CHAPTER-II

REVIEW OF LITERATURE
Stress – An Overview

Stress is an inevitable part of human life. Academicians, Practitioners, administrators and researchers have always been interested in studying this problem as it directly affects the efficiency of the employee. An optimum amount of stress is required for an optimum performance.

In this chapter we are presenting the review of literature of the works of various scholars on role stress among doctors working in different departments and in a challenging environment. Stress has been a subject of debate among various scholars, researchers and academicians who have identified various factors which contribute to stress among doctors working in a hospital.

Job stress has been defined as the non-specific response of the body to any demands made upon it (Selye, 1976)\(^1\). It is considered to be an internal state or reaction to anything we consciously or unconsciously perceive as a threat, either real or imagined (Clarke and Watson, 1991)\(^2\). Robbins (2001)\(^3\) defines stress as a dynamic condition in which the individual is confronted with an opportunity, constraint, or demand related to what he or she desires and for which the outcome is perceived to be both uncertain and important. Stress can be caused by environmental, organizational, and individual variables (Matteson and Ivancevich, 1999; Cook and Hunsaker, 2001)\(^4\);\(^5\). Organizational-based factors have been known to induce job stress for employees at the workplace (Greenhaus and Beutell, 1985)\(^6\). These factors are commonly termed as organizational stressors since they serve as agents that trigger the various stress reactions (Von Onciul, 1996)\(^7\). Among the numerous organizational sources of stress, only five variables were
investigated in this study namely conflict, blocked career, alienation, work overload, and unfavorable work environment.

Role conflict has been found to have a positive relationship with job stress (Roberts et al, 1997). When individuals are required to play two or more role requirements that work against each other, they are likely to experience job stress. This is because role conflicts create expectations that may be hard to reconcile. Foot and Venne (1990) discovered a positive relationship between barriers to career advancement and job stress. When employees perceived a lack of career opportunities, they are likely to feel uncertain about their future in the organization, which in turn, are likely to induce stress. Thoits (1995) in his study discovered that alienation has a positive effect on job stress. Feelings of alienation are likely to result when employees are required to work alone. According to Kanungo (1981), when workers believe there is a separation between their own job and other work related contexts, a sense of frustration that finally manifested in a behavioral state of apathy is likely to occur. This is particularly intense for employees with high social needs. Working alone on one’s job without social support from one’s peers and supervisors would lead to job stress (Mirovisky and Ross, 1986; Eugene, 1999). Work overload both quantitatively and qualitatively has been empirically linked to a variety of physiological, psychological, and behavioral strain symptoms (Roberts et al, 1997; Miller and Ellis, 1990). According to Greenhaus et al (1987), heavy workload lowers one’s psychological well being resulting in job stress. Additionally, a work environment associated with unpleasant organizational climate, lack of privacy, a lot of hassle in conducting work,
and distractions can result in higher stress (Eugene, 1999; Miller and Ellis, 1990)\textsuperscript{13,14}.

Past studies have indicated the potential impact of personality traits on job stress (Goldberg, 1993; Deary and Blenkin, 1996; Snyder and Ickes, 1985)\textsuperscript{16,17,18}. Five personality dimensions that have been identified are neuroticism, extraversion, openness, agreeableness, and conscientiousness (Costa and McCrae, 1985; McCrae and Costa, 1991; McCrae, 1992)\textsuperscript{19,20,21}. The neuroticism domain reflects one's degree of emotional stability and adjustment. Extraversion assesses the extent to which individuals are assertive, active, and talkative. Openness measures the extent to which persons are open to new experiences, are creative and imaginative and prefer variety. Agreeableness reflects the extent to which one is altruistic and cooperative. Conscientiousness measures one's self control and purposefulness and is associated with academic and occupational achievement. Of these personality dimensions, neuroticism has been found to have a positive relationship with job stress (Deary and Blenkin, 1996; Tellegen, 1985; Birch and Kamali, 2001)\textsuperscript{17,22,23}.

Work stress is increasingly recognized as one of the most serious occupational health hazards reducing worker's satisfaction and productivity, and increasing absenteeism and turnover (Gianakos, 2000:1)\textsuperscript{24}. The end result of continuous work stress over time is worker-burnout, which may lead to serious physical and emotional problems (Gautam, 2001:37)\textsuperscript{25}. Hospital staff in particular is subject to work-stress simply because they are severely challenged by their rapidly changing environment (AL-Aameri, 2005:531)\textsuperscript{26}. Previous studies have revealed positive association between work stress and the number of errors (Perry et al, 2000: 518)\textsuperscript{27}. In the
United States it was reported that preventable errors caused between 44000 and 98000 patients to die every year (Sexton et al, 2000:746). In UK more General Practitioners (GPs) experienced poorer mental health, more dissatisfaction and higher stress level in 1993 than 1987 (Kirwan and Armstrong 1995:259-260; Rout and Rout, 1994: 301). 25% to 50% of the British National Health Service’s staff reported distress suffering (Weinberg. and Creek, 2000; 533). Therefore, many reports suggested that stress among physicians, nurses and other health professionals is high (Caplan, 1994:1261; Graham et al, 1996:185-94; Gross, 1997:1-14; Al-Aameri and Al-Fawzan, 1998:366).

The quality of health care can be extremely influenced by the stressed health staff (Firth-Cozens, 1998:1335). In a study conducted in Canada, on more than 2000 doctors, it was found that doctors under stress had more problems with patients and rated their quality of care lower (Burke and Richardson, 1990:1335-1344). In fact there is an ongoing concern in the UK, about the mental health of medical practitioners (Ramirez et al, 1996:724). Such mental problems make health staff in general and doctors in particular susceptible to more physical and emotional morbidity (Gautam, 2001:37) which in turn needs careful consideration. Work stress is estimated to cost American Industry between 200 to 300 million dollars per year as evaluated by absenteeism, dropped productivity, staff turnover, injuries, direct health, legal and insurance fees, etc. The World Health Organization (WHO) called work stress as a “world wide epidemic”. Such important facts about stress show that excessive stress has costs to both the organization and the employees. This reflects the significance of conducting this study.
In fact stress and burnout are sometimes conceived among the organizational behavior concerns of the decade (DuBrin, 1984:162). Though the literature paid a large amount of attention to stress, the basic nature of stress is still not agreed upon. Some authors see stress as an external or internal stressor causing tension on a person or a group. While others see stress as physiological and mental reaction to an external stressor (DuBrin, 1984:162). However, it is true that not all stress is negative; there is a positive side of stress (eustress) as well as the negative side of it (distress). Therefore, there is the reasonable degree of stress, which motivates some people to high performance, and there is too much stress which causes low performance; the situation of no stress is impossible (Morgan, 1994:307-309).

Literature includes hundreds of stress definitions. Most of which involve the complex interaction between a person and his/her work environment. Therefore, stress refers to the situation at which a person’s skills and ability do not match the work demands and requirements, and/or when the employees’ needs are not fulfilled by the job environment (Ramirez et al, 1996:724). Baron defined stress as psychological and physiological discomfort that is experienced when work demand exceeds a person’s coping strategies (Baron, 1983:305). From the above it could be concluded that work stress is helpful for the worker to cope effectively with the work requirements, but extended or continuous coping sometimes hurts the worker and may lead to unpleasant results especially if the requirements continuously exceeds the worker skills and abilities.

