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**THE KILLER EBOLA VIRUS:
THE ROLE OF NURSES IN DECONTAMINATION**

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THE KILLER EBOLA VIRUS: THE ROLE OF NURSES IN DECONTAMINATION

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Objectives

The purpose of establishing the West African Journal of Nursing (WAJN) is for the publication of information on nursing management, education, practice and research.

The objectives of the WAJN are as follows:

To promote the objective of the College, which is to seek excellence in the Nursing Profession. To communicate information on WACN programme of activities. To serve as a forum for educating nurses in new concepts, techniques and trends on Nursing. To discuss Nursing and problems. To encourage research and disseminate the result of nursing research. To publish book reviews and information on job opportunities. To serve as a medium for the effective collaboration between Anglophone and Francophone Nurses in the Sub-region.

AN ASSESSMENT OF STRESS AMONGST NURSES IN ZARIA METROPOLIS, NORTHWEST NIGERIA

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Abstract

Nursing is one of the most stressful occupations in the world. However, many nurses, especially in Nigeria, do not have an idea of how much stress they have and how it affects their professional functioning. This study was undertaken to measure the level of stress amongst nurses working at different tiers of hospital settings in Zaria, and to determine the socio-demographic attributes of the nurses in relation to the levels of stress. Two hundred and seventy-three (273) nurses from three hospitals were selected through a combination of stratified and convenience methods from a Federal, State and a Faith-based hospital. The Kinzel's Scale for Measuring Stress in clinical nurses was adopted for data collection and data were analysed using SPSS version 17. Findings indicated that most nurses (87.2%) in Zaria are experiencing between high-level and extreme stress levels at their work places; levels that are theoretically incompatible with normal functioning. Manpower shortages and poor equipment supplies to carry out effective nursing care in government hospitals and poor inducements in faith-based health facilities appear to be the major stressors for nurses. Suggestions are made for urgent stress management interventions for nurses by all categories of hospital administrators, nurse leaders and educators to improve the quality of nursing care, and to save nurses from the effects of high stress levels.

Key words: *assessment, nurses, Kinzel's Scale, burn-out, nursing care, occupational stress*

Background

Stress is a universal phenomenon. It affects everyone. However, only few people understand how much of it they have, how it affects their bodies, and how they can more effectively manage their stress. Stress exists in every human situation. The experience of stress at work is common, and often has undesirable effects both on the health and safety of workers as well as on the efficiency and effectiveness of their organisation. Many researchers believe that stress is more a product of the working environment than the nature of the work itself.^{1,2,3} Particular concern has been expressed for the effects of stress on health-care workers, and in particular on nurses, due to a range of professional and organisational issues. This study has focused on hospital-based nurses. This is in view of some reported untoward personal behaviours (e.g. aggression in work places) among nurses, the observations of nurses' reaction to situations, particularly to patients and their relations as well as to colleagues and other health workers. Nurses also frequently report sick at the staff clinics from what appear to be stress-related

complaints. The researchers, therefore, set out to assess, using Kinzel's Stress Scale for Clinical nurses, how much stress exists in nurses working in Federal, State and faith-based hospitals in Zaria metropolis, Northwest Nigeria.

Statement of the Research Problem

Job stress is, to some extent, normal for increased productivity. However, extreme stress tends to have negative effects.⁴ Occupational stress amongst care professionals including nurses is major concern in health policy.⁵ As the pivots of patient care, nurses usually have to contend with a diverse stressful situations in managing organisational resources for optimum patient care. Consequently, most of them often end up developing high levels of stress, manifesting in a variety of physical and mental symptoms directly related to their work. Compelling data indicate that nursing is considerably stressful.^{6,7} But how much stress is present in nurses working in hospitals in Zaria, a major educational and historical city in Kaduna state, north-west Nigeria?

Research Questions

What is the level of stress among nurses working in Zaria metropolis? What do nurses perceive to be the main causes of stress for them in their work places? Are there peculiar stressful factors in the various tiers of hospitals (Federal, State and Faith-based) across the study area? Are there significant differential stress levels amongst nurses across their socio-demographic variables? This study set out to answer these questions.

Objectives of the study

The main aim of this study was to investigate the levels of stress among nurses working in Zaria metropolis, and to find out if there is any significant relationship between the socio-demographic characteristics of the nurses and the level of stress. Three hypotheses were, therefore, tested: There are no significant differences in the level of stress between nurses working in federal, state and faith-based hospitals; between the sexes of nurses; and between the junior and senior nurses.

Clarification of Terms

Assessment: is estimating or evaluating extent or the value or quality of the stress phenomenon, using the overall scores assigned to each factors in Kinzel's Scale for measuring stress in nurses in clinical practice.

Stress: means the subjective ways nurses evaluate the work environment, their work schedules, those they work with, and the materials with which they carry out their job schedules. Stress is rated as *minimal stress* (0 - 133), *moderate stress* (134 - 266), *high level stress* (267 - 532) and *extreme stress* (533 - 800) based on values assigned to each factor considered as a stressor.⁸

Stressor: any event or situation or stimulus that causes an individual to experience stress. In this study, the stressors include a 20-item checklist on the Kinzel's Scale (inventory).

Nurses: persons licensed by the Nursing and Midwifery Council of Nigeria to practise in Nigeria (in Zaria) as nurses and/or midwives. The nurses consist of junior and senior nurses: Junior nurses

are those on the rank of senior nursing officers and below while the senior nurses are those from the rank of principal nursing officers and above.

Burn-out: means effects and manifestations of cumulative stress seen in nurses.

Significance of the Study

Work-related stress, particularly amongst nurses, needs constant evaluation to help nurses and hospital managements develop appropriate stress reduction protocols to avert "burn-out" syndrome in nurses and improve interpersonal nursing. Findings would also sensitize the public and relevant authorities on the amount of stress nurses have to cope with in their care of patients or the public. In addition, relevant authorities should use the findings to address, urgently, the most distressing factors in nurses' workplaces.

