: self, patients, their relatives and work environment to increase further understanding about burnout syndrome.
- 0.2 There is need for more researches (based on 10.1 above), both on follow up basis and operational level.
- 0.3 There is need for KMA, KMP&DB and Nursing Council of Kenya to take up the mantle and step up their efforts to save the profession from the deleterious effects of burnout syndrome among these professionals.
- 0.4 There is need to take measures to protect psychiatrists, surgeons, obstetricians/gynaecologists and paediatricians from burnout syndrome, and psychiatrists, surgeons and physicians against compassion fatigue in that order of priority.
- 0.5 These research findings should lead to development of a burnout syndrome module that would be used to train health workers in identifying and managing compassion fatigue and burnout syndrome among professionals and caregivers in good time.
- 0.6 There is need to carry out capacity building for managing compassion fatigue and burnout syndrome in Kenya.
- 0.7 There is need to come up with a work place-based programme to assist workers at their places of duty.
- 0.8 There is need to increase awareness about compassion fatigue and burnout syndrome among medical practitioners and nurse as well as the general public.

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12.0 ANNEXES

12.1. INFORMATION TO PARTICIPANTS (RESPONDENTS)

This study aims at establishing the Prevalence and Factors Associated with Burnout syndrome among medical practitioners and nurses in Kenya.

Being the first one of its kind, it aims at meticulously presenting an accurate picture of the current situation so that the strain on the Kenyan health workers can be known and managed.

In the process, the study will uphold the participants'/respondents' confidentiality and privacy. The researcher will refer those in need for management and follow up.

This study is bound to assist employers to appreciate employees and their predicament, notwithstanding, to better their health and living standards altogether as well as increase their productivity at their places of work.

It aims at improving industrial relations and increasing the workers productivity while at the same time, better the health of the health workers, leading to increased life expectancy as well as a good retirement health benefits.

12.2 CONSENT FORM

I do hereby volunteer to participate in this research study titled "BURNOUT SYNDROME AMONG MEDICAL WORKERS AT THE KENYATTA NATIONAL HIOSPITAL, NAIROBI" under the direction of Dr. Donald A. Kokonya. The implication of my voluntary participation, the nature and purpose of the study and the methods by which it is to be completed have been explained to me by:

.....(signature)

(Dr. Donald A. Kokonya- the investigator)

I have been given an opportunity to ask questions concerning the study and any such questions have been answered to my full and complete satisfaction.

I understand that I may at any time during the course of this study, revoke my consent and withdraw from the study without any penalty or loss of benefits. And that no examination will be performed on me, since the study is not being carried out on me as a patient.

I understand that my responses will be treated confidentially and I will be identified by a number only.

Signature.....

(Participant)

Study No.....

12.3 QUESTIONNAIRE

COMPASSION FATIGUE SELF TEST

(Answer all the questions by inserting an x in the corresponding box)

A. SOCIO-DEMOGRAPHIC DATA

Study No.....

Date:...../...../2002

1. Gender:

i) Male

ii) Female

2. Age in Years.....

3. Marital Status:

i) Married

a) Monogamous

b) Polygamous

ii) Single

iii) Widowed

iv) Divorced

v) Separated

vi) Cohabiting

vii) Other (Specify)

4. Religion: -

- i) Catholic
- ii) Protestant
- iii) Muslim
- iv) Other

State.....

5. Profession

- i) Medical practitioner
- ii) Nurse

6. Department/Unit

- i) Medical
- ii) Surgical
- iii) Orthopaedic
- iv) Obstetrics/Gynaecology
- v) Paediatrics
- vi) Pathology
- vii) Psychiatry
- viii) Immunology
- ix) Parasitology
- x) Microbiology
- xi) Clinical Chemistry
- xii) Anaesthesia
- xiii) ICU

- xiv) ENT
- xv) Ophthalmology
- xvi) Emergency/Casualty
- xvii) Radiology
- xviii) Oncology
- xix) Cardiology
- xx) Dentistry
- xxi) Pharmacy
- xxii) Dermatology
- xxiii) Plastic Surgery
- xxiv) Maxillofacial
- xxv) Neurosurgery
- xxvi) Neurology
- xxvii) Renal
- xxviii) Paediatric Nursery
- xxix) Neonatal
- xxx) Observation
- xxxi) Clinic (specify).....
- xxxii) Other Area (Specify).....

