

Effects of Job Stress on Health, Personal and Work Behaviour of Nurses in Public Hospitals in Ibadan Metropolis, Nigeria

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KEYWORDS Work load; job control; welfare; psychosocial; needs; patients; social support; efficiency.

ABSTRACT The study investigated the effects of job stress on the physical health, mental health personal and work behaviours of nurses in public hospitals in Ibadan Metropolis, Nigeria. It aimed at addressing the issue of how stress at work can be effectively managed, reduced, or prevented by the government and hospital management boards in order to enhance the health of the nurses, as well as improving their personal and work behaviours. The study was carried out among 153 nurses working in two public hospitals in Ibadan Metropolis, Nigeria. Expost-facto research design was adopted for the study. A single questionnaire tagged "Stress Assessment Questionnaire for Hospital Nurses (SAQFHN) was developed and used for the study. It contains 72 items, measuring demographic variables, job stress, physical and mental symptoms, personal and work behaviour. Two hypotheses were formulated and tested in the study, using analysis of variance and independent t-test. The study established that job stress has significant effect on physical and mental health of the nurses. It also established that there was a significant difference in personal and work behaviour of highly stressed nurses and less stressed nurses. Based on these findings, it was recommended that the government (Federal or State) and Hospital Management Boards should improve the welfare of the nurses. It was also recommended that their morale should be boosted by involving them in policy or decision-making concerning their welfare or care of their patients. Their salary should be reviewed and that they should be promoted as at when due.

INTRODUCTION

Stress is an important psychological concept that can affect health, well-being and job performance in negative dimensions, (Mojoyinola, 1984; and Olaleye, 2002). Stress according to Arnold et al (1995), is a word derived from Latin word "Stingere" meaning to draw tight. It is regarded as a force that pushes a physical or psychological factor beyond its range of stability, producing a strain within the individual.

Stress is the process by which environmental events (stressors or challenges) threaten us, how these threats are interpreted, and how they make us feel (Baum et al, 1997). Lazarus (1966), conceived stress to be a threat of anticipation of future harm, either physical or psychological events that lower an individual self-esteem. It is an affective behaviour and physical response to aversive stimuli in the environment.

According to Selye (1976), stress is a state within the organism characterized by general adaptation syndrome. In other word, it is the non-specific response of the body to the demand made upon it. It suggest excessive demands that produce disturbance of physiological, sociological and psychological systems.

Stress may be acute or chronic in nature

(Akinboye et al., 2002). It exists in different forms. It may be psychological, emotional, social, occupation or job related.

Stress experienced by workers at work is called job stress. It may be due to a number of factors such as poor working condition, excessive work load, shift work, long hours of work, role ambiguity, role conflicts, poor relationships, with the boss, colleagues or subordinate officers, risk and danger, to mention a few.

Certain responses indicate the presence of job stress in an individual, or group. It may manifest by the presence of headache, sleep disturbances, difficulty in concentration, short temper, upset stomach, job dissatisfaction and low morale (NIOSH, 1998). Other manifestations or indications of presence of job stress include muscular tensions and ache, tightness in the chest, high blood pressure, heat problems, snapping and arguing with others, aggressive or hostile behaviour, blaming others or administration for tension, absenteeism and high staff on job turnover.

The above manifestations can be clearly observed in hospital nursing staff, which may have negative effects on their health, personal and work behaviours.

The problem of this study therefore, is to

investigate how job related stress affect the physical health, mental health, personal and work behaviour of nurses in public hospitals. The study also aims at addressing the issue of how stress at work can be effectively managed, reduced, or prevented by the government and hospital managements in order to enhance the physical and mental health of the nurses or improve their personal and work behaviour.

Furthermore, it attempts to find out how the quality of care and treatment the nurses give to their patients under stressful working conditions can be improved.

Several studies have confirmed that the combination of high demands and low control produces job stress and is also related to heart disease. For instance, Vitaliano et al (1990) found that physicians whose jobs include a very high level of demands but also a high degree of control suffer less from stress than medical students, who are burdened with undesirable combination of high demands and low control.