LITERATURE REVIEW

Meaning and Overview of the Concept of Stress

The word 'stress' derives from the Latin word, 'stringere', which means "to draw tight". Stress is a generalised, non-specific response of the body to any demand made on it or a reaction to a perceived threat to one's wellbeing. Generally, the body responds to stress in two ways: the physiological and psychological. The physiological response is general adaptation syndrome (GAS) consisting of three phases: the alarm stage, the resistance stage and the exhaustion stage. Psychologically, the individual consciously or unconsciously reacts to stressful situations through the mediating process of cognitive

appraisal and coping, influenced by antecedent variables that include the internal and external resources of the person.⁹ The term "homeostasis" was used to describe how an organism successfully responds to stress.

The sources of stress could be internal (from within oneself) or external (when others are involved). The external factors include inefficient organisation by others, not being liked or accepted by others, lack of orientation to nurses' units or support and supervision for nurses, rigid negative policies, heavy workload, and lack of teamwork. Similarly, situations outside the work environment like marriage, childbirth, demands from children and partners, illness and death, violence, and noise, among others contribute to nurse's stress. Most nurses experienced stress within the work environment due to frustration, personal involvement in patient care, and unusual working hours.¹⁰ Anxiety about whether, how and by whom their wards and units were to be staffed each day, organisational and managerial factors which they felt to be beyond their control, e.g. unreliable support services, old and poorly maintained equipment, administrative support, and patients who were in the wrong place at the wrong time, as well as targets imposed on them with insufficient consultation or consideration of how they were to be implemented are major sources of stress for nurses. Rapid changes in the society, health care technology, health care knowledge and the nursing profession can place stress on nurses. In general, sources of stress relate to direct patient care, physical work environment; interpersonal conflict, and management/ administration issues.

Such stressors can also be of three categories, namely: catastrophic events, major life changes and daily hassles¹¹ or into four based on duration: an acute, time-limited stressor like nurses studying for promotion examinations; a stressor sequence – a series of stressful events that result from an initial event such as job loss or divorce; a chronic intermittent stressor such as the daily hassles; and a chronic enduring stressor that persists over time such as poverty, chronic illness and disability.¹² These stressors exist in many forms: physical (e.g. cold, heat and chemical agents), physiologic (e.g. pain and fatigue), and psychosocial (e.g. environmental and interactional factors). The frequency, intensity and duration of stressful situations are thus significant contributors to the development of stress.

In Nigeria, Effionm, Ejue & Eworo¹³ identified what they called "intrinsic stressors in the hospital" as the main factors of stress in nurses. These factors, according to them, include work pressure, long working hours, and the necessity to work fast and to expend a lot of physical and mental energy. Others include role conflicts, responsibility for people and hospital facilities, performance evaluation and role uncertainty. Neimeth International¹⁴ added, role conflict, role ambiguity, non-participation in decision-making, unfair performance appraisal, job insecurity, lack of recognition, responsibility for others, poor relationship with colleagues, and deadlines, including family and financial pressures. These

make nursing a high stress occupation. Certain factors such as the number of stressors, age of the person, anticipation of the stress, presence of sudden stressors and past experience have been identified as affecting adaptation to stress.⁸

In a comparative study of occupational stress among nurses and non-nurses at University Teaching Hospital Calabar, Nigeria, Effionm, Ejue & Eworo¹³ reported higher stress levels among nurses, related to perceived heavy workload and maintaining values and standards as significant stress factors compared to non-nurses whose stress was related more to perceived too much supervision. They concluded that:

nurses are usually exposed to different work roles that induce stress such as dealing with some difficult and uncooperative patients; in some cases they have to work beyond closing time due to life-saving emergencies at hand; recording every detail of their occupational activities during work hours; routine monitoring and administration of drugs to patients; supervision of student nurses and counselling of patients and relations (p.104)

Related studies elsewhere also indicate that the level of stress can be related to units in which nurses work. For example, the oncology unit and hospice settings, the labour unit¹⁵, and nurses who work with clients with severe mental illness are said to be more stressful than most other units.^{16,17} However, Piko¹⁸ in Hungary suggested no significant differences were found between nurses working in theatre and those non-theatres. Chikweuba¹⁹ conducted a study among Nigerian nurse educators in 2005 and found mild to moderate stress among nurse educators, with a

moderate positive correlation between stress and job satisfaction, and a perfect positive relationship between stress and job satisfaction in reference to the level of education.

Consequences of Stress

Stress presents with a mixture of physical, emotional, intellectual, social and spiritual consequences. Physically, stress causes palpitations and increased blood pressure, gastrointestinal disturbances, exhaustion, visual disturbance, and burnout²⁰, among others. Burn-out, a state where a person suffers through the build up of a variety of stress over time, is characterized by emotional, physical and spiritual exhaustion, such as resistance to change, sleep disorders, high rates of absenteeism, postponing patient care/client contact, suspicion and paranoia, negativism, frequent clock-watching, and avoiding discussion of work with colleagues at work.⁹ Emotionally and psychologically, stress can produce negative or non-constructive feelings about self like anxiety, fear, anger, depression, confusion and irritability. When these features occur in nurses, the impact manifests in their jobs or social interaction including those with patients and relations as well as with others like colleagues and other health workers. Intellectually, it can influence a person's perceptual and problem solving abilities, poor thinking, forgetfulness, lack of objectivity, making mistakes, misjudge situations and people, lack of concentration, and suppression of feelings. Socially, stress affects a person's relationship with others manifesting as saying provocative things, silent outbursts, critical

of others, unreasonable, impulsive, procrastinate, talk excessively, withdrawn, exaggerated movements, drinking, smoking, overacting and yawning a lot, among others. Spiritually, it can challenge one's beliefs and values. However, stress may present constructively through constructive and creative thinking to handle the stressful situations.