7. Highest educational level

- i) Class 7-8
- ii) Form 1-4
- iii) Form 5-6
- iv) College
-

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v) University

8. Professional qualifications (you may tick more than one)

- i) ECN
- ii) Midwife
- iii) KRN
- iv) KRCN
- v) DAN
- vi) BSc
- vii) MSc
- viii) MBChB
- ix) MBBS
- x) MMed
- xi) MRC-Royal College
- xii) MD
- xiii) PhD

9. Years as a practitioner

- i) 0-5 Years
- ii) 6-10 Years
- iii) 11-15 Years
- iv) 16-20 Years
- v) 21-25 Years
- vi) 26-30 Years
- vii) Over 30 Years

10. **Current Profession/Occupation**.....

11. **Designation at the hospital**.....

12. **For how long have you been working at KNH?**

	1 Not much	2 Not sure	3 Little	4 Very often
i) Days		<input type="checkbox"/>		
ii) Months		<input type="checkbox"/>		
iii) Years		<input type="checkbox"/>		

13. **Who is your employer?**

i) KNH		<input type="checkbox"/>		
ii) University of Nairobi		<input type="checkbox"/>		
iii) Ministry of health (MOH)		<input type="checkbox"/>		
iv) Self		<input type="checkbox"/>		
v) Other (Specify).....				

Please respond to all the items below. Answer the questions by ticking only one appropriate choice for each question

