THE USE OF SMOKING AND BREAKTAKING TO REDUCE JOB-RELATED STRESS AMONG REGISTERED NURSES

by

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ABSTRACT

Hospital nursing can produce stress. How nurses cope with that stress can affect patient care and personal health. This study was conducted to describe the coping methods, particularly breaktaking and smoking, used to reduce job-related stress. Research questions were: (1) what are the coping methods used by medical-surgical nurses to reduce job-related stress during work; (2) is breaktaking used as a coping method, (3) is smoking used as a coping method; (4) under what circumstances are breaks taken; (5) how are breaks described; (6) is breaktaking perceived to be helpful in reducing job-related stress; (7) is there an association between smoking and breaktaking, and (8) do smokers perceive breaktaking to be more helpful in reducing job-related stress than do nonsmokers. A convenience sample of 101 registered nurses working adult medical-surgical units from three hospitals completed a questionnaire designed by the investigator. Data analyses included frequency distributions, percentages, means, and *t*-tests. The coping method used most frequently (52%) was "Keep working, but talk to co-workers." When feeling stress, 21% usually take a break other than lunch/supper and 35% usually take lunch/supper. Smokers use breaks significantly more often

when feeling stress than do nonsmokers (p = .007). When feeling stress, 27% of the smokers usually take a break and smoke and 19% keep working and smoke. The circumstance that most frequently determined taking a break other than lunch/supper was having to arrange own time (75%); for lunch/supper it was having a light workload (79%). The most frequent activity on a break other than lunch/supper was being interrupted (78%). On lunch/supper it was eating (89%). Breaks other than lunch/supper are usually in the nursing lounge (63%) and lunch/supper is usually off the unit (58%). A break other than lunch/supper is perceived by 53% to somewhat decrease stress and lunch/supper somewhat decreases stress for 59%. Smokers usually have a cigarette when on break other than lunch/supper (84%) and also with lunch/supper (88%). Smokers take breaks other than lunch/supper significantly more often than nonsmokers ($p < .001$), experience more positive effects (p = .0222), and perceive break other than lunch/supper to be significantly more helpful in reducing stress (p = .0107).

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CHAPTER I

Introduction

Stress, both psychological and physical, is necessary for the survival and well-being of human beings. Life involves constant change, and stress is the response of the human organism to that change. Therefore, stress cannot be avoided. However, if an individual's capacity to adapt to stress is overpowered, stress then becomes distress and, if prolonged, becomes associated with undesirable effects (Selye, 1976).

Often it is the cognitive perception of an event that determines the amount of stress an individual will experience. The ability to adapt or cope successfully with that stress then determines the outcome (Lazarus, 1981).

Coping involves changing the situation, if possible, and/or managing the somatic and subjective components of the emotions aroused by excessive stress. The coping methods chosen can be adaptive or maladaptive depending upon whether emotional well-being is achieved at the risk of physical or psychological harm to self or others (Lazarus, 1981).

Professional nursing in the hospital setting has many built-in stressors (Applebaum, 1981; Latkin, 1982; Numerof, 1983). How registered nurses cope with this job-related

stress has several implications.

Unsuccessful coping can lead to professional burnout which has been described as a situation in which personal resources for coping with stress are exhausted (Applebaum, 1981; McConnell, 1982; Pines & Maslach, 1978). This burnout can result in loss of caring and respect for patients (Maslach, 1982) which can directly affect the quality of patient care.

A second but equal concern is the mental and physical health of the nurse. Prolonged stress can be a prelude to the development of many illnesses ranging from depression and phobias to cardiovascular disturbances.

The Problem

Hospital nursing can produce high levels of perceived job stress. Professional nursing literature suggests short relaxation breaks or changes in activity while on-the-job to help control this stress. It is not known if registered nurses practice this coping technique, but research studies have shown that some registered nurses report using smoking to relieve job stress. Surveys also indicate that registered nurses smoke at a higher rate than other health professionals.

Research on the actual use of breaktaking, which is a suggested coping method for job stress, and association between breaktaking and smoking, which some nurses do use,

is lacking. Generally, research on all coping methods used by registered nurses to relieve job-related stress during working hours and their perceived effectiveness, has only recently been of interest. At the time of this study, such research was incomplete.

Purpose of the Study

The purpose of this study was to describe the coping methods used by registered nurses who work on medical-surgical hospital units to manage job-related stress during working hours. Particularly, the use of breaktaking and smoking, and any association between breaktaking and smoking were described. An additional purpose was to measure perceived effectiveness of breaktaking and smoking in reducing job-related stress.

Research Questions

1. What are the coping methods used by medical-surgical nurses to reduce job-related stress during working hours?

2. Do medical-surgical nurses use breaktaking as a coping method to reduce job-related stress during working hours?

3. Do medical-surgical nurses use smoking as a coping method to reduce job-related

stress during working hours?

4. Under what circumstances do medical-surgical nurses take breaks during working hours?

5. How does the medical-surgical nurse describe a break during working hours and how frequently does breaktaking occur?

6. Is breaktaking perceived by medical-surgical nurses to be helpful in reducing job-related stress?

7. Is there an association between smoking and breaktaking?

8. Do medical-surgical nurses who smoke during breaks perceive those breaks to be more helpful in reducing job-related stress than do medical-surgical nurses who do not smoke during breaks?

Assumptions

1. Hospital medical-surgical nursing produces varying amounts of job-related stress in medical-surgical registered nurses.

2. Individual registered nurses will seek ways to cope with job-related stress; however, these methods may not always be effective.

Limitations

1. Registered nurses in reporting their behavior may answer in socially or professionally acceptable ways.

2. The results of this investigation can be generalized to the population only to the extent that the convenience sample is representative of the population in question.

Definition of Terms

Job Stress: The negative emotions and physiological response triggered by the cognitive appraisal that one's work environment is damaging, threatening, or challenging to the self.

Coping Methods: Those behaviors and resources an individual has available and chooses to utilize to relieve and control the negative emotions and physiological response associated with stress.

Medical-Surgical Nurses: Registered nurses working on adult medical-surgical hospital units other than intensive care or coronary care units.

Breaks and Breaktaking: Any period of time during the regularly scheduled time on-the-job, including allotted time for lunch or dinner, that the medical-

surgical nurse perceives as being a break from the duties and responsibilities of the job or that provides opportunity for rest or relaxation.

Smoking: The lighting of at least one cigarette during working hours, both while on a perceived break and when not on a perceived break. Any amount of smoking, including only one puff per cigarette, will be considered smoking.

Working Hours: The time from the beginning to the end of an established shift, including breaks and time allotted for lunch or dinner.

Nursing Implications

Job-related stress and how nurses cope with this stress has several implications for both professional and personal functioning. These include the potential development of burnout which can affect the maintenance of professional standards of care. There can also be stress-related physical illness as well as illness related to the choice of coping methods.

Burnout is a phenomenon described in the literature as extreme unrelieved distress in which an individual is unable to adapt or cope effectively and becomes physically and mentally exhausted (Masloch, 1982; McConnell, 1982; Pines & Masloch, 1981). Physical symptoms include fatigue, feeling rundown, headaches, gastrointestinal disturbances,

weight changes, sleeplessness, shortness of breath, and frequent colds (Hall & Gardner, 1979; McConnell, 1982). The nurse suffering from this kind of stress may develop a negative self-concept, negative job attitudes, and loss of concern for patients (Pines & Masloch, 1978). This loss of concern may lead to poor job performance, a demeaning attitude toward patients, and preoccupation with only the technical aspects of patient care (Shubin, 1978).

Aside from an inability to give high quality care and support to their patients, nurses exposed to this kind of chronic stress are in danger of damaging their own mental and physical health. They can develop an intolerance for frustration, depression, feelings of helplessness, and alcohol and drug abuse (Hall & Gardner, 1979; McConnell, 1982). Also, 50% to 80% of all physical illness has been blamed on continually high levels of stress (Smith & Selye, 1979). It is the continuing need for the body to adapt to stressors over time that lead to the exhaustion which is a prelude to disease (Selye, 1970).

It becomes quite necessary, then, for nurses to not only know the sources of their job-related stress, but even more important, to identify effective means of coping with that stress. According to Lazarus (1981), it is not the sources of stress that determine the severity of the stress response, but the ability one has to cope effectively with the stress produced.

The choice of coping methods is also important because they too can affect patient care and personal health. Relaxation has been found to counter both the chronic anxiety and physiological components of stress (Paul, 1969; Prager-Decker & Decker, 1980). Breaktaking, combined with training in relaxation techniques, has been found to increase sociability, job satisfaction, and job performance (Peters & Benson, 1977). Breaktaking does appear to have potential as an effective coping method allowing the delivery of high quality patient care as well as enhancing physical health.

Smoking may also be used as a coping method because it may negate the emotional discomforts of stress (Cherek, 1981; Heimstra, 1973; Hutchinson & Emley, 1973). Unfortunately, smoking is a physical health risk factor similar to unrelieved stress, for a smoker doubles his/her risk of dying before age 65 (American Cancer Society, 1980).

Smoking may have other consequences aside from endangering personal health. Elkind's (1980) review of nursing studies found that while high proportions of nurses accept the professional role of health educator in regard to smoking, smoking nurses are less likely to accept this role than non-smokers or ex-smokers. Setting an example for others is seldom given by smoking nurses as a reason to quit smoking. Smoking nurses are also less likely to offer advice and information to patients. Elkind's (1979)

own research revealed that smoking nurses are less likely to accept smoking as harming health, particularly in connection with the development of and survival rate of lung cancer.

This investigator believes that the choices professional nurses are making in methods to reduce job-related stress must be better understood. At stake is job satisfaction, susceptibility to burnout, delivery of quality patient care including health education, and the nurses' physical health. Interventions to increase nurses' ability to cope effectively cannot be planned without a better understanding of the scope of the problem. The aim of this survey is to increase knowledge of how medical-surgical nurses cope with job-related stress in the hospital setting.

CHAPTER II

Review of the Literature

Stress

According to Lazarus (1981), emotions and stress are products of cognition, or the way a person interprets his/her relationship with the environment. This cognitive appraisal consists of a primary appraisal and a secondary appraisal. During the primary appraisal, the individual perceives a situation or event and attaches meaning and significance to the event. This meaning and significance shapes the emotional reaction which determines his/her future course of action.

According to the meaning attached to an event, an individual perceives a situation to be either irrelevant, benign-positive, or stressful. An irrelevant situation produces no response. A benign-positive situation produces a positively toned state with feelings like joy, love, peace, and contentment. A stressful situation, one that is interpreted as being damaging, threatening, or challenging, produces feelings of anxiety, fear, anger, or guilt. With this interpretation there is a mobilization to act which produces a physiological response in the body.

Following the primary appraisal of a situation as being stressful, a secondary appraisal is made. This secondary appraisal is a mental evaluation of options and resources available to deal with the stress. Both the primary appraisal and the secondary appraisal can be conscious or unconscious, deliberate, or automatic (Lazarus, 1981).

Selye (1976) called stress the nonspecific response of the body to any demand and agreed that emotional arousal is a frequent initiator of physiological stress. However, this physiological response, which is responsible for all stress-related physical illness, can also occur in people exposed to stressors while anesthesized (Selye, 1976).

Specifically, the physiological response occurs when a stressor, either physical or psychological, acts upon the body. The sympathetic nervous system is activated with resultant hypothalamus and pituitary stimulation which, in turn, stimulates the release of hormones throughout the endocrine system. The signs and symptoms of this response are described by Frain and Valiga (1979) using four levels of stress. Level I stress consists of ordinary situations that are not perceived as harmful or threatening and coping responses are automatic and effective. At Level II, there is a heightened sense of awareness and increased energy. There can be heart

palpitations and tachycardia, urinary frequency, diaphoresis, anorexia, nausea, insomnia, cold hands and feet, as well as negative feelings of anxiety, fear, or guilt. These feelings, however, are transient with coping methods being effective. Level III involves persistent stress with ongoing tachycardia, hypertension, headaches, pallor, water retention and oliguria, increased blood glucose and blood coagulation, vomiting, constipation, and infections. Feelings involve loss of control, depression and/or elation, aggression, or withdrawal from others. Coping methods are ineffective and it is at this level of stress that burnout occurs. If this state continues, Level IV, or exhaustion, is reached with cardiac irregularities, dependent edema, decreasing kidney function, syncope, mental confusion, and weakness. There can be malnutrition and development of physical disease, purposelessness, paranoia, compulsiveness, or phobias.

