Review of Literature
CHAPTER II

REVIEW OF LITERATURE

As discussed in the previous chapter, the empirical findings on the ill effects of occupational stress, burnout and depleted well-being levels, suggested various definitions and frameworks in explaining the causal factors responsible for stress and its negative consequences. However, integrating these findings make the concept interestingly more complex and worthy of further investigation. Over the last three decades, the concept has received much attention in the area of occupational health, particularly among workers in the health care industry.

The literature is presented in six sections, each attempting to highlight a reasonable level of comprehensive survey of pertinent literature.

Section I  : presents the research findings on occupational stress among health care workers

Section II : outlines the research findings on burnout among health care workers

Section III : details earlier findings on well-being and job satisfaction among health care workers

Section IV  : deals with effects of different types of intervention programs on health care workers

Section V  : outlines the major lacunae in research on mitigating occupational stress and its consequences

Section VI : lists some of the major research questions to be investigated in the present study
In the constantly changing health care industry due to the changes in global economies and rapid increases in demand for better quality and quantity services there has been a considerable increase in demand for personnel to supervisory and managerial positions in the health care industry. Therefore, this additional demand is fulfilled by employing available health care workers which include doctors, nurses, lab technicians, senior pharmacists, senior radiologists and health care staff with some experience within the institution and industry. In most situations the additional role of the manager is borne by nurses from various departments. The literature being surveyed includes studies that include subjects / respondents who belong to the health care industry as well as other service professions where the significance of study is directly linked to this investigation.

Section I: Occupational Stress among Health Care Workers

Many studies have suggested that stress among physicians, nurses and other health care professionals were high in comparison to other types of work (Caplan, 1994; Graham et al., 1996; Al-Aameri and Al-Fawzan, 1998).

Increased workload among nurses, growing occupational stress, and declining job satisfaction were major concerns for nurse managers. Numerous studies in different parts of the world indicated that these conditions were universal.

Kirkcaldy and Martin (2000) present evidence that nurses have higher than normal rates of physical illness, mortality, and psychiatric admissions. French and others (2000) point that nurses can be exposed on a daily basis to a large number of potent stressors, including conflict with physicians, discrimination, high workload, and dealing with death, patients, and their families. Calnan and others (2001) examined stress levels of health service staff and found that 27% of all hospital staff was classified as suffering stress and mental ill health, compared
to 14% of the general population. Stordeur and others (2001) found that emotional exhaustion was the consequence of work related stress factors among Belgian nurses further, organizational and management characteristics influence the stress nurses experience at work. Lee and Wang (2002) found that a high level of occupational stress among Taiwanese nurses was related to workloads, personal responsibility, work experience and level of education. Lepnurm and others (2009) point that for some physicians, a high level of stress stemmed from being assigned to both clinical and administrative responsibilities. Studies have pointed out that role/work overload consistently represents one of the main job stressors in the healthcare sector (Gaiter et al., 2008; Silén et al., 2008; Viviers et al., 2008).

Healthcare workers suffer from work related or occupational stress often resulting from high expectations coupled with insufficient time, skills and/or social support at work. This can lead to severe distress, burnout or physical illness, and finally lead to a decrease in quality of life.

Miller and others (2000) conducted a cross cultural study and examined the interaction of gender and culture in managers' experiences of work stress from four countries from four continents. They found that there were no differences in sources of work stress for male and female managers, however there were differences in the consequences of work stress for male and female managers across cultures.

According to Michie and Williams (2003), the health and community service sector is a high risk sector for job stress with negative consequences for both the individual and the organization. They suggest that organizational factors predict adverse health and other outcomes, even after controlling for other possible causes of the same outcomes such as socioeconomic status or personality characteristics.
Shirey and others (2008) posit that nurse managers, faced with unrealistic expectations, spent only 25% of their time on what they felt was an important part of their job. The additional 75% of their time was spent on other obligations and duties, referred to as the “invisible work” of the nurse manager because it’s often difficult to define and quantify.

Wendler and colleagues (2009) pointed out that nurse managers spend their time on numerous activities to meet expectations of the role, including managing both the administrative and clinical activities of their units. Further, they suggest that if managers are expected to perform all the duties currently assigned to the role, organizations must structure education, training, and support systems to equip nurse managers with the necessary skills.

Zaghloul and El Enein (2009) explored the difference in stress levels among nurses working at two different health care organizations and the determinants of nurse stress within each organization. The results of their study indicated that stressors among nurses appear to be the same despite the differences in organizational structure in the institutions they work or the type of consumers they serve. They further emphasize the importance of reducing occupational stress among nurses and to strengthen their coping resources to prevent job burnout. They posit that job redesign, modification of shift work systems, offering occupational health education as well as assurance regarding job security help nurses reduce their stress levels.

Manisha and Sharma (2010) examined the effect of hospital workplace factors on job involvement among health care employees at the paramedical levels in public hospitals. The sample consisted of 200 paramedical healthcare employees, from a medical college
affiliated teaching hospital and non-teaching public hospitals. Results indicated participation in decision making, innovative practices, perceived organizational support and role efficacy were different in the teaching and nonteaching hospitals. They posit that ‘innovative practices’ was a positive predictor of job involvement.

Bhatia and colleagues (2010) studied occupational stress among nurses in two tertiary care hospitals. The results indicated that 87.4 percent of nurses reported occupational stress. Time pressure and skill requirement of the job was found to be the most severe among stressors. Further, their jobs required them to learn new things and that they had to attend to, too many patients at the same time which contributed to their stress levels.

Sudhaker and Gomes (2010) evaluated the relationship between job stress, coping strategies and job quality among nurses in two multispecialty hospitals. They found that 63 percent of the nurses suffered severe stress and the remaining experienced stress in moderate levels. Nearly 85 percent employed used active coping strategies and the remaining employed avoidance coping strategies. A negative relationship between job stress and coping was observed.

Moustaka and Constantinidis (2010) explored the sources and consequences of occupational stress on nurses’ adequacy, productivity and efficiency. They found that some stressful situations are specific to a particular type of hospital. Further, nurses are subject to more general stress which arises from the physical, psychological, and social aspects of the work environment. High levels of stress results in staff burnout and turnover and could adversely affect patient care. They suggested that interventions that are targeted at sources of occupational stress seem to be required in order to support nurses.
Moustaka and others (2010) investigated occupational stress and its factors among nursing staff from two hospitals in Greece. They found that nurses suffer from occupational stress without any institutional differences. Increased work overload and conflict between professional and family roles contribute to the development of stress. The evaluation of occupational conditions and the search for factors which potentially harm employees’ health were essential for effective prevention. Preventing occupational stress and occupational health in general, as well as dealing with safety hazards should be an integral part of management policies and of safeguarding procedures for improvement of health care quality.

Shirey and others (2010) conducted a qualitative descriptive investigation on nurse managers’ stress and coping experiences. They found that resources, task and work volume, and performance expectations affect nurse managers' perceptions of stress. When comparing novice nurse managers with experienced nurse managers, experienced nurse managers used more effective problem focused, coping strategies and had fewer negative health related outcomes.

Dhamodharan and Arumugasamy (2011) explored the relationship between occupational stress and leadership style. They found that occupational stressors had a positive relationship with coercive and authoritative leadership styles and a negative relationship with democratic, coaching leadership styles.

Muthukrishnan and others (2011) analyzed interview data from 103 male and female hospital employees belonging to various categories such as doctors, nurses and technicians to check the level of occupational stress and different factors promoting occupational stress. The results indicated lack of communication, organization’s ability to
optimize human resources, work overload, leadership crisis, lack of training, enhancing of responsibility and task diversity among the employees were some of the sources promoting occupational stress among hospital employees. Further, the study indicated that 29.1% respondents felt stress due to lack of training. 14.6% respondents indicated experienced lack of support of their seniors as one of the important reason of their stress.

Lua and Imilia (2011) compared job stress levels of 223 healthcare employees based on sector, category and specialization. Differences between government and private sector workers were not found. Supportive staff reported had higher stress frequency while professionals demonstrated higher stress intensity. They further observed that stress levels were affected by job category and specialization, and suggested flexible strategies should facilitate employees’ job productivity, contentment and personal well-being.

Mark and Smith (2012) investigated the relationships between job characteristics and coping in predicting levels of anxiety and depression among nurses. The results indicated that job demands, extrinsic effort, and over commitment were associated with higher levels of anxiety and depression. Social support, rewards, and skill discretion were negatively associated with mental health problems. Coping behaviors significantly explained the variance in anxiety and depression outcomes and demonstrated the importance of coping factors. They posit that multi-factor research was needed to help develop effective organizational interventions.