B. Items about you (13-28)

14. I force myself to avoid certain thoughts or feelings that remind me of a frightening experience.

1 Rarely/Never	2 At Times	3 Not sure	4 Often	5 Very often

15. I find myself avoiding certain activities or situations because they remind me of a frightening experience.

1 Rarely/Never	2 At Times	3 Not sure	4 Often	5 Very often

16 I have gaps in my memory about frightening events

1 Rarely/Never	2 At Times	3 Not sure	4 Often	5 Very often

17. I feel estranged from others

1 Rarely/Never	2 At Times	3 Not sure	4 Often	5 Very often

18. I have difficulty falling or staying a sleep

1 Rarely/Never	2 At Times	3 Not sure	4 Often	5 Very often

19. I have outbursts of anger or irritability with little provocation

1 Rarely/Never	2 At Times	3 Not sure	4 Often	5 Very often

20. I startle easily

1 Rarely/Never	2 At Times	3 Not sure	4 Often	5 Very often

21. While working with a victim I thought about violence against the perpetrator.

1 Rarely/Never	2 At Times	3 Not sure	4 Often	5 Very often

22. I am a sensitive person

1 Rarely/Never	2 At Times	3 Not sure	4 Often	5 Very often

23. I have had flashbacks connected to my patients and their families

1 Rarely/Never	2 At Times	3 Not sure	4 Often	5 Very often

24. I have had firsthand experience with traumatic events in my adult life.

1 Rarely/Never	2 At Times	3 Not sure	4 Often	5 Very often

25. I have had firsthand experience with traumatic events in my childhood.

1 Rarely/Never	2 At Times	3 Not sure	4 Often	5 Very often

26. I have thought that I need to “work through” a traumatic experience in my life.

1 Rarely/Never	2 At Times	3 Not sure	4 Often	5 Very often

27. I have thought that I need more close friends

1 Rarely/Never	2 At Times	3 Not sure	4 Often	5 Very often

28. I have thought that there is no one to talk with about highly stressful experiences.

1 Rarely/Never	2 At Times	3 Not sure	4 Often	5 Very often

29. I have concluded that I work too hard for my own good.

1 Rarely/Never	2 At Times	3 Not sure	4 Often	5 Very often

C. Items about your Patients and their Families (29-42)

30. I am frightened of things a patient and their family has said or done to me.

1 Rarely/Never	2 At Times	3 Not sure	4 Often	5 Very often

31. I experience troubling dreams similar to a patient of mine and their family

1 Rarely/Never	2 At Times	3 Not sure	4 Often	5 Very often

32. I have experienced intrusive thoughts of sessions with especially difficulty patients and their families

1 Rarely/Never	2 At Times	3 Not sure	4 Often	5 Very often

33. I have suddenly and involuntarily recalled a frightening experience while working with a patient and their family.

1 Rarely/Never	2 At Times	3 Not sure	4 Often	5 Very often

34. I am preoccupied with more than one patient and their family.

1 Rarely/Never	2 At Times	3 Not sure	4 Often	5 Very often

35. I am losing sleep over a patient and their family's traumatic experiences

1 Rarely/Never	2 At Times	3 Not sure	4 Often	5 Very often

36. I have thought that I might have been "infected" by the traumatic stress of my patients and their families.

1 Rarely/Never	2 At Times	3 Not sure	4 Often	5 Very often

37. I remind myself to be less concerned about the well-being of my patients and their families

1 Rarely/Never	2 At Times	3 Not sure	4 Often.	5 Very often

38. I have felt trapped by my work as a practitioner

1 Rarely/Never	2 At Times	3 Not sure	4 Often	5 Very often

39. I have a sense of hopelessness associated with working with patients with certain families.

1 Rarely/Never	2 At Times	3 Not sure	4 Often	5 Very often

40. I have felt "on edge" about various things and I attribute this to working with certain patients and their families.

1 Rarely/Never	2 At Times	3 Not sure	4 Often	5 Very often

41. I have wished that I could avoid working with some patients and their families

1 Rarely/Never	2 At Times	3 Not sure	4 Often	5 Very often

42. I have been in danger working with some patients and their families

1 Rarely/Never	2 At Times	3 Not sure	4 Often	5 Very often

43. I have felt that some of my patients and their families dislike me personally

1 Rarely/Never	2 At Times	3 Not sure	4 Often	5 Very often

D. Items about Being a Practitioner and Your Work Environment (43-52)

44. I have felt weak, tired, run-down as a result of my work as a Practitioner.

1 Rarely/Never	2 At Times	3 Not sure	4 Often	5 Very often

45. I have felt depressed as a result of my work as a practitioner.

1 Rarely/Never	2 At Times	3 Not sure	4 Often	5 Very often

46. I am unsuccessful as separating work from personal life

1 Rarely/Never	2 At Times	3 Not sure	4 Often	5 Very often

47. I felt little compassion toward most of my co-workers.

1 Rarely/Never	2 At Times	3 Not sure	4 Often	5 Very often

48. I feel I am working more for the money than for personal fulfilment.

1 Rarely/Never	2 At Times	3 Not sure	4 Often	5 Very often

49. I find it difficult separating my personal life from my work life.

1 Rarely/Never	2 At Times	3 Not sure	4 Often	5 Very often

50. I have a sense of worthlessness/delusionment/resentment associated with my work

1 Rarely/Never	2 At Times	3 Not sure	4 Often	5 Very often

51. I have thoughts that I am "failure" as a Practitioner

1 Rarely/Never	2 At Times	3 Not sure	4 Often	5 Very often

52. I have thoughts that I am not succeeding at achieving my life goals

1 Rarely/Never	2 At Times	3 Not sure	4 Often	5 Very often

53. I have to deal with bureaucratic; unimportant tasks in my work life.

1 Rarely/Never	2 At Times	3 Not sure	4 Often	5 Very often