Alterman et al (1994) in their study, found that the more latitude men had in making decisions on their job, the lower was their death rate from coronary heart disease. In addition, they found that workers in high demand and low decision jobs had an elevated risk of heart disease mortality and the risk was greater for white-collar workers than for the blue-collar workers.

Control at work has been found to play significant role in physical and mental health of workers. Very low level of personal control have been found to be psychologically harmful whereas greater control has been associated with better mental health (Evans and Carvere, 1991).

The actual use of the control the individuals have in their job to cope with stressful working situation is a determinant of their health and well-being. For instance in a study of Dutch nurses, de Rijk et al. (1998) found that overall job control was positively related to employees, well-being, but for nurses who used active or control coping, high job control reduced the increase in emotional exhaustion due to job demands. In contrast, for nurses with low active coping, and high job control overtaxed such individuals when faced with high job demands, resulting in a lowered well-being; having high levels of control acted as a stressor for these individuals.

Increased managerial pressure can impact on employee well-being. By virtue of their superior position in an organization, managers and super-

visors, intentionally or unintentionally can cause stress for their subordinates. For example, Gauster et al. (1990) found that Type A behaviour patterns exhibited by supervisors were positively related to subordinates' physical health symptoms. When under pressure, many managers may react by exhibiting a negative managerial style. Managerial support such as effective communication and feedback are important factor for employee well-being. Poor supervisor support has been linked with increased stress level and symptoms of depression.

Bullying management style is detrimental to workers' health. Hoel et al. (1999) found that bullying at work is linked with employee ill-health including psychosomatic stress symptoms muscles-skeletal symptoms, anxiety and depression.

Repetti (1993) found strong evidence that jobs with the combination of high demand and low control constitute a risk factor for hypertension and heart disease. He observed that social environment at work is an important factor contributing to stress on the job, which play a role in both physical and mental health.

Repetti (1993) also found that poor relationship between the superior and the workers contribute to the level of stress experienced by the workers. He found that the workers experienced more negative moods on days when they had distressing interactions with superiors and co-workers.

Holt (1993) found that shift work can lead to a variety of physical complaints, including sleep and gastro-intestinal problems and can also interfere with the family life.

Albar Marin and Garcia-Ramirez (2005) in their study examined the effect of social support on job stress and emotional exhaustion among hospital nursing staff in serville, south of Spain. They found that social support had significant buffering effect on the level of stress and emotional exhaustion experienced by the nurses at work. Nurses that received high kin support, and high levels of co-workers and supervisors support experienced low level of job stress and emotional exhaustion than those who did not.

Olaleye (2002) in her study among nurses working in government (state-owned) hospitals found that job stress and burnout syndrome had greater effect on their health and coping ability at work.

Cheng and Kawachi (2002) in their study

among female registered nurses in America, examined the association between psychosocial characteristics and health functioning. They found that examined separately, low job control, high job demands and low work related social support were associated with poor health status at baseline as well as greater functional decline over the four year follow up period. When examined jointly, they found that those with low job control, high job demands and low work related social support had the greatest functional declines. They concluded that adverse psychosocial work conditions are important predictors of poor functional status and its declines over time.

Occupational or job stress has been found to be negatively related to job satisfaction in nursing. For instance, Achalu (1995) found that nurses that experienced high level of stress were less satisfied with their career, had higher absenteeism rate and significantly less career commitment.

In a study carried out by Kennedy et al (1997), there were some evidences that creating supportive and enabling work environment for nursing staff is a way of finding solution to the problem of stress and burnout associated with their duties. He found that nurses who perceived their work as supportive were more satisfied with their jobs and in their ability to provide high quality patient care.

Piko (2003) investigated the relative effects of socio-demographics, socio-economic factors, and some variables of psycho-social work environment on the psychosomatic health of female Hungarian nurses.

The participants were registered and student nurses drawn from public hospitals (n = 420). Multiple regression models revealed that the frequency of stressful situations and emotionally provoking problems, and the lack of social support from peers (i.e. measure of psycho-social work environment) proved to be the only significant contributors to psychosomatic health complaints after controlling for other variables in both registered and student nurses.

The various studies reviewed, point to the fact that job stress has adverse effects on physical health, mental health, personal and work behaviour of nurses.

