Chapter Two

REVIEW OF LITERATURE

The review of literature includes only those studies which have relevance and relation with the topic, and objectives of the present study, since the main thrust of the present study is on the “assessment of health-related quality of life and coping behavior in cardiovascular disease patients”, it would therefore, be proper to review studies concerning to the quality of life, measurement of health-related quality of life, and coping with cardiovascular diseases. In the following sections many of very important studies have been reviewed.

A large number of studies have found consistent relationships between different dimensions of quality of life and cardiovascular diseases. In this section some relevant studies conducted in the last ten years or during 1990s have been reviewed.

Mai et al. (1990) described the pre-operative psychosocial and quality of life adjustment of a consecutive series of twenty seven heart transplant recipient and the adjustment of the twenty four survivors at twelve months follow up. Subjects were rated using the present state examinations and the general health questionnaire and the Scl-90. There was significant relationship between pre-operative psychiatric diagnosis and rating of poor
medical compliance. Rating of physical activity and employment and questionnaire ratings of psychological adjustments also showed highly significant improvement at follow-up, and most subjects were sexually active. Heart transplantation in selected subjects with terminal heart disease may result in a substantial improvement in psychosocial adjustment and quality of life 12-months following surgery.

Mayou et al. (1991) examined the association between exercise capacity, symptoms and specific aspects of quality of life in patients. The principal symptoms were fatigue, breathlessness, and chest pain. Subjects were asked to limit the extent and speed of physical activities, restricted social, leisure, and family life: and were associated with emotional distress. Change in exercise capacity over three months was correlated with clinically worthwhile improvements in symptoms and quality of life. Findings confirm the value of change in exercise capacity as a measure of functional status and suggest that it should be supported by a limited number of specific measures of quality of life.

Chaturvedi (1991) interviewed patients, relatives and professionals to determine the issues they considered as reflecting quality of life and how important these items were in the event of serious illness. Peace of mind, spiritual satisfaction, and social satisfaction were considered to be very important by nearly two third of the subjects. Less than 25% of the subjects considered as very important their level of functioning in job, self care,
social and marital spheres. However, satisfaction in their domains were considered to be very important by 64% (self satisfaction), 56% (satisfaction in social aspects), and 42% (satisfaction in mental life).

Conn et al. (1991) conducted interviews with 47 men and 47 women (aged 65-88 years) who had a myocardial infarction 1-2 years previously. Quality of life was measured by the perceived quality of life scale. Depression scores counted for 46% of the variance in quality of life scores and predicted each of the self care behavior scores. Anxiety scores did not predict quality of life scores on any self care behavior score.

King et al. (1992) examined quality of life and perceptions of the consequences of surgery in 155 individuals (aged 33-80 years) before and after they had coronary bypass surgery. One year after surgery, 64 subjects who believed that surgery was worth it because of functional improvement had more positive scores on subjective indicators of life satisfaction and mood than did 62 from death or 22 subjects who were not sure of the value of the surgery. Findings emphasize the need for using a multidimensional approach to studying the quality of life.

Ostrowski (1992) focussed on the emotional aspects of the quality of life in people suffering from myocardial infarction (MI) without complication in comparison with people after infarction complicated with ventricular fibrillation, which has resulted in the state of clinical death for at least a brief period (CMI). Our main expectation was that such a clinical
death would have some implications for the psychological components of the quality of life, which would remain long after restoration of life. He felt that such effects could be measured as significant differences in pertinent dependent variables (including trait and state anxiety) between MI and CMI patients for at least a few years following myocardial infarction - (Subjects were adults who had suffered myocardial infarction from 1 to 8 years before the study).

Rawles et al. (1992) determined the loss of quality of life following admission to hospital with suspected myocardial infarction. The study involved a cohort of admission, with interview and follow up for 100 days. 206 patients (aged 32-93 years) were admitted with suspected acute myocardial infarction. Infarction was confirmed in 160 subjects and unconfirmed in 46 subjects. The quality of life scores before the suspected heart attack were similar for patients whose final diagnosis was Q-wave infarction, non-Q-Wave infarction, only 54 (34%) have regained their previous quality of life scores at the end of 100 days, compared with 26 of 46 subjects with unconfirmed infarction.

Duitsman and Cychosz (1993) surveyed 132 heart transplant recipients to investigate the psychosocial variables that influence their quality of life. Findings suggest that satisfaction with family relationships, self-esteem, and depression influence quality of life. The least significant construct, body satisfaction, was also the most physical of the constructs
examined. Results reinforce the need for broad-scale investigations into psychosocial factors that may influence heart transplant post-operative outcomes.

Shumaker and Czajkowski (1993) have discussed health-related quality of life (HRQL) in terms of its use in evaluating the status of women with cardiovascular disease. The limited date on HRQL and psychosocial status of women who have undergone bypass surgery suggest that such women, like men, experience some improvement in HRQL for up to 18 months following surgery. Studies involving women with hypertension have complex effects on HRQL and that behaviorally based interventions may enhance HRQL. According to the limited number of studies women tend to have worse HRQL, after myocardial infarction than do men.

Erdman et al. (1993) investigated 40 heart transplant recipients and their partners to determine both the partner's quality of life upon transplantation and the experiences of both patients and partner with compliance with the medical regimen. Data were obtained approximately 21 months after transplantation. Compared to related study groups, partners did not experience more problems in sleep, social isolation, emotional reactions, depression and anxiety. Patients overestimated the apprehensions of their partners significantly. With the exception of 3 items relating to eating fish and canned food and forgetfulness in medicine intake, patients and partners agreed with respect to actual compliance behavior. Lowest
compliance concerned regular physical exercise: 28%. Both patient and partner reported no emotional problems with the regimen.