Job Stress

The passage of the Occupational Safety and Health Act of 1970 stimulated research into the psychological aspects of work and stress (Cohen & Margolis, 1973). Holt's (1982) review of studies done since then showed that the most prominent causes of stress in the work place are non-standard shift work, under utilization of abilities, boredom and monotony, responsibility for other people,

nonparticipation in decision-making, and role ambiguity. Kahn's (1981) review added time pressures and linked qualitative underutilization with quantitative overload. Resource inadequacy and insecurity were stressors found by Margolis and Kroes (1974).

A link between job stress and disease is only suggested by the literature. Friedman (1960) found increased norepinephrine excretion by Type A subjects at work. Changes in serum cholesterol and blood coagulation were found in accountants preparing income tax returns (Friedman, et al., 1958). Exposures to high noise levels increased somatic complaints, disease, absenteeism, and job-related accidents (Cohen & Margolis, 1973). Holts' (1982) review found a connection between alcohol use and job stress, and a correlation between longevity, mental health, and job satisfaction.

Most studies on work and stress have been done with male subjects. Haw (1982) found that studies of women at work often looked at role overlap and increased role demands for the working woman, rather than variables of work itself or links between role stress and disease.

Nursing and Stress

Stress in the nursing profession has also been studied. Student nurses experienced enough stress to adversely affect their work (Birch, 1979). Bates and Moore (1975) found

stress levels among interns and nurses, both of whom had responsibility for direct patient care, to be consistently higher than among administrators and nurse aides, in 20 different hospitals in Australia. An examination of the admission records of community health centers in Tennessee by occupation found that six of the top 30 occupations were health-related with registered nurses ranking 27th out of a total of 130 occupations (Colligan, Smith, & Hurrell, 1977). They cautioned, however, that this may represent a sex bias since women comprised 53% of all admissions, but made up only 39% of the total working population in Tennessee at that time.

Self-report surveys on job stress yielded mixed results. Cronin-Stubbs and Velsor-Friedrich (1981) found 63% of their nurse subjects reporting overall job satisfaction, even though multiple sources of job stress were revealed. Most satisfied were administrators and least satisfied were staff nurses who had worked two to three years. On the other hand, Murray and Swann (1983) found 78% of their nurse subjects reporting stress. Ness (1982) found that 81% of staff nurses, while acknowledging job-related stress, thought they coped with the stress adequately. Also, the more years of experience a nurse had, the less perception there was of job stress (Ness, 1982; Numerof, 1983; Olson, 1977).

Intensive care nurses reported feeling personally

involved with patients' problems, emotionally drained and fatigued before starting their shift. They also reported feelings of frustration from a few times a month to at least once a week. The more satisfaction they felt with co-workers, supervisors, and the job of nursing itself, the less they experienced these symptoms (Albrecht, 1982). High levels of staff support appeared to be the only factor that kept stress, depression, and anxiety significantly below that of both other ICUs and medical units in a study done by Mohl, Denny, Mote, and Coldwater (1982). ICU nurses in only two of three units were found to be under considerable psychological and emotional stress in Gentry and Foster's (1972) study, even though types of patients and duties were the same. It is possible that ICUs may not, themselves, be stressful, but become so based upon the professional situation in which the nurse operates.

Outside of the ICU, medicine, cardiovascular surgery, and oncology units had the highest stress levels with job satisfaction and turnover rates correlating with the level of stress on units (Gray-Toft & Anderson, 1981). It is suggested by Gray-Toft and Anderson (1981) that stress levels vary not only according to the type of unit, but also because of individual differences. This conclusion was based upon trait anxiety scores being positively correlated with levels of job stress. Maloney (1982)

suggested that nurses may choose certain hospital units based on their ability to cope with the stress inherent to that unit. Maloney and Bartz (1983) found ICU nurses seek more novelty and challenge, and Maloney (1982) found state and trait anxiety to be significantly lower in intensive care units than in non-intensive care units.

Thus, while it appears that all nurses acknowledge multiple sources of stress linked to medical-surgical, hospital nursing, the perceived amount of stress they experience varies. The literature suggested this may be due to differences in nursing units as well as individual differences in perceiving and coping with stressful situations. Some of the differences may also be related to the methodologies of the studies, including different approaches to asking the questions and interpreting the results since reliable tools to measure levels of job-related stress in nursing have not been developed.

The sources of job stress for professional nurses do tend to be consistent and most correlate with work stressors in the general work place (refer to Table 1). Those stressors that hospital nurses experience in common with other workers tend to be rotating shifts, lack of resource development, heavy workload, responsibility for others, role conflicts, time pressures, and feelings of insecurity or inadequacy. Stressors unique to nursing tend to be inadequate staffing, dealing with patient and family

Table 1

Reported Sources of Job-Related Stress

Work Stressors in General	References	Work Stressors in Hospital Nursing	References
Nonstandard Shiftwork	Holt, 1982	Rotating shifts	Cronin-Stubbs & Velsor-Friedrich, 1981; Gentry, Foster et al., 1972.
Resource Inadequacy	Margolis & Kroes, 1974	Lack of resource; development opportunities	Gentry, Foster et al., 1972; Ivancevich & Matteson, 1980.
Quantitative Overload	Kahn, 1981	Heavy workload	Anderson & Basteyns, 1981; Gentry, Foster et al., 1972; Gray-Toft & Anderson, 1981; Huckaby & Jagla, 1979; Jacobson, 1981; Ness, 1982; Numerof, 1983.
Responsible for Other People	Holt, 1982	Responsibility for others	Cassem & Hackett, 1975; Cronin-Stubbs & Velsor-Friedrich, 1981; Gentry, Foster et al., 1972; Ivancevich & Matteson, 1980.
Role Ambiguity	Holt, 1982	Role conflicts	Ivancevich & Matteson, 1981; Olson, 1977.
Time Pressures	Kahn, 1981	Time pressures	Cassem & Hackett, 1975; Cronin-Stubbs & Velsor-Friedrich, 1981; Ivancevich & Matteson, 1980.
Insecurity	Margolis & Kroes, 1974	Insecurity or inadequacy	Cassem & Hackett, 1975; Cronin-Stubbs & Velsor-Friedrich, 1981.
		Lack of Communication	Anderson & Basteyns, 1981; Cassem & Hackett, 1975; Cronin-Stubbs & Velsor-Friedrich, 1981; Gentry, Foster et al., 1972; Huckaby & Jagla, 1979; Ivanevich & Matteson, 1981; Jacobson, 1978; Ness, 1982; Olsen, 1977.
Qualitative under-utilization of abilities	Holt, 1982; Kahn, 1981.	Patient and family	Cassem & Hackett, 1975; Cronin-Stubbs & Velsor-Friedrich, 1981; Ivancevich & Smith, 1982; Oskins, 1979.
Boredom and Monotomy	Holt, 1982	Death & Dying	Anderson & Basteyns, 1981; Cassem & Hackett, 1975; Cronin-Stubbs & Velsor-Friedrich, 1981; Gray-Toft & Anderson, 1981; Huckaby & Jagla, 1979; Jacobson, 1978; Ness, 1982; Numerof, 1983.
Nonparticipation in decision-making	Holt, 1982	Inadequate Staffing	Cronin-Stubbs & Velsor-Friedrich, 1981; Gentry, Foster et al., 1972; Jacobson, 1978; Oskins, 1979.

behaviors, death and dying, and communication and relationship problems between nurse and nurse, nurse and physician, and nurse and administration. Work stressors that do not appear to affect hospital nurses are under-utilization of abilities, boredom and monotony, and nonparticipation in decision-making.

Coping

According to Lazarus (1981) the stressor is not what is significant in determining the stress response. It is the ability to effectively adapt or cope with the stressor.

Coping behavior has two major functions or purposes. One function is to problem-solve by changing the damaging or threatening environment or one's own damaging behavior. The other function is to reduce the subjective and somatic components of the emotions aroused. Effective copers generally use coping methods that achieve both of these functions (Lazarus, 1981).

Moos and Billings' (1982) review showed that effective copers also exhibit high levels of ego development, self-esteem, self-efficacy, and sense of mastery. The competent self seems related to realistic goal-setting, problem-solving, and an active approach to coping with the environment.

Little research has been done on coping behaviors in a normal population. Sidle (1969) in developing a coping

scale found that sex differences may be important in choice of coping strategy. He also found that some individuals use particular strategies regardless of the problem, but some problems elicit the same strategies regardless of the individual.

Coping methods most often used in a normal student population were talking to someone, doing something else, eating, exercising, trying to place experience in perspective and finding positive aspects of the situation (Ziemer, 1982). Bell (1977) divided coping methods into short-term and long-term. The short-term methods were alcohol and drug use, eating, smoking, sleeping, cursing, crying, daydreaming, refusing to worry, humor, and expecting the worst. None of these behaviors solves problems, but they fulfill the coping function of reducing negative emotions. A normal group, when experiencing high stress from life changes, and a psychiatric inpatient group both chose to use these short-term methods. The lower stressed, normal group chose long-term coping methods most often. These were talking to someone, placing experience in perspective, finding positive aspects of situations, seeking more information, taking definite actions, drawing on past experiences, and believing in a supernatural power. Several of these fulfill the coping function of problem-solving.

Nurses and Coping

Nurses have been advised to take relaxation breaks while at work in the form of brief moments away from work, changes in activity, coffee breaks, meditation, and moments alone (Alexander, 1980; Cassem & Hackett, 1975; Hartl, 1979; Kashoff, 1976; Scully, 1980; Tierney & Strom, 1980). The purpose of these breaks is diversion and relief from their stressful environments. Friedman (1974) advised Type A individuals, who are more prone to coronary artery disease, to re-engineer their time by eliminating all unnecessary activities and allowing intervals of rest and relaxation every several hours.

There are sound reasons for this advice. Relaxation has been shown to reduce physiological arousal and feelings of inner turmoil (Sutterly, 1979). Characteristics of a relaxation response include decreased skeletal muscle tone, respiratory rate, oxygen consumption, heart rate, and the generation of alpha brain waves (Armstrong, 1977). This response can be effective in the work setting. Peters, Benson, and Porter (1977a, b) taught this response to employees of one company. Participants who practiced it during breaks taken in a quiet room showed a significant decrease in somatic complaints and blood pressure, and an increase in sociability, job satisfaction, and performance.

Two experimental studies have been done regarding

the effects of relaxation training on stress in nurses. Donovan (1981) measured the impact of guided imagery (GI) on stress among cancer nurses. Subjects with the highest stress scores and the least effective coping mechanisms benefited the most from practicing guided imagery. Lantican (1980) educated nursing students in Lazarus' Theory of Stress and Coping, and rehearsed them in the use of relaxation and cognitive coping skills. In a stressful situation the experimental group, who had been trained, exhibited mild to no stress compared to a control group who exhibited moderate to severe levels of stress.

These studies suggest that learning specific relaxation techniques may be beneficial to reducing job-related stress. However, only Peters, Benson, and Porter (1977 a, b) have related those techniques to breaktaking while on the job and their study was not done with nurses as subjects.

There are only a few surveys that report how nurses actually do cope with job-related stress. Use of relaxation techniques was mentioned by nurses twice, but not on the job (Cronin-Stubbs & Velsor-Friedrich, 1981; Ness, 1982). Taking a break while on the job was mentioned only in conjunction with smoking. Murray and Swann (1983) quoted seven nurses as stating that smoking was a signal they were on break and not available, and others stated

the only way they could relax while on break was to smoke. Surveys did link job-related stress and smoking behavior in nurses. They either reported smoking under stress (Cronin-Stubbs & Velsor-Friedrich, 1981; Dalton & Swenson, 1983; Hawkins & White, 1982; Jacobson, 1981; Kirkby & Bashkawi, 1976) or correlations were found between reported job stress and increased smoking (Hiller, 1981; Murray & Swann, 1983; Taglicozzo & Vaughn, 1982).

Yuson's (1981) review revealed that 30.5% to 48% of nurses surveyed smoked. Dalton and Swenson (1983) found the trend continuing. Thirty-nine and one-tenth percent of staff nurses smoked. But Tagliacozzo and Vaughn (1982) only found 19.9% of their sample smoking, although further investigation revealed more non-respondents to their questionnaire smoked than did respondents. Significantly, most surveys have shown nurses smoking at a higher rate than women in the general population which, in 1980, was 28.9% (National Health Interview Survey, 1981).