Previous research revealed that there were many causes correlated to work stress. According to some researchers, causes of work stress may be
found both within worker personality and within the work environment (Newman and Beehr, 1979:1-44; Ratliff, 1988:148) \(^{42,43}\). A study conducted on 1133 consultants working in the UK, reported that work overload and influenced home life; poor administration and resources; administrative responsibilities assumed; and dealing with patients' pain were perceived as sources of stress. In the same study, radiologists reported the highest level of burnout in terms of low personal accomplishment (Ramirez et al, 1996:726-727) \(^{38}\). In addition, lack of clear direction concerning the organizational goals was found to be among the significant causes of work stress (Murphy, 1987:19-20) \(^{44}\). Role ambiguity, role conflict and clarity of organizational goals were also found to be of significant relationship with work stress among 433 of the employees of seven Kuwaiti governmental sectors (Al-Fadli, 1999:135) \(^{45}\). Role ambiguity and role conflict were also correlated with work stress among 50 Emergency doctors working in nine hospitals of the northern areas of Jordan (Nusair and Deibageh, 1997:301) \(^{46}\). The same study stated that the job nature and its demands cause stress. Another study conducted in Saudi Arabia showed that the effect of job demands on primary health care doctors' social life was a source of stress (Al-Shammari, 1996:85) \(^{47}\). A study conducted on 333 doctors in Scotland indicated that higher clinical workloads were related to higher stress (Deary et al, 1996:3) \(^{48}\). Responsibility for others and career development were also found to be of significant relationship with work stress among doctors (Nusair and Deibageh, 1997:301) \(^{46}\). Undesired relationship with work colleagues was a significant source of stress (Glowinkowski and Cooper, 1986:177) \(^{49}\). The nature of hospital job was also found to be a source of stress; the fact that the employee may deal with communicable-disease patients causes a threat to the employee health. Research has pointed out that a perception of the work
environmental risks may increase work stress (Montgomery, 1995:445-450) \(^{50}\). Career planning and development were also reported to have significant influence on work stress (Nusair and Deibageh, 1997:330) \(^{46}\).

From the above studies it is clear that the most frequent causes of stress can be listed under role conflict and role ambiguity, work load, responsibility for others, poor relationships with others, job conditions, career planning and development. Role ambiguity arises out of being given inadequate information to perform a job properly. On the other hand, when roles and responsibilities contradict with each other, role conflict emerges. Quantitative work load arises when there is too much tasks to perform in a specific period of time. Yet, qualitative work overload occurs when the work requirements exceed worker's intellectual competence and skills. Responsibility for others can be too much to the extent that it may contribute in causing work stress. Poor relationships with others lead to less trust and support between peers, subordinates, and superiors. Poor working conditions such as room temperature, noise, improper lighting, etc can cause stress. Career planning and development include job security, promotions, work transfers and progress opportunities.

Previous research also indicates that there were costly negative outcomes of work stress (Al-Aameri and Al-Fawzan, 1998:366) \(^{35}\). A lot of behavioral problems caused by work-related stress; among these problems undesirable relationships among work colleagues, increased rate of absenteeism, and gradual loss of self confidence (Wilke et al, 1985:342-357) \(^{51}\). Another study covered 1317 diplomates of the American Board of Emergency Department (ABEM) showed that more than one quarter of the sample felt burnt out or impaired, while 23.1\% reported that they were
planning to leave the practice within five years (Doan-Wiggins et al, 1999:556) 52. Another study conducted on nurses in Saudi Arabia revealed that stressful nurses were more likely to leave their hospitals than those with less work stress were (Bin Saeed, 1995:207) 53. Stress can also lead to health and behavioral health problems such as heart and chest problems, consumption of alcohol and drugs (Al-Meer, 1995:212) 54. Therefore, revealing the causes of work stress will help reducing the undesirable effects of work stress.

In a study conducted in the United States it was found that ED doctors and nurses differ in mean stress levels (Perry et al, 2005:518) 27. Many studies found that the level of work stress vary according to differences in socio-demographic factors (Al-Fadli, 1999; Nusair and Deibageh, 1997; Haines et al 1991:212) 45, 46, 56. A study revealed that older the employee, the less work stress level (Rathod et al, 2000:133) 55 but higher the education level, the more work stress level (Haines et al, 1999:212) 56. It was also found that being 55 years or less and being single were independent risk factors for burnout (Ramirez et al, 1996:724) 38. Females were more likely to report being stressed (Rathod et al, 2000:133; Al-Mishan, 2000:67) 55, 57. Another study conducted to investigate the sources of job stress among Kuwaiti and non-Kuwaiti government employees revealed that Kuwaiti employees were significantly more stressed on all dimensions of stress except on the vocational development where the non-Kuwaiti employees experienced higher stress (Al-Mishan, 2001:67) 57.

Stress research has significantly added to the medical literature over the past twenty years or so. It is known that work can be an exciting source of challenge, where potentials and capabilities of the self are discovered and
utilized. This positive stress perspective has been termed “eustress’ (Mesler R., 1994) 58. Yet work is more commonly indicated as one of the most universal and intense kinds of “distress’. Distress is viewed in the “west” as a malady, needing treatment. Thus said, definitions and theories have evolved in the recent past with models explaining the aetiology of work related stress and subsequent negative psychological (anxiety and depression) and physical (heart disease and hypertension) effects.

The importance of understanding work stress and health as a problem for General Practitioners (GPs) was yielded by Appleton (Appleton K, House A., Dowell A, 1998:48) 59 in a study among 406 GPs. There was found that 2/3 of the respondents had general symptoms of stress and 52% of respondents reported mental distress. The results of different studies showed that general practice is one of the most stressful workplace among healthcare workers(Buxrud EG,1990:3260-3264; Calnan M, Wainwright D, Forsythe M, Wall B & Almond S,1990:499-507) 60, 61 and has higher rates of job strain than in the reference population.

There are a number of studies showing that about half of the investigated GPs were not satisfied with their work (Schattner PL, Coman GJ, 1998:133-137; Cooper CL, Rout U, Faraghar B, 1989:366-370) 62, 63 due to high job requirements. In recent literature important sources of psychosocial stress for GPs are mentioned: excessive paperwork, health reforms, bureaucratic interference(Simoens S,Scott A, Sibbald b,2002:80-86) 64, job demands, decision latitude, workplace location(Sexton R,2003:101) 28, job pressure, patient load, lack of organizational support(Branthwaite A, Ross A,1988:83-93) 65, dealing with difficult patients(Calnan M, Wainwright D, Forsythe M, Wall B & Almond
According to the research studies on stress in UK general practice has become endemic over recent years. Increasingly stress is a feature of society as a whole, and GPs' ability to deal with stress in them generally influences their ability to help others to do the same. Stress is an ambiguous word that is used on different occasions to denote positive or negative strain in a physical or emotional context. A 1995 study (Hayter P, Peckham S, Robinson R., 1996) found that GPs with high stress levels do not necessarily have low morale, and that there is a close positive correlation between levels of job satisfaction and morale. Other studies have also highlighted the protective effect of job satisfaction against stress (Ramirez AJ, Graham J, Richards MA, Cull A, Gregory WM, 1996).

It is therefore difficult to agree a common definition, and researchers have often measured the causes and effects of stress on GPs or the practice, rather than the quantity of stress that is present. For the purposes of this document, stress is defined (Richards C, 1989) as the "physical, emotional and mental strain resulting from the mismatch between an individual and his/her environment", which results from a "three way relationship between demands on a person, that person's feelings about those demands and their ability to cope with those demands" (Bynoe G, 1994). It is typically characterized by high levels of arousal and distress, and often by feelings of not coping. Stress is most likely to occur in situations where: demands are high; the amount of control an individual has is low; and, there is limited support or help available for the individual. A rapidly changing work
situation with associated role conflict or ambiguity can also be a major cause of occupational stress.