O'Brien et al. (1993) examined the relationship between patients responses to the Nottingham Health Profile (NHP), a health-related quality of life (HRQOL) instrument, and physicians classification of patients by 2 functional status indicators: the New York Heart Association (NYHA) classification and the Karnofsky Performance Status Scale (KPSS). One hundred eighty five patients (aged 38-75 years) participated 6 months after myocardial infarction and were compared with normal population male controls (aged 55-59 years). Analysis of NHP scores by NYHA strata confirms that lower HRQL is associated with poorer cardiac functional status. Significant associations emerged between subjects NYHA class and NHP domain scores for energy, physical mobility, and pain, NHP scores for subjects in NYHA Class I were similar to controls. A similar relationship arose between NHP and Karnofsky. The NHP discriminated between levels of cardiac functioning as classified by NYHA and patient functioning as classified by Karnofsky.

Fitzgerald et al. (1993) evaluated the unique and additive contribution to adaptation of control appraisals and optimism, among 49(38-77 years old) white patients scheduled for coronary artery bypass surgery. They were followed for 8 months through measurement scales, ratings, and questionnaires, one month before surgery. Dispositional optimism, however,
was associated with quality of life appraisals. Although pre-surgery optimism predicted life quality 8 months after surgery, this was not the case when general and specific control appraisals and specific expectancies were included in the prediction.

Muller et al. (1994) examined during a 30-day period 45 patients (mean age 50.9 years) with primary hypertension (HT) and 45 normotensive (NT) controls documented blood pressure (BP) and intensity of 13 symptoms daily as well as mood and life satisfaction (MLS) weekly. Starting on day 3HT subjects received beta-blockers therapy (bopindolol, 1 mg/day). The BP values of the HT subjects normalized during the study while the BPs of the NT subjects did not change. At the beginning HT subjects showed higher prevalences and intensities of the symptoms and poor MLS. After normalization of BP, HT subjects attained scores similar to those of NT subjects in all measured categories. Calculating within subject correlations between symptoms intensities and systolic BPs, 70% of HT subjects but only 27% of NT subjects showed at least, significant correlation. Data reveal that untreated hypertensive are by no means symptoms free and document the close relationship between symptoms and actual BP for a percentage of hypertensives.

Mark et al. (1994) interviewed 2600 US and 400 Canadian adult patients suffering from myocardial infarction. They were interviewed 30-days, 6-months and one year after myocardial infarction to compare their
use of medical care and quality of life. Results suggest that the more aggressive pattern of care in the US patients may have been responsible for the better quality of life.

Gorkin et al. (1994) incorporated quality of life ancillary study to the same trial of captopril vs placebo among patients who survived an acute myocardial infarction with compromised ventricular functioning (MICVF) but no overt heart failure. The psychometric properties of the QOL measures in the same were evaluated at base line, and a pre randomization profiles of 184 patients was provided. Consistent with prior studies, the QOL parameters were unconnected with ventricular ejection fraction. Despite recent MICVF patients generally neither appeared depressed nor focused on symptoms. Results support inclusion of the QOL ancillary study in the overall same trial because it is likely to contribute independently to evaluation of disease, progression and treatment efficacy.

Robbins et al. (1994) examined the associations between unmeditated systolic and diastolic pressure levels and measures of quality of life among 315 white women with diagnosis of mild to moderate hypertension. Subjects were removed from antihypertensive medications and placed on placebo medication in the context of a clinical drug trial. Unmedicated BP levels were measured at a quality of life (QOL) interview, which followed a 4-8 week placebo run in period and at the preceding visit one week earlier. Indices were obtained for five quality of life dimensions: sense of general
well-being, cognitive functioning, affective status, physical health status, and level of enjoyment of social activity. Unmedicated blood pressure levels were inversely related to quality of life measures of cognitive functioning and social activity level. Duration of hypertension was inversely related to subjects' sense of general well-being and positively related to measures of physical health status.

Corten et al. (1994) developed a comprehensive model integrating different sets of variables associated with the concept of quality of life. Three significant factors for the model were found: the hedonist factor, the achievement factor and the conformity factor. Items related to needs did not recover the satisfaction variables. Subjective quality of life cannot be derived from objective satisfaction of needs. The abilities and social roles cluster did not position itself along the same axis as the satisfaction cluster. Therefore, a life project aiming at self achievement differs from one aiming at the improvement of satisfaction through interdependencies.

Stiufbergen (1995) explored factors related to performance of health-promoting behaviors and examined the relationship between the practice of health-promoting behaviors and perceived quality of life for 61, 20-76 years olds with physicians diagnosed multiple sclerosis. Subjects completed self-report instruments, participated in structural interviews and were administered a neuropsychological screening battery. A general conceptual model was used as a framework for exploring the relationships among
antecedent variables (demographic / disease factors, barriers, resources, perceptual factors), health-promoting behaviors and perceived quality of life. Analyses supported a hypothesized relationship between health-promoting behaviors and quality of life.

Sears et al. (1995) investigated the prevalence of symptoms and quality of life of cardiac transplantation recipients and tested the predictive validity of a pericardia transplantation psychological assessment battery on pre-transplantation quality of life. 83 subjects (Mean age 55.9 years) were placed into 4 cluster groups based on pre-transplantation MMPI profiles. Cluster groups were not equally represented among cardiac recipients, such as that the "Distressed / confused" cluster had only 1 recipient member. Tests of significance among the 3 remaining cluster groups on the post-transplantation quality of life variables found no significant predictor of increased symptom frequency and symptoms problems and decreased mental health among subjects. Modest support was found for the case of pre-transplantation psychological variables as predictors of post-transplantation quality of life.