In 1975, only 21% of physicians, 23% of dentists, and 28% of pharmacists smoked as compared to 39% for nurses (Department of Health and Human Services, 1980). This difference cannot be due to nurses being predominantly female, for only 23.5% of female physicians smoked in 1972 (Garfinkel, 1976).

There is evidence in the literature to support the idea that smoking increases under stress, as well as

support for its use as a stress reduction technique. Physiologically, urinary pH decreases in subjects experiencing high stress. Decreased urinary pH increases the rate of excretion of nicotine by the kidneys and smokers take more puffs and smoke more cigarettes in high stress situations with decreased urinary pH (Schachter, Silverstein, & Perlick, 1977). But when relaxation techniques were introduced to deliberately stressed, heavy smokers, urinary pH did not decrease and the amount of smoking was less than in untreated stress groups. These findings suggest that stress, through lowering urinary pH, may be related to increased smoking (Dobbs & Strickler, 1981).

The effect of smoking on emotions may be both relaxing and arousing. Domino's (1973) review found nicotine to have a marked but short-term stimulant effect on the brainstem reticular activating system. Nicotine also produced slow arousal waves on the EEG and transient skeletal muscle relaxation. Golding and Mangan (1982) found blocking of EEG Alpha waves in smokers who were isolated from external stimuli, but increases in Alpha waves in the same smokers when they were experiencing stress. Alpha waves are the relaxed brain waves that appear when an individual is awake but nonattentive and relaxed. The suggestion is that it is nicotine producing this relaxation in a stressful situation.

Behaviorly, a decrease in aggressive responses to

stimuli has been demonstrated following inhalation of nicotine (Cherek, 1981). Both men and monkeys increased anticipatory reactions to stimuli, but decreased both postevent irritability and aggressiveness with separate infusions of chlorpromazine, chlordiazepoxide, and nicotine (Hutchinson & Emeley, 1973).

Smoking, nonsmoking, and deprived smoking have been connected with changes in mood. Only fatigue and concentration changed in smokers after a six-hour task. Nonsmokers and deprived smokers increased aggression and decreased social affectation as well (Heimstra, 1973).

These studies suggest that smoking may be an effective coping mechanism in the regulating of emotions, making it a short-term, palliative coping method. Heimstra (1973) concluded from his study that smokers may have better mental health than nonsmokers who have not been able to find a way to negate their negative emotions. Dunn (1978) came to the same conclusion after reviewing the literature. Smoking seemed to have no effect on feeling anger, but appeared to affect the aggression that can accompany anger. In this way, smoking may be preventing disruptive influences in performance.

There are other coping methods unrelated to smoking or breaktaking that nurses reported using. Cronin-Stubbs and Velsor-Friedrich (1981) found most of their subjects wanted to learn how to deal constructively with stress.

Of their subjects, 77% used methods to comfort self while 23% tried to remove the source of stress; the use of short-term coping methods was reported by 46% of the subjects. These methods were smoking, eating, sleeping, exploding, and ignoring the situation. These choices correlated with reporting more somatic problems. The remaining 56% tended to emphasize interpersonal relationships, exercise, vacations, prayer, positive thinking, and relaxation.

Eighty-one percent of the nurses in Ness' (1982) survey believed they were coping successfully. The coping methods reported were talking it out, exercise, and practicing relaxation techniques at home.

Other studies have shown a relationship between the level of stress and choice of coping methods. Oskins (1979) found nurse subjects who reported high stress were moving away from the problem, starting other activities, rationalizing, and preparing for the worst. Nurses with less stress were taking action, using past experiences, and talking things out. Albrecht (1982) found overeating, partying, withdrawing, and talking to non-co-workers were coping methods used by nurses reporting high stress. Prayer, exercise, and talking to nursing supervisors and co-workers were chosen by nurses reporting low stress. Johnson (1979), in an observational study, discovered that highly anxious nurses tended to decrease their communication with each other and with patients.

Another approach to stress management described in the literature is formalized group sessions. Under the direction of trained psychiatric professionals, problems are talked out and emotions diffused. Such group sessions resulted in drops in nursing turnover in two ICUs (Shubin, 1979; Stillman & Strasser, 1980). Peer support and involvement in unit concerns increased and job-related complaints decreased after a support group was formed in another intensive care burn unit (Webster, Kelly et al., 1982).

Summary

In summary, there are only a few surveys in the literature on how nurses cope with job-related stress and these contradict themselves on the perceived effectiveness of self-reported coping methods. Coping methods which control emotions rather than eliminating the cause of the stress are reported most often. Talking things out is used, and when formalized in support groups, has been proven effective. However, this approach to stress management does not tend to be in general use. Experimental studies showed relaxation techniques also reduce stress, but no nurses reported using relaxation or break-taking while on the job except in conjunction with smoking. Smoking, as a coping mechanism, has been documented most frequently in self-report surveys.

Nurses smoke more than any other group of health professionals. One explanation for this is that smoking may relieve their job-related stress. Breaktaking may also be effective, but little is known about this behavior by professional nurses. For these reasons, there is a need to investigate these coping behaviors within the framework of managing job-related stress.

CHAPTER III

Methodology

This study was a descriptive survey describing the coping methods used by registered nurses to manage job-related stress in the hospital setting with special emphasis placed on the use of breaktaking and smoking. Perceived effectiveness of these methods was also described. Included in this chapter is a discussion of the subjects and setting, procedure, instrument, and data analysis.

Subjects and Setting

The sample consisted of 101 female registered nurses employed by three medical institutions in a midwestern, metropolitan area. Fifty-one of the subjects were employed by a 400-bed, privately owned hospital which practiced primary nursing. Thirty-five of the subjects were employed by a 544-bed, university hospital which practiced team nursing. The remaining 15 subjects were employed by a 100-bed, community owned hospital which also practiced team nursing.

The literature review had shown that nurses on adult medical-surgical, oncology, and cardiovascular surgery units tended to experience stress (Gray-Toft & Anderson,

1981; Numerof, 1983), perhaps in some cases more than ICU nurses (Maloney, 1982). Also, nurses directly involved in patient care tended to smoke the most (Hawkins & White, 1982; Small & Tucker, 1978; Spencer, 1982). For these reasons, it was decided to select the sample from a population of registered nurses who worked as staff nurses on adult medical-surgical units including oncology, orthopedics, gynecology, respiratory, hematology, and cardiovascular. No intensive care nurses or supervisory personnel were included.

Instrument

The instrument used was a three-part questionnaire developed by the investigator. Part I had seven sections, Part II had seven demographic questions, and Part III had four questions on smoking history (see Appendix A). Section 1 of Part I was two questions on experienced stress. The first was a checklist of signs and symptoms of stress. This was a lead-in question not designed to be statistically analyzed. The second question asked the frequency of experiencing the signs and symptoms of stress while at work. The seven possible responses ranged from every shift worked to 1 out of 11 or more shifts worked.

Section 2 was a list of 22 short-term coping methods that could be used to reduce on-the-job stress. Section 3 was a list of 18 activities in which the nurse could

participate while on a break other than lunch/supper or while on a lunch/supper break. Section 4 was a list of four possible places in which a break other than lunch/supper and also lunch/supper could be taken. The three possible responses to each of the coping methods, activities, and places listed were "never," "occasionally," and "usually" with "never" equaling a score of 1, "occasionally" equaling a score of 2, and "usually" equaling a score of 3.

Section 5 consisted of two questions asking the frequency of taking a break other than lunch/supper and taking a lunch/supper break. The eight possible responses for frequency of break other than lunch/supper ranged from twice or more during each shift worked to once in 11 or more shifts worked. The seven possible responses for frequency of lunch/supper break ranged from once each shift worked to once in 11 or more shifts worked.

Section 6 was a list of 12 circumstances which could be important in determining if a nurse takes a break other than lunch/supper or takes a lunch/supper break. Responses to each circumstance were the same as for coping methods, activities, and places.

Section 7 contained three questions on the effects of a break other than lunch/supper and a lunch/supper break. The first question listed seven effects that taking a break other than lunch/supper or lunch/supper break might have. Responses to each effect and scoring

were the same as for coping methods, activities, and places. The second question asked the perceived effect that taking a break other than lunch/supper could have on the signs and symptoms of stress. The third question asked the perceived effect of taking a lunch/supper break on the signs and symptoms of stress. The five possible responses to both the second and third question ranged from greatly increases the signs and symptoms of stress to greatly decreases the signs and symptoms of stress (see Appendix B for the complete scoring guide).

Part II of the questionnaire collected demographic data describing the sample. This included sex, education, years of experience, shift worked, length of shift worked, whether the nurse was part-time or full-time, and how many registered nurses were usually assigned to each shift worked. These data were collected because years of experience (Ness, 1982) and formal education (Pines & Maslach, 1978) can affect levels of stress. Age (Jacobson, 1981; Spencer, 1982) and shift worked (Dalton & Swenson, 1983; Hawkins & White, 1982; Jacobson, 1981; Spencer, 1982) can be a factor in smoking behavior. Age, education, hours worked, and rotating shifts were connected to both smoking and stress by Tagliacozzo and Vaughn (1982). Also, interviews with eight staff nurses suggested a relationship between opportunity to take a break and the number of registered nurses assigned to a unit on any given shift.

Part III of the questionnaire asked for the total number of cigarettes smoked in 24 hours, the total number of cigarettes smoked while at work, and the length of time smoked. If the subjects did not smoke now, the fourth question asked if they had smoked in the past.

To develop Part I of the questionnaire, open-ended interviews were conducted by the investigator with eight registered nurses at the 544-bed institution (see Appendix C). These responses, combined with responses found in the literature and the investigator's own experience, guided the development of the survey questions. Then, in a pilot study, 12 registered nurses at the 400-bed institution completed the questionnaire and provided feedback as to ease of administration, item clarity, and format appropriateness. Four nurse educators also reviewed the instrument. Based on this feedback, final revisions were made.

Procedure

Formal consent to conduct this survey was obtained from the Director of Nursing of each of the three institutions (see Appendix D). Next, the proposed study and procedure was explained to the head nurse or unit manager of each of the 12 adult medical-surgical units utilized. Then, over a three-week period, this investigator approached the subjects while they were at work, explained

the purpose of the study, and asked for their voluntary participation in completing the questionnaire. They were instructed to return the completed questionnaire, at their convenience, to a manila envelope posted in the nursing lounge. On four of the 12 nursing units, the investigator attended staff meetings and distributed the questionnaires to a group. Otherwise, the questionnaires were distributed individually. Each subject remained anonymous, but the questionnaires were coded to differentiate the responses according to institution. A total of 152 questionnaires were distributed with 107 being returned yielding a response rate of 70.4%. Three were discarded due to incompleteness and three were returned too late to be included in the study. This left a total sample of 101 subjects.

Data Analyses

Table 2 lists the types of data analysis carried out for each research question. Frequency distributions, percentages, means, and two-tailed *t*-tests were utilized.

Table 2

Data Analysis of Research Questions

Research Questions	Method
1. What are the coping methods used by medical-surgical nurses to reduce job-related stress during working hours.	Frequency distributions, percentages, and means.
2. Do medical-surgical nurses use breaktaking as a coping method to reduce job-related stress during working hours?	Frequency distributions, percentages, and means.
3. Do medical-surgical nurses use smoking as a coping method to reduce job-related stress during working hours?	Frequency distributions, percentages, and means.
4. Under what circumstances do medical-surgical nurses take breaks during working hours?	Frequency distribution, percentages, and means.
5. How does the medical-surgical nurse describe a break during working hours and how frequently does breaktaking occur?	Frequency distributions, percentages, and means.
6. Is there an association between smoking and breaktaking?	*t*-test between smokers/ non-smokers with number of breaks.
7. Is breaktaking perceived by medical-surgical nurses to be helpful in reducing job-related stress?	Frequency distributions, percentages, and means.
8. Do medical-surgical nurses who smoke during breaks perceive those breaks to be more helpful in relieving job-related stress than do medical-surgical nurses who do not smoke during breaks?	*t*-test between smokers/ non-smokers with perceived helpfulness, positive and negative effects of breaks, and coping methods that utilize breaks.

CHAPTER IV

Results

This study was a descriptive survey describing the coping methods used by registered nurses to manage job-related stress in the hospital setting. Special emphasis was placed on the use of breaktaking and smoking and the perceived effectiveness of these two methods. Included in this chapter is a description of the sample and results of statistical analysis of the data.