Stress in general practice is a dynamic process that changes in quantity and quality in response to internal and external factors. It has been suggested that the nature of the profession facilitates an inflexible response to pressure due to the culture of personal responsibility rather than delegation, and also, the need to provide best care for each patient rather than making trade-offs in a resource constrained environment (Edwards N, Kornacki MJ, Silversin J, 2002)\textsuperscript{72}.

Anxiety, depression, dependence and burnout, have often been reported together with stress in the literature as they share common causative factors and often co-exist, and so have been included in this document. Apart from the individual distress caused, stress and other morale issues amongst GPs are a current concern in the UK because of difficulties with retaining the workforce needed to meet the targets of a primary care led NHS. A recent survey of GP retirement found that a quarter of professionals planned to retire before the age of 60 with “health, including stress” contributing to 36\% of these decisions (Mathie T, Mckinlay D 1996)\textsuperscript{73}. Another recent study found that 33\% of doctors who retired with ill health did so due to psychiatric illness.(Pantani S, Constantinovici N, Williams S, 2001)\textsuperscript{74}.

The proportion of doctors and other health professionals showing above threshold levels of stress has stayed remarkably constant at around 28\%, compared with around 18\% in the general working population (Firth-Cozens J, 2003)\textsuperscript{75}. Around half of GPs scored as being “stressed” in a study undertaken in 1994, a similar rate as for hospital consultants and hospital
managers, and roughly twice that of the general public (48% GPs scored positively on the *GHQ-289 versus 27% of men and 28% of women in the general population in another study using the *GHQ-3016). A study conducted in 1998, which used the GHQ-12 self-report questionnaire to measure psychological symptoms in GPs, reported that 52% of responders scored above the cut-off usually used to detect probable cases of psychiatric morbidity in general population surveys. Again, this is roughly twice that found in the general population.  

About half of GPs have been categorized as suffering from probable borderline or more severe anxiety (55% Caplan RP, 1994 and 41% Chambers R, Campbell I, 1996) in separate studies with a score of at least 8 or over using the Hospital Anxiety and Depression (HAD) scale; and a quarter of GPs have been classed as suffering from at least borderline depression (27% Caplan RP, 1994 and 26% Chambers R, Campbell I, 1996) in separate studies with a score of at least 8 or over using the HAD scale).

A national survey of GP opinion conducted in 2001 by the BMA (to which 23,521 GPs responded) found that 21% of responders considered the amount of work-related stress they experienced to be “excessive and unmanageable”, while another 61% considered it “excessive but manageable”. In the same survey the 55% of the sample group considered that work impinged on their quality of life to an “unacceptable” extent.

Burnout describes the syndrome of emotional exhaustion, depersonalization, low productivity, and feelings of low achievement (Kirwan M, Armstrong D, 1995)
A study of British GPs (Kirwan M, Armstrong D, 1995) found that significant numbers of GPs in all age groups are affected and that burnout was significantly higher in the UK than the US. The picture emerging of GP morbidity is of professionals who take very little time off work for illness but who, when they are off work, tend to be off for long periods (Forsythe M, Calnan M, Wall B, 1999).

Mortality statistics have shown doctors' increased risks from cirrhosis, accidents and poisoning since the nineteenth century. These elevated rates have persisted for cirrhosis (Predicted Mortality Rate (PMR) of male doctors is 203) and suicide (PMRs 162 and 193 for male and female doctors respectively) (Office of Population Censuses and Surveys 1995). A systematic review of papers reporting suicides in European or North American doctors described the relative risks of suicide among doctors compared with their general populations as being between 1.1 to 3.4 times for male doctors and 2.5 to 5.7 times for female doctors. However, a more recent study reported that although the rate of suicide amongst female doctors in England and Wales was higher than the general population, the rate amongst male doctors was lower.

The study also found that general practice, as a specialty, had significantly higher suicide rates than general medicine (Hawton K, Clements A, Sakarovitch C, Simkin S, Deeks JJ, 2001). Further research suggests that more GPs than consultants report suicidal thoughts (Caplan RP, 1994) [32]. An early study (Sakinhofsky I, 1980) revealed that the wives of GPs were four times more likely to commit suicide than other women. A more recent study has observed that the main stresses for GP
spouses were the GPs’ detachment from the family; concern about workload; and, communication problems (Rout U, 1996). One of the first studies to look at the causes of stress in general practice in the mid-1980s (Branthwaite A, Ross A, 1988) found that insecurity about work, isolation, poor relationships with other doctors, disillusion with the role of GPs and changing demands were all sources of perceived stress. In the late 1980s, Cooper and others (Cooper CL, Rout U, Faragher B., 1989) found that the four most important predictors of job stress were: work-home interface, demands of the job, patients’ expectations and practice administration. For women doctors, the interference of the job with family life was the most significant predictor of stress whilst for men it was the joint stressors of practice administration and job demands.

More recent surveys by the same authors (Howie JG, Hopton JL, Heaney DJ, Porter AMD, 1992; Sutherland VJ, Cooper CL, 1992) showed that in 1990, GPs reported most stress from night calls emergencies during surgery hours, and interruption of family life. Females experienced more stress than males from visiting during adverse weather conditions, fear of assault on night visits, finding a locum, the working environment, lack of emotional support at home, and dealing with friends or relatives as patients.

Conflict between their work and personal lives seems to have been particularly stressful for female doctors (Rout U, 1996). It has been suggested that the fact that female GPs are more likely to self-medicate and less likely to seek formal medical help might be explained by the pressure on female doctors to be seen to be working at least as hard as men.

A Medical Audit Advisory Group (French DP, McKinley RK, Hastings A, 2001) surveyed its constituent GPs in 1993 and found that the
top ten stressors in descending order of frequency were emergency calls during surgery hours, night calls, time pressure, working after a sleepless night, dealing with problem patients, worrying about patient complaints, interruption of family life (Hawton K, Clements A, Sakarovitch C, Simkin S Deeks JJ, 2001) 79 24 hour responsibility for patients' lives and unrealistically high expectations by others of the doctor's role and partner on holiday.

A recent study (Sibbald B, Enzer I, Cooper C, Rout U, Sutherland V, 2000) 85 showed that by 1998 GPs were reporting less stress than in 1990 caused by disturbance of home life, interruptions by emergency calls and night visits. However there was an increase in stress due to high expectations of others; adverse publicity by the media; the working environment; dealing with problem patients; worrying about complaints; finding a locum; arranging hospital admissions and dealing with terminal illness.

Interestingly women reported considerably less stress in the late 1990s than in 1990 in dividing time between work and family, perhaps indicating that they are beginning to successfully renegotiate or redefine the expectations of others. Perhaps surprisingly, given the increase in nine of the fourteen listed stressors, GP job satisfaction was found to have risen between 1990 and 1998.