Visser et al. (1995) tested the feasibility of the Nottingham Health Profile (NHP), Heart Patients Psychological Questionnaire (HPPQ), Sickness Impact Profile (SIP) and the Hospital Anxiety and Depression Scale (HAD) in 16 patients (mean age 72.7 years) with a history of myocardial infarction, 20 (mean age 66 years) with a history of stroke and 17 controls
(mean age 72.8 years) subjects were tested and retested after an interval of 14 days. Mean administration times for the NHP, HPPQ, SIP and HAD were 7.9, 10.5, 21.0 and 5.5 min. respectively. On average, the test-retest reliability was good, and all 4 instruments were able to show differences between the study groups. Findings suggest that use of the 4 instruments for assessing aspects of quality of life in patients with a history of a myocardial infarction or stroke.

Kinney et al. (1996) reviewed 84 studies of quality of life (QOL) in cardiac patient populations. Selected methodologies and substantive characteristics of the studies are described. A small but significant positive effect of pharmacologic mechanical, surgical, nursing, or other treatment on QOL was found. No negative effect of treatment was found for any cardiovascular diagnostic category. Homogeneity analysis revealed 8 potential moderators of the overall effect size: quality of study, gender of sample, time dimension, sampling method, intervention, marital status of subjects, quality of life dimension measured, and sample size.

Dutts et al. (1997) reviewed studies predicting psychosocial outcomes after coronary artery bypass graft surgery. Seventeen prospective studies appearing in the MEDLINE and PSYCLIT data bases between 1986 and 1996 were reviewed regarding objectives, methodological issues, result, and clinical relevance. Results indicate that all studies reported that psychological factors had predictive value. In particular, preoperative anxiety
and depression predicted postoperative psychological maladjustment; social support, preoperative feelings of control, denial, and optimism contributed to psychological adjustment. Many specific psychological outcomes seem to be best predicted by pre-operative assessment of functions in that specific area, especially in the case of anxiety and depression. Furthermore, personality factors including denial, optimism, control, and the need for support appear to be predictors of psychological outcomes. Appropriate identification of predictive factors might improve the development of individually tailored interventions for patients at risk of postoperative psychological problems.

Stiufbergen and Rogers (1997) present results from a qualitative study which aims to clarify an emerging explanatory model of health promoting behaviors and quality of life in individuals with chronic disabling conditions. Twenty adults (aged 32-65 years) with multiple sclerosis shared their stories regarding health promotion/domains of quality of life, and factors that affected these domains. Health promoting behaviors were viewed as essential to the process of rehabilitation and maintain an acceptable quality of life. Important quality of life issues were related to domains other than function.

Konstam et al. (1997) examined health related quality of life in 29 subjects, using data from the Sickness Impact Profile (SIP) completed at 5 time interval before and after cardiac transplantation. Results revealed significant improvement of SIP physical scores between 4 months pre- and
4-months post transplantation, while no significant differences were observed with respect to psychosocial and total SIP scores.

Gulick (1997) investigated the extent to which objective (demographic) and subjective (self-reported health and role) domains predicted quality of life among 153 persons with multiple sclerosis (MS). Subjects completed the Life Situation Survey, a measure of quality of life, a demographic form (sex, education, age, MS duration, employment status, marital status), the MS-Related Symptoms Scale (motor, brain stem, sensory, mental/emotions, elimination subscales), and the 15-item Activities of Daily Living (ADL) Self-Care Scale for MS persons (fine/gross motor, communicating, recreation, socializing, intimacy subscales). Hierarchical multiple regression was used to enter three blocks of variables (demographic, symptom and ADL domains), and step-wise was used to enter variables within each block. The final model resulted in the two health domains (mental/emotions and sensory symptoms) and two role domains (intimacy and recreation/socializing) that predicted 61% of the variance in quality of life of persons with MS.

Antequera et al. (1997) evaluated the presence of postinfarction personality traits (PTS) in 30 males (aged 28-64 years) hospitalised for acute myocardial infarction and the relationship between PTS and quality of life. 16 Personality Factor Questionnaire (16 PF) and the quality of life questionnaire were administered. Subjects showed neurotic PTS, this PTS
had implications for emotional, personal, and interpersonal quality of life factors, but not for physical and health factors:

Dershields, et al. (1997) examined health-related quality of life (QOL) among 142 heart transplant patients (mean age 47.3 years) and evaluated the mediating effects of psychological distress, and social desirability on self-report of QOL. Subjects completed a battery of QOL and psychological measures in order to sample more general and more idiosyncratic aspects of quality of life in this population. 25 patients (mean age 51.9 years) were assessed 6-months posttransplantation to determine the impact of the surgery on patients perception. The QOL measures used were found to be significantly correlated with each other and with measures of psychological distress. The post-transplant data suggests that patients experience improvement in QOL after heart transplantation, in terms of positive change in QOL and increased satisfaction with current QOL.

Bennett et al. (1998) explored the impact of symptoms of heart failure (HF) and examined the relationship among symptom impact, perceived health status, perceived social support, and overall quality of life (QOL) in 30 women (aged 42-85 years) recently hospitalized for HF. Subjects reported high physical symptom impact, poor perceived physical health status, and impaired QOL. Physical symptom impact, perceived physical health status, and QOL were moderately to highly correlated with one another. Perceived social support was significantly, but weakly correlated with physical
symptom impact. Emotional symptom impact and mental health status were significantly and negatively correlated with each other but were not significantly correlated with QOL. QOL was lower in subjects who reported greater physical symptom impact and poorer perceptions of their physical health status.