Description of the Sample

Forty-five percent of the 101 female subjects in this survey had earned their baccalaureate degree, 38% were diploma graduates, and 18% had an associate degree from a junior college. The largest percentage (33%) had worked 3 to 5 years. The smallest percentage (11%) had worked 5 to 10 years. Seventy-nine percent worked full-time, 70% worked an 8-hour shift, and 47% rotated shifts. Twenty-five percent did not rotate but worked straight days, 19% worked straight evenings, and 9% worked straight nights.

The majority (55%) worked in the company of 4 to 6 other registered nurses each shift. Only 3% reported being the only registered nurse assigned to a unit for a

given shift (see Table 3).

Table 3

Characteristics of the Sample

N = 101

Characteristics	%
Education	
Associate Degree	18
Diploma	38
Baccalaureate Degree	44
Years of Work Experience	
0 - 2 years	25
3 - 5 years	33
6 - 10 years	11
Over 10 years	31
Employed	
Full-Time	79
Part-Time	21
Shift Worked	
Days	25
Evenings	19
Nights	9
Rotating	47
Length of Shift Worked	
4 hours	1
8 hours	70
10 hours	9
12 hours	20
No of RNs Assigned to Each Shift Worked	
0 - 1 RN	3
2 - 3 RNs	42
4 - 6 RNs	55

Twenty-seven percent of the subjects smoked cigarettes at the time of this survey; 16% had smoked in the past, but had quit; and 57% had never smoked.

Of the 27% who smoked, 1% had smoked less than one year and 59% had smoked 6 to 20 years. Forty-one percent smoked 11 to 20 cigarettes in 24 hours with 29.5% smoking 1 to 10 cigarettes in 24 hours. Eighty-one percent smoked 1 to 10 cigarettes while at work (see Table 4).

A total of 27 subjects reported smoking. One of those subjects reported not smoking at work. Thus, for statistical analysis, the total sample of 101 subjects was divided into 75 subjects who did not smoke at work and 26 subjects who did smoke at work.

Results

Research Question #1

What are the coping methods used by medical-surgical nurses to reduce job-related stress during working hours?

Frequency distributions, percentages, and mean scores were calculated on the 22 short-term coping methods listed in the Coping Methods section of the questionnaire. Table 5 lists the coping methods according to their frequency of use.

Table 4

Smoking History of Subjects

History	N	%	Years of smoking among Subjects Who Now Smoke	n	%	No. of Cigarettes Smoked during Work	n	%	No. of Cigarettes Smoked in 24 Hours	n	%
Never Smoked	58	57	< one yr.	1	4	0	1	4	0	0	0.0
Smoked, but quit	16	16	1 - 5 yrs.	6	22	1 - 10	22	81	1 - 10	8	29.5
Smoking Now	27	27	6 - 20 yrs.	16	59	11 - 20	4	15	11 - 20	11	41.0
			Over 20 yrs.	4	15	Over 20	0	00	Over 20	8	29.5
TOTAL	101	100		27	100		27	100		27	100.0

Table 5

Frequency of Use of Coping Methods to Reduce

Job-Related Stress While at Work

N = 101

Coping Method	Usually %	Occasionally %	Never %	$\bar{X}$*
Keep working, but talk to co-workers about the situation.	52	43	5	2.48
Take time to mentally reorganize self.	44	50	6	2.38
Ignore the signs and symptoms of stress and keep working.	35	47	19	2.14
Find humor in what is happening.	21	71	81	2.12
Keep working, but drink coffee or other caffeinated beverage.	21	49	31	1.90
Take a break and drink coffee or other caffeinated beverage.	15	51	34	1.81
Take a break and sit down.	12	55	33	1.79
Take a break and talk with co-workers about the situation.	12	59	29	1.83
Take time to relax.	11	59	30	1.81
Keep working, but sit down.	10	67	23	1.87
Stop talking to co-workers.	9	37	54	1.53
Keep working, but pray or meditate.	8	43	50	1.58
Take a break and have a cigarette.	6	19	75	1.30
Keep working, but drink fruit juice or other noncaffeinated beverage.	6	49	46	1.60
Keep working, but have a cigarette.	6	19	75	1.30
Take a break and eat something.	5	51	44	1.61
Keep working, but eat something.	4	46	50	1.53
Stay away from the situation causing the stress.	2	63	35	1.67
Take a break and pray or meditate.	2	36	62	1.39
Take a break and drink fruit juice or other noncaffeinated beverage.	0	48	51	1.50
Take a break and cry.	0	28	72	1.28
Keep working, but cry.	0	14	85	1.16

*Score of 1 = Never
Score of 2 = Occasionally
Score of 3 - Usually

The coping method used most frequently was "keep working, but talk to co-workers about the situation ($\bar{X}$ = 2.48). The coping method used least frequently was keep working, but cry ($\bar{X}$ = 1.16). Of the five most frequently used categories only one involved taking a break.

Research Question #2

> Do medical-surgical nurses use breaktaking as a coping method to reduce job-related stress during working hours?

Three separate sets of statistical analyses were performed. First, frequency distributions, percentages, and mean scores were calculated on the circumstance, "I am feeling the signs and symptoms of stress," from the Circumstances that Affect Breaktaking section of the questionnaire (see Table 6).

Table 6

Frequency of Use of Coping Methods that Involve Breaktaking

Circumstance	Usually %	Occasionally %	Never %	$\bar{X}$*
When feeling signs and symptoms of stress:				
I take a break other than lunch/supper break.	21	63	16	2.05
I take lunch/supper break.	35	53	12	2.23

*Score of 1 = Never
Score of 2 = Occasionally
Score of 3 = Usually

A lunch/supper break is usually taken by 35% of the subjects when they are feeling the signs and symptoms of stress ($\bar{X}$ = 2.23). A break other than lunch/supper break is usually taken by only 21% of the subjects when feeling the signs and symptoms of stress ($\bar{X}$ = 2.05).

The second set of statistical analyses was performed using a subsection of the Coping Methods section of the questionnaire. This subsection consisted of the 10 coping methods listed that involved breaktaking (see Table 7). Within this subsection, "taking time to mentally reorganize self" was used the most frequently ($\bar{X}$ = 2.38), while "Taking a break and crying" was used the least frequently ($\bar{X}$ = 1.28).

Mean scores on the use of breaks as coping methods were calculated by finding the sum of the scores of the 10 coping methods that involved breaks for each subject. Each sum was then divided by 10 to find the mean response to items depicting coping methods that involved breaktaking. The range of means for the 101 subjects was 1.1 to 2.6 with the average mean being 1.67.

The third set of statistical analyses compared smokers (n = 75) and nonsmokers (n = 26). The average mean for the smokers was 1.919 and for the nonsmokers was 1.625. A two-tailed t-test showed the difference in average means between smokers and nonsmokers to be significant (p = .007) with smokers using breaktaking

more often than nonsmokers to reduce job-related stress.

Table 7

Frequency of Use of Coping Methods that Involve Breaktaking

Coping Method	Usually %	Occasionally %	Never %	$\bar{X}$*
Take time to mentally reorganize self.	44	50	6	2.38
Take a break and drink coffee or other caffeinated beverage.	15	51	34	1.81
Take a break and sit down.	12	55	33	1.79
Take a break and talk with co-worders about the situation.	12	59	29	1.83
Take time to relax.	11	59	30	1.81
Take a break and have a cigarette.	6	19	75	1.30
Take a break and eat something.	5	51	44	1.61
Take a break and pray or meditate.	2	36	62	1.39
Take a break and drink fruit juice or other noncaffeinated beverage.	0	48	51	1.50
Take a break and cry.	0	28	72	1.28

*Score of 1 = Never
Score of 2 = Occasionally
Score of 3 = Usually

Average Mean = 1.67

Research Question #3

Do medical-surgical nurses use smoking as a coping method to reduce job-related stress during working hours?

Frequency distributions, percentages, and mean scores were calculated on the smokers' group (n = 26) for the coping methods, take a break and have a cigarette and keep working and have a cigarette, from the Coping Methods section of the questionnaire (see Table 8).

Table 8

Use of Smoking to Cope with Job-Related Stress while at Work

N = 26

Coping Method	Usually		Occasionally		Never		$\bar{X}$*
	n	%	n	%	n	%	
Take a break and have a cigarette.	7	27	18	69	1	4	2.20
Keep working, but have a cigarette.	5	19	12	46	9	35	1.85

*Score of 1 = Never
Score of 2 = Occasionally
Score of 3 = Usually

Average $\bar{X}$ = 2.025

Twenty-seven percent of the smokers usually take a break and have a cigarette when feeling the signs and symptoms of stress, and 4% never do ($\overline{X}$ = 2.20). Nineteen percent keep working and have a cigarette, but 35% never do ($\overline{X}$ = 1.85). The sum of the scores of these two coping methods was found for each smoking subject. Each sum was divided by two to find the mean score for each smoker on use of the two smoking coping methods. The range of means for the smokers was 1.5 to 3.00 with the average mean being 2.025.

Research Question #4

Under what circumstances do medical-surgical nurses take breaks during working hours?

Frequency distributions, percentages, and mean scores were calculated on the 12 circumstances listed in the Circumstances that Affect Breaktaking section of the questionnaire. These calculations were made for taking a break other than lunch/supper (see Table 9) and for taking a lunch/supper break (see Table 10).

Table 9

Circumstances under Which Registered Nurses Take a Break Other Than Lunch/Supper Break

N = 101

Circumstance	Usually %	Occasionally %	Never %	$\bar{X}$*
I arrange my own break time.	74	20	6	2.70
The day's workload is light.	71	18	11	2.60
Another nurse is available to relieve me of patient responsibility during this time.	42	27	32	2.10
I feel a need to drink something.	31	54	15	2.16
I have feelings of physical fatigue.	30	61	9	2.21
I am feeling the signs and symptoms of stress.	21	63	16	2.05
The day's workload is heavy.	20	40	41	1.81
I feel the need to eat something.	13	60	27	1.87
I want to have a cigarette.	12	11	77	1.35
Break time is assigned and I receive encouragement from co-workers to take the time.	8	16	76	1.32
Break time is assigned.	6	8	86	1.21
Break time is assigned, but I receive discouragement from co-workers to take the time.	1	5	94	1.07

*Score of 1 = Never
Score of 2 = Occasionally
Score of 3 = Usually

Table 10

Circumstances under Which Registered Nurses Take a Lunch/Supper Break

N = 101

Circumstance	Usually %	Occasionally %	Never %	$\bar{X}$*
The day's workload is light.	79	9	12	2.67
I arrange my own break time.	68	31	1	2.69
Another nurse is available to relieve me of patient responsibility during this time.	66	23	11	2.56
The day's workload is heavy.	52	30	18	2.35
Break time is assigned.	43	18	40	2.03
I have feelings of physical fatigue.	42	49	10	2.32
I feel the need to eat something.	42	46	13	2.29
I feel the need to drink something.	36	44	21	2.15
I am feeling the signs and symptoms of stress.	35	53	12	2.23
Break time is assigned and I receive encouragement from co-workers to take the time.	34	24	43	1.93
I want to have a cigarette.	10	9	81	1.29
Break time is assigned, but I receive discouragement from co-workers to take the time.	1	7	92	1.09

*Score of 1 = Never
Score of 2 = Occasionally
Score of 3 = Usually

Arranging their own break time is the most frequent circumstance under which 74% of the subjects usually take a break other than lunch/supper ($\overline{X}$ = 2.70). A light workload is the most frequent circumstance under which 79% of the subjects usually take a lunch/supper break ($\overline{X}$ = 2.67). One percent indicated that usually break time was assigned, but they received discouragement in taking both a break other than lunch/supper ($\overline{X}$ = 1.07) and a lunch/supper break ($\overline{X}$ = 1.09). Nine of the circumstances had mean scores over 2.00 in connection with taking a lunch/supper break. Six circumstances had mean scores of over 2.00 in connection with taking a break other than lunch/supper.

Research Question #5

How does the medical-surgical nurse describe a break during working hours and how frequently does breaktaking occur?

Three sets of statistical analyses were performed. First, frequency distributions, percentages, and mean scores were calculated on the frequency of taking a break other than lunch/supper and on taking a lunch/supper break from the Frequency of Breaks section of the questionnaire (see Table 11). Seventeen percent of the subjects took a break other than lunch/supper twice or more per shift and 26% took such a break once each shift worked.