The relationship between stress and satisfaction levels has been found by other studies to be an ambiguous one. Women has been found to be more satisfied by their work than men but no less stressed (Appleton K, House A, Dowell A, 1998) 59. Increased professional efficacy, in some circumstances, can be maladaptive, increasing future stress and burnout (McManus IC, Winder BC, Gordon D, 2002) 86.
Howie and his colleagues have carried out extensive research studies (Howie J, Porter A, Heaney D, Hopton J, 1991; Howie JG, Hopton JL, Heaney DJ, Porter AMD, 1992) into occupational stress in general practice, particularly with respect to the timing of consultations and doctors' working styles. Many of the main stressors for GPs appear to be created or perpetuated by doctors' own policies (Howie J, Porter A, Heaney D, Hopton J, 1991): overbooking patients, starting surgeries late, accepting commitments too soon after surgeries are due to finish, making insufficient allowances for extra emergency patients and allowing inappropriate telephone or other interruptions. Higher than average pressure scores occurred in doctors with fast consultation rates compared to those with slower rates, although there was no overall correlation between feelings of pressure and consultation rate. Evidence from systems with longer consultation times suggest that these are not enough by themselves to ensure high morale (McManus IC, Winder BC, Gordon D, 2002). What appear to be more important is partnership and practice arrangements. One study suggested that practices, which had equitable and inclusive partner and practice relationships, managed workloads better than practices that were a collection of disparate individuals. Protected time between consultations to tackle problems proactively as a partnership was seen as very important (Huby G, Gerry M, McKinstry B, Porter M, Shaw J, Wrate R, 2002).

Although recent research still shows that night calls can be detrimental to GP’s mental health and also to the quality of patient care (French DP, McKinley RK, Hastings A, 2001) there has been a trend for GPs not to cite the provision of emergency care as a cause of stress since the mid-1990s. (Chambers R, Campbell I, 1996) This was probably due to
the changed arrangements for the provision of out of hours care in the UK at that time whereby many GPs are able to delegate a proportion of emergency care to deputizing services and GP co-operatives. Research seems to show that it is not the amount of hours but when they are worked that is significant to GP stress levels (Firth-Cozens J, Moss F, 1998)\(^{36}\). At least two studies have found improvements in the health status of doctors coinciding with the increased use of co-operatives (Heaney D, Gorman D, Porter M, 1998)\(^{89}\).

Another survey (Hayter P, Peckham S, Robinson R 1996)\(^{68}\) has noted that a changing trend is the rise of “inappropriate patient demands” coupled with “increasing expectations of what doctors can provide” as a cause of stress, rather than simply an increase in numbers of patient demands. Patients are increasingly active consumers and they demand, and have been encouraged to expect, enhanced services, including extended hours and rapid access while showing less respect and deference to health professionals (Edwards N, Kornacki MJ, Silversin J 2002)\(^{72}\). Spurgeon et al (Spurgeon P, Barwell F, Maxwell R 1995)\(^{90}\) found that older GPs were more stressed by new contract demands compared to younger doctors, but younger doctors were more stressed by unrealistic patient demands.

Those GPs who considered that job stress was responsible for causing them psychological symptoms of ill-health were those who reported being particularly stressed about the effects of work on their home and social lives (Spurgeon P, Barwell F, Maxwell R 1995)\(^{90}\).

Worrying about patients' complaints was an important stressor as was a feeling that the media is becoming more hostile and creating a blame culture (Edwards N, Kornacki MJ, Silversin J 2002)\(^{72}\). This seems to be at odds with the remarkably sustained high levels of general public satisfaction.
with GP services. (Cabinet Office 2002) GPs also frequently cited both imposed changes from NHS management and perceived loss of autonomy (greater accountability) as having a negative impact on morale. (Hayter P, Peckham S, Robinson R 1996).

There has been debate about whether doctors develop mental health problems as a result of working in medicine or because they are more likely to have psychologically vulnerable personalities before selection to medical school. (Vaillant G, Sobowale N, Mcarthur C 1972). This study concluded that the physicians with the least stable childhood’s seemed to be the most vulnerable to the occupational hazards of being a doctor; maladaptive personality traits and poor coping styles were already present before entering medical school. Medical students may be motivated to study medicine by unconscious neurotic drives and unresolved conflicts from childhood that attempt to improve their own well-being by healing others. Firth-Cozens (Firth-Cozens J 2003) found that the quality of early relationships that junior doctors had with their parents could predict whether they develop job stress, and their attitudes to their jobs.

Other researchers have noted doctors tendency to compulsivity and perfectionism. (Gabbard GO 1985). This may be coupled with A type of personality that is highly self-critical, another factor that has been associated with an increased likelihood of developing stress (Firth Cozens J, 2003). One important manifestation of this perfectionism is the need to portray a healthy image to both patients and colleagues due to the perception that good health in doctors is linked with medical competence.

Only a third of junior doctors register with a GP. This isolation in ill-health is both stressful and a barrier to appropriate self-car (Thompson WT,
Cupples ME, Sibbett CH, Skan DI, Bradley T 2001). Another study has found that these worries about confidentiality and image lead to high levels of self prescription and medication amongst GPs; high levels of working when sick and a low use of formal medical services. (Chambers R, Belcher J 1992).

A recent survey (Chambers R, George V, McNeill A, Campbell I 1998) of stress in the general practice team other than the doctors, found that the top six causes of stress volunteered in descending order of frequency were: patient demands, too much work, patient abuse/aggression, time pressures concerning appointments, GP demands and poor communication. Health visitors have reported different causes of stress from practice employed staff. The top causes of stress - which affected at least two thirds of respondents in a 1994 survey Durdle T 1995) were: lack of time, frequent management reorganizations, lack of feedback on effectiveness, day to day bureaucracy, lack of administrative support, lack of consultation about major organizational changes and inadequate computer support systems and training.

Experience of stress does not necessarily result in pathological changes or damage. Stress may be contained within the body's normal homeostatic limits. Many symptoms of stress are uncomfortable and reduce the quality of life without causing irreversible damage to the individual. People vary as to the length of time and magnitude of stress needed to cause ill health, but a concurrent illness or co-existing life events may have additive effects, and can increase vulnerability to stress or reduce the ability to cope with stress.
Some general characteristics of a stressed person at work (Cox T 1993) are: lack of concentration, poor timekeeping, poor productivity, difficulty in comprehending new procedures, lack of co-operation, irritability, aggressiveness, withdrawal behaviour, resentment, increased tendency to make mistakes and resistance to change. The extent and magnitude of the stress or load necessary to reduce an individual doctor's performance or satisfaction levels will depend on the doctor's personality, biographical factors and coping methods.

There is little published work quantifying either the effects of stress on doctors or the results of interventions designed to reduce stress, and most report people's perceptions. In 1970 Mechanic (Mechanic D 1970) produced some evidence to show that frustrated doctors are more willing to take undesirable short cuts in treating patients. Grol has demonstrated poor clinical performance in those doctors with negative feelings of tension, lack of time and frustration (Grol R, Mokkink H, Smits A, Van Eijk J, Beek M, Mesker P, Mesker-Niesten J 1985) as evidenced by having a high prescription rate and with giving little explanation to patients. As part of an 11-year follow-up study of 225 doctors who graduated in 1985, Firth-Cozens investigated the links between stress and lowered clinical care (Firth Cozens 2003). Thirty three percent of the sample reported lowered standards of patient care that they saw as having a primarily stress-related cause. This is particularly true where insufficient hours of sleep are involved, although working long hours in itself is not a problem provided a doctor feels well supported. When stress symptoms result in mistakes and poor care this can also harm the doctor due to long-lasting feelings of guilt. (Howie J, Porter A, Heaney D, Hopton J 1991).
An additional problem is that the under-treatment of dependence and depression in them is well-recorded in doctors and may increase the likelihood of them also under-treating their patients with these disorders.