Oelofsen et al. (1998) described the health-related quality of life (HRQOL) of South Africa Coronary artery bypass graft recipients. The sample consisted of 31 subjects (22 males and 9 females) with an average age of 58 years 6 months. Subjects were assessed in their homes on average of 19.25 weeks after surgery. The assessment consisted of a structured interview, a self-report questionnaire, and a psychometric test battery that measured cognitive functioning. Data were analyzed by computing descriptive statistics (percentages, means) and multivariate statistics to identify subgroups of the sample. Subjects’ HRQOL was described along the dimensions of symptoms, functional status and perceptions. Key findings included the following: All subjects experienced relief from cardiac chest pain symptoms; subgroups were identified that experienced cognitive impairment and low levels of psychological well-being; the majority of subjects (84%) believed that their health was good and 80% felt that the coronary bypass surgery had fulfilled their expectations; and overall the findings emphasized the individualized nature of reactions to cardiac surgery and the importance of psychological variables in cardiac care.
Zwinderman et al. (1998) conducted a self-controlled 6-months study to examine the effects of 50 mg and 100 mg of sustained-release isosorbide mononitrate (SRISMAN) administered once daily. The anginal symptoms and quality of life (QOL) were assessed in 351 patients (mean age 69 years) with stable angina pectoris. QOL was assessed by means of a battery of tests based on the Medical Outcomes Study Short From 36 Health Survey and The Angina Pectoris Quality of Life Questionnaire. Patients who received 100 mg daily showed greater improvement than those who received 50 mg daily; the mean difference between treatments was consistent with significantly greater improvement of mobility and angina indices. Adverse effects, as estimated by the side-effect index, including rebound angina at times of rest, and by patient compliance rating, differed slightly between the two treatment regimens and were even less problematic with the higher dosage than with the lower dosage. Psychological distress index and life Satisfaction scores also were significantly higher with 100 mg than with 50 mg daily.
Measurement of the Health-Related Quality of Life (HRQOL)

Quality of life measures have gained increasing attention as an outcome variables in studies of cardiovascular diseases. This section reviewed several studies on the assessment of health-related quality of life conducted during 1990s.

Hamsted (1990) advocated that quality of life cannot be observed directly; other variables have to be taken into account as its indicators. In case of self assessed quality of life, the researches have to rely upon individuals own statements as to how they feel, the subjective nature of the term creates problems in the matter of reliability and validity of the data collected. Random and systematic errors of measurement influence the result of investigations. Sources of error must be examined into the researches of quality of life.

Jenkins et al. (1990) reported factor analysis of 58 six months outcome measures for a group of 469 persons (aged 25-69 years) who had undergone coronary artery bypass or cardiac valve surgery. Factor analysis revealed 5 orthogonal dimensions: low morale, symptoms of illness, neuropsychological function, interpersonal relationship, and economic employment. Data suggest that health-related quality of life is a multidimensional construct and that these dimensions can be measured quantitatively with relatively simple interview and questionnaire approaches.

Mayou (1990) discussed problems with current quality of life (QOL) research in patients with cardiovascular disease and examines measurement
issues involving QOL in these patients. The problem with most QOL research is that it ignores the significance of the individual meaning of illness. The role of measures of symptoms, mental state, and functional status for patients with cardiovascular disease is discussed. While research has focussed on QOL in patients with myocardial infarction, very little interest has been expressed in QOL of patients with angina/cardiac failure pacemakers, or hypertension.

Cummins (1991) discussed objective versus subjective quality of life dimensions. They were separated into 7 broad domains (material things, physical well-being, productivity, intimacy, safety, place in society and emotional well-being.

Hadon and Hays (1991) tested a brief survey designed to concurrently assess health-related quality of life (HRQOL) and preferences for different HRQOL states. Multitrait and multimethod analysis was used to evaluate the construct validity of the survey in a sample of 116 persons. Two methods were used to assess 6 aspects of HRQOL: general health perception, meaningful activities, outlook of life, physical suffering, self care activities and social relationships. HRQOL preferences were assessed using two methods similar to those used for self-reports, as well as one additional method. The construct validity of self-reported HRQOL was supported. However, substantial methods variance and little valid trait variance were observed for HRQOL preferences.
Clearly et al. (1991) developed an instrument to assess the impact of an antiplatelet agent on health-related quality of life in patients who had undergone percutaneous translational coronary artery angioplasty (PTCA). The psychometric characteristics are discussed based on baseline telephone interviews with 496 patients (aged 36-82 years), as well as follow-up interviews one month after PTCA. The questionnaire focussed on physical well-being, perceived health, emotional well-being, home management, work, recreation, social and sexual functioning. Many subjects reported dyspnoea or angina and severe symptoms. 35% of subjects rated their overall health as fair or poor. Of 60 subjects who reported not working because of health problems before the study, only 13.3% reported working after one follow-up. 11.1% of 306 subjects who worked before PTCA reported not working because of health problems at follow-up. The instrument showed good reliability, moderate validity, and a sensitivity to change in health status.

Tsevat and others (1991) assessed the relationship among measures of quality of life, tested a new verbal rating scale and elicited utilities among survivors of myocardial infarction (MI). 80 MI survivors were interviewed (20-28 months) after their MI. Modest correlations were found among measures of functional status and patient preferences. Regardless of their functional status, subject were willing to give up only a small fraction of life expectancy in return for excellent health.

Romney et al. (1992) reanalysed data collected 6 months after surgery on 469 patients (aged 25-69 years) with cardiovascular problems. The data
were factor analysed and 5 factors were extracted: Symptoms of illness, Neurological dysfunction, Interpersonal relationships, Morale, and Socioeconomic Status (SES). Two competing models were tested against the data using LISREL. In one, symptoms lowered morale whereas in the other, low morale aggravated symptoms (i.e. a psychosomatic effect). The 1st model fit the data very well in contrast to the 2nd model which did not fit the data at all. The authors consider the implications of the 1st model for improving quality of life in cardiac patients.

Bech (1992) measured quality of life in medical perspective. Health-related quality of life (HRQOL) refers to components of health status assessments, such as physical, cognitive, affective, social, economic and ego on personality oriented aspects of medical disorders, were as medical measurements of the components of health-related quality of life profiles are attempts to identify objective indicators, the QOL measurements identify subjective indicators. It is suggested that self-rating scale, are therefore relevant for QOL assessments.