Baba (2012) investigated the causes of role stress among male and female doctors working in government hospitals. Findings of the study revealed that both male and female doctors experienced organizational role stress. The level of stress experienced by doctors with 11-20 years of experience was the highest, followed by the doctors having
experience of 3-10 years which suggested that senior doctors had to shoulder the administrative responsibilities as well, as they grow in their role. Further, role overload, followed by role isolation contributed towards high stress levels.

Abraham (2012) examined the relationship between self-efficacy and stress among nurses in a private hospital and found that work overload, less control over job, underutilization of skills and unrealistic deadlines were the most important causes of stress. Further, with regard to working conditions related stress factors, nurses with high self efficacy were able to manage difficulties at the work place.

Beh and Loo (2012) investigated the main causes and effects of job stress and coping mechanism among nurses in public health services. They found that the major sources of occupational stress among nurses were heavy workload, repetitive work, and poor working environment, inconsiderate superiors, lack of recognition, and conflict within and between groups. They point that social support serves as a buffer against the dysfunctional consequences of stress emanating from the workplace. Further, workers adopt more than one coping mechanism to combat job stress based on scenarios, situations, and the level of job stress. Moreover, job stress was often detrimental to the individual and organization. Effective coping with job stress can often result in substantial benefits for both the individual and the organization.

Sahraian and colleagues (2013) assessed occupational stress among 180 nurses working in surgical, internal and psychiatric wards in teaching hospitals. The cross sectional study results indicated that nurses of surgical and internal wards showed higher levels of occupational stress compared with nurses working in psychiatric wards. They did not find any significant contribution by demographic factors such as age, marital
status, work shifts and experience on occupational stress. They posit that occupational stress varies within different wards in the hospitals and continuous and long term stress can result in physical, psychological, and behavioral problems among nurses.

Tulasi Das & Vijayalakshmi (2013) explored the occupational stress level among health care workers. They found that the employees of the selected hospitals experienced a high degree of stress. The employees experienced stress because of role overload, unreasonable group and peer pressure was resulting in increased under participation, poor peer relation and a sense of lowered status. They point that because of peer pressure the confidence and self-esteem of the employees was low. Low status and strenuous working conditions were the major sources of stress. Excessive work load and limited pressure lead to job dissatisfaction and high emotional exhaustion among the employees.

Mosadeghrad (2013) explored occupational stress among hospital nurses and the relationship between nurses’ occupational stress and their intention to leave the hospital. The results indicated that one third of the nurses rated their occupational stress high. The major sources of stress were inadequate pay, inequality at work, work overload, staff shortage, lack of promotion, job insecurity and lack of management support. Further, occupational stress was positively associated with nurses’ turnover intentions. He suggested hospital management should develop and apply appropriate policies and strategies to reduce occupational stress and consequently nurses’ turnover intentions.

Mathur and colleagues (2013) evaluated the effects of emotional labor on work stress among doctors and nurses in the Indian working environment. They found that emotional labor contributed positively towards job stress among both doctors and nurses.
Moreover, the results indicated that doctors and nurses did not differ with regard to the levels of emotional labor as well as work stress. McVicar (2003) also stated that many situations encountered by nurses at work have a high cost in ‘emotional labor’.

Shastri (2014) explored the different sources of job stress associated with high levels of job dissatisfaction and negative well-being among nurses in private and public funded mental health care institutions. The results showed that majority of nurses suffer from stress, anxiety or depression as a direct result of working in the health care industry. The nurses rated their organizations significantly lower on effectiveness in managing workplace stress across all dimensions, including their roles. They were less able to cope with the stress of their job; have less say in how they perform their job, receive inadequate information, assistance and support from their peers and superiors. Further a lack of resources, work overload and lack of communication and comfort with supervisors and colleagues have contributed to their increased stress.

**OCCUPATIONAL STRESS**

Modern life is full of stress. Especially modern organizations as the result of dynamic technological evolutions have spawned mega-bureaucracies, micro-task specialisation and greater urbanisation. These developments are intrinsically tied with work settings which have numerous systems such as finance, production, marketing, administration as well as macro organizational sub systems like inter-organisational systems and organizational level goals, strategies, climates, cultures, structures, management styles and performance (Jain, Mishra & Kothar, 2002).

However, most of the studies on Occupational Stress have focussed on the concept of, “Role” as a vital factor for occupational stress. Role is defined in the term of
position one occupies in a social system, as defined by the functions one performs in response to the expectations of the 'significant' members of a social system, and one's own expectations from that position or office (Pareek, 1993).

According to Pareek (1993), the role senders who have expectations on the basis of their perceptions of the role occupant's behaviour and role occupant who acts on the basis of his perceptions of the role and constantly interact, and the processes of role sending and role receiving together influence the role behaviour of the individual. Thus, a role episode has a feedback loop.

The research works since 1970s have been pinpointing job related stress on concepts of role, especially role conflict, role ambiguity and role overload. A branch of the role requirements showed that role strain which involves control, especially on lack of autonomy on the job and sometimes as an excess of supervisory intervention as the reason for occupational stress.

Another set of studies show that “social support in the work setting” as an important variable, affecting job stress either directly or as a moderator of the relationship between Stressor and resulting strains. Karasek (1997) in the job strain model explains that the greater risk to physical and mental health from stress occurs to workers facing high psychological workload demands or pressures combined with low control or decision latitude in meeting those demands. Orpen (1982) reported significant relationships between subjective role conflict and measures of physical strain among middle managers, especially those classified as Type A rather than Type B personalities.
A significant number of cross sectional studies with respect to the effect of experienced role conflict on felt tension indicate that certain kinds of positions, especially those involving boundary spanning, are particularly vulnerable to role conflict leading to occupational stress.

Wisdom (1984) reports that conflicts have been reported in occupations such as military service, police work and teaching, where, the compartmentalization of time between work and family cannot be easily or dependably arranged. Similarly, Shift work, especially with rotating assignments, appears to generate similar problems (Jones and Butler, 1980).

According to Duxbury, Armstrong, Drew and Henley (1984), crisis conditions at the group or organizational level are reflected in role conflict at the individual level. Especially as the result of environmental conditions at the work place, managerial employees in the mining industry (Gavin & Axelfrod, 1977), managers in Dutch Industries (Dijkhuizen & Reiche, 1980), teachers in Swedish Elementary Schools (Brenner, 1982), professional recreation workers in the United States (Rosenthal, 1983), all reported role ambiguity as predictor of negative affect and certain somatic symptoms.

Another well researched concept of “Role Overload” in which the conflict was experienced as a necessity to compromise quantity, time schedule, or quality. For example, in jobs where individuals deal with close detail work, poor lighting can create eye strain. On the other hand, extremely bright lighting causes problems for air traffic controllers. Health workers, too, often face a variety of noxious stimuli. Hospital lighting, for example, is usually artificial, monotonous and too bright. Oppressive visual environment became particularly stressful to nurses over a period of time (Hay & Oken, 1972).
Occupational stress has been extensively studied in the form of occupational demands, occupational role stress and its impact on job dissatisfaction (Bharati, Nagarathnam & Viswanath Reddy, 1991), burnout (Pradhan & Mishra, 1995), negative mental health (Mishra & Somani, 1993), anxiety and role efficacy (Singh & Mohanty, 1996). Differences in levels of stress due to job levels, i.e. managers and supervisors (Grover & Sen, 1994) have also been studied as personal antecedents of stress. Studies conducted in the west too, have revealed that the Air Traffic Controllers' job is highly stressful (Grandjean & Wotzka, 1971). Mishra (1984) observed that occupational stress arising from various job dimensions, namely role overload, unreasonable group and political pressures, responsibility for the persons and unprofitability are positively related to job involvement.

In a study by Ahmad and Mehta (1997), it was found that all the ten dimensions of role stress were negatively correlated with influence, work amenities, job satisfaction and supervisory behaviour. Some dimensions of role stress were found to be correlated significantly with sense of powerlessness, sense of normlessness and dogmatism. Experience was positively and significantly associated with inter role distance, role expectation conflict, role ambiguity, personnel inadequacy, role stagnation, rote erosion and self role distance (Pandey, 1997).