The signs of burnout progress through a first stage of feeling exhausted, tense, pressured and guilty to the second stage where the sufferer feels frustrated, is hostile, aggressive and quick to anger; and becomes increasingly depressed and bored (Kirwan M, Armstrong D 1995) \(^9\). In the third and final stage of burnout a GP may feel hopeless, thinks continually of escape routes, is often late for work, and is forgetful, withdrawn and drained of all interest in others. It has been suggested that depersonalization (cynicism) is an adaptive coping mechanism that reduces stress by acting as an ego-defense mechanism. (McManus IC, Winder BC, Gordon D 2002) \(^6\). In this respect it can be viewed as a rational response to overbearing circumstances.

Only a minority of GPs under stress continue to deteriorate until they reach the final stages of burnout or absolute fatigue. Most cope as best they are able and continue to keep up acceptable standards of work whilst tolerating the physical and psychological effects of stress.

The effects of stress on a practice may be seen as increased errors such as in prescribing, disloyalty, increased staff turnover, limited team working, increased numbers of patients' complaints, poor time-keeping and sickness absence, resistance to change or the adoption of new technology or systems, and disruption in the practice organisation even resulting in a practice partnership split. Staff may be less motivated or effective. It has been suggested that it is practice arrangements that both exacerbate and fail

GPs may have little energy or capacity to listen or empathise with patients, and communication between doctors and patients may be poor. Low job satisfaction has been directly related to lower patient satisfaction and compliance with treatment. Research has shown a statistically significant lowering in “perceived depth of relationship” with their GP in consultation sessions surrounding nights on call. These sessions were found to be characterised by anticipatory or hangover stress. (French DP, McKinley RK, Hastings A 2001) Stressed GPs may develop problems in their relationships with their partners and family, becoming uncommunicative at home or work, and more withdrawn and isolated. (Rout U 1996)

Doctors commonly use alcohol as a common coping method for stress, which causes more stress and affects well being and performance. A 1998 report from the BMA (British Medical Association 1998) stated that as many as seven per cent of doctors were addicted to alcohol and / or other chemical substances, with about half of those being addicted to alcohol alone. A further study reported that 23% of GPs had increased their drinking in response to stress. (Mckevitt C, Morgan M, Simpson J, Holland W 1995) It is important to note that, characteristically, the loss of professional abilities occurs late in the progress of addictive disease, and an addicted doctor is not necessarily performing at a level that is harmful to patient care.

Dental practice is also known to be stressful. Dentists have to deal with many significant stressors in their personal and professional lives (Grace E, 1996) There is some evidence to suggest that dentists suffer a high level of job related stress (Baran O.R., B.Myers Briggs, 2005).
Factors that affect dentist's psychological status can be job-related psychological disorders also contribute greatly. Factors that affect dentist's psychological status can be job-related stress, tension, depression, emotional exhaustion, and depersonalization.

83 percent of dentists' perceived dentistry as being "very stressful" (Baran O.R., B.Myers Briggs, 2005)\(^1\), nearly 60 percent perceived dentistry as more stressful than other professions (Moore R, Brodsgaard I, 2001)\(^2\). Dentists indicated running behind schedule, causing pain, and heavy work load, late and anxious patients as well being the most intense stressors in their work(Moore R, Brodsgaard I, 2001)\(^3\). Dentists, who reported that dental anxiety was primarily the result of general psychological problems in patients, usually had solo practices older than 18 years and reported high perceived stress (Moore R, Brodsgaard I, 2001)\(^4\). Clinicians experience numerous workplaces, financial, practice management and societal issues for which they often are unprepared after finishing a university.

The difference in reported levels of stress between dental specialties was not found. Practitioners working in the field of pediatric dentistry reported the highest median levels of stress though this trend was not significant (Newton JT, Mistry K, Patel A, Patel P et al, 2002)\(^5\).

A large number of factors are implicated in stress situations, including low autonomy, work overload, and lack of congruence between power and responsibility. Doctors and dentists who take on a teaching role in addition to their clinical role may increase their levels of stress, but there is also evidence that this dual role may reduce job-related stress (Rutter H, Herzberg J, Paice E, 2002)\(^6\). Stress may produce "burnout". It is a
syndrome of emotional exhaustion, depersonalization and reduced personal accomplishment, a particular type of job-related stress reaction. It is a response to the chronic emotional strain of dealing extensively with other human beings, particularly when they are troubled or having problems. The values of burnout and its constituents among dental workers are amazingly high (Baran O.R., B.Myers Briggs, 2005). Findings suggest that burnout has features of maladaptive coping in the short term but is, paradoxically, protective in the longer term. Dentists are prone to burnout due to the nature of their work but may be able to prevent it if they can recognize the burnout process and take regular holiday breaks.

Burnout is assumed to have an adverse influence on patient care, although no dental studies, as yet, have tackled the issue (Gilmour J, Stewardson DA, Shugars DA, Burke FJ, 2005).

The study in England exhibited high overall burnout in 10.6 percent of examined dentists. Emotional exhaustion was found in 25.53 percent, depersonalization – 8.88 percent and reduced personal accomplishment in 34.42 percent of dentists (Osborne D, Cruocher R, 1994).

When the Spanish dentists were questioned, high values were detected in emotional exhaustion – 54.3 percent, depersonalization – 55.6 percent; personal achievements – 6.9 percent (Varela-Centelles PI, Valin Liz MC et al, 2005). Gender differences in burnout among dentists do exist. Male dentists reported a higher score of depersonalization than did female dentists (Brake H, Bloemendal E, Hoogstraten J, 2005). However, results indicate that underlying factors, such as working hours, have a profound effect on these differences (Brake H, Bloemendal E, Hoogstraten J, 2005). Men
work more hours and work part time less frequently (Walton SM, Byck GR, Cooksey JA, Kaste LM, 1999)\textsuperscript{113}.

Dentists are not unique experiencing high overall burnout. Very similar data is presented among all primary care practitioners: 19% of respondents had a high score for emotional exhaustion, 22% had a high score for depersonalization or cynicism and 16% had a low score for professional accomplishment, 32% had a moderate degree and 4% had high degree of burnout (Goebring C, Gallacchi MB, Kunzi B, Bovier P, 2005)\textsuperscript{114}. A high degree of burnout is associated with the male sex, practicing in a rural area, and excessive perceived stress due to global workload, patient's expectations, and difficulties to balance professional and private life, economic constraints in relation to the practice, medical care uncertainty and difficult relations with non-medical staff at the practice (Goebring C, Gallacchi MB, Kunzi B, Bovier P, 2005)\textsuperscript{114}.

Burnout comes about in situations where there is a focus on problems, lack of positive feedback, the level of emotional stress is high and where problems are chronic (Osborne D, Cruocher R, 1994)\textsuperscript{110}.

Depression may be a consequence of prolonged experience of burnout (Humphris G, 1998)\textsuperscript{115}.

There is a relationship between emotional load and volume of patients treated. Depersonalization levels decrease with age and it could be due to a number of factors – socialization skills increasing with age, a slowing of pace of work which allows more personal contact, or the establishment of personal relationships with patients over time (Osborne D, Cruocher R, 1994)\textsuperscript{110}.
Older dentists work fewer hours, with a larger impact of age seen among men (Walton SM, Byck GR, Cooksey JA, Kaste LM, 1999) 113.

Emotional support may be gained from co-workers that are why the numbers of burnout syndrome may decrease in the larger practice groups. Conversely, a particular characteristic of private practice is the high level of control.

It allows dentists to have control over their working conditions: a factor which is reported to help reduce stress levels. It is also related to income, autonomy and the match between technical aspirations and practical outcomes (Osborne D, Cruocher R, 1994) 110.

Higher levels of depersonalization in unmarried dentists compared with those who were married suggests that involvement with a spouse and children makes married people more experienced in dealing with personal problems 110.