In other situations, stress among nurses may manifest as group stress, since they work interdependently in the same unit, characterised by behaviours such as snapping and arguing with others, 'scape-goating' staff members i.e. blaming another shift or administration for unit tension, responding to others with sullenness or silence, 'busy' behaviour and defensiveness.⁸ Others include intolerance of others' ideas and behaviour, tardiness and absenteeism, rapid staff turnover, and frequent errors and inefficiency.

Stress Reduction and Management in Nursing

Stress prevention at work places has proved particularly effective in combating stress. Employees can sometimes use free short term counselling services available through Employee Assistance Programmes (EAP).²¹ Individually, nurses can reduce both personal and work-related stresses by using the stress management techniques they teach their clients i.e. relaxation technique. The critical stress debriefing which involves structural group meetings that emphasise ventilating emotions and other reactions to a critical event has also been found useful. Some employers thus offer short on-sight debriefing,

initial defusing and formal structured critical incident stress debriefing for their employees.

Other stress management strategies take into consideration both the organizational and individual factors, both of which are inextricably linked to each other. For example, both the structure and the functioning of the work and work-related environments can be changed and/or modified in ways to reduce the stress that nurses currently experience. Individually, stress-related problems can be prevented in basically two ways: a) by eliminating the source(s) of the stress and (b) by learning how to deal with stressful conditions before they lead to problems. Dr. Livingston's *basic I.R.M. Approach* to Stress Management can also be useful: *I* refers to identifying the sources of stress or stressors; *R* refers to recognizing when you are experiencing stress (i.e., its signals); and *M* refers to managing stress using selected strategies. Kanji, White and Ernst²² had found that autogenic training reduced stress among student nurses, at least at short-term durations. This by extension has implications for stress management among professional nurses. Kozier & Erbs⁸, on other hand, presented two major ways to manage stress: eliminating as much as possible the cause of the stress from daily living, and mastering those stressors that cannot be removed using appropriate techniques. Piko¹⁷ suggests that supportive relationships with peers may reduce the occurrence of high stress levels among nurses, suggesting that social support and the psychosocial work climate should be improved in health care institutions. Other

stress management principles include time management, good rest and sleep, good nutrition and vitamin supplement, and social support system.^{14, 23, 24}

Stress coping strategies are thus broadly either problem-focused (task-orientated) that is, doing something directly about the problem or emotion-focused (ego-orientated), that is, lessening the emotional distress felt or a combination of the two.^{12, 25} Coping strategies against group stress among nurses may also include client teaching, withdrawal and projection. In general, Neimeth¹⁴ suggests a cocktail management strategy for stress which include exercises (both physical and mental), relaxation, counselling, nutritional supplements (e.g. vitamins), and religious beliefs and convictions.

Spiritual approaches to stress management

Many religions in the world address the issue of stress. According to Maisamari²³, religion is an important means of coping with stress. For example, in Christianity, one important cause of stress is man's desire to acquire material wealth, without adequate sleep or rest.²⁶ Worrying also causes stress (Sirach 31:1-3, Matthew 6:25-34)²⁷. To manage stress in Christian faith, individuals are admonished to imitate Christ's simplicity and humility and have rest i.e. be free from worries (Luke 10:21-22; Matthew 11:28-30)²⁷. Attending worship meeting, church services and prayers as well as reading the scriptures have also been suggested as effective methods of coping with stress.²⁶

In Islam, stress is perceived to be due to anger, hatred, bias, and materialism, as narrated by Al Balhagi, and Buhari, and is categorised as psychological and physical. The former can be prevented by accepting that good and bad things come from God. God has already prescribed everything before it happens: "what is made to meet an individual is not made to pass him/her and whatever by-passes an individual God did not make it to meet the individual". But if it occurs, psychological stress can be managed by reciting the Qur'an, for God says, "A Book revealed unto thee so let thy heart be oppressed no more by any difficulty on that account" (Qur'an 7:2).²⁸ On the other hand, physical stress can be prevented by avoiding overwork: God says "On no soul doth God place a burden greater than it can bear. It gets very good that it earns and it suffers every ill that it earns..." (Qur'an 2:286)²⁸ and "He made the night as a covering" (Qur'an 78:10)²⁸ and "Made your sleep for rest" (Qur'an 78:9).²⁸ This was explained as a covering which gives individuals spiritual respite from the buffets of the material world, and from the tiring activities of our own inner exertion. Medicine (drugs) can also be used: the Prophet (pbuh) reportedly said: "Seek for medication O You Servant of God because God never create a sickness without its medicine unless one sickness...old age" (Dbunnabawi) (Medicine of the Prophet). In other words, stress reducing medications can be useful if so prescribed in addition to the spiritual means.

Theoretical framework

Stress among nurses can be explained by the Transactional theories and the Role theory.

Transactional theories emphasise the interaction or transaction between the environment and the person experiencing an event or a situation, seen as taxing or exceeding one's resources and endangering one's wellbeing. Stress is thus viewed as an interactive process between a) the individual, b) the individual's internal and external environment (i.e. the hospital), and c) the individual's cognitive appraisal of any given stimulus (the factors in caring, administration and bureaucracy of the hospital). This characterisation appears to describe the ways nurses function in the hospital settings, in an interactive fashion, resulting in physical, physiological, psychological, and cognitive chains of events¹² that usually build up stress.