Workload as a factor of occupational stress have been viewed in two ways- quantitative overload refers simply to having too much work to do, where as qualitative overload refers to work that is too difficult for an individual (French & Caplan, 1972). Quantitative work load is usually found to be positively associated with strain (Karasek & Theorell, 1990). Moss (1972) reported that mental work load stood out
as a type of role conflict which confronted a sizeable number in the labour force. Situation of role overload is associated with high stress (Frankenhaeuser & Gardell, 1976). Job tension has been found to be positively related to role overload (Vandivieve, 1992).

French, Kaplan and Harrison (1982) have found that qualitative work load stress occurred when a job was either too complex or too simple for a job holder's preference. Due to introduction of new technologies into work environment, it is necessary for workers, especially blue collar workers, to adapt continually to new equipment, systems and ways of working. It is an extra burden for the new employees trained in the latest methods to cope with a boss trained in the traditional methods. It raises questions about the adequacy at supervision and about those in senior positions.

In a study of stress among executives in 10 countries (Cooper, 1984), Japanese executives suffered particularly from pressure to keep up with new technology, i.e. to maintain their technological superiority. Managers in developing countries felt pressure due to the increasing emphasis on new technology, the need to deal with an adequately trained work force and the imposition of deadlines. Rose, Jenkins, Hurst and Levin (1978) in a study on air traffic controllers showed that some involving comparison groups in other occupations and some involving comparisons across airports with different traffic densities, identified responsibility for the welfare of others in combination with heavy and variable work load and irregular work rest cycles of occupation determined Stressors.

Alfredsson and Theorell (1983) developed standardized occupational characteristics for 118 occupational groups in a nationwide (Swedish) interview survey. Occupations characterized by high levels of demand (e.g. lifting) and low levels of control (autonomy) were associated with elevated risks of myocardial infarction. The dimensions of
variety-monotony have also been studied in relation to physiological as well as psychological consequences. A case control study of 334 men showed only two work related factors associated with increased risk; monotony and shift work (Alfredsson, Karasek & Theorell, 1982).

In a study of executives Reddy and Ramamurthi (1991) found that influence of personality and general ability on the stress experience was limited but significant. Pestonjee (1987), studied the sample of Top Managers, Middle Managers and IAS Officers, found that inter-role distance and role erosion were dominant whereas role ambiguity and personal inadequacy were the least dominant contributors of role stress in all the three job categories. In a study of nurses working in state administered hospitals, Sharma, Sood and Spielberger (1998) found their Type A score was highly correlated with Occupational Stress.

Similarly, Keiv and Kahn (1979) in their study of wording executives across different levels showed that engineers who were influenced by organizational demands, such as more attention to their work, fear of failure and subsequent risks and decision making under complex circumstances lead to higher stress experienced by them. So also, Semruer and Zimmer (1982), who reported that stress is complexly determined by the nature and quality of job demands that the personnel in different jobs were confronted with.

Desai (1993), in comparison of technical and commercial people, found that technical respondents were less stress prone than the commercial ones. Similar arguments were forwarded by a number of researchers to substantiate their claims of higher stress among various levels of organization (Karasek, 1997). Another model which supports the present findings as far as occupational differences are concerned is effort-reward model, proposed by Siegrist (1996). Siegrist and Klein (1990) in a study of German factory
workers found status inconsistency, job insecurity, work pressure and effort reward imbalance predict several behavioural outcomes leading to stress. Similarly, Jaques (1989) found that level of discretion or control available to an individual in his or her work situation is negatively associated with strain.

There are numerous empirical evidences which suggest that the variations in perceptions of stress are highly related to the experience of both negative emotions and physical symptoms (Watson, 1986). The higher stress experienced by Type A respondents can be attributed to high levels of Negative Affectivity (NA) associated with such personalities. Watson and Clark (1977) argued that a High NA person is extremely distressed and self dissatisfied and suffers from poor self-esteem. High NA workers are likely to report more dissatisfaction with their jobs leading to higher stress. It was further demonstrated that these individuals are more likely to experience discomfort at all times and across situations and also tend to be more introspective on the negative side of themselves and the world (Watson & Tellegen, 1985).

As Jain, Mishra and Kothari (2002) discusses that business organizations is constructed on the basis of ritualised systems of actions and meanings, the employees as social actors produce the spatially and temporally situated conditions of their social levels and reveal the central tension between the dynamic and inertial nature of institutional systems, in which every action is both a reflection and revision of social order producing consequences and the relative mix and dominance of the different institutional systems vary across organizational settings, thus influencing the concrete experiences of members including
their experiences, interpretations, reactions of stress, ambiguity and burnout (Scott, 1987).
This is supported by the contentions of Spector and Jex (1991), who argued that task
identity, autonomy and feedback were negatively related to frustration and anxiety.

Mental demand involves concentration, problem solving and attention to information
inputs from the environment, whereas people complexity relates to interaction with
others. It was reported in earlier studies also that both excessive variety and severe lack
of variety in work content can be stressful. According to Gardener and Cummings
(1988), human beings have a characteristic level of activation and job stress occurs
whenever job/related stimuli cause a job holder's experienced activation level to deviate
substantially from one's characteristic level of activation.

According to Khandwalla (1985), there are too many differences among
occupations, organizations and their operating conditions and hence, managerial styles,
organizational structure and design vary from one organization to another to satisfy their
contextual operating and performance requirements. These variations further manifest
into different pulls and pressures over members of the organizations leading to different
reaction outcomes.

Srivastava and Sehgal (1984) who studied the effects of employees' n-achievement on their perception of occupational role stress revealed that employees who maintained high work motivation experienced significantly lower occupational role stress such as role overload, role ambiguity, role expectation conflict, unreasonable group and political pressures, responsibility for persons, poor peer relations, strenuous working conditions and unprofitability as compared to low achievement group.
Generally work stress is perceived as high for private employees compared to their public sector counterparts. Amount of work load of the private employees are attributed to that. But, literature on such differences points to contradictory conclusions. For example Malik (2004) studied the impact of occupational stress produced upon employees. Analysis of the responses of 200 employees from private and public banks shows that occupational stress is found higher among private bank employees compared to public bank employees. Among different occupational stress variables role overload, role authority, role conflict and lack of senior level support contribute more to the occupational stress.

Similarly, study on 70 Radiographers from Public and Private establishments also showed that Private Practice Radiographers were almost four times more likely to miss work due to a stress-related illness then those working in a public practice. Moreover, Radiographers in Private Practice were three times more likely to drink alcohol as a way of relieving stress compared to Radiographers in Public Practice (Eslick & Raj, 2002). The main source of stress for employees working in private organizations is the lack of knowledge about their performance evaluation results, while this is not the case for employees working in public organizations (Ben-Bakr, Al-Shammari & Jefri, 1995).

But, Results of a study done by Macklin, Smith and Dollard (2006) on a heterogeneous community sample of public ($N = 84$) and private ($N = 143$) sector employees found no difference between sectors on levels of stress (Psychological Distress, Job Satisfaction). Further, Bogg and Cooper (1995) found that senior U. K. Civil Servants were significantly more job dissatisfied and displayed more mental and physical ill health than their private sector counterparts. The main sources of stress were
"factors intrinsic to the job" such as poorer comparative pay and working conditions, and a strong feeling of possessing little control over their job and their organization. Similarly another study in which 200 Nurses was compared to 147 Nurses sampled from the same Hospital wards after 5 years and revealed a significant increase in Nurses' Workload, Involvement with Life and Death Situations, and Pressure from being required to perform tasks outside of their competence. Although nurses working in public hospitals generally reported more stress than private hospitals, surprisingly nurses' satisfaction with their job increased particularly in public hospitals, which may be attributable to age, improvements in monetary compensation and organizational support (Tyson & Pongruengphant, 2004).

**Section II: Burnout among Health Care Workers**

Studies confirm that burnout is one of the consequences of occupational stress (Ashtari et al., 2009, Ashill et al., 2009). According to Ashill and others (2009) burnout is a form of psychological strain resulting from persistent work stress. While chronic occupational stress may result in burnout, stress will not automatically lead to burnout.

Jamal and Baba (2000) examined the relationship of job stress with burnout, job satisfaction, organizational commitment and psychosomatic health problems among managers and nurses. They found that job stress had a positive relationship with overall burnout and its three dimensions and a negative relationship with job satisfaction in both managers and nurses. In the nursing sample, job stress had a negative relationship with psychosomatic health problems and organizational commitment. Further, they point that the role of gender as a moderator of stress-burnout relationship was only marginal.

Bakker and others (2000) explored whether an imbalance between high extrinsic efforts or job demands and low extrinsic rewards are associated with burnout. They found
that the effort-reward imbalance and burnout among nurses were associated. Nurses who experienced an effort-reward imbalance reported higher levels of emotional exhaustion and depersonalization.