Aronson et al. (1992) conducted an international project on quality of life assessment to document and monitor the benefits of health-related quality of life (HRQOL) issues in countries around the world. The project plans to construct and validate psychometrically based index incorporating the SF-36 for use in post quality and other economic evaluations.

Ruiz and Baca (1993) described the development of the Spanish Quality of Life (QOL) Questionnaire the CCV a new 39-items measure of
health-related perceived quality of life. 245 Spaniards (aged 18-55 years) rated 96 questions according to the level of influence in their conception of QOL. Items that were rated as "quite" or "very" influential by more than 80% of the subjects constituted the final 39-item questionnaire. Two additional samples, including a total of 2810 adults (aged 18-65 years) then analysed the psychometric properties of the instrument. Four factors were found: (1) social support, (2) general satisfaction, (3) physical / psychological well-being, and (4) absence of work over-load / free time. Results indicate that the CCV is a measure of perceived QOL that presents a satisfactory validity and reliability, as well as a reasonable degree of sensitivity to change.

Gyatt (1994) discussed about the measurement of health-related quality of life in heart fellow. He discussed two basic approaches to health-related quality of life measurement, namely, a summary of health-related quality of life and specific instruments that focus on problems associated with individual disease states, patient groups, on areas of function. The approaches were not mutually exclusive; each has its strengths and weaknesses and may be suitable under different circumstances. Development and testing of the chronic heart fellow questionnaire demonstrates the use of disease specific measures in controlled clinical trails.

Kuyken et al. (1994) examined cultural aspects of the health-related quality of life (HRQOL) and discussed the current approaches to cross
culturally quality of life assessment. Four principle approaches to quality of life assessment were critically examined: (1) developing a new assessment for each setting, (2) adopting / translating an existing measure for each setting, (3) developing a single assessment through collaboration among researchers representing several diverse cultures and (4) using a subjective measure that allows respondents to define the domains relevant to them. The success of these approaches in developing equivalent versions across cultures has not yet been established.

O’Boyle (1994) suggested that a comprehensive study of patients’ quality of life should include a general measure of health status in addition to measures dealing with specific areas such as physical symptoms on sexual functioning. Key issues of concern for individual quality of life research in the 1990s are outlined.

Learner et al. (1994) examined the relationship of job strain to more comprehensive health status measures, encompassing health-related quality of life. Job-strain was significantly associated with physical functioning, role functioning related to physical health, vitality, social functioning and mental health. Job-strain made a statistically significant contribution beyond the effects of chronic illness and psychosocial variables. Results provide justification for investigating job-strain as an independent risk factor for health-related quality of life.

Parmenter (1994) provides an overview of conceptual approaches to the study of quality of life (QOL) in the health and rehabilitation fields and
investigates efforts that have been made to operationalize the construct. He proposed QOL is a multidimensional concept, the measurement of which must contain objective elements of a person’s life. Instruments to measure QOL have been flawed owing to their inadequate conceptual bases and the attempts to utilize general measures to detect changes in disease specific situations. Some of the potential uses and abuses involved in the measurement of QOL are noted.

World Health Organization Quality of Life Group (1994) has taken initiative to develop an international instrument for quality of life assessment and its application in research, clinical, practice, audit, health planning, and evaluation. The four stages in the development of the instrument were discussed: concept clarification, qualitative pilot, developmental pilot, and field test. The instrument is a generic instrument for the assessment of both positive and negative aspects of quality of life that can be used in developed and developing countries to measure a person’s perception of the impact of disease and impairment.

Chwalow (1995) discusses the importance of quality of life scales for the assessment of psychological and social factors of chronic illness. The validation of quality of life scale requires both a qualitative approach with attention being paid to the methodological issues in scale development, such as selection, methodology, and cross-cultural validation. The cross-cultural adaptation of an existing scale into another language requires a
rigorous qualitative phase before the quantitative phase is begun. The end product of this approach should be an equivalent scale rather than a literal translation.

Marquis et al. (1995) described the psychometric properties of the French version of the Angina Pectoris Quality of Life Questionnaire (APQLQ) with 170 coronary patients. Subjects completed the APQLQ and Medical Outcomes Study SF-36. The factorial structure and the high level of inter-scale correlations suggest that the APQLQ measured one global concept rather than separate domains. The multitrait analysis identified one problematic item correlated strongly with all domains. The internal consistency was good. The more severe the AP, the more impaired the quality of life indicating good distribution of scores. The score significantly discriminated between symptomatic and asymptomatic patients except for the emotional distress scale.

Colla et al. (1996) described the development and validation of the Functional Assessment of Multiple Sclerosis (FAMS) with 433 MS patients (aged 30-70 years). Subjects completed the Marlowe-Crowne Social Desirability Scale, Hospital Anxiety and Depression Scale, and the Preference Status Rating. Subjects provided evidence for internal consistency of the derived subscales, test-retest reliability, content validity, concurrent validity, and construct validity. The mobility sub-scale was strongly predictive of the Kurtzke Extended Disability Status Scale and the
Scripps Neurologic Rating Scales. The other 5 subscales were not indicating major aspects of patients' quality of life.