In Role Theory, Haralambos, Holborn and Heald²⁹ opine that role allocation and performance imply that all roles must be filled by those best able to perform them, and the roles must be performed conscientiously. This involves role differentiation and specialisation, often resulting into problems of integration or functional unity. Role conflicts and blurring often occur, usually due to overlap of functions and the attendant struggle for recognition among health workers, characteristic of most health systems, particularly the hospitals in Nigeria. Nurses are often times subjected to such poor role differentiation, or even imposition of multiple roles as it suits the bureaucratic system most times with little appreciation or recognition for such 'burden'. In addition, such role allocations frequently fall short of the

required operational input (e.g. instrument/equipment, support staff, commensurate pay) for the performance of the assigned tasks. These have been traced to be major stressors⁸ for the nurse who aims to maintain quality nursing care.

METHODOLOGY

Research design: A cross-sectional, descriptive survey approach was used to investigate the level of stress experienced by clinical nurses working in faith-based, state and tertiary hospitals in Zaria metropolis, a major educational and commercial town in Kaduna State, focusing on the socio-demographic characteristics of the respondents, and their awareness of stressors inherent in their work environment and schedule.

Area of Study and Target Population of the study: The study was conducted in Zaria. Zaria is a diversely populated town. Majority of the inhabitants of Zaria are Hausa/Fulani who are predominantly Muslims, with a good number of other ethnic groups like the Yoruba, Ibo, Igala, Tiv, and Southern Kaduna, among others. With a population of about 204,000 people³⁰ predominantly civil servants, farmers and traders, Zaria metropolis consists of the Zaria and Sabon Gari Local Government Areas in Kaduna state. The major settlements in the metropolis include Zaria city, Tudun-wada, Wusasa, Sabon Gari, Samaru and Shika. The metropolis is made up of several private, governmental, non-governmental establishments and commercial outfits like banks, schools, various specialised training programmes, as well as health institutions (both private, faith-

based, and public). The Ahmadu Bello University Teaching Hospital (ABUTH), Hajia Gambo Sawaba General Hospital, Kofan Gaya-Zaria city, and the St. Luke's Hospital, Wusasa-Zaria selected for the study, representing federal, state and faith-based hospitals, are among the institutions in Zaria. There were about six hundred and seventeen (617) nurses working in the clinical areas of these hospitals at the time of this study, including 500 nurses in ABUTH, 80 in Kofan Gaya General Hospital, Zaria city and 37 in St. Luke's Anglican Hospital, Wusasa. These 617 nurses formed the target population for this study.

Sample and Sampling Method: The three hospitals and their units used for the study were randomly selected through a two-stage stratified sampling: federal, state and faith-based institutions. These hospitals were further stratified into units/wards/departments. From these units/wards/departments in the hospital, two hundred and seventy three nurses (N=273) of various cadres were selected by convenience, availability method.

Instrument for Data Collection: Data were collected through a self-administered, 27-item stress inventory, consisting of a self-constructed 7-item Section A on the socio-demographic data of respondents and Section B made up of twenty items adopted from *Kinzel's Scale* for measuring stress in clinical nurses. The questions included those related to direct patient care, interpersonal interaction, instrument/equipment availability, management and bureaucratic issues relating to nurse's job situations. Each item had a numerical

value (amount of stress) attached to it. Respondents rated the stressors they had experienced within the past one week.

Method of Data Collection: The questionnaire was distributed face to face to respondents, after due permission was obtained from the hospitals. The principal investigator, two nursing officers and five trained student nurses were involved in the distribution of the instrument. In one of the hospitals, the Nursing Research/Training Unit also assisted in the administration and retrieval of the questionnaires. Data were collected between November 2008 and July 2009.

Method of Data Analysis: Data collected were edited, coded and sorted according to a predetermined research questions and objectives. Data analysis was done using descriptive and inferential statistics on the computer programme - *SPSS XVII*. Descriptive statistics such as frequency distribution, relative measures (percentages, ratios and rates), and measures of central tendency (mode, median and mean) were used to answer research questions while chi-square tests were used to determine relationships between the nurses' socio-demographic variables and stress levels.

Ethical Considerations: Adequate permission was obtained from the hospitals, through their

heads of nursing (ADNS and hospital matrons). Participation in the study was voluntary; researchers appealed to the nurses for their cooperation. Responses to the items on the questionnaire did not require any personal identity to ensure confidentiality.

Limitations: The major limitation of the study was the reluctance of many nurses to fill the questionnaires, as well as difficulties experienced in retrieving of the questionnaires. Several visits had to be made to the hospitals to be able to retrieve the instrument. In many instances, nurses were said to have gone on 'night-off' or even annual leave without leaving behind the questionnaires. This caused delays at various stages of the execution of the project. Secondly, the Kinzel's Scale adopted for this study was originally developed and used in industrialised countries, and some of its items would lack equal strength in Zaria, a semi-urban settlement in Kaduna State. In addition, the instrument did not measure other extra-clinical stress-producing situations such as those related to family and transport to work. However, most aspects of the Kinzel's Scale fit into the clinical circumstances of the study environment.