The higher levels of personal accomplishment were in dentists with post-graduate qualifications (Osborne D, Cruocher R, 1994) 110.

Also specialists were more satisfied with their psychosocial work environment than general practitioners, especially regarding their personal control over their work and the stimulation of their work. The specialists also had more self-confidence and experienced less anxiety than general practitioners and head dentists (Osborne D, Cruocher R, 1994) 110. Lack of career perspective appears to be the stress factor strongly related to burnout (Gorter RC, Albrecht G, Hoogstraten J, Eijkman MA, 1998) 116. This relation should stimulate serious attention for career planning among dentists.
The conceptual basis of burnout would seem to imply that physical environment is probably of minor importance in the process and no actual workplace condition could be demonstrated to be correlated with high burnout levels, it would be prudent to make the practice environment as pleasant as possible. For, apart from directly reducing stress on the dentist, it might reduce the anxiety level of patients, and thus the emotional load on the dentist (Gorter RC, Albrecht G, Hoogstraten J, Eijkman MA, 1998)\textsuperscript{116}. 

There tend to be some differences in burnout scores relating to the levels of professional isolation. The lack of hierarchal structure to general dental practice means that dentists have constantly to rely on their own emotional resources in the clinical situation. This contrasts with the worker within an organization where there are colleagues with whom to share the emotional strain of contacts with distressed clients. Furthermore, superiors in a hierarchy are available for support and help when necessary, which can substantially alleviate anxiety. This argument is counterbalanced by the issues of autonomy and control. Large organizations are able to deal with issues such as staff discipline, communication with other organizations and financial control. In small organizations such as general dental practice, the stress associated with these activities is concentrated to a small number of people, frequently the dentist (Gorter RC, 2005)\textsuperscript{117}. A very interesting study identified the specific situations that most frequently produce stress. The majority of these situations could be classified as being related either to dental procedures and office organization or to interpersonal relationships involving patients and/or office personnel (Bourassa M, Baylard JF, 1994)\textsuperscript{118}. So, dentists consider clinical matters their greatest stress (Bourassa M, Baylard JF, 1994)\textsuperscript{118}.
Differences of individual responses to stress may be attributable to personality factors and differences in coping styles, and tend to support the hypothesis that stress is a unique, perceptual and experimental phenomenon (Brand AA, Chalmers B.E, 1992)\textsuperscript{119}. The older dentists are less stressed than their younger counterparts. Some issues like those concerned with finance and patient-management, appear to affect both groups more or less equally, which suggests that these issues are of global, rather than specific concern. From a theoretical point of view, the findings tend to contradict the generally held belief that getting older is automatically accompanied by degeneration and problems of adaptation to life changes. On the contrary, seemingly favorable adaptation and low levels of stress are evident in most of the older dentists (Brand AA, Chalmers B.E, 1990)\textsuperscript{120}.

Nervous psychological state, tension, depression and others signs of psychological impairment also has to be taken into account when talking about job related stress in dental practice. A huge study in England shows amazing results: sixty percent of general dental practitioners feel nervous, tense or depressed, 58.3 percent reported headache, 60 percent reported difficulty in sleeping at night and 48.2 percent reported feeling tired for no apparent reason.

Levels of minor psychiatric symptoms were high, with 32.0 percent of cases identified (Myers HL, Myers LB, 2004)\textsuperscript{121}. The other study found that gender was associated with depression in two specialties: periodontics and pediatric dentistry (Mathias S, Koerber A, Fadavi S, Punwani I, 2005)\textsuperscript{122}. The important thing is that only 15 percent of depressed dentists receive treatment (Mathias S, Koerber A, Fadavi S, Punwani I, 2005)\textsuperscript{122}.  

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Job-related stress and all psychological impairments it has led to affects dentists personal as well as dental family life. The effect of the dentist's office-related stress is directly felt in the family, especially by the spouse. Strong coping patterns result when dentists and spouses maintain a balance of time and responsibility, satisfaction in work and family activity, regular communication, sharing of decision making, good physical health, and the inclusion of an active exercise program within multiple demands on their time (Nevin RS, Sampson VM, 1984) \(^ {123} \).

A study of Sweden general practice dentists revealed that females constitute one-quarter of all dentists. These female dentists suffer from many problems relating to their psychosocial working conditions. There are wide discrepancies between their perception of the ideal job situation and reality (Hjalmers K, Soderfeldt B, Axtelius B, 2006) \(^ {124} \). Physicians, who report high levels of work stress, also report lower levels of marital satisfaction and a higher prevalence of psychiatric symptoms (Lewis JM, Barnhart FD, Howard BL, Carson DI, Nace EP, 1993) \(^ {125} \).

Dentists are much like physicians in their reports of overall work stress, and the similarities and differences regarding specific stressors suggest these professions are very alike in reporting the stresses of professional practice. (Lewis JM, Barnhart FD, Howard BL, Carson DI, Nace EP, 1993) \(^ {125} \). Taking into account dental students, it must be assumed that the level of emotional exhaustion was higher in dental students than medical students; and, second, that general psychological distress and course related stress levels were associated with the nature of the course and the immediate living conditions of the students.
In our day remuneration system has led dentists to long working hours, leaving little time to relax from work, participate in family life (McCarthy GM, MacDonald JK, 2000)\textsuperscript{126}. A huge study in Canada showed that more than 10 percent of dentists see equally or more than 30 patients per day (McCarthy GM, MacDonald JK, 2000)\textsuperscript{126}. These factors may all be considered to be part of current general dental practice and they really affect dentist’s health. It is very interesting that particular traits are common among those who decide to pursue careers in dentistry. And these traits make dentists prone to professional burnout, anxiety disorders and clinical depression (Forest WR, 1978)\textsuperscript{127}. And that differences in approach to work and perceived workplace climate mainly reflects stable, long-term individual differences in doctors themselves, reflects in measures of personality and learning style (McManus IC, Keeling A, Paice E, 2004) [128]. In many cases the psychological variables (distress, emotional exhaustion or intensity of stressors) were influenced by gender. (Gorter RC, Eijkman MAJ, Hoogstraten J, 2001)\textsuperscript{129}.

Although dentists suffer from psychical impairments, they do not seem to be using alcohol, tobacco and other potentially addicting drugs in numbers greater than the nonprofessional population (Kenna GA, Wood MD 2005)\textsuperscript{130}. But alcohol use is related to stress among dental professionals (Myers HL, Myers LB, 2004)\textsuperscript{121}. The media repeatedly portrays dentists and other health professionals as being at risk of committing suicide (Alexander RE, 2001)\textsuperscript{131}.

While this message often is accepted without question, there are little reliable data available that verifies this alleged risk. There is little valid evidence that dentists are more prone to suicide than the general population,
although some related data suggest that female dentists may be more vulnerable (Roger EA 2001). The excess risk of suicide in female doctors highlights the need to tackle stress and mental health problems in doctors more effectively. (Alexander RE, 2001)

Anesthesiology has also been identified as a stressful specialty. Sources of chronic stress include competence factors, production pressures, long working hours, night call, and fatigue (Simpson LA, Grant L., 1991; Jackson S., 1999). Fears of litigation, economic uncertainty, and interpersonal relationships have also been identified as sources of stress (Simpson LA, Grant L., 1991; Jackson S., 1999). A survey that was conducted among retired members of the American Society of Anesthesiologists (ASA) has indicated that "demands of night call" is the most stressful aspect of anesthesia practice followed by "difficult" anesthetic cases, liability issues, workload, burnout, and economic issues. (Simpson LA, Grant L., 1991).