A longitudinal study by Spence Laschinger and colleagues (2003) investigated the effects of structural and psychological empowerment at one point time to nurses’ reports of burnout three years later. They reported that nurses’ perceived access to workplace empowerment structures resulted in increased psychological empowerment at Time 1 and these feelings of empowerment were predictive of reported burnout levels at Time 2. They further posit that environments that enhance perceptions of empowerment were an effective way of preventing burnout among nurses.

Vahey and others (2004) examined the effect of the nurse work environment on nurse burnout, and the effects of the nurse work environment and nurse burnout on patients’ satisfaction. They reported that nurses having adequate staff support, administrative support and good relations with doctors experienced lower levels of burnout and their patients experienced more than twice the level of satisfaction in comparison with nurses who did not have adequate support and higher levels of burnout.

Sharma (2007) identified the determinants of burnout among Indian executives and proposed an Indian model of executive burnout to help the executives/organizations in taking preventive measures to mitigate burnout. The study results revealed that stress personality has emerged as the most important predictor of burnout. Role related factors causing burnout were role expectation conflict, role stagnation, self-role distance, role overload, role erosion, resource inadequacy, inter-role distance, and role ambiguity.
Further, high emotional intelligence with personal effectiveness helped in coping and effective stress management in contrast low emotional intelligence, together with low personal effectiveness, lead to distress and maladjustment, and consequently burnout.

Glasberg and colleagues (2007) using thematic qualitative content analysis investigated healthcare managers’ perspectives on factors contributing to the increase of healthcare employees on sick leave for burnout symptoms. They reported that healthcare managers perceived continuous reorganization and downsizing of healthcare services has reduced resources and increased demands and responsibilities. Further, high ideals and expectations, low self-worth and low self-efficacy among staff made them feel less confirmed and less valued.

Patrick and Lavery (2007) assessed the levels of burnout among nurses to ascertain individual and work characteristics that were associated with burnout. They found that nurse’s experienced lower depersonalization and higher personal accomplishment compared to medical and overall normative data. Moreover, increasing age and fewer working hours were associated with lower levels of emotional exhaustion and depersonalization. Further, working overtime was positively associated with emotional exhaustion, however those who worked overtime voluntarily did not differ from workers not working overtime and feeling pressured/expected to work overtime was positively associated with emotional exhaustion and depersonalization.

Spooner-Lane and Patton (2007) explored that main determinants of burnout among nurses working in public hospitals and investigated the impact of work support on the stress burnout relationship. They reported that nurses reported moderate levels of burnout. Role overload, job conflicts and role boundary contributed to higher levels of
emotional exhaustion. Role boundary and professional uncertainty contributed to higher levels of depersonalization. Role boundary and role ambiguity contributed to lower levels of personal accomplishment. They posit that supervisors were in a better position than coworkers to reduce burnout among nurses by clearly outlining the boundaries and expectations of the nursing role.

Browning and others (2007) examined the relationship between perceived control and burnout among three nursing specialties such as nurse practitioners, nurse managers, and emergency nurses and reported that emergency nurses had the least control and the highest burnout, whereas nurse practitioners had the most control and the least burnout. Emergency nurses reported more emotional exhaustion and depersonalization, and less personal accomplishment than nurse practitioners and more depersonalization than nurse managers. In contrast, nurse practitioners reported less depersonalization and greater personal accomplishment than nurse managers.

Spence Laschinger and Finegan (2008) examined the influence of effort-reward imbalance, a situational variable, and core self-evaluation, a dispositional variable, on nurse managers' burnout levels using a longitudinal survey design over a one year period. They reported that both personal and situational factors influenced nurse manager burnout over a one year time frame. Burnout levels at Time 1 accounted for significant variance in emotional exhaustion levels a year later, nurse managers' effort-reward imbalance and core self-evaluations explained significant additional amounts of variance in burnout a year later. They posit that both personal and situational factors contribute to nurse manager burnout over time and hence personal and contextual factors should be considered when creating work environments that prevent burnout and foster positive health among nurse managers.
van der Heijden and others (2009) stated that nurses tend to leave the profession at a much greater rate compared to other professions because of burnout, and this resulted in shortage of nurses. Furthermore, this shortage of nurses was associated with poor standards of patient care and further increase in pressures on the nurses left on the job.

Leiter and Maslach (2009) tested whether the mediation model of burnout could predict nurses’ turnover intentions. The findings supported the mediation model of burnout, in which areas of work life predicted burnout, which in turn predicted turnover intentions. Cynicism or depersonalization was the key burnout dimension for turnover, and the most critical areas of work life were value conflicts and inadequate rewards. Exhaustion contributed to cynicism pointing to the work load plays a critical role in the development of cynicism.

Carolina (2010) investigated the correlates of job related burnout among nurse managers working in hospitals and reported that job burnout was prevalent among nurse managers working in hospitals, further, role overload and role conflict was successful in predicting job related burnout. It was suggested that work redesign as well as early assessment and intervention may be helpful in the reduction of job burnout among nurse managers working in hospitals.

Potter and others (2010) conducted a descriptive study among nurses, patient care technicians, medical assistants, and radiation therapy technologists measuring compassion fatigue, compassion satisfaction and burnout. They reported that staff with 6–10 years of experience had the highest percentage of risk for burnout and low compassion satisfaction.

Lang and others (2010) examined the levels of burnout among US Army and civilian nursing personnel assigned to a large military treatment facility and reported that
both groups were experiencing a moderate level of burnout. However, civilian nursing personnel had lower levels of emotional exhaustion and depersonalization. Moreover, nursing personnel who worked the day shift, no more than 8 hours a day and had fewer patient care contacts with injured military personnel reported lower levels of emotional exhaustion and depersonalization.

Madnawat and Mehta (2012) explored the relationship between burnout and the big five personality factors and found that neuroticism and extraversion was consistently able to predict burnout. Further neuroticism was positively related to exhaustion and cynicism while extraversion was negatively related to exhaustion and cynicism.

Dasgupta (2012) investigated how role overload, role conflict and role ambiguity of nurses related to burnout and the relationship of nurses’ efficacy to these three stressors and burnout in private hospitals. He posits that increase in role overload, role conflict, role ambiguity leads to an enhancement in disengagement and exhaustion. Enhancement in self-efficacy leads to a reduction in role overload, role conflict, role ambiguity, disengagement, and exhaustion.

Chakraborty and others (2012) investigated internal psychological factors relevant to burnout among psychiatric nurses. They reported that emotional maturity, adjustability, a sense of general physical well-being as well as prior military training significantly predicted lower levels of burnout. Internal locus of control was associated with lower levels of burnout.

Rosales and colleagues (2013) explored the association between job satisfaction and burnout among nurses in three government hospitals. They reported that nurses experienced a moderate level of burnout and claimed to be slightly unsatisfied with their
job. Further there was a negative relationship between nurses’ burnout and their level of job satisfaction. Further, they proposed a job enrichment program to increase the level of job satisfaction and prevent burnout.

Queiros and others (2013) aimed to identify predictors of burnout among nurses working in hospitals. They found that the nurses exhibited moderate values in emotional exhaustion, low values in depersonalization, and high values in personal accomplishment. Moreover, higher levels of Negative Work-Home Interference predicted higher emotional exhaustion at work. Higher levels of hardiness, job satisfaction, Positive Work-Home Interference and working as a nurse only in one institution predicted less emotional exhaustion. Depersonalization increased as Negative Work-Home Interference increased. Higher levels of hardiness, Positive Work-Home Interference, job satisfaction and higher work experience predicted higher levels of personal accomplishment. Further, Negative Work-Home Interference and being involved in management positions also predicted personal accomplishment.

Zwink and others (2013) explored the inpatient acute care nurse managers’ perceptions of factors that influence retention, current work environment, satisfaction, work-life balance, successful traits, and personal development and educational needs. They reported that nurse managers identified staff recognition, support, peer relationships, collaboration, and ability to make positive change as factors influencing their decision to remain in the role. Burnout factors included workload issues, work-life imbalance, and difficulty sustaining positive relationships.

Katyal (2013) investigated levels of burnout among nurses and differences in burnout among nurses working in government and private Hospitals. The results indicated
that the government hospital nurses had a high level of burnout, nurses working in private hospitals had a moderate to low level of burnout. Government hospital nurses were found to have significantly higher emotional exhaustion and depersonalization as compared to their counterparts working in private hospitals. However, they did not differ significantly with respect to personal accomplishment.