It is imperative therefore, that the government, hospital management boards, or employers

of nurses be committed to the reduction or prevention of high job stress experienced by the nurses. This will enhance their welfare, efficiency and quality of care given to the patients. Hence, there is need for further research in this direction.

Research Hypotheses

1. There will be a significant effect of job stress on physical and mental health of nurses in public hospital.
2. There will be a significant difference in personal and work behaviour of highly stressed nurses and less stressed nurses in public hospital.

METHODOLOGY

The study was carried out among nurses working in two public hospitals in Ibadan, Nigeria. Expost-facto research design was adopted for the study. One hundred and fifty four nurses working in the State Hospital, Ring Road, Ibadan, and University College Hospital, Ibadan, constituted the sample used for the study.

The major instrument used for the study was a single questionnaire tagged "Stress Assessment Questionnaire for Hospital Nurses (SAQFHN)". It contains items measuring job stress, state of health, personal and work behaviours. The items were drawn from Stress Less INC (2005). Job Stress Assessment Scale.

The scale contains items measuring symptoms of stress, physical and mental symptoms, and signs of personal and work behaviours. The instrument was reliably validated, yielding coefficient alpha of 0.80 at 0.05 level of significance.

The nurses were randomly selected from five units or wards in which their tasks were highly demanding (paediatrics, accident and emergency, surgical, outpatients, and orthopaedic wards or units). They were asked to assess the level of stress they experienced at work in the last six months. They were also asked to assess the effect of such stress on their physical and mental health, as well on their personal and work behaviour.

The data collected after two weeks were analysed, using one way analysis of variance (ANOVA) and independent t-test. The stated hypotheses were tested at 0.05 level of significance.

RESULTS

Hypothesis I: There will be a significant effect of job stress on physical and mental health of nurses in public hospital. The hypothesis was put to test, using analysis of variance. This was based on items measuring signs and symptoms of job stress and items measuring physical and mental symptoms.

The results obtained from the test are summarized in table 1.

Table 1 reveals the effect of job stress on state of health of nurses in public hospital. The table shows that there was a significant effect of job stress on physical and mental health of nurses in public hospital ($F = 2.736$, $df = 10/_{153}$, $P > .05$).

The result gives support to the first hypothesis. Hence, the hypothesis was accepted.

Hypothesis II: There will be a significant difference in personal and work behaviour of highly stressed nurses and less stressed nurses in public hospital. The hypothesis was put to test using independent t-test. This was based on items, measuring symptoms of stress and signs of personal behaviour of public hospital nurses.

The results obtained from the test are summarized in table 2.

The difference observed in personal and work behaviour of the public hospital nurses is presented in table 2 above. The table revealed that there was a significant difference in personal and work behaviour of the highly stressed nurses and less stressed nurses in public hospital ($t = 2.178$, $df = 152$, $P > .05$).

The result gives support to the hypothesis. Therefore, the second hypothesis was accepted.

DISCUSSION

The results obtained from testing the first hypothesis revealed that there was a significant effect of job stress on physical and mental health of nurses in public hospital ($F = 2.376$, $df = 10/_{153}$, $P > .05$).

The result is consistent with the findings of Mojinyinola (1984) that job stress had adverse effects on mental health and physical well-being of student nurses.

The above result is also supported by the finding of Cheng and Kawachi (2002) that women (female registered nurses) who reported low job control, high job demand, and low work related social support had greater declines in the physical health subscales and less improvement in mental health subscales.

The result is consistent with the findings of Olaleye (2002) that job stress and burnout syndrome had significant interactive effect on state of health and coping ability of nurses. It is also in line with the finding of Wong et al. (2001) that one-third of Chinese nurses had poor mental health. Findings from the study revealed that 85 (or 55.5%) of the public health nurses experienced high level of stress at work. This is due to work overload, lack of promotion, inadequate staffing, poor working and salary conditions, job dissatisfaction and frustration of all kinds. The effects of the stress on their health were manifested in form of headache, back or neck pain, muscular aches, worry, high blood pressure, lack of concentration or attention, mental chatter, and difficulty in making decision. This implies that both their physical and mental health were adversely affected by job stress.