Although several studies have examined the issue of chronic stress among anesthesiologists, there are few formal studies regarding acute stress among anesthesiologists (Dickson DE, 1996). Two preliminary investigations have indicated that induction of anesthesia is associated with a significant increase in both arterial blood pressure (BP) and heart rate (HR) of anesthesiologists. (Jackson S., 1999). These two preliminary investigations, however, were not published in the peer-reviewed literature. In 1986, Payne and Rick (1986) studied 8 anesthesiologists in the United Kingdom while they were involved in anesthesia for cardiothoracic surgery (Payne RL, Rick JT, 1986). They reported that the average HR of anesthesiologists during surgery was 78 ± 13 bpm (Payne RL, Rick JT,
The authors indicated, however, that the data analytic technique used was unable to identify short durations of tachycardia during procedures such as endotracheal intubations.

Useful literature for understanding the specific acute stressors encountered by anesthesiologists is the study of stress in pilots because of the similarities in the nature of the jobs: induction, maintenance, and emergence of anesthesia versus take-off, maintenance, and landing of an aircraft. Among pilots, increased BP, HR, catecholamines, and salivary cortisol have been demonstrated to occur during stressful situations (Kakimoto Y, Nakamura A, Tarui H, et al, 1988). Such sympathomedullary and adrenocortical changes may exist in anesthesiologists as well.

**Correlation between Role Stress and Role Satisfaction**

Several studies have tried to determine the link between stress and job satisfaction. Job satisfaction and job stress are the two hot focuses in human resource management researches. According to Stamps & Piedmonte (1986) job satisfaction has been found significant relationship with job stress. One study of general practitioners in England identified four job stressors that were predictive of job dissatisfaction (Cooper, et al., 1989). In other study, Vinokur-Kaplan (1991) stated that organization factors such as workload and working condition were negatively related with job satisfaction. Fletcher & Payne (1980) identified that a lack of satisfaction can be a source of stress, while high satisfaction can alleviate the effects of stress. This study reveals that, both of job stress and job satisfaction were
found to be interrelated. The study of Landsbergis (1988) showed that high levels of work stress are associated with low levels of job satisfaction. Moreover, Cummins (1990) have emphasized that job stressors are predictive of job dissatisfaction and greater propensity to leave the organization.

Pestonjee and Prabhat Kumar (1999) examined the nature of role stress and job satisfaction among doctors and the results of the study revealed no significant differences between the two groups of doctors, except in the management area of job satisfaction and the inter-role distance (IRD) dimension of role stress. Further, job satisfaction variables correlated negatively with all the dimensions of role stress in the case of both groups.

Sheena et al. (2005) studied in UK found that there are some occupations that are reporting worse than average scores on each of the factors such as physical health, psychological well-being, and job satisfaction. The relationship between variables can be very important to academician. If a definite link exists between two variables, it could be possible for a academician to provide intervention in order to increase the level of one of the variables in hope that the intervention will also improve the other variable as well (Koslowsky, et al., 1995).

Coping Behaviour

When individuals experience stress or face a demanding situation, they adopt ways of dealing with it, as they cannot remain in a confined state of tension. How the individual deals with stressful situations is called ‘coping’.
The concept of coping has been studied in various disciplines. However, coping is primarily a psychological concept. In psychological usage, there are numerous definitions of coping, but all share a common theme, namely the struggle with external and internal demands, conflicts and distressing emotions. The term 'coping' has been used to denote the way of dealing with stress, or the effort to master conditions of harm, threat or challenge when a routine or automatic response is not readily available (Lazarus, 1974).

Coping has been described as constantly changing cognitive and behavioral effort to manage specific demands (internal or external) that are appraised as taxing or exceeding the resources of a person. Coping refers to a person’s active efforts to resolve stress and to create new ways of handling new situations at each life stage (Erikson, 1959). This idea emphasizes the importance of the personal resources and competencies that are used to deal with new challenges. Coping emphasizes mastery of the situation while defense mechanisms emphasize protection of the self. This does not, however, imply that coping occurs with no regard for the self. The coping process requires an effective person who actively engages each life challenge.

White (1974) has identified three components of coping. First, coping requires that the person be able to gain and process new information. New information is needed to understand a difficult situation more fully or to establish a new position in the face of threat. Second, coping requires that the person be able to maintain control over his or her emotional state. This does not mean doing away with emotional responses. Rather, it suggests the importance of correctly interpreting emotions, expressing them, and limiting
their expression when necessary. Third, coping requires that the person be able to move freely in his or her environment.

The goals of coping include the desire to maintain a sense of personal integrity, and to achieve greater personal control over the environment. In each situation, the person uses physical, cognitive, social and emotional resources to understand what is needed. Then he modifies some aspects of the situation or the self in order to achieve a more adequate person-environment fit. Coping, thus, is the behavior that occurs after the person has had a chance to analyze the situation, take a reading of his or her emotions, and to move to a closer or more distant position from the challenge.

Investigators have employed two distinct approaches to the study of coping. Some researchers (Byrne, 1964; Goldstein, 1973) have emphasized general coping traits, styles or dispositions, while others (Cohen & Lazarus, 1973; Wolf & Goodell, 1968) have preferred to study the active ongoing strategies in a particular stress situation.

At a general level, coping has been broadly defined as “any effort at stress management” (Folkman & Lazarus, 1980). The term coping is viewed as a stabilizing factor that may help individuals maintain psychological adaptation during stressful period (Folkman & Lazarus, 1985).

Definitions given by Menninger (1963), Haan (1977) and Vaillant (1977) imply a hierarchy of focused efforts with “coping” representing mature ego processes and “defenses” representing immature and less serviceable variations of the same essential cognitive processes.
Pinkerton et al (1985) defined coping as the minimization of emotional distress. This places coping as the dependent variable and loses the notion of different coping conditions/behaviours being enacted in an attempt to limit the effect of stress.

Maddi and Kobasa (1984) have mentioned two forms of coping: (a) Transformational coping involves altering the events so that they become less stressful. To do this, one has to interact with the events and by thinking about them optimistically and acting toward them decisively, change them in a less stressful direction. (b) Regressive Coping includes a strategy wherein one thinks about the events pessimistically and acts evasively to avoid contact with them.

Types of Coping

Researchers in the field of coping behavior follow several different formulations. There is no single technique and widely accepted models for categorizing difference in coping styles. The difference between “problem focused” and emotion based” coping has been given by Mechanic (1974) and White (1974). Problem focused coping refers to efforts directed at doing something constructive about the conditions that harm, threaten or challenge. Emotion focused coping refers to the efforts directed at regulating the distressing emotion itself, whether the focus of such regulation is in behavior and expression, physiological disturbance, subjective stress, or all the three (Folkman & Lazarus, 1980; Lazarus, 1975, 1981; Lazarus & Launier, 1978). Folkman & Lazarus (1980) have obtained evidence that most people adopt both problem focused and emotion focused modes of coping in daily stressful encounters and relative proportion of each varies according to how the encounter is appraised.
Lazarus (1975) suggests two categories of coping i.e. "direct action" and "palliative modes". Direct action deals with the actions which are performed by the organism when it is in face of stressful situation. Palliative approach to coping indicates those thoughts or actions which purport to relieve the organism of any emotional impact of stress.