Table 11

Frequency of Breaktaking

N = 101

Frequencies	%
Break Other Than Lunch/Supper Break	
*($\bar{X}$ = 4.28)	
Twice or more per shift	17
Once each shift	26
4 of 5 shifts	3
3 of 5 shifts	9
2 of 5 shifts	8
1 of 5 shifts	9
1 of 10 shifts	8
1 in 11 or more shifts	21
Lunch/supper Breaks	
**($\bar{X}$ = 1.58)	
Once each shift	69
4 of 5 shifts	15
3 of 5 shifts	8
2 of 5 shifts	5
1 of 5 shifts	2
1 of 10 shifts	1
1 in 11 or more shifts	0

*Range = 1 to 8
**Range = 1 to 7

At the other end of the distribution, 21% took a break other than lunch/supper once in 11 or more shifts worked ($\bar{X}$ = 4.28). Sixty-nine percent of the subjects took a lunch/supper break once each shift worked with 1% taking a lunch/supper break once or less in every 10 shifts worked ($\bar{X}$ = 1.58).

Second, frequency distributions, percentages, and mean scores were calculated on the 18 activities listed in the Activities Participated in While on Break section of the questionnaire for taking a break other than lunch/supper (see Table 12) and for taking a lunch/supper break (see Table 13). Seventy-eight percent of the subjects usually have their break other than lunch/supper interrupted because of patient needs ($\bar{X}$ = 2.77) and 37% usually have their lunch/supper break interrupted ($\bar{X}$ = 2.21). Eighty-nine percent usually eat while on lunch/supper break ($\bar{X}$ = 2.90) and 86% usually sit down ($\bar{X}$ = 2.87). Fifty-eight percent usually sit down while on break other than lunch/supper ($\bar{X}$ = 2.53). Only 1% read nursing literature while on break other than lunch/supper ($\bar{X}$ = 1.53) and also while on lunch/supper break ($\bar{X}$ = 1.35).

Eight of the 18 activities had mean scores of 2.00 or more for taking a break other than lunch/supper and 7 of the 18 activities had mean scores of 2.00 or more for taking a lunch/supper break.

Table 12

Activities Participated in by Registered Nurses While on Break Other Than Lunch/Supper Break

N = 101

Activity	Usually %	Occasionally %	Never %	$\bar{X}$*
Get interrupted because of patient care needs.	78	23	0	2.77
Sit down.	58	37	5	2.53
Drink coffee or other caffeinated beverage.	51	31	18	2.34
Chat with co-workers about job.	50	48	3	2.47
Organize and set priorities for patient care.	36	57	8	2.28
Chat with co-workers about non-nursing subjects.	35	60	5	2.30
Do paperwork.	26	60	15	2.11
Have a cigarette.	22	3	75	1.46
Eat.	20	57	23	1.98
Problem-solve.	16	73	12	2.04
Sit down and put feet up.	13	57	30	1.84
Drink fruit juice or other non-caffeinated beverage.	10	60	30	1.81
Have a quiet time alone.	10	59	31	1.79
Read non-nursing literature.	9	54	37	1.72
Close eyes.	6	31	63	1.43
Pray or meditate.	4	39	57	1.47
Practice learned relaxation techniques (e.g., self-hypnosis, etc.).	4	20	76	1.28
Read nursing literature.	1	51	48	1.53

*Score of 1 = Never
Score of 2 = Occasionally
Score of 3 = Usually

Table 13

Activities Participated in by Registered Nurses

While on Lunch/Supper Break

N = 101

Activity	Usually %	Occasionally %	Never %	$\bar{X}$*
Eat.	89	11	0	2.90
Sit down.	86	14	0	2.87
Chat with co-workers about job.	54	44	2	2.53
Drink coffee or other caffeinated beverage.	42	34	25	2.17
Chat with co-workers about non-nursing subjects.	37	62	1	2.36
Get interrupted because of patient care needs.	37	48	16	2.21
Have a cigarette.	23	2	75	1.47
Drink fruit juice or other noncaffeinated beverage.	23	50	28	1.96
Organize and set priorities for patient care.	20	60	20	2.00
Sit down and put feet up.	13	40	48	1.66
Do paperwork.	10	35	55	1.57
Problem-solve.	9	68	23	1.87
Pray of meditate.	7	23	70	1.37
Have a quiet time alone.	5	38	57	1.48
Read non-nursing literature.	4	39	57	1.47
Practice learned relaxation techniques (e.g., self-hypnosis, etc.).	4	12	84	1.20
Close eyes.	3	18	79	1.24
Read nursing literature.	1	33	66	1.35

*Score of 1 = Never
Score of 2 = Occasionally
Score of 3 = Usually

Third, frequency distributions, percentages, and mean scores were calculated on the four places that breaks were taken from the Place of Break section of the questionnaire for a break other than lunch/supper (see Table 14) and for a lunch/supper break (see Table 15).

Table 14

Places Where Breaks Other Than Lunch/Supper are Taken

N = 101

Place	Usually %	Occasionally %	Never %	$\bar{X}$*
Nursing lounge.	63	30	7	2.56
Nursing station.	16	45	40	1.76
Off nursing unit.	3	16	81	1.22
In patient rooms.	0	13	87	1.13

*Score of 1 = Never
Score of 2 = Occasionally
Score of 3 = Usually

Sixty-three percent of the subjects usually take a break, other than lunch/supper, in the nursing lounge ($\bar{X}$ = 2.56) and 3% usually leave the nursing unit completely ($\bar{X}$ = 1.22); 58% usually leave the nursing unit for lunch/supper break ($\bar{X}$ = 2.43) and 35% stay in the nursing lounge ($\bar{X}$ = 2.20). Usually no breaktaking was

taken in the patient rooms.

Table 15

Place Where Lunch/Supper Break is Taken

N = 101

Place	Usually %	Occasionally %	Never %	$\bar{X}$*
Off nursing unit.	58	26	16	2.43
Nursing lounge.	35	50	15	2.20
Nursing station.	3	12	85	1.18
Patient rooms.	0	2	98	1.02

*Score of 1 = Never
Score of 2 = Occasionally
Score of 3 = Usually

Research Question #6

Is breaktaking perceived by medical-surgical nurses to be helpful in reducing job-related stress?

Three separate sets of statistical analyses were performed. First, frequency distributions, percentages, and mean scores were calculated on the seven effects listed in the Effects of Breaktaking section of the questionnaire for breaks other than lunch/supper (see Table 16) and for lunch/supper breaks (see Table 17).

Table 16

Effects of Taking a Break Other Than Lunch/Supper

N = 101

Effects	Usually %	Occasionally %	Never %	$\bar{X}$*
Feel you have fallen behind in your work.	33	60	7	2.26
Feel more harassed, especially on busy days.	30	48	23	2.07
Feel more organized and able to set priorities, especially on busy days.	30	61	9	2.21
Feel mentally refreshed.	28	59	13	2.15
Feel more relaxed.	27	66	7	2.20
Feel physically rested.	25	59	16	2.09
Feel more physically tired.	5	48	48	1.59

*Score of 1 = Never
Score of 2 = Occasionally
Score of 3 = Usually

Thirty-three percent usually felt they had fallen behind in their work after a break other than lunch/supper ($\bar{X}$ = 2.26), 30% felt more harassed, especially on busy days ($\bar{X}$ = 2.07), and 30% felt better organized and able to set priorities, especially on busy days ($\bar{X}$ = 2.21).

Table 17

Effects of Taking a Lunch/Supper Break

N = 101

Effects	Usually %	Occasionally %	Never %	$\bar{X}$*
Feel you have fallen behind in your work.	35	59	6	2.29
Feel more organized and able to set priorities, especially on busy days.	31	55	14	2.17
Feel more harassed, especially on busy days.	30	54	16	2.14
Feel mentally refreshed.	29	63	8	2.21
Feel more relaxed.	28	68	4	2.24
Feel physically rested.	26	57	17	2.09
Feel more physically tired.	11	50	39	1.74

*Score of 1 = Never
Score of 2 = Occasionally
Score of 3 = Usually

Thirty-five percent usually felt they had fallen behind in their work after a lunch/supper break ($\bar{X}$ = 2.29), 31% felt more organized and able to set priorities, especially on busy days ($\bar{X}$ = 2.17), and 30% felt more harassed, especially on busy days ($\bar{X}$ = 2.14). Feeling more physically tired was usually experienced by only 5% after a break other than lunch/supper ($\bar{X}$ = 1.59), and by 11% after a lunch/supper break ($\bar{X}$ = 1.74).

All of the effects had a mean score of 2.00 or more

for both a break other than lunch/supper and a lunch/supper break, except for feeling more physically tired.

The second set of statistical analyses were frequency distributions, percentages, and mean scores calculated on the perceived effect on stress of taking a break other than lunch/supper from the Effects of Breaktaking section of the questionnaire. The same tests were calculated on the perceived effects on stress of taking a lunch/supper break from the Effects of Breaktaking section of the questionnaire (see Table 18).

Table 18

Perceived Effectiveness of Breaktaking in Reducing Stress

N = 101

Effects on Signs and Symptoms of Stress	%
Break Other Than Lunch/Supper Break	
*($\bar{X}$ = 3.37)	
Greatly increases	6
Somewhat increases	19
Does not affect	15
Somewhat decreases	53
Greatly decreases	7
Lunch/Supper Break	
*($\bar{X}$ = 3.62)	
Greatly increases	4
Somewhat increases	13
Does not affect	12
Somewhat decreases	59
Greatly decreases	12

*Range = 1-5

Taking a break, other than lunch/supper, somewhat decreased stress for 53% of the subjects and greatly decreased stress for 7% ($\overline{X}$ = 3.37). Taking a lunch/supper break somewhat decreased stress for 59% and greatly decreased stress for 12% ($\overline{X}$ = 3.62).

The third set of statistical analyses was performed using two subsections from the Effects of Breaktaking section of the questionnaire. These subsections were the positive effects of breaktaking and the negative effects of breaktaking for both taking a break other than lunch/supper (see Table 19) and for lunch/supper break (see Table 20). Mean scores were calculated by summing the scores within the positive effect subsection and within the negative subsection for both taking a break other than lunch/supper and for taking a lunch/supper break. The sum of the positive effects subsections was divided by four to find the mean score for each of the subjects. The sum of the negative effects subsection was divided by three to find the mean score for each of the subjects. The average mean for the 101 subjects for the positive effects subsection on taking a break other than lunch/supper was 2.11 and for taking a lunch/supper break was 2.14. The average mean for the 101 subjects for the negative effects subsection on taking a break other than lunch/supper was 1.94 and for taking a lunch/supper break was 2.03.

Table 19

Positive and Negative Effects of Taking a Break Other Than Lunch/Supper

N = 101

Effects	Usually %	Occasionally %	Never %	$\bar{X}$*
Positive Effects (average $\bar{X}$ = 2.11)				
Feel more organized and able to set priorities, especially on busy days.	30	61	9	2.21
Feel mentally refreshed.	28	59	13	2.15
Feel more relaxed.	27	66	7	2.20
Feel physically rested.	25	59	16	2.09
Negative Effects (average $\bar{X}$ = 1.94)				
Feel you have fallen behind in your work.	33	60	7	2.26
Feel more harassed, especially on busy days.	30	48	23	2.07
Feel more physically tired.	5	48	48	1.59

*Score of 1 = Never
Score of 2 = Occasionally
Score of 3 = Usually

Table 20

Positive and Negative Effects of Taking a Lunch/Supper Break

N = 101

Effects	Usually %	Occasionally %	Never %	$\bar{X}$*
Positive Effects (average $\bar{X}$ = 2.14				
Feel more organized and able to set priorities, especially on busy days.	31	55	14	2.17
Feel mentally refreshed.	29	63	8	2.21
Feel more relaxed.	28	68	4	2.24
Feel physically rested.	26	57	17	2.09
Negative Effects (average $\bar{X}$ = 2.03)				
Feel you have fallen behind in your work.	35	59	6	2.29
Feel more harassed, especially on busy days.	30	54	16	2.14
Feel more physically tired.	11	50	39	1.74

*Score of 1 = Never
Score of 2 = Occasionally
Score of 3 = Usually

Research Question #7

Is there an association between smoking and breaktaking?

Two sets of statistical analyses were performed. First, using only the smokers who indicated they smoked while at work (N = 26), frequency distributions, percentages, and mean scores were calculated on the activity, I have a cigarette, from the Activities Participated in While on Break section of the questionnaire. The tests were performed for both a break other than lunch/supper and for a lunch/supper break (see Table 21).