Myhren and others (2013) assessed the levels and relationship between job satisfaction, job stress, and burnout. They found that nurses were significantly less satisfied with their jobs compared to physicians. Burnout scores were relatively low, but high burnout scores were positively associated with vulnerable personality, low job satisfaction, and a high degree of job stress.

Heeb and Haberey-Knuessi (2014) compared nursing managers and medical managers with regard to burnout, and its relationship with personal, work related, and organizational characteristics. They found that both nursing and medical managers had a low degree of burnout. They posit that though nursing managers face a highly demanding job, they may benefit from resources such as coping strategies and empowerment which might help counterbalance job stress. They posit that an unequal distribution of resources may play a central role when facing burnout.

Khosa and others (2014) explored the impact of occupational stress and burnout on employees’ job performance in rural primary health care facilities. The results indicated that there was a negative relationship between job stress and performance, and burnout and performance of nurses in rural clinics. Nurses experienced high levels of stress and the main causes were work overload, time pressure, and lack of social support, understaffing, role ambiguity, as well as dealing with severely ill or dying patients.
Bria and others (2014) explored the relationship between burnout, job demands and Negative Work-Home Interference. Physicians, residents and nurses working in obstetrics and gynecology clinics were the sample of the study. They pointed that job demands predicted burnout and Negative Work-Home Interference mediated the relationship between job demands and burnout. Further high perceived job demands lead to high burnout levels and the impact of job demands on burnout development increased if healthcare professionals experienced Negative Work-Home Interference.

van Bogaert and others (2014) studied the impact of role, job and organizational characteristics on nurse managers' work related stress, well-being, emotional exhaustion, work engagement, job satisfaction and turnover intention. They reported that one out of six nursing unit managers had high to very high levels of emotional exhaustion and two out of three nursing managers had high to very high work engagement. Further they posit that role conflict and role meaningfulness were strong predictors of nursing unit managers' work related stress and well-being, along with job and organizational characteristics.

**Burnout and Nurses**

Siying Wu et al. (2008) studied the Relationship between burnout and occupational stress among nurses in China. The sample consisted of 495 nurses from three provincial hospitals in China. The Maslach Burnout Inventory – General Survey (MBI-GS) was used to measure burnout, and the Occupational Stress Inventory – Revised edition was used to measure two dimensions of occupational adjustment. Scores for burnout of surgical and medical nurses were statistically significantly higher than those of other nurses. Lower educational status was associated with lower professional efficacy, and younger nurses reported higher levels of burnout. The most significant predictors of
emotional exhaustion were role overload, responsibility, role insufficiency and self-care. The most significant predictors of cynicism were role insufficiency, role boundary, responsibility and self-care. The most significant predictors of professional efficacy were role insufficiency, social support and rational/cognitive coping.

Schmitz et al. (2000) studied the Stress, burnout and locus of control in German nurses. Convenience samples of 361 staff nurses from nine units in five German hospitals were surveyed using the Maslach Burnout Inventory, the Locus of Control Questionnaire and a Work-Related Stress Inventory. Results support the hypothesized model and suggest that greater work-related stress and burnout would be associated with poorer locus of control in nurses. The findings supported the notion that perceived degree of control is instrumental in enabling nurses to cope with stress and burnout.

Hare et al. (1988) studied the Predictors of burnout in professional and paraprofessional nurses working in hospitals and nursing homes. This study examined interpersonal, intrapersonal and situational factors expected to contribute to the six dimensions of burnout among nursing staff who worked in acute care and long-term care health facilities. The sample included 312 professional and paraprofessional nurses. Findings revealed that work relationships and tension-releasing and instrumental problem-focused coping were the most powerful predictors of burnout. Based upon this, it was concluded that nursing burnout is both an organizational and a personal problem.

Poncet et al. (2007) studied the Burnout Syndrome in Critical Care Nursing Staff. The main aim was to study the identify determinants of BOS in critical care nurses. Of the 2,392 Severe BOS-related symptoms were identified in 790 respondents. By multivariate analysis, four domains were associated with severe BOS: (1) personal characteristics,
such as age (2) organizational factors, such as ability to choose days off and factors such as conflicts with patients, relationship with head nurse or physicians and (4) end-of-life related factors, such as caring for a dying patient. One-third of ICU nursing staff had severe BOS.

Koivula et al. (2001) studied Burnout among nursing staff in two Finnish hospitals. The aim of the study was to describe burnout and factors affecting it in nursing staff. A questionnaire measuring burnout was answered by 723 nurses. Half of the staff had scores which indicated they were frustrated or burnt out. Personal resource variables having an influence on staff burnout were age, vocational education and years of practice. Burnout increases with age, and staff with short work experience in nursing practice experience lower levels of burnout. Staff with a secondary level education working on psychiatric wards experience especially high levels of burnout. Continuous professional education is related to lower levels of burnout if it lasts for more than 10 days over a period of 2 years.

Piko (2006) studied the Burnout, role conflict, job satisfaction and psychosocial health among Hungarian health care staff. Questionnaire contained items on work and health-related information (i.e., burnout, job satisfaction, role conflict, and psychosomatic symptoms) and on some basic socio-demographics. Beyond descriptive statistics, Findings show that emotional exhaustion and depersonalization scores were higher, while scores on personal accomplishment was lower as compared to Canadian, Norwegian or US samples. Burnout, particularly emotional exhaustion was found to be strongly related to job dissatisfaction. Schooling was inversely related to satisfaction with the. While job satisfaction was a negative predictor of each type of burnout subscale, role conflict was a factor contributing positively to emotional exhaustion and depersonalization scores.
Greenglass et al. (2001) studied the Workload and burnout in nurses. This paper examines the relationship between workload, burnout and somatization in nurses. The respondents consisted of 1363 nurses employed in hospitals, which were undergoing extensive restructuring. Results of structural equation analyses showed that workload was positively related to emotional exhaustion. Emotional exhaustion led to cynicism and somatization, and cynicism was negatively related to nurses' professional efficacy.

Bartz & Maloney (2007) studied Burnout among intensive care nurses. The purpose of this study was to examine the relationship between intensive-care nurse burnout and demographic variables. The Maslach Burnout Inventory measured six components of burnout: emotional exhaustion frequency and intensity, depersonalization frequency and intensity, and personal accomplishment frequency and intensity. The sample was drawn from an army medical center. The variables, nursing, age, sex, military status, level of education, and length of time in nursing correlated with more than one aspect of burnout. Older age, less than a baccalaureate degree, female, and civilian status described the intensive care nurse who was less prone to burnout.

Hayter (2000) studied the Burnout and AIDS care-related factors in HIV community Clinical Nurse Specialists in the North of England. A two-stage, mixed method study was carried out. In Stage one 30 Clinical Nurse Specialists in human immunodeficiency virus (HIV)/AIDS from the North of England completed the Maslach Burnout Inventory (MBI) and the AIDS Impact Scale. For Stage two five practitioners were selected randomly for semi-structured interview. Burnout morbidity was significant. Sixty-six per cent of informants scored as moderate or high burnout cases on the emotional Exhaustion and Personal Accomplishment subscales of the MBI. Only three
per cent scored as cases on the depersonalization subscale. Links between the close involvement of practitioners with clients, death of clients, isolation, stigma and discrimination and the availability of support and supervision were identified as significant factors in AIDS care within this population that contributed to stress and burnout.

Parker & Kulik (1995) Burnout, self- and supervisor-rated job performance, and absenteeism among nurses. Burnout is related to absenteeism and job performance in a sample of 73 registered nurses. It examined the extent to which burnout may mediate the relationships of job stress and social support with these performance indicators. Analyses indicated that levels of work support and job stress were both significant predictors of burnout. Additionally, higher burnout levels were significantly associated with poorer self-rated and supervisor-rated job performance, more sick leaves, and more reported absences for mental health reasons. The findings suggest that burnout not only may negatively impact healthcare providers, but also may influence objective absenteeism and supervisor perceptions of employee performance.