RESULTS

The Socio-demographic Characteristics of the Nurses

Table 1: The Socio-demographic characteristics of respondents

S/No	Variables	Hospital A	Hospital B	Hospital C	Total
1	Gender				
	Male	30 (17.3%)	10 (23.8%)	3 (15.0%)	43 (18.3%)
	Female	143 (82.7%)	32 (76.2%)	17 (85.0%)	192(81.7%)
	Total	173 (100%)	42 (100%)	20 (100%)	235(100%)
2	Age (in years)				
	26-35	30 (17.3%)	21 (50.0%)	10 (50.0%)	61 (26.0%)
	36-45	76 (44.0%)	14 (33.3%)	4 (20.0%)	94 (40.0%)
	46-55	59 (34.1%)	7 (16.7%)	5 (25.0%)	71 (32.2%)
	55-65	8 (4.6%)	0	1 (5.0%)	9 (3.8%)
	Total	173(100%)	42 (100%)	20 (100%)	235(100%)
3	Religion				
	Christianity	124 (71.7%)	19 (45.2%)	20 (100%)	163(69.4%)
	Islam	49 (28.3%)	23 (54.8%)	0	72 (30.6%)
	Total	173 (100%)	42 (100%)	20 (100%)	235(100%)
4	Ethnic Group				
	Hausa	31 (17.9%)	20 (47.6%)	4 (40.0%)	55 (23.4%)
	Ibo	43 (24.9%)	2 (4.8%)	5 (25.0%)	50 (21.3%)
	Yoruba	48 (27.7%)	2 (4.8%)	7 (35.0%)	57 (24.2%)
	Others	51 (29.5%)	18 (42.8%)	4 (20.0%)	73 (31.1%)
	Total	173 (100%)	42 (100%)	20 (100%)	235 (100%)
5	Marital status				
	Single	18 (10.4%)	12 (28.6%)	3 (15.0%)	33 (14.1%)
	Married	154(89.0%)	30 (71.4%)	17 (85.0%)	201(85.5%)
	Divorced	1 (0.6%)	0	0	1 (0.4%)
	Total	173 (100%)	42 (100%)	20 (100%)	235(100%)
6	Ranks				
	SNM	7 (4.0%)	1 (2.3%)	8 (40.0%)	16 (6.8%)
	NO	16 (9.3%)	13 (31.0%)	7 (35.0%)	36 (15.3%)
	SNO	14 (8.1%)	9 (21.4%)	3 (15.0%)	26 (11.1%)
	PNO	64 (37.0%)	7 (16.7%)	1 (5.0%)	72 (30.6%)
	ACNO	54 (31.2%)	6 (14.3%)	1 (5.0%)	61 (26.0%)
	CNO	18 (10.4%)	6 (14.3%)	0	24 (10.2%)
	Total	173 (100%)	42 (100%)	20 (100%)	235(100%)

Source: Researchers' survey

Mean age = 39.6 years

There were 235 nurses surveyed. Of these, 43 (18.3%) were males and 192 (81.7%) females; 94(40.0%) were aged between 36 and 45 years (mean age was 39.6 years). As indicated in Table

1, they were predominantly Christians (69.4%, n=163), married (85.5%, n=201), and of the senior ranks (66.2%). The most single ethnic group was Yoruba (n=57, 24.2%).

Table 2: Respondents' Wards/Units

Wards/units	Hospital A	Hospital B	Hospital C	Total
Clinics	49 (28.3%)	2 (4.8%)	2 (10.0%)	53(22.6%)
Medical wards	17 (10.0%)	9 (21.4%)	4 (20.0%)	30(12.8%)
Surgical wards	15 (8.7%)	5 (11.9%)	2 (10.0%)	22(9.4%)
Orthopaedic ward	15 (8.7%)	-	-	15(6.4%)
Children's wards	14 (8.0%)	5 (11.9%)	2 (10.0%)	21(8.9%)
Amenity wards	-	3 (7.1%)	-	3(1.3%)
Delivery suite/maternity	17 (9.8%)	10 (23.8%)	5 (25.0%)	32(13.6%)
Dialysis unit	9 (5.2%)	-	1 (5.0%)	10(4.3%)
Theatres	13 (7.5%)	4 (9.5%)	3 (15.0%)	20(8.5%)
Intensive care unit	6 (3.5%)	-	-	6(2.6%)
A & E/OPD	5 (2.9%)	3 (7.1%)	1 (5.0%)	9(3.8%)
Eye ward/unit	3 (1.7%)	1 (2.4%)	-	4(1.7%)
In-service training	1 (0.5%)	-	-	1(0.4%)
Oncology/radiotherapy	9 (5.2%)	-	-	9(3.8%)
Total	173 (100%)	42 (100%)	20 (100%)	235(100%)

Source: Researchers' survey

Table 2 shows the distribution of the respondents by their wards/units where they work: 53(22.6%) work in out-patient departments including special

clinics, 32(13.6%) in Obstetrics and Gynaecology units and others in medical wards (12.8%, n=30).

Stressors among nurses in Zaria

Table 3: Stressful Events (stressors) for clinical hospital-based nurses

Event	Frequency						Total Y (%) (%)	N
	Hosp A		Hosp B		Hosp C			
	Y	N	Y	N	Y	N		
Assuming responsibilities you are not trained to handle	101	72	34	8	8	12	143(60.9)	
	91	82	19	23	4	16	92(39.1)	
Working with unqualified personnel	114	59	25	17	4	16	114(48.5)	
Dealing with non-supportive supervisors or administrators	146	28	35	7	12	8	121(51.5)	
	79	94	28	14	16	4	143(60.9)	
Working with inadequate staff	103	70	21	21	4	16	92(39.1)	
Caring for a critical ill or patient in cardiac arrest	92	81	27	15	12	6	192(81.7)	
Experiencing conflict with co-workers	91	83	30	12	18	2	43(18.3)	
Dealing with the family of a dying patient	134	39	38	4	12	8	123(52.3)	
Caring for a dying patient	135	38	38	4	17	3	112(47.7)	
Working with broken or faulty equipment	73	100	26	16	15	5	128(54.5)	
Working with inadequate supplies/consumables	73	100	28	14	12	8	107(45.5)	
Working on inconvenient shift or schedule	105	67	20	22	1	19	131(55.7)	

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Amenity wards	-	3 (7.1%)	-	3(1.3%)
Delivery suite/maternity	17 (9.8%)	10 (23.8%)	5 (25.0%)	32(13.6%)
Dialysis unit	9 (5.2%)	-	1 (5.0%)	10(4.3%)
Theatres	13 (7.5%)	4 (9.5%)	3 (15.0%)	20(8.5%)
Intensive care unit	6 (3.5%)	-	-	6(2.6%)
A & E/OPD	5 (2.9%)	3 (7.1%)	1 (5.0%)	9(3.8%)
Eye ward/unit	3 (1.7%)	1 (2.4%)	-	4(1.7%)
In-service training	1 (0.5%)	-	-	1(0.4%)
Oncology/radiotherapy	9 (5.2%)	-	-	9(3.8%)
Total	173 (100%)	42 (100%)	20 (100%)	235(100%)