Table 21

Activity of Having a Cigarette on Break Other than Lunch / Supper, and Lunch/Supper Break

N = 26

Activity	Usually		Occasionally		Never		$\bar{X}$*
	n	%	n	%	n	%	
I have a cigarette:							
When taking a break other than lunch/supper.	22	84	3	12	1	4	2.81
When taking lunch/ supper break.	23	88	2	8	1	4	2.85

*Score of 1 = Never
Score of 2 = Occasionally
Score of 3 = Usually

Eighty-four percent of the 26 smokers usually smoke on break other than lunch/supper ($\bar{X}$ = 2.81) and 88% usually smoke on lunch/supper break ($\bar{X}$ = 2.85).

Second, two-tailed *t*-tests were computed on the mean differences between the reported frequency of breaks taken by smokers (*N* = 26) and nonsmokers (*N* = 75). This was calculated from the Frequency of Breaks section of the questionnaire. The mean reported frequency of breaks taken other than lunch/supper by smokers was 2.385 and by nonsmokers was 4.937, with the difference in means being significant ($p < .001$). The mean reported frequency of lunch/supper breaks by smokers was 1.538 and by nonsmokers was 1.60. This difference was not significant.

Research Question #8

> Do medical-surgical nurses who smoke during breaks perceive those breaks to be more helpful in reducing job-related stress than do medical-surgical nurses who do not smoke during breaks?

Six two-tailed *t*-tests were calculated between the smokers (*N* = 26) and the nonsmokers (*N* = 75). After dividing the sample into smokers and nonsmokers, the mean scores for each subject was calculated on the negative effects subsection and the positive effects subsection from the Effects of Breaktaking section of the questionnaire. This was done for both groups. The same procedure

was used as in finding the mean scores on these subsections for the total sample of 101 subjects. The average of the mean scores for each group was then calculated (see Table 22).

The results of t-tests revealed that smokers had significantly more positive effects than nonsmokers from break other than lunch/supper ($p = .0222$), but there was only a trend toward significance with positive effects for lunch/supper break ($p = .0522$). There were no significant differences between smokers and nonsmokers in negative effects felt after either break other than lunch/supper or lunch/supper break.

Second, scores for the smoker and nonsmoker groups on the perceived effect on stress of taking a break other than lunch/supper and of taking a lunch/supper break were compared using t-tests. Smokers perceived significantly greater stress reduction after a break other than lunch/supper than nonsmokers ($p = 0.0107$) (see Table 23). There was no difference in the groups on the perceived stress reduction of a lunch/supper break.

While smokers reported greater stress reduction as a result of a break other than lunch/supper, than did nonsmokers, there was no difference in the level of stress experienced by the two groups. The mean frequency of experienced stress for smokers was 4.404 (range 1-7); nonsmokers mean frequency of experienced stress was 4.547.

A two-tailed t-test revealed no significant difference between the two groups.

Table 22

Average Means and t-Tests of Negative and Positive Effects of Breaktaking

Sample	n	Average Mean	t	p
Positive effects of taking a break other than lunch/supper:				
Smokers:	26	2.327	2.301	.0222
Nonsmokers:	75	2.030		
Positive effects of taking a lunch/supper break:				
Smokers:	26	2.317	1.940	.0522
Nonsmokers:	75	2.080		
Negative effects of taking a break other than lunch/supper:				
Smokers:	26	1.920	-.205	.6693
Nonsmokers:	75	1.944		
Negative effects of taking a lunch/supper break:				
Smokers:	26	2.035	.106	.5784
Nonsmokers:	75	2.025		

Table 23

Means and t-Tests of Perceived Effect of Signs and Symptoms of Stress

N = 101

Sample	n	Mean	t	p
Perceived effect on signs and symptoms of stress after a break other than lunch/supper:				
Smokers:	26	3.822	2.591	.0107
Nonsmokers:	75	3.220		
Perceived effect on signs and symptoms of stress after a lunch/supper break:				
Smokers	26	3.846	1.337	.1813
Nonsmokers:	75	3.547		

CHAPTER V

Discussion

This chapter contains a discussion of the results of the statistical analyses of the research data. This includes discussion of the findings from the total sample and discussion of significant differences found between the smoking and nonsmoking groups. Recommendations for further study also are included.

In the literature review, talking things out was reported by nurses to be an effective coping mechanism (Ness, 1982; Oskins, 1979). Also, nurses reporting the least stress tended to talk to nursing supervisors and co-workers (Albrecht, 1982). The most frequently used coping method in this study was similar. A majority of the sample keep working, but talk to co-workers about the situation.

The second most frequent coping method used in this study was the item, "Take time to mentally reorganize self." This item was added to the list of possible coping methods in the questionnaire because of the responses received from the eight nurses who were interviewed prior to constructing the questionnaire. The open-ended question asked was, "Is there anything you do to reduce the feelings of stress while working?" (see Appendix C,

question 4-B). No coping method similar to this had been found in the nursing literature.

The third most frequent coping method found in this study was the item, "Ignoring the signs and symptoms of stress." Cronin-Stubbs and Velsor-Friedrich (1981) also found this behavior and they reported that those nurses who did ignore stress had more psychosomatic problems such as headache, fatigue, hypertension, and depression. Ignoring stress while on the job appears to be an ineffective method of coping.

The fourth most frequent coping method found in this study was "finding humor in what is happening." This method was cited by Bell (1977) in a nonnursing population, but no nursing studies had previously mentioned humor.

Of interest is the fifth most frequent coping method found in this study. The nurses keep working, but drink caffeine, a known stimulant. While caffeine would not be relaxing, especially if taken without a break, it may be effective in counteracting fatigue and increasing mental alertness.

The findings of this study have demonstrated a number of coping methods that nurses use that have not been reported previously in the literature. Specifically, these were "take time to mentally reorganize self," "find humor in what is happening," and "keep working, but drink caffeine."

On-the-job stress is experienced by the subjects approximately once out of every five shifts worked. The average frequency of breaks other than lunch/supper is approximately three times out of every five shifts worked, and lunch/supper break is taken almost daily. But only 21% of the subjects usually take a break other than lunch/supper to reduce stress. Only 35% usually use lunch/supper break to reduce stress. The subjects take breaks more often than they report experiencing stress. But the majority appear not to be using those breaks as a coping method for stress with any frequency. Indeed, of the five most frequently reported coping methods, only one is related to breaktaking. That one method is "taking time to mentally reorganize self" and one could argue that such activity is not a real break from the work routine.

This study also looked at how the subjects described a break and also at the circumstances under which nurses take their breaks. These results may have some bearing on the low percentages of nurses who reported using breaks to reduce stress.

Seventy-four percent of the nurses are usually responsible for arranging their own breaks other than lunch/supper and 71% usually take those breaks if the day's workload is light. It is approximately the same for lunch/supper, except that having another nurse available to relieve them of patient responsibility is usually necessary

for 66%.

Seventy-eight percent of the total sample reported that a break other than lunch/supper is usually interrupted. Other frequent activities are sitting down, drinking caffeinated beverages, eating, and chatting with co-workers about the job. The least frequent activities on either break were having a quiet time alone, closing eyes, or practicing learned relaxation techniques.

Sitting down can be relaxing, but being interrupted, drinking caffeine, and discussing the job may not be. Break other than lunch/supper is most frequently taken in the nursing lounge (63%). It may be that the atmosphere in the nursing lounges where most of the breaks, other than lunch/supper, are taken do not allow stress-reducing activities such as quiet time alone, closing eyes, and practicing learned relaxation. It is not known from this study what kind of atmosphere nurses prefer, but if they would want a quiet place and it was not available, the environment then becomes a factor in not taking a break other than lunch/supper more often, or using breaks more often to reduce on-the-job stress. Also, having to arrange their own break, other than lunch/supper can mean that, unless a break is considered useful in reducing stress, arranging the time for it will not be a first priority.

When looking at differences between the smoking and

nonsmoking groups, the smoking group took breaks other than lunch/supper significantly more often than did the nonsmoking group ($p < .001$). Smokers average a break other than lunch/supper approximately once in every shift worked ($\bar{X} = 2.385$); nonsmokers average a break other than lunch/supper approximately two times in every five shifts worked ($\bar{X} = 4.937$).

Smokers do not experience on-the-job stress more often than nonsmokers, but they report using breaks more often than do nonsmokers to cope with on-the-job stress ($p = .007$). They reported experiencing more positive effects from taking a break, other than lunch/supper ($p = .0222$), and there is a trend toward smokers experiencing more positive effects from lunch/supper break ($p = .0522$).

Smokers also perceive a greater reduction in stress after a break other than lunch/supper than do nonsmokers ($p = .0107$). Perhaps smokers take more breaks, other than lunch/supper, because the break is more rewarding to them in terms of stress reduction and experienced positive effects. The frequency of experiencing on-the-job stress cannot be a factor as there are no differences in experienced stress between the smoking group and nonsmoking group.

What this study has not clarified is, if it is the smoking or the break that is the primary factor in the

perceived stress reduction and positive effects of taking a break. The literature supports the idea of increased smoking when experiencing stress. Urinary excretion of nicotine is increased under stress (Schachter, Silverstein, & Perlick, 1977), leading to lowered nicotine blood levels. Thus, the smoker must smoke more often to maintain nicotine levels. Also, nicotine itself may produce both increases in Alpha waves, which are related to relaxation states, and transient muscle relaxation (Golding & Mangen, 1982). The smoker may smoke to obtain the feelings of relaxation that nicotine produces.

On the other hand, learning how to relax when under heavy stress keeps the urinary pH from decreasing and can decrease the amount of smoking when under stress (Dobbs & Strickler, 1981). Also, Peters, Benson, and Porter (1977 a, b) found that practicing relaxation techniques while on a break from work can increase job satisfaction and lower blood pressure. Unfortunately, only 4% of the entire sample in the present study practiced any kind of deliberate relaxation technique while on break. Because of the lack of reported use of specific relaxation techniques, it appears more likely that the cigarettes being smoked while on break are contributing the most to the perceived stress reduction among the smoking group.

Even though the smoking group used breaks more often to cope with stress than did the nonsmoking group, and

experienced more positive effects and stress reduction, there may be other reasons for the greater frequency of break other than lunch/supper among the smokers. Only 27% of the smokers reported that they usually coped with stress by taking a break and having a cigarette. But the smokers average one break other than lunch/supper, every shift. Eighty-four percent usually smoke while on that break. There is a big discrepancy between the percentage who smoke on break and the percentage who take a break and smoke to reduce stress.

The frequency of breaktaking may be related to a physiological need to smoke. Smokers tend to regulate their nicotine blood levels, keeping it at a level that promotes the most comfort for the individual (McMorrow & Foxx, 1983). If they do not maintain their optimal blood nicotine level, they can begin to experience withdrawal symptoms which include anxiety, loss of concentration, headache, drowsiness, and gastrointestinal disturbances. Thus, if it is difficult to continue patient care and smoke, the smokers may be managing their workday to include breaks.

Another explanation for the more frequent breaktaking among the smokers is that they may simply need a break and smoking makes it possible to be able to take one. If time management is a problem, expecially on busy days, smoking a cigarette may be the only excuse the nurse can

find to get away for a few minutes. A cigarette can be a signal that the nurse is on a break and will finish smoking it before returning to work, and it may help to prevent interruptions. This idea was hinted at in Murray and Swann's study (1983) where seven nurses stated that smoking was a signal they were not available for patient care.

Thus, the reasons why smokers are taking more breaks, other than lunch/supper, may be greater stress reduction, a physiological need for nicotine, or smoking provides the excuse that is needed to take a break. For whatever reasons, this study does show that nurses usually arrange their own breaks other than lunch/supper, and smokers arrange a break significantly more often than do nonsmokers.

Of equal interest is why nonsmokers take fewer breaks, other than lunch/supper, than do smokers. They do experience significantly fewer positive effects from a break than do smokers and they perceive breaks to be less helpful in reducing stress. Breaks other than lunch/supper are also frequently interrupted. Perhaps nonsmokers see few benefits to be gained from taking a break, and not having the need to smoke, have greater difficulty in managing the time or finding the right excuse to remove themselves from patient care to take a break. But if they have so little control over their time, the question must

be raised as to how the smokers, working in similar environments, manage almost daily breaks other than lunch/supper. the second question to be asked is whether or not there is a difference in the quality of patient care and in the amount of overtime worked between smokers and nonsmokers, based on the different use of their time while at work.