Schaufeli & Janczur (1994) studied Burnout among Nurses A Polish-Dutch Comparison. Results are presented of a cross-national study on burnout among 200 Polish and 183 Dutch female nurses. Polish nurses are significantly more burned out than their Dutch colleagues, even after controlling for differences in work situations in both countries. Subjective work stressors contribute most strongly to burnout in Polish as well as in Dutch nurses. Personality characteristics and aspects of the work situation play a less prominent role. Although the work situation of Polish and Dutch nurses differs considerably, psychological variables—notably, experienced job stress—are likewise crucial in understanding burnout among nurses of both countries.
Kalliath (2002) studied Job Satisfaction among Nurses: A Predictor of Burnout Levels. This study assessed the impact of differential levels of job satisfaction on burnout among nurses, hypothesizing that higher levels of job satisfaction predict lower levels of burnout. The findings show that job satisfaction has a significant direct negative effect on emotional exhaustion, whereas emotional exhaustion has a direct positive effect on depersonalization. A significant indirect effect was seen of job satisfaction on depersonalization via exhaustion. The path coefficient shows that job satisfaction has both direct and indirect effects on burnout, confirming job satisfaction as a significant predictor of burnout.

Sundin et al. (2007) studied the relationship between different work-related sources of social support and burnout among registered and assistant nurses in Sweden. This cross-sectional study addresses the relationship between organizational and social factors and burnout in a group of registered and assistant nurses in Sweden. The study was conducted using a sample of 1561 registered and assistant nurses in Sweden. The results showed statistically significant correlations between the three support indicators and all three burnout dimensions. In the regression analyses, co-worker and patient support were statistically significantly related to all three burnout dimensions, whereas supervisor support was only statistically significantly related to emotional exhaustion.

Chandra et al. (2004) studied the Factors related to staff stress in HIV/AIDS related palliative care. Staff stress in HIV related palliative care has been identified as an important problem worldwide. This study aimed at estimating prevalence of staff stress and its correlates in a sample of palliative caregivers in HIV/AIDS in India. Fifty-two participants (29 female and 23 male) completed the Maslach Burnout Inventory (MBI),
AIDS Contact Scale (ACS) and AIDS Stress Scale (ASS) and a semi-structured questionnaire. The majority (92%) had average to high scores on at least one domain of MBI. High scores on the factors Emotional Exhaustion, depersonalization, and Personal Accomplishment were seen in 10%, 17% and 58% of the sample respectively. ASS score, severity of stress in dealing with persons living with AIDS and having considered leaving HIV related work were predictors of high Emotional Exhaustion scores. ASS score, ACS score and severity of stress with death of a person with AIDS were predictors of high depersonalization scores. Female gender was a predictor of a high Personal Accomplishment score.

Demerouti et al. (2000) studied a model of burnout and life satisfaction amongst nurses. This study, among 109 German nurses, tested a theoretically derived model of burnout and overall life satisfaction. The model discriminates between two conceptually different categories of working conditions, namely job demands and job resources. It was hypothesized that: (1) job demands, such as demanding contacts with patients and time pressure, are most predictive of exhaustion; (2) job resources, such as (poor) rewards and (lack of) participation in decision making, are most predictive of disengagement from work; and (3) job demands and job resources have an indirect impact on nurses’ life satisfaction, through the experience of burnout (i.e., exhaustion and disengagement). A model including each of these relationships was tested simultaneously with structural equations modelling. Results confirm the strong effects of job demands and job resources on exhaustion and disengagement respectively, and the mediating role of burnout between the working conditions and life satisfaction.
Section III: Well-Being among Health Care Workers

In modern day organizations workplace pressures continue to mount. Productivity demands, information overload and an increasing pressure to balance work and home lives tend to take a toll on employees' health and well-being.

Mishra and Srivastava (2001) examined the moderating effect of the job stress on the organizational commitment and job satisfaction relationship among doctors. The moderated multiple regression analysis and sub group analysis showed that job stress had a moderating effect on organizational commitment and job satisfaction relationship.

Visser and others (2003) investigated the levels of job stress and job satisfaction among medical specialists, factors contributing to stress and satisfaction, and the effect of stress and satisfaction on burnout. They reported more than half the respondents reported high levels of stress, and point out that perceived working conditions explained the variance in job stress and satisfaction than personal and job characteristics. Further, feeling poorly managed and resourced diminished job satisfaction. High stress and low satisfaction explained the variance in burnout rather than stress alone. They highlight the protective effect of job satisfaction against the negative consequences of work stress as well as the importance of organizational rather than personal factors in managing both stress and satisfaction.

Verhaeghe and others (2006) studied how the occurrence and appraisal of recurrent changes in the work environment of hospital nurses affect psychological well-being; job satisfaction, eustress and distress, and absence through illness. They reported that the occurrence of changes in the work environment during the past 6 months had a negative impact on staff’s psychological well-being. Nurses who had been confronted
with changes scored higher for distress. Changes appraised as threatening were negatively related to job satisfaction and eustress. Changes appraised as challenging were positively related to job satisfaction and eustress but had no impact on distress and sickness absence.

Lindo and others (2006) assessed the level of general mental well-being among doctors and nurses from two hospitals. They found that age, gender or hospital of employment did not influence poor well-being. Moreover, poor well-being was associated with years of professional experience, work related and non-work related stress, serious financial difficulties and fears of coming to work. Significant predictors of increased risk of poor well-being were fear of coming to work, professional experience in excess of five years and high non-work related stress. High work related stress was associated with well-being suggesting that work may have a therapeutic effect. Further, non-work stress was related to financial difficulties, commuting and child care, especially among nurses pointing to the importance of non-work stress sources.

Arnold and colleagues (2007) using two separate studies investigated the relationship between transformational leadership, the meaning that individuals ascribe to their work, and their psychological well-being. They reported that these studies found a positive relationship between transformational leadership and psychological well-being that was mediated by the meaning found in work. They, further posit that leaders can transform followers’ beliefs to enhance well-being, in line with the transformational leadership theory.

Lee and Cummings (2008) in a literature survey examined the determinants of front line nurse managers' job satisfaction and found evidence for positive relationships
between span of control, organizational support, empowerment and the job satisfaction of front line nurse managers. They suggest that job satisfaction of front line managers may be improved by addressing span of control and workload, increasing organizational support from supervisors and empowering managers to participate in decision making.

Burke and others (2010) investigated the relationship between burnout and indicators of work satisfaction and engagement, perceptions of hospital functioning and quality of nursing care, and psychological well-being of nursing staff. They reported that burnout accounted for the variance of five indicators of psychological well-being such as positive and negative affect, psychosomatic symptoms, medication use, and life satisfaction. Nurses who reported higher levels of cynicism also indicated more psychosomatic symptoms, more medication use and less life satisfaction. Nurses who scored higher on exhaustion indicated lower levels of positive affect, less life satisfaction, and more psychosomatic symptoms. Further, nurses indicating higher levels of efficacy also reported more positive affect and less negative affect. They posit that nursing staff indicating higher levels of burnout reported less favorable work outcomes and poorer psychological well-being.

Cortese and others (2010) studied the causal relationship between job demands, emotional charge, supportive management and colleagues, work-family conflict and job satisfaction. They reported that there was a direct association between work-family conflict and job satisfaction, and pointed out the importance of some work-family conflict predictors, such as supportive management, emotional charge and job demand, not only for their connections with work-family conflict but for their direct associations with job satisfaction. They posit that work-family conflict in health organizations, can contribute to a decrease in
nurses’ job satisfaction and institutional management could achieve its aim of reducing work-family conflict through the improvement of support from nurse coordinators, by family friendly policies and individual counseling programs for nurses.

Regan and Rodriguez, (2011) assessed the empowerment of a middle management group made up of nurse managers and assistant nurse managers. They reported that empowerment of nurse managers, a required characteristic for those in a complex health care environment, was lacking. Even though some middle managers felt some empowerment in their work, managers with less experience particularly needed additional support and resources. They posit that middle managers must feel empowered if they are expected to empower their staff and thus achieve excellence. To empower middle managers, hospital management must pay attention to those empowerment constructs, such as providing adequate time and support to do a job. Further, job satisfaction and reduced job stress can be two of the positive consequences of promoting nurse empowerment.

Smith (2011) examined the relationship between the transition from a direct caregiver to a nurse case manager role and the perceived levels of role ambiguity and role conflict among nurse case managers in acute care, post acute care, and managed care settings. It was found that nurses tend to experience substantial role ambiguity and role conflict as they take the new role because of inadequate role definition, unexpected ethical challenges, and lack of prior insight into the new role. Further, she posits that role ambiguity and role conflict may impact nurse case managers’ job satisfaction and job performance.

Munir and others (2012) examined the relationship between employees’ perceptions of work-life conflict, thereby influencing their job satisfaction and well-being using a longitudinal study. They reported that transformational leadership style was directly
associated with perceptions of work-life conflict, job satisfaction and psychological well-being. Work-life conflict mediated between transformational leadership and well-being, but not job satisfaction. They posit that transformational leadership style may improve perceptions of work-life balance and employee well-being.