Source: Researchers' survey

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	91	82	19	23	4	16	92(39.1)	
Working with unqualified personnel	114	59	25	17	4	16	114(48.5)	
Dealing with non-supportive supervisors or administrators	146	28	35	7	12	8	121(51.5)	
	79	94	28	14	16	4	143(60.9)	
Working with inadequate staff	103	70	21	21	4	16	92(39.1)	
Caring for a critical ill or patient in cardiac arrest	92	81	27	15	12	6	192(81.7)	
Experiencing conflict with co-workers	91	83	30	12	18	2	43(18.3)	
Dealing with the family of a dying patient	134	39	38	4	12	8	123(52.3)	
Caring for a dying patient	135	38	38	4	17	3	112(47.7)	
Working with broken or faulty equipment	73	100	26	16	15	5	128(54.5)	
Working with inadequate supplies/consumables	73	100	28	14	12	8	107(45.5)	
Working on inconvenient shift or schedule	105	67	20	22	1	19	131(55.7)	

An Assessment of Stress Amongst Nurses in Zaria Metropolis, Northwest Nigeria

Assuming responsibilities without thanks or recognition	109	59	19	23	7	13	102(44.3)
Dealing with a doctor you consider difficult	79	94	20	22	4	16	139(58.7)
Trying to communicate with the bureaucracy	100	73	33	9	17	3	97(41.3)
Discharging a patient inadequately prepared for discharge	91	82	23	19	4	16	184(78.3)
Caring for a seriously ill patient	131	42	37	5	20	0	51(21.7)
Spending long period of time doing paper work	111	61	36	6	17	13	190(80.9)
Experiencing a problem over salary or promotion	95	78	22	20	8	12	45(19.1)
Working with a demanding or non-compliant patient							114(48.5)
Coordination of ancillary (support) personnel							121(51.5)
							113(48.1)
							122(51.9)
							126(53.6)
							108(46.4)
							135(57.4)
							95(42.6)
							103(43.8)
							132(56.2)
							150(63.8)
							85(36.2)
							118(50.2)
							117(49.8)
							188(80.0)
							47(20.0)
							164(69.8)
							80(30.2)
							125(53.2)
							110(46.8)

Source: Survey questionnaire

* Y = Yes; N = No

Levels of Stress among Nurses in Zaria

Table 3 indicates the most common stressors for nurses based on the Kinzel factors (stressor item). Majority 192 (81.7%) identified shortage of staff,

190 (80.9%) inadequate supplies and equipment and 188 (80.0%) of them cited the problem of poor salary/lack of promotion as most significant stressors. The Federal and State government

hospitals (A and B) appear to have similar stressors (i.e. shortage of staff and supplies/equipment). However, in the faith-based hospital all nursing staff (n=20) cited the problem of poor salary/lack of promotion as the major stressor. The least stressful but notable events stated by the respondents included discharging a

patient inadequately prepared for discharge (43.8%, n=103), working on inconvenient shift or schedule (48.5%, n= 110) and assuming responsibilities without thanks or recognition (48.1%, n=113).

The nurses in the three hospitals show statistically significant differential stress levels (Table 4).

Table 4: Level of Stress among Nurses in Zaria metropolis

Stress level	Hospital A	Hospital B	Hospital C	Total
Minimal	11 (6.4%)	0 (0%)	0 (0.0%)	11 (4.5%)
Moderate	15 (8.7%)	2 (4.8%)	1 (5.0%)	18 (7.7%)
High-level	70 (40.4%)	14 (33.3%)	18 (90.0%)	102 (43.4%)
Extreme	77 (44.5%)	26 (61.9%)	1 (5.0%)	104 (43.8%)
Total	173 (100%)	42 (100%)	20 (100%)	235 (100%)
Mean stress level	489.8	542.6	351.6	461.3*

Mean stress level for nurses in Zaria = 461.3 (*Interpretation*: high-level stress); $\chi^2 = 25.4794$, at 0.05, $df = 6$, $cv = 12.5916$ ($p < 0.05$)

Table 4 shows the level of stress in the study population. Of the 235 participants in the study, only 11 (4.5%) had minimal stress, 18 (7.7%) moderate stress while 102 (43.4%) and 104 (43.8%) had high-level and extreme stress respectively (nurses' mean stress level in Zaria = 461.3 i.e. high-level stress). This indicates that 206 (87.2%) of nurses are under stress levels (high-level and extreme), which require urgent/immediate stress management attention. The stress levels were then related to the respondents' socio-demographic variables, as

shown in Table 5. Among the 43 male nurses, 39 (90.7%) recorded high-level to extreme stress while 167 (87%) of the 192 females had the same level of stress. However, the difference between male and female nurses was not statistically significant ($p > 0.05$): the sex did not seem to be an important determinant of the amount of stress in nurses. Similarly, age, religious affiliations, marital status (Table 5B, C, and D) did not significantly affect the level of stress.