Table 1: ANOVA showing the effect of job stress on physical and mental health of public hospital nurses

Source of variance	Sum of squares	df	Mean square	F-critical	F-cal	P	Remark
Within group variance	23656.318	143	165.429	1.63	2.376	.05	Significant
Between group variance	3931.247	10	393.125				
Total variance	27587.565	153	-				

$F = 2.376$, $df = 10/_{153}$, $P > .05$

Table 2: Independent t-test showing the difference in personal and work behaviour of highly stressed nurses and less stressed nurses in public hospitals.

Category of nurses	N	Mean	Standard Deviation	Standard Error mean	df	t-cal	t-critical	P	Remark
Highly stressed public hospital nurses	85	60.2471	14.36174	1.55775	152	2.198	1.96	.05	Sig.
Less stressed public hospital nurses	69	55.5662	11.77420	1.41745					

$t = 2.178$, $df = 152$, $P > .05$

In situations where nurses experienced high level of stress and their health being greatly injured, their level of functioning at work will become greatly reduced. It is imperative therefore, that the workload of nurses be reduced to the level they can cope with in order to become efficient at work and give effective nursing care to their patients. Adequate nursing staff, medical equipment, dressings and drugs should be provided in public hospitals to enable the nurses perform their duties effectively. Their welfare should be addressed, and psycho-social needs adequately met.

The result of the second hypothesis indicated a significant difference in personal and work behaviour of highly stressed nurses and less stressed nurses ($t = 2.178$, $df = 152$, $P > .05$). It is not gainsaying the fact that the highly stressed nurses will engage in behaviours quite different from the less stressed nurses at work.

Findings from the study revealed that the highly stressed nurses (85 or 55.5%) exhibited personal and work behavioural problems like bullying, absenteeism, resignation or turnover. Due to being stressed or frustrated, some of the nurses engage in aggressive hostile or vindictive behaviour on their wards. The result was supported by the finding of Mojinyinola (1984) that junior student nurses who experienced greater stress at work behaved differently than the senior student nurses. There were cases of bullying, absenteeism, and turnover from them than their seniors. The result was also in line with the finding of Wong et al. (2001) that Chinese nurses adopted behavioural and cognitive coping behaviours like direct actions, positive thinking, avoidance, resignation, alcohol use, positive coping and negative coping when they experienced stress at work.

It should be noted that negative personal and work behaviour may not bring about positive treatment outcomes. The patients and their families may become afraid of negative attitude and behaviours of the nurses. For this reasons, the patients may not receive best treatment from them.

In situations where the nurses in public hospitals adopt negative personal and work behaviours like absenteeism, apathy, dissatisfactions, tardiness irresponsibility, irritability demoralization and withdrawal from colleagues, adequate treatment and nursing care cannot be given to the patients. They may also experience delayed recovery.

CONCLUSION

Job stress is negatively associated with increased symptoms of ill-health. The complaints of physical and marital symptoms indicated the presence of stress in the nurses, and this suggests that their state of health is greatly injured. As revealed in this study, the presence of stress among the nurses also make them to engage in withdrawal, displaced or hostile aggressive behaviour to their patients and other people alike. Hence, under stressful working conditions, they could not give humane treatment to their patients.

RECOMMENDATIONS

To ensure that efficient nursing care is given to the patients, the government (Federal, State) the Ministries of Health or the hospital management boards should help in reducing sources of stress in the nurses. Their working conditions need to be quickly improved by giving them adequate salary that commensurate with the demands of their jobs. Their promotion should be done as at when due to boost their morale. They should also be involved in vital decisions concerning their jobs and their patients. In-service training, workshops and seminars should be organized for nurses to update their knowledge and skills. They should be sent for courses on human behaviour, resource management, interpersonal relation, stress management and crisis interventions.

It is hoped that when nurses are given adequate support by their employers or when their needs are adequately met many of them will experience less tension or stress at work. They will become less aggressive or hostile to the patients or their families. The patients will also receive better and adequate nursing care from them.