Chou and colleagues (2012) investigated the effects of job demands, job resources as well as emotional labor on job satisfaction and emotional exhaustion among nurses. They found that interactions with difficult patients related positively to emotional exhaustion, and negatively to job satisfaction. Perceived organizational support related negatively to emotional exhaustion and positively to job satisfaction. They posit that job demands, resources and emotional labor can predict nurses’ well-being.

Burke and others (2012) investigated the relationship of job demands such as work family interference, emotional demands and work overload, and three sources of social support such as supervisor, coworker and spouse, family and friends with nurse well-being and work outcomes. They found that job demands had negative relationships with nurses’ well-being as well as with several work outcomes. Further, lack of social support, particularly from supervisors and co-workers, were associated with low levels of nurses’ well-being and unfavorable work outcomes. They posit that individual and organizational level interventions will help improve nursing quality of work life.

Loukzadeh and Bafrooi (2013) examined the way of coping and the level of psychological well-being as well as their relationship among nurses and found that emotion focused coping strategies were commonly used by the study sample. Further, they point that emotion focused coping strategies had a negative relationship with some of the psychological well-being dimensions such purpose in life and personal development.
However problem focused strategies had a positive relationship with purpose in life. They posit that problem focused coping style was more effective in solving problems and job stress, and emotion focused coping style was associated with adverse health consequences and poor psychological well-being.

Lopez-Montesinos (2013) analyzed the relation between psychosocial and demographic variables among nursing professionals and reported superiors' non-reciprocity towards workers, due to non-recognition of their work and unfair treatment, was a cause of job dissatisfaction. Non-reciprocity of superiors towards their subordinates' work arouses negative behavioral changes, aggressiveness and loss of personal resources in workers. Women tend to present more psychosomatic symptoms specifically those who were separated and divorced and between 30 and 35 years of age. Results showed that ‘social dysfunction’ was one of the dimensions of well-being where health and social service workers act more emotionally in their professional activity when compared to other professional groups who behave rationally and get less involved in help relations and get less physically and psychologically exhausted.

Vazifehdost and Rahmani (2013) compared the relationship of the supervisor subordinate relationship upon nurses’ satisfaction with joint effort and their professed levels of role ambiguity, and in turn, their perceptions of interests among those nurses working in private and public hospitals. They reported that nurses were satisfied with their supervisor nurse associations, the quality of teamwork and their well-being. The supervisor nurse associations, teamwork and role ambiguity explained more than a third of the variance of well-being for public sector nurses and more than a fifth for private sector nurses and that private sector nurses were more satisfied than public sector nurses.
They explain that other factors such as workload, the exacting supervision arrangement, the composing and dimension of teams, and perceptions of job self-sufficiency might further explain the differences between public and private sector nurses’ behavior. They posit that supervisor nurse relationships influenced nurses’ perceptions of teamwork, enduring role ambiguity and well-being.

Brunetto and others (2013) examined the impact of perceived organizational support, supervisor nurse relationships and teamwork on the engagement, well-being, organizational commitment and turnover intentions of nurses. They posit that well-being was a predictor of turnover intentions and healthcare managers need to consider nurses’ well-being in everyday decision making, especially in view of the cost cutting paradigm that is pervading the healthcare industry.

Adriaenssens and others (2013) in a longitudinal study examined the influence of changes over time in work and organizational characteristics on job satisfaction, work engagement, emotional exhaustion, turnover intention and psychosomatic distress in emergency room nurses. They reported that turnover rates between time 1 and time 2 were high. Changes in job demand, control and social support predicted job satisfaction, work engagement and emotional exhaustion. In addition, changes in reward, social harassment and work agreements predicted work engagement, emotional exhaustion and intention to leave. They highlighted the importance of work related interventions to improve occupational health in emergency room nurses and posit that the interventions should focus on lowering job demands, increasing job control, improving social support and a well balanced reward system.
Velhal and others (2013) assessed the work load and job satisfaction among nursing staff and staff supervisors. They found that majority of nursing staff members did not receive job orientation. Two third of staff supervisors and half of the nursing staff had expressed job dissatisfaction and the causes were attributed to shortage of staff, overwork, mental stress and burnout.

Rodwell and Munro (2013) investigated the relationship between three types of organizational resources such as job control, social support and organizational justice, and the impact of job demands on nurse's well-being and attitudes towards their work. They reported that supervisor support and organizational justice had significant relationships with nurses' well-being and job satisfaction.

**Section IV: Types of Intervention Programs on Health Care Workers**

In order to keep up with the new developments in the world of work, organizations must pay attention to further education and training of their employees. In addition to technical skills, more general abilities must be taught such as social skills, creativity and emotional competence, skills to deal with or implement change, skills needed in time management and stress management skills (Schabracq & Cooper, 2000). These skills are related to the process of reinventing or redesigning an individual’s professional identity.

Employers, faced with increasing healthcare costs, global competition and economic uncertainty, are concerned about attracting and retaining high quality employees and delivering superior organizational performance. A few companies have responded to these business challenges by taking care of their employees thereby creating psychologically workplaces as well as improving productivity APAPHWA (2008).
Murphy (1983) assessed the efficacy of a work based stress reduction training program for nursing personnel. Three groups received training either in Electromyography (EMG) biofeedback, progressive muscle relaxation, or self-relaxation through daily one hour sessions. The three groups reported improvements on measures of trait anxiety after training. Follow up measurement after three months indicated that the biofeedback group reported increases in the amount of work energy and perceived effectiveness of the coping skills when used at work. The muscle relaxation group reported increases in the ability to cope with stress, and the self-trained groups reported coping with stress more frequently than did the control group. The control group reported a significant increase in job dissatisfaction compared to the trained groups. He posits that the biofeedback and muscle relaxation were useful methods for reducing arousal levels and improving coping skills of workers.

van der Klink and others (2001) using a meta analysis tried to determine the effectiveness of occupational stress reducing interventions and the populations for which such interventions were most beneficial. They evaluated four intervention types such as cognitive behavioral interventions, relaxation techniques, multimodal programs, and organization focused interventions. They found a moderate effect for cognitive behavioral interventions and multimodal interventions, and a small effect for relaxation techniques. The experimental effects were most pronounced for the outcome categories such as psychological resources and responses, and perceived quality of work life. Further, they posit that all the four stress management interventions were effective. Cognitive behavioral interventions tend to be more effective than the other types of interventions.
McVicar (2003) examined nurses’ perceptions of workplace stress and considered the potential effectiveness of initiatives to reduce distress. He points that workload, inadequate staff, relationship with others, leadership and management style, poor group cohesion, coping with emotional needs of patients, death of patients, shift working, lack of reward were the main sources of distress for nurses however, there were differences as to the magnitude of their impact. Organizational interventions were targeted at most but not all of these sources and their effectiveness were likely to be limited, at least in the short term. He posits that individuals must be supported better, but this was hindered by a lack of understanding of how sources of stress vary between different practice areas, lack of predictive power of assessment tools, and a lack of understanding of how personal and workplace factors interact. Development of preventative strategies will be hindered until employers enable individualized coping strategies, and research enables understanding of personal and workplace interactions and provides a means of assessing the intensity of distress experienced by individuals.

Edwards and Burnard (2003) reviewed stress and stress management interventions among health care professionals with the aim of identifying stressors, moderators and stress outcomes including those related to stress, burnout and job satisfaction among mental health nurses. They reported that relaxation techniques, training in behavioral techniques, stress management workshops and training in therapeutic skills were effective stress management techniques for mental health nurses.

Yung and others (2004) studied the effects of stretch release relaxation and cognitive relaxation training on the mental health of nurse managers. The subjects were randomly assigned to three groups; those receiving stretch release training, those receiving
cognitive relaxation training and the control group. The subjects were assessed before intervention, after intervention and a month after intervention. They found that both the stretch release and cognitive relaxation groups showed better mental health. They point that both relaxation methods resulted in the lowering of anxiety and an improvement in mental health status for nurse managers, particularly those who received cognitive relaxation training.

Yamagishi and others (2007) examined the effects of a web based assertion training program for hospital nurses based on their assertion knowledge, attitude and behavior, job stress and depression. They found that assertion knowledge and voluntary assertive behavior had increased subsequent to the training and remained higher a month later and further there was a decrease in job stress and mental workload.