Table 5: Relationship between Nurses' Socio-demographic Characteristics and Stress Level

S/No	Variables	Minimal stress	Moderate stress	High-level stress	Extreme stress	Total
A	Gender					
	Male	1(2.3%)	3(7.0%)	24(55.8%)	15(34.9%)	43(100%)
	Female	10(5.2%)	15(7.8%)	78(40.6%)	89(46.4%)	192(100%)
	Total	11	18	102	104	235
B	Age (in years)					
	26-35	0	5(8.2%)	28(46.9%)	28(46.9%)	61(100%)
	36-45	5(5.3%)	8(8.5%)	38(40.4%)	43(45.8%)	94(100%)
	46-55	5(7.0%)	5(7.0%)	31(43.7%)	30(42.3%)	71(100%)
	55-65	1(11.1%)	0	5(55.6%)	3(33.3%)	9(100%)
	Total	11	18	102	104	235
C	Religion					
	Christianity	8(4.9%)	11(6.7%)	76(46.7%)	68(41.7%)	163(100%)
	Islam	3(4.2%)	7(9.7%)	26(36.1%)	36(50.0%)	72(100%)
	Total	11	18	102	104	235
D	Ethnic Group					
	Hausa	2(3.6%)	4(7.3%)	31(56.4%)	18(32.8%)	55(100%)
	Ibo	6(12.0%)	2(4.0%)	15(30.0%)	27(54.0%)	50(100%)
	Yoruba	2(3.5%)	5(8.8%)	27(47.4%)	23(40.3%)	57(100%)
	Others	1(1.4%)	7(9.6%)	29(39.7%)	36(49.3%)	73(100%)
	Total	11	18	102	104	235
E	Ranks					
	SNM	0	2(12.5%)	7(43.7%)	7(43.7%)	16(100%)
	NO	0	1(2.7%)	20(55.6%)	15(41.7%)	36(100%)
	SNO	0	4(15.4%)	11(42.3%)	11(42.3%)	26(100%)
	PNO	5(6.9%)	4(5.6%)	34(47.2%)	29(40.3%)	72(100%)
	ACNO	6(9.8%)	7(11.5%)	19(31.1%)	29(47.5%)	61(100%)
	CNO	0	0	11(45.8%)	13(54.2%)	24(100%)
	Total	12	18	102	104	235

$\chi^2 = 3.5141$, at 0.05, df = 3, cv = 7.8147 ($p > 0.05$): Gender/stress relationship

Source: cross-tabulation of Tables 1 & 4

The stress levels were also evaluated between the junior and senior nurses (Table 6).

Table 6: Relationship between Nurses' Ranks and Stress Level

Cadre	Mild stress	Moderate stress	High-level stress	Extreme stress	Total
Junior nurses	0 (0.0%)	7(9.0%)	38(48.7%)	33(42.3%)	78(33.2%)
Senior nurses	11(7.0%)	11(7.0%)	64(40.8%)	71(45.2%)	157(66.8%)
Total	11	18	102	104	235(100%)

$\chi^2 = 6.6686$, at 0.05, df = 3, cv = 7.8147 ($p > 0.05$)

Source: Table 5 (Ranks)

Of the 78 junior cadre nurses, none had minimal stress and only 7 (9%) of them scored on moderate scale; the rest 71 (91%) had high-level stress and extreme stress. On the other hand, among the 157 senior nurses, 11 (7%) each scored on both minimal and moderate scales; 86% (135) had high-level and extreme stress. More junior nurses had higher stress levels than the senior nurses but the difference was not statistically significant ($p > 0.05$).

DISCUSSION OF FINDINGS

The results of this study indicate that nurses in Zaria are mostly the senior cadre (PNO and above); an aberration of normal staff strength distribution in most employment settings where the junior cadre usually constitute the broad base. This appears to indicate nursing staff shortage in the hospitals, probably due to a combination of high turn over of junior cadre nurses and lack of consistent employment policy in these institutions.

Findings also showed that the average stress level amongst nurses in Zaria is 461.3 (high-level stress): 102 (43.4%) had high-level and 104 (43.8%) extreme stress (Table 4), implying that most nurses in Zaria are working under intense stress, a further affirmation of previous finding of high level of stress in nursing profession.¹³ According to Kinzel in Kozier and Erbs⁸, moderate stress is the highest level of stress that should be permitted on day-to-day basis. Those with high-level stress will easily become upset and have problem relaxing. Such situations go counter to the delivery of quality nursing care and interpersonal interactions. Those under extreme stress (43.8%)

require immediate help because they are prime candidates for burn-out and all its consequences. The levels of stress found in this study show significant differences between the nurses in government (both State and Federal) and faith-based hospitals but uniformly along gender and cadre categories of nurses (Tables 4, 5 & 6). This is a further confirmation of the inherent stressful nature of the nursing profession irrespective of socio-demographic attributes.^{1,2,5,8,19} However, the difference in stress levels between government and faith-based hospitals highlights issues of remunerations and opportunities for career progression. In Table 3, it was shown that the most stressful factors in the faith-based hospital were salary and promotion problems compared to issues of staffing, supplies and equipment in the government hospitals. Although this study has assessed the work-related factors of stress amongst nurses, situations outside the work environment⁸ like marriage, demands of child bearing and rearing, life events like illness and death in families, and noise, among others which also contribute to nurse's stress, were not evaluated. These, certainly, would add to nurses' overall level of stress.

CONCLUSIONS AND IMPLICATIONS FOR NURSING

It is found that the average stress level among nurses in Zaria is high-level stress, with majority (87.2%) having high-level to extreme stress. These levels constitute bad stress and are incompatible with effective professional functioning. It thus seems that some of the

alleged nurses' below-expectation service delivery and sporadic discourteous behaviours reported in many hospitals, if true, could be related, at least in part, to the intense stress under which most nurses are working. This requires urgent attention. Appropriate steps must thus be taken by nurse leaders, the administrative system of hospitals and the nurses themselves to prevent burn-out and other stress-related disorders, and to improve nursing care and image. Hospitals, the society and governments that cherish quality nursing care for clients should equally address the stressful events in nursing (see Table 3) urgently. If this is done, a new brand of nursing personnel free of bad stress is likely to evolve, with a consequent more improved nursing service delivery. In the meantime, nurses must try relaxation techniques and exercises to reduce their stress levels. Nurse educators and leaders are also challenged to equip nurses with the necessary stress management skills to enable them cope effectively with the high level of stress inherently prevalent in nursing, particularly in our environment. For example, stress reduction protocols and seminars should be respectively developed and organised for nurses, periodically.