According to Lazarus & Launier(1978), coping is the "effort, both action oriented and intra-psychic, manage (i.e. to master, tolerate, reduce and minimize) environmental and internal demands, and conflicts among them, which exceed a person's resources". McGrath (1976) says that coping is an array of covert and overt behavior patterns, which can help prevention, alleviation or responding to a stressful experience. Wilder and Plutchick (1982) proposed eight basic coping styles to reduce stress: suppression (avoid the stressor), help seeking, replacement (engage in direct stress reducing activities), blame (others and system), substitution (engage in indirect stress reducing activities), mapping (collect information), reversal (act opposite to the way one feels), minimization (minimize the importance of the stressful situation).

Pareek (1983) suggested two types of coping strategies which people use as the ways of dealing with stress. One way is that the person may decide to suffer, accept or deny the experienced stress or put the blame on somebody (self or others) for being in that stressful situation. These are passive or avoidance coping strategies and are termed as "dysfunctional" styles of coping. Another way is that the person may face the stress consciously and take action to solve the problems himself or with the help of other people. These are active approaches of coping and are termed as "functional" styles of dealing with stressful situations.
Pareek (1983) proposed eight coping strategies and styles which can be categorized into dysfunctional and functional coping strategies. These are: Impunitive, Intropunitive, Extrapunitive, Defensive, Impersistive, Intropersistive, Extrapersistive and Interpersistive.

Endler and Parker (1990) have considered the coping responses from a multidimensional perspective and have identified three coping styles; (a) Task-oriented coping emphasizes the achievement of problem resolution through purposeful efforts to cognitively restructure the problem or alter the situation; (b) Emotion oriented coping delineated a set of reactions (e.g. tension, anger) of a self oriented nature which occurs in response to a problematic event; (c) Avoidance oriented coping involves reactions or responses which have the effect of destructing or diverting individual’s attention from stressful situation.

The stress-strain relationship is a function of coping strategies or mechanisms used by the individual. Adaptive coping reduces stress and promotes long term health whereas maladaptive coping reduces stress but promotes long term ill health. Positive thinking and problem focused responses in the face of stressors are normally referred to as adaptive coping strategies; negative thinking and avoidance responses are referred to as maladaptive coping strategies (Nowack, 1990).

Different coping styles can be adequate in different problem situations. However, a more active coping style (problem solving, trying to influence the problem situation) generally is seen as a more healthy coping style in the long term compared to a passive and problem avoiding coping style (Schreurs, Van de Willige, Brosschot, Telligen & Graus, 1993).
Coping as trait, Style, or Process

Researchers working in the field of coping have paid much attention to the distinction between coping as trait, style or process. A coping trait means that a person is disposed to engage in a particular coping behavior under certain conditions, the more general the trait, the less it is limited to any particular situational context. Thus, a coping trait is a stable tendency from which a prediction is made about how the person will cope in some or all types of stressful encounters.

A coping style refers to a characteristic way of handling situations. The term “style” as in Adler’s “style of life” tends to imply a very broad and encompassing disposition. There is something about the connotation of style that suggests sustained, complex strategies for relating to the world. There is a large number of coping style schemes classified by the researchers as coping behavior.

A coping process refers to (1) “what the person actually does in a particular encounter”? (2) “How it changes”? as the encounter unfolds (Folkman & Lazarus, 1985), or from encounter to encounter when they are united by some common theme. Process is analogous to ‘state’ because it refers to what actually happens in specific contexts, and how it changes. By definition, process means change.

Coping strategies can be of several types but there are two major targets of coping: changing ourselves or changing our environment. A person can either make adjustments to fit better with the environment (“go with the flow”) or change the environment to suit his or her own needs (“divide and conquer”). Coping strategies can be divided into four major categories: Cognitive, behavioral, Social and avoidance.
Cognitive Coping strategies: A person can cope with a stressor or disturbing emotions by problem solving, self talk and reappraisal. Problem solving involves analyzing the situation to generate possible course of action, to evaluate the efficacy of actions, and to select an effective plan of action (Janis & Mann, 1976). Self talk refers to covert statements or thoughts that are used to direct our efforts at coping with the stressful event and its associated emotional arousal. This internal talk directs attention to relevant stimuli, facilitates the formulation and implementation of coping strategies, and provides corrective feedback (Meichenbaum, 1977). Reappraisal involves the impact of a stressful event by altering how that event is interpreted.

Behavioral Coping Strategies: many persons respond to stress behaviorally. Behavioral responses to stress include seeking information, direct action, inhibiting action and turning to others. Seeking information refers to gathering the data on the nature of the stressor and on possible coping strategies. An individual faced with a diagnosis of cancer, for example, may seek information about prognosis from a health care provider (Haan, 1977). Social Coping Strategies: The Behavioral response of “turning to others” has been traditionally labeled social support, and is a form of social coping. The phrase “turning to others” is used here because it emphasizes the active, interactive nature of coping strategy. Our relationships with other persons provide an important resource in dealing with stress. A person can gain material, emotional and informational support from others (Cohen & Mckay, 1984). The timing and manner in which social support is offered significantly influences its impact. Well-meaning assistance that is not
wanted is not helpful; social support is not a reservoir from which a person passively borrows but rather interpersonal exchanges in which both parties are active. (Cohen & Mckay, 1984)  

Avoidance Coping Strategies: According to Holahan & Moos (1986), avoidance coping is a response to threatening situations when personal and contextual resources are scarce. Also, when severe stressors persist, individuals may gradually lessen their use of problem solving coping and increase their reliance on avoidance strategies.

Religious or Spiritual Coping Strategies: An individual grows up with the particular religious and cultural modes of the society. Religious people adopt religious beliefs and practices as the ways of coping stress.

Prayer is central to most people's spiritual and spiritual lives. It serves as a marker for many stressful and non stressful events in people's spiritual lives, particularly among those people for whom spirituality and religion are important. Many people use prayer to help them cope with life's problems. (Bearon & Keanig, 1990).

There is no rule as who will use a particular type of coping strategy and will not use certain other. Individuals use a mixture of several coping strategies when dealing with stress or any stress related disorder.

The British Medical Association encourages the development of skills for senior registrars and consultants to minimize stress by aiding communications, improved management of time and people and avoidance of overwork. (BMA, 1992). Consultants must be able to recognize stress in them and other workers in the department. Doctors need support and accessible counseling geared to recognizing stress.
On the basis of the review of literature we can infer that the proliferation of roles that the doctors have to undertake during their everyday educational and clinical practice lead to stress among doctors which has become an inherent feature of the work life of doctors and growing evidence suggest that it may increase in severity. Medical knowledge is increasing exponentially, the disease patterns are changing, the approach to health care delivery and medical education is shifting and also professional roles and boundaries are being modified.

Work-related stress has been implicated as a major contributing factor to growing job dissatisfaction among doctors. It has been found that job stress impacts not only on doctor’s health but also their abilities to cope with job demands. This will seriously impair the provision of quality care and the efficacy of health service delivery.

Therefore, we are of the opinion that stress always affects the efficiency and performance of the doctors working in hospitals. A number of factors have been identified as responsible for this by different researchers in their work. Of all these factors the important factors that cause stress among doctors are: Role Overload, Self-role Distance, Role isolation, Inter-role distance, Role stagnation, Role Expectation Conflict, Role Ambiguity and Role inadequacy.

In addition we believe that we have to provide attractive working conditions which may be used for minimizing the stress level of the doctors working in the hospitals so that the efficiency level may be increased.

This investigation is aimed to identify the factors causing stress, the relationship between role stress and role satisfaction and the coping strategies used to overcome stress amongst doctors working in one of the
largest govt. hospitals in northern India - Indira Gandhi Medical College & Hospital, Shimla (Himachal Pradesh).

To the best of our knowledge, there is a paucity of Indian work in this field which is another major reason to undertake this study.
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