The differences found between the smokers and nonsmokers in frequency of break other than lunch/supper and effects of these breaks have implications for the profession of nursing. Research has shown that participants who relax during a break taken in a quiet room show significant decreases in somatic complaints and blood pressure, and an increase in sociability, job satisfaction, and performance (Peters, Benson, & Porter, 1977a, b). This kind of response could counter the beginnings of burnout which leads to negative self-concept, negative job attitudes, and loss of concern for patients (Pines & Masloch, 1978).

There is also the issue of fatigue from working many hours without a break. Research conducted on worker efficiency have shown that as little as eight minutes of rest in the morning and seven minutes rest in the afternoon resulted in a 35% increase in work completed (Karn, 1966). Besides efficiency, quality of work is important in nursing. Fatigue can interfere with critical thinking.

Errors in nursing judgments affecting a patient's recovery can be made. Attentiveness to patient safety, as well as their own, can be lessened and serious accidents are more likely.

For these reasons, nursing should be vitally interested in discovering why breaks are not being utilized fully by nonsmoking nurses to reduce stress and fatigue and to increase efficiency and quality of care. There is a special irony in the smokers use of break-taking. They averaged a break other than lunch/supper almost every shift. They perceived positive effects from this break and they reported stress being somewhat decreased after taking a break. Thus, stress-related problems such as burnout and physical illness may not develop among the smokers. However, smoking related diseases are a very real possibility.

Recommendations for Further Research

Very few studies have previously been done on how nurses cope with job-related stress. Three of the five most frequently used coping methods in this study have not previously been reported in nursing studies. Further research is recommended to describe how nurses cope with job-related stress and the effectiveness of these coping methods.

This self-report study found that smokers took more

breaks, other than lunch/supper, than did nonsmokers. Smokers also perceived more positive effects and more stress reduction from a break other than lunch/supper than did nonsmokers. It is recommended that observational studies be conducted to compare smoking and nonsmoking groups in breaktaking behavior and to identify variables that might be responsible for differences between the two groups. Some variables to study are the effects of smoking itself, attitudes toward breaktaking, time management, workload, environmental barriers to breaktaking, and interruptions. Also, research is recommended to determine if it is the break or smoking that is the primary factor in perceived stress reduction and positive effects of breaktaking in smoking nurses.

Experimental studies are recommended to measure the effect that taking a break every shift and not taking a break every shift has on fatigue, critical thinking, efficiency, quality of patient care, and stress reduction of both nonsmoking and smoking nurses. Also it may be of interest to discover what effect verbal encouragement from management, control of interruptions and having a quiet place for breaks may have on the frequency of breaks taken and the perceived effectiveness of these breaks in reducing stress and fatigue.

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APPENDICES

APPENDIX A

QUESTIONNAIRE

Questionnaire

The purpose of this study is to describe the coping methods used by registered nurses to reduce job-related stress. This study is being conducted by KaRene C. Lehman, graduate student in the Master in Nursing program at the University of Kansas.

Time required to complete the questionnaire is 15-20 minutes. Both you and your place of employment will remain anonymous and you are free to withdraw from this study at any time without prejudice.

Thank you,

KaRene C. Lehman
Investigator
School of Nursing
University of Kansas
Medical Center

QUESTIONNAIRE

Part I: Survey Questions

Section 1: Experienced Stress

1. Too much stress can create unpleasant feelings or physical problems. Put a check (✓) in front of all the signs and symptoms you have when experiencing too much stress.

Physically, I experience:

1._____Anorexia
2._____Butterflies in stomach
3._____Chest pain
4._____Diarrhea
5._____Dizzyness
6._____Fatigue
7._____Headache
8._____Hunger
9._____Other
10._____Indigestion
11._____Muscle tightness
12._____Muscular tics
13._____Nausea
14._____Palpitations
15._____Shakiness
16._____Stomach pain
17._____Sweating

What I do is:

18._____Complain
19._____Increase talking to others
20._____Become hyperactive
21._____Sleep less
22._____Sleep more
23._____Other
24._____Tell jokes and laugh
25._____Throw or slam objects
26._____Stop talking to others
27._____Yell or blow up
28._____Become tearful

What I feel is:

29._____Anger
30._____Anxiety
31._____Apprehension
32._____Confusion
33._____Fear
34._____Frustration
35._____Other
36._____Impatient
37._____Loss of concentration
38._____Irritation
39._____Uptight
40._____Worry
41._____Guilt

2. How often do you feel these signs and symptoms of stress when you are working?

1._____every shift worked.
2._____4 out of 5 shifts worked.
3._____3 out of 5 shifts worked.
4._____2 out of 5 shifts worked.
5._____1 out of 5 shifts worked.
6._____1 out of 10 shifts worked.
7._____1 out of 11 or more shifts worked.

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8._____Hunger
9._____Other
10._____Indigestion
11._____Muscle tightness
12._____Muscular tics
13._____Nausea
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3._____3 out of 5 shifts worked.
4._____2 out of 5 shifts worked.
5._____1 out of 5 shifts worked.
6._____1 out of 10 shifts worked.
7._____1 out of 11 or more shifts worked.

Section 2: Coping Methods

3. Nurses who experience the signs and symptoms of stress during working hours cope with this stress in many different ways. They can seek long-term solutions to problems that cause stress. At the same time, in order to manage an acutely stressful situation, more short-term coping methods to control emotions are sometimes chosen.

   Listed below are short-term coping methods nurses have reported using to manage job-related stress during working hours. Please circle the response that best describes how often you use each coping method during working hours.

When I feel the signs and symptoms of stress during working hours I:	Never	Occasionally	Usually
a. Take a break and talk with co-workers about the situation.	1	2	3
b. Keep working but talk with co-workers about the situation.	1	2	3
c. Stay away from the situation causing the stress.	1	2	3
d. Stop talking to co-workers.	1	2	3
e. Ignore the signs and symptoms of stress and keep working.	1	2	3
f. Take time to relax.	1	2	3
g. Take time to mentally reorganize self.	1	2	3
h. Take a break and sit down.	1	2	3
i. Keep working, but sit down.	1	2	3
j. Take a break and cry.	1	2	3
k. Keep working, but cry.	1	2	3
l. Take a break and have a cigarette.	1	2	3
m. Keep working, but have a cigarette.	1	2	3
n. Take a break and pray or meditate.	1	2	3
o. Keep working, but pray or meditate.	1	2	3
p. Take a break and drink coffee or other caffeinated beverage.	1	2	3
q. Keep working, but drink coffee or other caffeinated beverage.	1	2	3
r. Take a break and eat something.	1	2	3
s. Keep working, but eat something.	1	2	3
t. Take a break and drink fruit juice or other noncaffeinated beverage.	1	2	3
u. Keep working, but drink fruit juice or other noncaffeinated beverage.	1	2	3
v. Find humor in what is happening.	1	2	3
w. Other (please specify)_____	1	2	3

Section 3: Activities Participated in While on Break

4. Taking a break is one of many ways to cope with job-related stress.. Registered nurses vary their breaktaking in many different ways.. The purpose of the next four questions is to describe your use of breaktaking during working hours.

Listed below are activities that registered nurses have reported participating in while on a break. A break has been divided into two separate activities: Lunch and/or Supper Break and Breaks taken Other than Lunch and/or Supper.

There are 2 response columns on the right side of the page; the first is labeled Break, the second is labeled Lunch and/or Supper Break. Please circle the response in the Break column and in the Lunch and/or Supper column that best describes your use of each activity listed while on a break and while having lunch and/or supper.

Example:	Break			Lunch and/or Supper Break		
Question While on a break or having lunch and/or supper, how often do you:	Never	Occasionally	Usually	Never	Occasionally	Usually
Have a quiet time alone?	1	2	3	1	2	3

	Break			Lunch and/or Supper Break		
While on a break or having lunch and/or supper break, how often do you:	Never	Occasionally	Usually	Never	Occasionally	Usually
a. Have a quiet time alone?	1	2	3	1	2	3
b. Chat with co-workers about job?	1	2	3	1	2	3
c. Chat with co-workers about nonnursing subjects?	1	2	3	1	2	3
d. Eat?	1	2	3	1	2	3
e. Drink coffee or other caffeinated beverage?	1	2	3	1	2	3
f. Have a cigarette?	1	2	3	1	2	3
g. Sit down?	1	2	3	1	2	3
h. Sit down and put feet up?	1	2	3	1	2	3
i. Drink fruit juice or other noncaffeinated beverage?	1	2	3	1	2	3
j. Close eyes?	1	2	3	1	2	3
k. Pray or meditate?	1	2	3	1	2	3
l. Read nursing literature?	1	2	3	1	2	3
m. Read nonnursing literature?	1	2	3	1	2	3
n. Practice learned relaxation techniques (e.g., self-hypnosis, guided imagery, progressive relaxation, etc.)?	1	2	3	1	2	3
o. Organize and set priorities for patient care?	1	2	3	1	2	3
p. Do paperwork?	1	2	3	1	2	3
q. Problem-solve?	1	2	3	1	2	3
r. Get interrupted because of patient care needs?	1	2	3	1	2	3
s. Other (please specify)_____	1	2	3	1	2	3

Section 4: Place of Break

Question	Break			Lunch and/or Supper Break		
	Never	Occasionally	Usually	Never	Occasionally	Usually
5. How often do you take a break or have lunch and/or supper in each of the following places:						
a. Off the nursing unit?	1	2	3	1	2	3
b. In the nursing lounge on the unit?	1	2	3	1	2	3
c. At the nursing station?	1	2	3	1	2	3
d. In patient rooms?	1	2	3	1	2	3
e. Other (please specify) _____	1	2	3	1	2	3

Section 5: Frequency of Breaks

6. Other than lunch/supper, how often on the average do you take a break during working hours? Check (✓) one.

_____ 1. Twice or more during each shift worked.
_____ 2. Once each shift worked.
_____ 3. 4 times out of 5 shifts worked.
_____ 4. 3 times out of 5 shifts worked.
_____ 5. 2 times out of 5 shifts worked.
_____ 6. Once out of 5 shifts worked.
_____ 7. Once out of 10 shifts worked.
_____ 8. Once in 11 or more shifts worked.

7. On the average, how often do you take a lunch/supper break during working hours. Check (✓) one.

_____ 1. Once each shift worked.
_____ 2. 4 times out of 5 shifts worked.
_____ 3. 3 times out of 5 shifts worked.
_____ 4. 2 times out of 5 shifts worked.
_____ 5. Once out of 5 shifts worked.
_____ 6. Once out of 10 shifts worked.
_____ 7. Once in 11 or more shifts worked.

Section 6: Circumstances that Affect Breaktaking

Nurses take a break or have lunch and/or supper at different times and under different circumstances. Listed below are various circumstances that may affect whether or not you take a break during working hours. Please indicate, by circling the appropriate response, how often each circumstance listed affects your taking a break or having lunch and/or supper breaks.

Question I take a break or have lunch and/or supper breaks when:	Break			Lunch and/or Supper Break		
	Never	Occasionally	Usually	Never	Occasionally	Usually
a. Break time is assigned.	1	2	3	1	2	3
b. I arrange my own break time.	1	2	3	1	2	3
c. Break time is assigned and I receive encouragement from co-workers to take the time.	1	2	3	1	2	3
d. Break time is assigned, but I receive discouragement from co-workers to take the time.	1	2	3	1	2	3
e. Another nurse is available to relieve me of patient responsibility during this time.	1	2	3	1	2	3
f. The day's workload is light.	1	2	3	1	2	3
g. The day's workload is heavy.	1	2	3	1	2	3
h. I have feelings of physical fatigue.	1	2	3	1	2	3
i. I am feeling the signs and symptoms of stress.	1	2	3	1	2	3
j. I want to have a cigarette.	1	2	3	1	2	3
k. I feel the need to eat something.	1	2	3	1	2	3
l. I feel the need to drink something.	1	2	3	1	2	3
m. Other (please specify)_____	1	2	3	1	2	3

Section 7: Effects of Breaktaking

9. Taking a break during working hours affects nurses in different ways. Listed below are some effects that taking a break can have. Please circle the response in each right-hand column for each effect listed that best describes how often you experience each effect after taking a break or after having lunch and/or supper breaks.