REFERENCES

- Achulu, E. 1995. "Occupational Stress: Your Job can be dangerous to your health." *Nigeria School Health Journal*, 8(1): 46-49.
- Akinboye, J. O., D. O. Akinboye and D. A. Adeyemo. 2002. *Coping with Stress in Life and Work place*. Ibadan: Stirling-Horden Publishers (Nig) Ltd.
- Albar Marin, M. J. and Garcia-Ramirez. 2005. "Social Support and Emotional Exhaustion among Hospital Nursing Staff". *European Journal of Psychiatry*. 19(2): 96-106.
- Alterman, T., R. B. Shekelle, S. W. Vernon and K. D.

- Burau. 1994. "Decision Latitude, Psychologic demand, job strain, and coronary disease in the Western Electic Study." *American Journal of Epidemiology*, 139: 620 – 627.
- Arnold, J., C. L. Cooper and I. T. Robertson. 1995. *Work Psychology: Understanding Human Behaviour in the Work Place*. London: Pitman Publishing.
- Baum, A., R. J. Gatchel and D. S. Krantz. 1997. *An Introduction to Health Psychology*. New York: The McGraw-Hill Companies, Inc.
- Cheng, Y. and T. Kawachi. 2000. "Association between Psychosocial Work Characteristics and health functioning in American Women: Prospective Study." *BMJ*, 320: 1432-1436.
- de Rijik, A. E., P. M. Le Blanc, W. B. Schaufeli and J. de Jonge. 1998. "Active coping and need for control as moderator of job-demand-control model: Effects of burnout." *Journal of Occupational and Organizational Psychology*, 71: 1-18.
- Evans, G. W. and S. Carrere. 1991. "Traffic Congestion, Perceived control and Psychological stress among urban bus drivers." *Journal of Applied Psychology*, 76: 658-663.
- Gauster, D. C., J. Schaubrock and W. E. Sume. 1990. "Unhealthy Leader dispositions, work group strain and performance." *Best papers. Proceedings of the Academy of Management*, 191-195.
- Hoel, H., C. Rayner and C. L. Cooper. 1999. "Work Place Bullying", (pp.145-161) in C. L. Cooper and I. T. Robertson (eds.), *International Review of Industrial and Organizational Psychology*. Chichester U.K.: Willey.
- Holt, R. R. 1993. "Occupational Stress", (pp.342-367) in L. Goldberger and S. Breznitz (eds.), *Handbook of Stress: Theoretical and Clinical Aspects*. New York: Free Press.
- Kennedy, P. and N. Erey. 1997. "High pressure areas." *Nursing Times*. 93(29): 26-32.
- Lazarus, R. S. 1966. *Psychological Stress and the Coping Process*. New York: McGraw-Hill.
- Mojoyinola, J. K. 1984. *Occupational Stress Among The Student Nurses of University College Hospital (U.C.H), Ibadan: It's Effects on Their Mental Health and Well-Being*. Unpublished B.Sc. Project, University of Ibadan.
- NIOSH. 1998. "Stress at Work: Job Stress and Health." Retrieved January 9, 2006, from <http://www.cdc.gov/noish/jobstress.html>.
- Olaleye, B. A. 2002. *Psycho-Social Effects of Job Stress and Burn-out Syndrome Among Nurses in State-Owned Hospitals in Oyo State*. M.S.W. Project, (Unpublished) University of Ibadan, Nigeria.
- Piko, B. F. 2003. "Psychosocial work environment and Psychosomatic health of nurses in Hungary." *Work and Stress*, 17(1): 93-100.
- Repetti, R. L. 1993. "The effects of work load and Social Environment on Health", (pp.120-130) in L. Goldberger and S. Breznitz (eds.), *Handbook of Stress: Theoretical and Clinical Aspects*. New York: Free Press.
- Selye, H. 1976. *The Stress of Life*. New York: McGraw-Hill.
- Wong, D., S. Leung, C. So and D. Lam. 2001. "Mental Health of Chinese Nurses in Hong-Kong: The Roles of Nursing Stress and Coping Strategies." *Online Journal of Issues in Nursing* 5(2):1-22.
- Vitaliano, P. P., R. D. Maiuro, J. Russo and W. Katon. 1990. "Coping profiles associated with psychiatric, physical, work and family problems." *Health Psychology*, 9(3): 348-376.