We also suggest that large scale studies, using this scale, and probably with other stress-measuring scales, be conducted across hospitals in Nigeria and the West African region. Apart from the database that will be generated from such studies, findings of such wide scale studies might call attention at the policy-formulating levels of governments, regionally and nationally, to the issue of nurses' high/extreme stress levels. Professional and Regulatory bodies like the National Association of Nigerian Nurses and Midwives, the Nursing and Midwifery Council of Nigeria and other relevant bodies such as the West African College of Nursing can help provide grants/sponsorships for such research projects.

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REFERENCES

1. Coleman, J. *Abnormal Psychology and Modern Life*. Scout Foreman & Co., Dallas 1976
2. Jarvis, P. & Gibson, S. *The Teacher Practitioner in Nursing, Midwifery and Health Visiting*. Chapman and Hall London, 1995.
3. Denga D.I. *Human Engineering for High Productivity in Industrial and Other Work organizations*. Rapid Educational Publishers Ltd, Calabar Nigeria, 1996.
4. Denga D.I. and Ekpo T.N. *Executive Stress: Its Rape and Management*. Rapid Educational Publishers Ltd, Calabar Nigeria, 1994.
5. Cox, T. *Stress*. Baltimore University Park, 1978.
6. Bratt, M.M., Broome, M., Kelber, S & Lostocco, L. Influence of stress and nursing leadership on job satisfaction of paediatric intensive care unit nurses. *American Journal of Critical Care*. 2000; 9, pp.307-317.
7. Ball, J., Pike, G., Cuff, C., Mellor-Clark, J & Connell J. *RCN 2002. Working Well Survey*. Retrieved from <http://www.rcn.org.uk/publications/pdf/working-well-summary.pdf>; accessed on 7th June 2009.
8. Kozier, B, and Erbs, G. *Fundamental of Nursing: Concepts and Procedures*. 3rd edition. Addison-Wesley Publishing Co., California, 1987.
9. Smeltzer, SC and Bare, B. *Brunner and Suddarth's Textbook of Medical-Surgical Nursing* 10th edition. Lippincott William and Wilkins, Philadelphia. 2004
10. Hallberg I., Norberg A. 'Strain among nurses and their emotional reactions during 1 year of systematic clinical supervision with implementation of individualised care in dementia nursing'. *Journal of Advanced Nursing*, 1993; 18: 1860-1875.
11. Encarta. *Stress Microsoft* 2006.
12. Kozier, B, and Erbs, G. *Fundamental of Nursing: Concepts and Procedures*. 7th edition. Addison-wesley Publishing co., California, 2008.
13. Effionm, D.O., Efue, J.B. & Eworo, G.M. A comparative study of occupational stress among nurses and non-nurses in the University Teaching Hospital Calabar, Nigeria *West African Journal of Nursing*, 2007. 18:2. 101-104
14. Neimeth International. *Stress: All You Need to Know* (Public Education Pamphlet), 2000.
15. Baillon S., Scothem G., Vickery L. 'Job satisfaction and stress in staff working in a specialist psychiatric unit for the elderly

- following relocation from a traditional psychiatric hospital setting'. *Journal of Nursing Management*, 1999; 7: 207-214.
16. Astrom, S., Nilsson M., Norberg, A., Winblad B. 'Empathy, experience of burnout and attitudes towards demented patients among nursing staff in geriatric care'. *Journal of Advanced Nursing*, 1990; 15: 1236-1244.
 17. McLeod T. 'Work stress among community psychiatric nurses'. *British Journal of Nursing*, 1997. 6: 569-574.
 18. **Pikó, B.** Work-related Stress among Nurses: A Challenge for Health Care Institutions. *Journal of the Royal Society for the Promotion of Health*. 1999. Retrieved from: <http://rsh.sagepub.com/icons/shared/socbookmark/citeulike.gif>. accessed on 7th June 2009.
 19. Chikweuba, A. Relationship between job-stress and job satisfaction among nurse educators in Nigeria. *West African Journal of Nursing* 2007. 18:2. 82-88
 20. Mastach C., Jackson, E., Leiter P. *Maslach Burnout Inventory Manual*. Consulting Psychologists Press, Palo Alto, 1996.
 21. Edwards, D., Burnard, P., Hannigan, B., Coyle, D., Fothergill, A. 'Stressors, moderators and stress outcomes for community mental health nurses: Findings from the All Wales Community Mental Health Nursing Study'. *Journal of Psychiatric and Mental Health Nursing* 2000; 7; 529-539.
 22. Kanji, N., White, A. and Ernst, E. Autogenic training to reduce anxiety in nursing students: randomised controlled trial, *Journal of Advanced nursing*, 2004. 53: 6;729-735
 23. Maisamari, J.Y. Stress and Stress Management. Joyce Graphic Printers and Publishers Company, Kaduna 2002.
 24. Smeltzer, S.C. and Bare, B. *Brunner and Suddarth's Textbook of Medical-Surgical Nursing* 11th edition. Lippincott William and Wilkins, Philadelphia 2007.
 25. McElfatrick S., Carson J., Annett J., Cooper C., Holloway F., Kuipers E. 'Assessing coping skills in mental health nurses: is an occupation specific measure better than a generic coping skills scale'. *Personality and Individual Differences* 2000. 28; 965-976.
 26. Eferakeya, A.E. Coping with stress spiritually and medically, *Women Echo* 2003; 9th edition.52-54
 27. *The African Bible*: Paulines Publications Africa, Nairobi, Kenya:1999
 28. *The Holy Qu'ran*
 29. Haralambos, M., Holborn, M. and Heald, R. *Sociology: Themes and Perspectives*. 6th edition. HarperCollins Publishers Limited London 2004.
 30. National Population Commission, NPC, (2006). National Census 2006 Figures Kaduna State. Abuja