Question	Break			Lunch and/or Supper Break		
After taking a break or after having lunch and/or supper breaks, how often do you:	Never	Occasionally	Usually	Never	Occasionally	Usually
a. Feel more harassed, especially on busy days.	1	2	3	1	2	3
b. Feel more organized and able to set priorities, especially on busy days.	1	2	3	1	2	3
c. Feel more physically tired.	1	2	3	1	2	3
d. Feel physically rested.	1	2	3	1	2	3
e. Feel mentally refreshed.	1	2	3	1	2	3
f. Feel more relaxed.	1	2	3	1	2	3
g. Feel you have fallen behind in your work.	1	2	3	1	2	3
h. Other (please specify)_____	1	2	3	1	2	3

10. If you are feeling the signs and symptoms of stress during working hours, other than lunch and/or supper, taking a break: (please check ✓ one)

_____ 1. Greatly increases the signs and symptoms of stress.
_____ 2. Somewhat increases the signs and symptoms of stress.
_____ 3. Does not affect the signs and symptoms of stress.
_____ 4. Somewhat decreases the signs and symptoms of stress.
_____ 5. Greatly decreases the signs and symptoms of stress.

11. If you are feeling the signs and symptoms of stress during working hours, having lunch and/or supper break: (please check ✓ one)

_____ 1. Greatly increases the signs and symptoms of stress.
_____ 2. Somewhat increases the signs and symptoms of stress.
_____ 3. Does not affect the signs and symptoms of stress.
_____ 4. Somewhat decreases the signs and symptoms of stress.
_____ 5. Greatly decreases the signs and symptoms of stress.

Part II: Demographic Data

1. Sex: Male_____ Female_____

2. Level of Education: ___Diploma ___AD __BSN ___MN

3. Shift Worked: ___Rotating ___Days ___Evenings ___Nights

   Length of Shift Usually Worked:

   ___8 hrs. __10 hrs. ___12 hrs. ___Other

   Years of Nursing Experience: __0-2 yrs. __6-10 yrs.

   __3-5 yrs. __over 10 yrs.

4. Employed: _____Part-Time _____Full-Time

5. Average number of Registered Nurses assigned to each work shift on your unit: ___1 ___2-3 ___4-6

Part III: Smoking History

1. Number of cigarettes smoked per 24 hours:

   ___None ___1-10 ___11-20 ___over 20

2. Number of cigarettes usually smoked during working hours, including allotted time for breaks and for lunch/supper:

   ___None ___1-10 ___11-20 ___over 20

3. Length of time smoked:

   ___zero ___less than one year ___1-5 yrs. ___6-20 yrs. ___over 20 yrs.

4. If you do not smoke now, have you ever smoked:

   ___No ___Yes, but quit within last 6 months.

   ___Yes, but quit 6 mos. to 5 years ago.

   ___Yes, but quit over 5 years ago.

APPENDIX B

SCORING GUIDE FOR QUESTIONNAIRE

Scoring Guide for Questionnaire

Section 1: Survey Questions

Question 1: Not Scored

Question 2: Range = 1-7

Response	Score Values
Every shift worked.	1
4 out of 5 shifts worked.	2
3 out of 5 shifts worked.	3
2 out of 5 shifts worked.	4
1 out of 5 shifts worked.	5
1 out of 10 shifts worked.	6
1 out of 11 shifts worked.	7

Section 2: Coping Methods

Question 3: Range = 1-3

Response	Score Values
Never	1
Occasionally	2
Usually	3

Section 3: Activities Participated in While on Break

Question 4: Range = 1-3

Response	Score Values
Never	1
Occasionally	2
Usually	3

Section 4: Place of Break

Question 5: Range = 1-3

Response	Score Values
Never	1
Occasionally	2
Usually	3

Section 5: Frequency of Breaks

Question 6: Range = 1-8

Response	Score Values
Twice or more during each shift worked.	1
Once each shift worked.	2
4 times out of 5 shifts worked.	3
3 times out of 5 shifts worked.	4
2 times out of 5 shifts worked.	5
Once out of 5 shifts worked.	6
Once out of 10 shifts worked.	7
Once in 11 or more shifts worked.	8

Question 7: Range 1-7

Response	Score Values
Once each shift worked.	1
4 times out of 5 shifts worked.	2
3 times out of 5 shifts worked.	3
2 times out of 5 shifts worked.	4
Once out of 5 shifts worked.	5
Once out of 10 shifts worked.	6
Once in 11 or more shifts worked.	7

Section 6: Circumstances that Affect Breaktaking

Question 8: Range = 1-3

Response	Score Values
Never	1
Occasionally	2
Usually	3

Section 7: Effects of Breaktaking

Question 9: Range = 1-3

Response	Score Values
Never	1
Occasionally	2
Usually	3

Section 7: Effects of Breaktaking (continued)

Question 10: Range = 1-5

Response	Score Values
Greatly increases the signs and symptoms of stress.	1
Somewhat increases the signs and symptoms of stress.	2
Does not affect the signs and symptoms of stress.	3
Somewhat decreases the signs and symptoms of stress.	4
Greatly decreases the signs and symptoms of stress.	5

Question 11: Range = 1-5

Response	Score Values
Greatly increases the signs and symptoms of stress.	1
Somewhat increases the signs and symptoms of stress.	2
Does not affect the signs and symptoms of stress.	3
Somewhat decreases the signs and symptoms of stress.	4
Greatly decreases the signs and symptoms of stress.	5

APPENDIX C

INTERVIEW

Interview

My name is KaRene Lehman. I am a student in the MN program in nursing at K.U. I am in the process of preparing a questionnaire for thesis that will gather data to describe coping methods used by med-surg RNs to handle on-the-job stress. I am also interested in the effectiveness of the methods used. Information that you give will be of great value in helping me develop my survey questions and will be kept anonymous and confidential.

Are you willing to be interviewed?

As you know, too much stress can create unpleasant feelings or physical problems.

1. What are the signs that tell you you might be experiencing stress?

   Response:
   - -Hyperactivity
   - -Express anger
   - -Feel frustrated
   - -Bothered by small things
   - -Irritable
   - -Lose continuity
   - -Lose stability
   - -Weakness
   - -Dizzyness
   - -Brain feels like mush
   - -Confusion
   - -Uptight
   - -Anorexia
   - -Headaches
   - -Sweaty palms
   - -Blood pressure increases
   - -Body tension at end of day
   - -Fatigue at end of day
   - -Tight feeling in throat and gut
   - -Wants to cry

-Apprehensive
-Lose organizational skills
-Diaphoresis
-Complain

2. Some nurses find certain aspects of their jobs stressful. Do you ever feel these signs of stress when you are working:

Response: 10 Yes _____No

3. How often do you find stress at work?

Response: Rarely Seldom Once a month Weekly

4-A. If answer is NO (in #2): Thinking only about the hours spent working, is there anything you do to prevent the feelings of too much stress while working?

Response: -Organize before day begins
-Devotions before coming to work

B. If answer is YES (in #2): Thinking only about the hours spent working, is there anything you do to reduce these feelings of stress while working?

Response: -Meditate on causes of stress
-Five-minute break in lounge and smoke a cigarette, drink coffee
-Talk to co-workers
-Talk to patients
-Five-minute break wherever I am at time of stress, step back against wall, take a deep breath
-Figure out priorities, what needs to be done
-Five-minute break in lounge, preferably alone, at time of stress, close eyes and rest
-Eat
-Ignore it and just keep going
-Pray.

5. Do these coping methods work for you?

Response: YES--5-minute break at time of stress everything okay
-I don't blow up if I talk to someone
-Can make a decision when I return to work.

SOMEWHAT--Knows better method relaxation technique, but does not use at work
-If go back to same stressful situation, control lasts about 10 minutes and then will explode
-If situation is over, break will keep me from exploding.

NO--Go home tired
-No place to be alone.

6. In the last two weeks, have you finished your shift and gone home finding yourself feeling some of the signs of stress?

Response: YES--Opportunity to talk it out has been missing.
-Relaxes after gets home, can then go over day's events
-Sometimes calls back
-No time to deal with stress because am too busy doing.

NO--Stays past end of shift to finish work so won't have to hurry to get done.

7. You did (or did not) mention taking breaks as a coping method--other than lunch/supper:

A. Do you take breaks?

Response: YES--5-minute break if stress too high
-Cup of coffee on run if rushed.
-Plans for break.

B. How often?

Response:

A LOT

ONLY IF TIME PERMITS--Sitting down to chart at 1400 sometimes is the first time.

DAILY--10-minutes if busy, more if not
-Taking break when day is busy adds to stress, but I still take it.

C. What do you consider a break?

-Social exchange with co-workers.
-Sit in lounge, do charts, smoke and drink coffee.
-Sit in lounge, do charts, drink something.
-Sit in lounge, drink something.
-Sit in lounge, smoke, drink coffee.
-Sitting down, doing charts, even in patient's room.
-Sitting down.
-Being away from patients.
-Quiet time.

D. What do you do on break?

-Drink pop
-Sit
-Smoke
-Drink Coffee
-Chart
-Puts feet up
-Evaluate day and set priorities
-Problem-solve
-Read non-nursing literature
-Eat
-Talk about non-nursing subject
-Talk about job.

E. Is it easy or hard to take a break? In what way?

EASY--Plans for it.
-Lounge directly behind nurses station, can see call lights.
-Depends on how busy the day

HARD--Hard to take a break
-Lounge too open, always accessible to be called.
-Easy if taken before 0900, otherwise might not find time.

F. Are you encouraged to take a break?

-No one condemns you
-It is accepted that it is okay to take a break
-No comments on taking a break
-No feelings of should not.

G. Do your co-workers take breaks every day?

YES

NO -RNs don't get away for breaks because of responsibility
-Depends on how busy

H. Where do you take your breaks?

-Lounge
-Cafeteria

I. Are your breaks interrupted?

YES -Frequently, no one covers for breaks

NO

8. Concerning lunch/supper break:

A. Where?

-Lounge
-Desk if in charge
-Cafeteria
-Also interrupted
-Time varies, depending on how busy
-Leaves unit if not charge nurse

B. What?

-Alone or with someone, depends on who else is in lounge
-Eat
-Talk about work
-Always with someone
-Put feet up

C. Do you ever skip lunch/supper breaks?

YES -No time
-Sometime doesn't eat until after work

NO -Encouraged to always take

D. Interrupted?

-Sometimes
-Yes
-No
-Lunch break covered
-Called to help someone
-Charge nurse is still in charge

E. Do you feel refreshed or different after a break?

YES -Reduces stress
-Attitude becomes more positive unless concerned about work or situation on unit
-Less effective on busy day
-Provides rest so can finish work
-Smoking and sitting down very relaxing
-Mentally refreshing!

F. Do you feel refreshed or different after a lunch/supper break?

YES -Mentally refreshed.
-Can organize what else needs to be done, even if taking at desk
-More relaxed after lunch
-Tired after lunch
-Slow down
-Less energy after lunch

NO

9. You did (or did not) mention having a cigarette as a coping method?

A. Do you smoke on breaks?

YES -Cigarettes smoked while working? 6 - 20

NO

B. On lunch/Supper breaks?

YES

C. Are you able to smoke at times other than breaks?

YES -Pay attention to who is around before I smoke
-In lounge, smoking while cleaning, doing paper work, talking to others.
-Yes, but don't want to abuse the privilege, so don't

D. Do you receive negative or positive feedback regarding smoking?

-Head nurse discourages
-On days have to take a break in lounge to have a cigarette.

10. After smoking a cigarette, do you feel refreshed or different?

A. Smoking on break:

-Smoking and sitting down relaxing
-No difference in feelings
-Helps mental refreshment
-A reward

B. Smoking when not on break?

-On nights, more paperwork, more sitting, more smoking
-No help--just a bad habit
-Disruptive rather than relaxing
-Doing something else will also have a cigarette

That is all the questions. Do you have anything you would like to add or any questions you would like to ask?

APPENDIX D

AGENCY CONSENT FORM

Agency Consent Form

I give my permission for KaRene C. Lehman, a graduate student, to administer a questionnaire to professional nurses employed by this institution,_____.

The questionnaire, designed by the investigator, is a self-report survey of coping methods used by registered nurses to manage on-the-job stress. The perceived effectiveness of those methods also will be measured. The questionnaire will be distributed between April 10, 1984, and May 30 1984.

I understand participation in this study will not involve any risk to employees of our institution. I understand that neither the names of the subjects nor the name of the institution will be identified in the study and that confidentiality will be maintained both for the institution and individual employees. Also, both this institution and individual employees are free to withdraw from this study at any time.

_____ _____

Director of Nursing Date

_____ _____

Witness Date