Taniguchi (2007) studied the effects of relaxation training on immunoglobulin A in saliva and mood state in female medical workers. The results of the study indicated that immunoglobulin A in saliva levels increased after relaxation training in the relaxation group compared with the control group. There was a marginal effect for mood state indicating that the relaxation group felt less fatigue and confusion than the control group. They posit that short time relaxation training was effective in relaxing mood and caused changes in immunological function.

Marine and others (2009) conducted a literature survey on intervention studies either preventing stress or burnout among healthcare workers. They found that individual directed interventions that included a cognitive behavioral approach such as coping skills training, combined with relaxation techniques or not combined, were effective in reducing burnout, anxiety, stress and general symptoms among healthcare workers when
compared to no intervention. Work directed interventions that included communication or nursing delivery change was also effective in reducing burnout, stress and general symptoms among healthcare workers when compared to no intervention. They further point that the results of stress or burnout reducing interventions can be sustained from six months to two years after the end of the interventions.

Günüşen and Ustün (2010) examined the effects of coping and support group interventions to reduce burnout among nurses. Their level of burnout was measured before and after the intervention as well as after 6 months. They found that there was a reduction in emotional exhaustion dimension of burnout with respect to time. However, in 6 months, scores were increased again. There was no significant group X time interaction. There were no changes in depersonalization and personal accomplishment dimensions of burnout after the intervention. They posit that by means of person directed interventions emotional exhaustion levels can be decreased. Further, repetitive interventions can render the effects to be long lasting.

Moeini and others (2011) assessed the effect of a cognitive behavioral stress management training program based on PRECEDE model on stress reduction among nurses using a pretest posttest experimental control group design. The intervention was a training program in which relaxation and problem solving techniques were taught. They found that job stress decreased in the experimental group while that of the control group remained relatively unchanged. A difference was found in PRECEDE model constructs and stress management behaviors in the experimental group compared to that of the control group after training. They posit that training programs based on PRECEDE model might be effective on decreasing job stress among nurses.
Light Irin and Bincy (2012) conducted an experimental study among Critical Care Unit nurses working in a medical college hospital to assess the effects of stress management interventions such as job stress awareness, assertiveness training, time management, and progressive muscle relaxation, on job stress. They found that caring for patients, general job requirements and workload were the major sources of stress for the nurses and severe stress levels were reduced from 60 percent to 20 percent during posttest.

Hirokawa and others (2012) examined the effects of a three hour stress management program for Japanese hospital staff that included relaxation and assertion training. The subjects were assessed for job stress, coping strategies, and interpersonal behaviors before and after the intervention. The program increased active coping and decreased dependent behavior and reduced depression and anxiety. The data analyzed for men and women separately showed that the stress management intervention significantly improved active coping and assertive behavior in men and reduced dependent behavior in women. They posit that a brief one time stress management program can be effective in improving active coping and assertive behaviors as well as reducing dependent behavior among hospital staff.

Skagert and others (2012) assessed the turnover and health of Swedish healthcare managers, and identified important supporting factors relating to work and individual resources. They found that managers experiencing moderate to high job control was a predictor of continuing in the managerial position. Further, they posit that, healthcare organizations should focus not only on developing individuals in their managerial role but also on strengthening the conditions that allow managers to exercise their leadership.
Orly and others (2012) investigated the impact of a cognitive behavioral course on nurses' well-being. The study compared sense of coherence, perceived stress and mood states of nurses who had participated in the cognitive behavioral course to that of control participants using a pre test post test design. They found an increase in sense of coherence and the mood state of vigor and a decrease in perceived stress and fatigue among those who underwent the cognitive behavioral course.

Pitakwong (2013) studied the extent to which progressive muscular relaxation training can facilitate stress reduction among hospital nurses. Two treatment groups received progressive muscular relaxation; one through an instructor another through a handbook in eight sessions. The subjects were tested before and after intervention and a follow up measurement after eight weeks for stress was done. They found that both the groups showed significant reductions in stress subsequent to the intervention which was maintained at least up to eight weeks.

Chang and Chan (2013) investigated burnout among hospital nurses and examined the buffering effects of optimism and proactive coping in relation to burnout. They found that higher levels of proactive coping behaviors and optimism were associated with lower levels of burnout. They posit optimism and proactive coping were key factors in the prevention of burnout.

Individual approaches to prevent or reduce burnout often include cognitive behavioral techniques such as stress inoculation training, rational emotive therapy, cognitive restructuring and behavioral rehearsal. A cognitively oriented approach was relevant because burnout often involves wrong cognitions such as unrealistic expectations and false hopes. Relaxation techniques and didactic stress management were commonly
used to reduce burnout. The latter involves the presentation of practical information about burnout and includes techniques such as self-monitoring, time management, balancing work and private life, physical training, dieting and increasing an individuals’ social skills, particularly assertiveness have been recommended to combat burnout. Most of these techniques to reduce burnout were aimed at increasing the participants’ awareness of their work related problems as well as augmenting their coping resources by cognitive and behavioral skills training and by establishing support networks (Schaufeli & Buunk, 2003).

Janet and Velayudhan (2014) in an experimental study on occupational stress and burn out among professional managers in health service institutions have tried to find out impact of the interventions on occupational stress and burnout. The research helped to gain insights on the effect of occupational stress and burn out in the process of management in hospitals. The effective periodic psychotherapy intervention influences professional managers to reduce burn out in the aspects of Emotional exhaustion, Depersonalization and increases Personal Accomplishment in hospitals.

**Section V: Lacunae in research on mitigating occupational stress and its consequences**

There is a need to be aware of the changes that are rapidly occurring in today's workplace. Restructuring, downsizing and mergers have resulted in the loss of many jobs. These changes and their effects are widespread, occurring in both public and private spheres across countries and cultures, thereby affecting millions of workers across the globe (Schaufeli & Greenglass, 2001).

Nursing managers, have received very little attention to date, though they accomplish a highly demanding job with both management tasks and their regular work.
Furthermore, due to their intermediary position within the hospital hierarchy, they are usually involved in ongoing hospital restructurings, which may result in considerable stress and burnout (Heeb & Haberey-Knuessi, 2014).

Despite the evidence of the undesirable effects of workplace stress on managers in health care settings and their additional responsibilities, much of the research studies on stress among healthcare workers have seldom focused on managers, furthermore the investigations are exploratory rather than intervention oriented. In recent times, because of management constraints there is evidence that most of those working in the health care industry after a few years of experience have supervisory or managerial roles thrust upon them, without any formal training. Adding to their existing professional and family commitments, this additional role of managing other members in the staff will increase their work burden. Even though the onus is on the health care institutional management to enable a healthy workplace so as to enhance workers’ physical, psychological and occupational health, rarely, such practices get incorporated before assigning additional responsibilities.

Commonly, identification of occupational stress among workers occurs after the individual experiences the ill effects of stress and strain. However by the time it is identified and addressed, the consequences of occupational stress would have already taken a heavy toll. Exacerbating matters, the presence of such stress is usually left unidentified, and unaddressed.

Moreover there is a dearth of systematic studies conducted in Indian settings highlighting the workplace problems of health care managers and systematic strategies that can be administered so as to empower these health care managers to facilitate stress reduction and enhance workplace well-being.
A fairly comprehensive literature survey has revealed that a wide variety of interventions were administered and investigated to workers especially nurses and doctors and other health care staff with an intention to reduce their stress and other negative outcome measures. Studies involving integrated approaches consisting of cognitive behavioral training, controlling autonomic arousal to effect physiological responses, and didactic counseling especially in the Indian context is either nil or negligible; might be a result of publishing bias.

It is reported that workplace interventions were effective in reducing worker stress. However such endeavors might require the consent and willingness on the part of hospital management to incorporate such changes that enable worker well-being and reduce stress and its negative consequences. This study therefore intends to investigate a multimodal individual based intervention at the secondary level to reduce work stress and burnout and further enhance well-being among professional managers in a private as well as a public sector health care institution.

Section VI: Research Questions to be investigated in the Present Study

This research intended to follow a multimodal intervention to mitigate work stress and burnout, among health care managers and to facilitate enhance their well-being levels. In this connection, several questions have been raised and will be addressed by the present investigation. The following are pertinent research questions that arise based on the overview of the literature survey.

1. Can the occupational stress levels and occupational burnout be reduced among health care managers by administering systematic desensitization, progressive muscle relaxation and didactic counseling?
2. Can the health care managers enhance their well-being at the workplace through this multimodal interventional approach?

3. Will there be any noteworthy institutional differences between healthcare managers in the public and private sectors subsequent to the intervention with regard to factors under investigation.

4. Will there be any gender differences among health care managers across institutions subsequent to the intervention with regard to the factors under study.