Andreson et al. (1998) examined the possibility of using the quality of Well-Being -Self-Administered (QWB-SA) questionnaire in an older population. The QWB-SA is a measure of health-related quality of life. The questionnaire was completed by 301 subjects aged 65 years and older who were randomly selected from primary physicians' offices. Response pattern, scaling distributions and the acceptability of the survey were examined for all respondents. The results of the QWB-SA questionnaire were compared to the Sickness Impact Profile (SIP) and Medical Outcomes Study 36-item short-Form Health Survey (SF-36). The mean QWB-SA questionnaire score was 0.7035. The scores were not skewed, and there were no floor or ceiling effects. The mean time to complete the questionnaire was 14.2 minutes, which was significantly shorter than the SIP but significantly longer than the SF-36. Subjects rated their satisfaction with the QWB-SA questionnaire somewhat lower than the SIP and similar to SF-36. Correlations between the QWB-SA questionnaire and the SIP and SF-36 were moderate and more generally stronger for measures of physical health than for other domains such as mental health. They concluded that the QWB-SA questionnaire was acceptable to older subjects and it correlated with other measures of health-related quality of life.
Williams (1998) reviewed outcome measures research pertaining to the health-related quality of life of stroke patients. It is asserted that stroke outcome is difficult to measure because of the impact of health care interventions has shifted from biological and physical patients. Although they can be more difficult to quantify, patient centered outcomes such as functional status and health-related quality of life measures are often more clinically relevant and thus are increasingly being assessed as outcomes in clinical research. Formally developing and validating an evaluative-specific health related quality of life measure will allow a more precise assessment of a variety of interventions aimed at reducing the morbidity and cost of stroke.
Coping with Cardiovascular Diseases

Review of literature reveals innumerable studies related to coping behavior of cardiovascular diseases. These studies have shed light on psychosocial and physical coping process with reference to managing cardiovascular diseases.

Ben-Sira and Eliezer (1990) presents a comprehensive multivariate framework aimed at predicting the factors that enhance or impede readjustment after a heart attack. 63 married Jewish men who had suffered a first heart attack were interviewed 3-24 months after hospital discharge. Application of multivariate techniques of data analysis revealed a structure highlighting the relative weight of various demands in impeding readjustment and the relative significant of the subjects self-control resources in coping with these demands. Results showed the crucial role of the spouse in both inducing resources and furthering readjustment. Three dimensions of readjustment (the affective, the instrumental, and the cognitive) are discussed.

Badger (1990) examined the coping methods, health perceptions. and marital adjustment of 37 men with chronic cardiovascular disease and their spouses. Most of the subjects age was between 40-60 years. Despite variation in disease types and the absence of disease among the spouses, the couples were similar in their coping responses. Both partners used more emotionally focussed strategies than problem-focussed strategies to cope with chronic
illness. Subjective perceptions were more useful than objective indices for predicting coping. Preillness and current marital adjustment were satisfactory for both partners.

Faller (1990) surveyed 51 myocardial infarction (MI) rehabilitation inpatients to investigate patients' expectations of rehabilitation. Subjects were asked to describe the incident of their MI and to answer several questions focusing on cognitive and emotional coping, subjective etiological models, and expectations for treatment and rehabilitation. Data indicate that both anxiety and denial can coexist influenced by contextual factors. One of these seems to be the temporal course of the argumentation during the interview. Emotional coping and cognition are intertwined. It seems that it is not so much denial, but rather the wish to undo the MI that characterizes patients' coping. In the patients' view the rehabilitation program is designed to fulfill this wish. Psychological treatment is therefore, rejected because it would confront the patients with their own contribution to the illness. This would trigger shame and challenge self-esteem.

Nolon and Wielgosz (1991) assessed symptom management behaviors among 45 patients with acute myocardial infarction (AMI). Cluster analysis is conducted on data from a structured interview to group subjects according to adaptive and maladaptive coping responses to daily stresses. Maladaptive copers had higher scores on anger-in and hostility and lower scorers on behavioral compensation for stress, compared with adaptive copers. 51
groups were next compared on AMI symptom management behaviors. Maladaptive subjects reported greater distraction from AMI symptoms, more relief-seeking behavior, and greater perceived vulnerability to reinfarction. AMI coping behaviors correlated meaningfully with delay in seeking medical assistance.

Fiske et al. (1991) employed an uncomplicated myocardial infarction to examine the traditional construct of overprotectiveness. Analyses showed that overprotectiveness and a hostile critical attitude were not significantly related and that only hostility was associated with lower patient self-efficacy and higher patient psychological distress. Whereas overprotectiveness was related to the couples becoming closer after myocardial infarction, hostility was associated with the couple’s becoming more distant and having fewer useful discussions about coping. Results suggest that the traditional concept of overprotection may not be a unified construct and that negative patient outcomes may relate only to the hostile components.

Mayou et al. (1991) examined the associations between exercise capacity symptoms, and specific aspects of quality of life in 123 patients (aged 37-79 years) participating in a trial of the treatment of heart failure. Subjects were assessed on entry and after 3 months. The principal symptoms were fatigue, breathlessness, and chest pain. These limited the extent and speed of physical activities, restricted social leisure, and family life; and were associated with emotional distress. Change in exercise capacity over
3 months was correlated with clinically worthwhile improvements in symptoms and quality of life. Findings confirm the value of change in exercise capacity as a measure of functional status and suggest that it should be supported by a limited or specific measure of quality of life.

Engblom et al. (1992) evaluated the effects of 3-phase comprehensive rehabilitation programme (CRP) vs a hospital based program (HP) on the quality of life (QOL) during the first post-operative year in 205 male coronary bypass patients (aged 35-65 years). The following variables were investigated: expectations and perceptions of surgery, factors enhancing recovery, post-operative problems, hospital admissions, present life situation and outlook, sexual satisfaction, depression, and leisure time activities. Beck Depression Index scores decreased significantly in CRP subject. Hobby activities decreased in HP subjects during follow-up. Significantly more CRP subjects considered rehabilitation an important factor influencing recovery.

Redeker (1992) described the nature and dynamics of coping of 129 patients (aged 38-79 years) following coronary artery bypass surgery (CABS). The coping strategies (CSGS) were assessed at one and six weeks using the Revised Ways of Coping Checklist by Vitaliano (1987). The most frequently used CSGS were: seeking social support, problem focussed coping (PFC), blaming self, wishful thinking, and avoidance coping (AC). Changes in the use of CSGS at 6 weeks post surgery were also investigated.
The study provided insight into the process of coping following CABS and supported the need for development of nursing strategies to promote coping among subjects.

Redeker (1992) examined 129 adults (aged 38-78 years) completed the Mischel Uncertainty in Illness Scale and the Revised Ways of Coping checklist at one and six weeks following non-emergency coronary artery bypass surgery (CABS). Emotions-focused coping appeared to be used in relation to uncertainty. Subjects used predominantly wishful thinking and avoidance coping in relation to ambiguity at 1 week and in relation to ambiguity and complexity at 6 weeks following CABS. Attempts to escape using fantasy and distancing oneself from the situation were related to the inability to structure meaning in uncertain situations. The low level of blame self coping suggests that escapist forms of coping were preferred to accepting culpability in uncertain situations. At 6 weeks, uncertainty about health status appeared to continue, while the need to interpret cues about treatment and the system of care increased in relevance.

Glass and Maddox (1992) examined the role of psychosocial factors in recovery from stroke. 44 patients were followed for 6 months following first stroke. Growth cure analysis was utilized to examine the impact of three types of social support: emotional, instrumental, and informational. While all were shown to be significantly related to recovery of functional capacity, substantial differences were found in the matter of these effects. The impact of social support did not appear during the first month of
rehabilitation, indicating the importance of longitudinal designs. Patients reporting high levels of emotional support showed dramatic improvement, even those with the lowest baseline functional status. Instrumental support was most closely related to positive outcomes.

Smith and Christensen (1992) have described the role of psychosocial epidemiological research in cardiovascular disease (CVD) and the possible mechanisms linking stress and disease. Topics discussed include psychosocial risk factors, hostility, type A behavior patterns, and animal models of CVD. Also discussed are cardiovascular reactivity as a pathogenic mechanism, interpersonal control as active coping, and hostility and cardiovascular responses to social stressors.

Demollet and de Potter (1992) have used cluster analysis to delineate coping subtypes in 166 Belgian men (aged 35-73 years) with coronary heart disease who completed an outpatient rehabilitation program. These subtypes were identified on the basis of three well-defined superordinate traits: negative affectivity, social inhibition, and self-deception. Four coping substyles were identified: Low-negative affectivity, high negative affectivity, inhibited, and repressive. The accuracy of the resulting classification was demonstrated across parallel data set and was further validated against external, health-related correlates. The identified coping subtypes were significantly related to Type A behavior and anger-in return to work, prevalence of chest-pain complaints, and use of minor tranquilizers and sleeping pills.
Mitsiboumas et al. (1992) examined whether a psychosocial intervention approach aimed at resolving psychological conflicts could reduce the severity of risk factors for post-acute myocardial infarction (MI) patients. Twenty three patients (mean age 50 years) with a recent MI participated in a group psychosocial intervention programme that lasted one year. Twenty other patients (mean age 56 years) with recent MI served as controls. Mean values for 7 risk factors of coronary heart disease (smoking, body weight, serum cholesterol, triglycerides, systolic and diastolic blood pressure, and serum uric acid) were compared between the 2 groups. Results suggest that group psychosocial intervention with post-acute MI patients considerably reduces some coronary disease risk factors.

Starker (1992) interviewed 95 male patients (aged 26-76 years) undergoing behavioral screening for hypertension and asked them to complete a troubles index and a coping behaviors questionnaire. Subjects had many kinds of troubles, including medical and money troubles, pain, tension, and depression. Some had ineffective coping patterns. More than one-third required referral for some type of behavioral intervention; other benefited form brief behavioral consultation. Behavioral screening may be a fruitful additional to the hypertension clinic setting.

Smith and Yarandi (1992) tested a conceptual model of the effects of age, weight, type, cholesterol, systolic blood pressure (BP), and coping on the stress response of 280 Southern Black women (aged 20-65 years).
Audio-type analyses of the structured interview resulted in 136 Type A’s and 144 B’s. Each individual was screened for hypercholesteremia using a portable reflectance photometer BP measurements were taken every minute before, during, and after a stress-producing Type A/B interview. Type A’s had higher resting systolic BPs, higher cholesterol levels, higher levels of stress during the interview, and lower coping scores than Type B’s. The relationship between age, weight, and resting systolic BPs all were in the anticipated direction.

Malan et al. (1992) determined the effect of urbanization on the cardiovascular reactivity (CVR) of Blacks by comparing 15 rural Black men and 15 urban Black men with 15 white men. Urban Black subjects showed a higher CVR than while subjects during a passive coping stressor and a lower CVR than white subjects during an active coping stressor. However, rural Black subjects consistently showed much higher CVR than either white subjects or urban Black subjects during both active and passive stressors. CVR is not only a function of the type of stressor applied but can be altered significantly by environmental factors like those experienced during urbanization.

Bennet (1993) tested Lazarus model of stress in convenience sample of 81 postmyocardial infarction clients (aged 34-80 years). Two hypothesized causal models were analysed. Results from regression analyses indicated 63% of the variance in coping effectiveness was explained by
marital status, length of time since hospitalization, perceived availability of social support, uncertainty, degree of threat, coping strategies, and emotions. A revised model that fit the data was proposed. Findings indicated that emotions were an outcome of threat, not coping; threat did not directly affect coping strategies; and coping strategies did not directly influence coping effectiveness.

Crumlish (1994) examined coping and emotion in patients prior to and after cardiac surgery. The revised ways of Coping Checklist (WCCL) and the Profile of Mood States (POMS) were completed by 120 patients (aged 35-75 years) before surgery and on the 5th postoperative day. Participants had significant differences in coping prior to and following surgery. There were significant postoperative decreases in the use of several coping strategies (seeking social support, blaming oneself, and wishful thinking); however, the use of other coping strategies (problem-focused coping and avoidance) remained unchanged. Emotion did not change. There were positive, significant relationship between several coping strategies and preoperative emotion. Preoperative emotion was the best independent predictor of the postoperative emotion.

Trzcieniecka-Green and Steptoe (1994) assessed the effects of a relaxation-based stress management programme for myocardial infarction (MI) and cardiac surgery (CDS) patients on the quality of life. Subjects were 69 men and 9 women aged under 70 years, previously hospitalised for MI or
CDS. The study had 3 aims: (1) assessing QOL with respect to self-confidence and self-control, (2) comparing MI subjects and CDS subjects and (3) investigating predictors of outcome to identify subjects who responded positively to stress management. Emotional state, function level, social activity, personality, spouse/relative ratings, chest pain, and demographic and clinical measures were assessed. Reductions in anxiety were associated with treatment adherence and personality factors, as well as age, work status, and time since surgery/event. The three outcome variables were relatively independent of one another, which reinforces the importance of considering QOL in a multidimensional fashion rather than a single continuum.

Jackson and Adams-campbell (1994) examined the influence of John Henryism (a coping mechanism linked to hypertension in Blacks) on cardiovascular disease risk factors among a relatively healthy sample of 421 urban, black college students (162 males and 259 females). The role of social support as a mediating influence on those with limited coping resources and high John Henryism scores was also assessed. Approximately 30% of the men and 9% of women had systolic blood pressure ≥140 mm Hg or diastolic blood pressure ≥90. Women had higher John Henryism scores than men. John Henryism was also correlated with social support in women. Gender-specific regression models revealed that John Henryism was not an independent predictor of blood pressure. Results are discussed in terms of
apparent gender differences with regard to overall coping mechanism in Black students and possible explanation for the lack of John Henryism - blood pressure relationship.

Coyne and Smith (1994) examined perceived self-efficacy in men six months after a myocardial infarction. Efficacy was positively correlated with their degree of dependence on their wives. Regression analyses were used to develop separate models of patients self-efficacy in terms of patient and wife characteristics, and a third composite model was then derived from these analyses. Patient efficacy was related to the men's actively engaging their wives but their doing less protective buffering, but their being less overprotective. The asymmetry in patient and wife contributions to patient efficacy is noteworthy, given previous findings that wives' protective buffering is associated with greater distress in them.

Siegrist (1995) discusses issues in coping with the social and emotional stress of chronic hypertension. Four theoretical approaches are considered and illustrated by studies: Lack of support, relative deprivation, job strain, and effort-reward imbalance.

Weitkunat et al. (1995) discussed aversive effects such as, reduced quality of life, associated with antihypertensive treatment, resulting in non-compliance with treatment. A neuropsychological model of hypertension derived from both animal and human studies suggests that cortico-inhibitory effects of phasic BP elevation reduces the aversive qualities of many
stressors. Counteractions such as taking antihypertensive medication not only lead to reduced quality of life due to their cancellation of analgesic effect of conditional BP increase, but also lead to some form of reluctance to comply with treatment. The model provides an innovative etiological path to the emergence of neurogenic essential hypertension and yields a specific concept of quality of life.

Chacko et al. (1996) investigated the relation between pretransplant assessment of psychiatric diagnosis, coping skills, and social support and outcome measures of survival and health care utilization. Ninety four heart transplant patients underwent structural interviews and completed a battery of self-report psychometric tests assessing coping style, health status, and psychosocial support. A 9-36 months follow-up after transplant produced a group of 63 survivors and 31 nonsurvivors who were found to be comparable in terms of pretransplant cardiac status and severity of illness. Survival analysis showed that dimensional psychometric measures of coping and social support based on patient self-assessment were the best significant predictors of survival. Considered separately, interview determined ratings of social support and pretransplant compliance with treatment regimens were also potential predictors.

Holahan et al. (1997) tested an integrative cross-sectional model of psychosocial adjustment in a sample of 362 (55-65 year olds) reporting a diagnosis of cardiac illness. 390 healthy respondents composed a control
group. Results indicate that subjects reporting cardiac illness experienced significantly more depressive symptoms than did healthy subjects. However, the cardiac illness sample varied markedly in depressive symptoms; psychosocial factors were central to this individual variability. An integrative structural equation model demonstrated that both social support and adaptive coping strategies were related to fewer depressive symptoms.

Pashos (1997) summarized that quality of life satisfaction and economic outcomes are explored relative to the treatment of elderly cardiac patients. This is not meant to diminish the importance of the clinical measure that can and must be readily appreciated by physicians managing their cardiac patients. Instead, the measures discussed here augment the armamentarium that physicians can use to implement their patient care responsibilities.

Waldstein et al. (1997) examined impedance-derived hemodynamic parameters underlying blood pressure response to 2 laboratory tasks requiring active coping performed either with or without an appetitive (i.e. monetary) incentive. Forty eight healthy, young man completed the Strop Color-word Test and Mirror Tracing. Half received no incentive, whereas half were provided with a monetary incentive as an active coping manipulation. Task-related changes in blood pressure, heart rate, systolic time intervals, and hemodynamic parameters were monitored. Psychological response to the tasks was also obtained. On average, incentive virtually doubled blood pressure response to both Stroop and Mirror Tracing. The
change in blood pressure was explained predominantly by a concomitant increase in total peripheral resistance. Heart rate response was also enhanced substantially with inventive subjects in the incentive condition reported greater interest in the task, but less perceived control, than persons in the no-incentive condition.

Peter and Siegrist (1997) tested the hypothesis that active coping with the experience of chronic work stress is more likely to be associated with physical health consequences of sustained autonomic arousal such as hypertension, whereas passive coping may predispose individuals to withdraw behavior such as Sickness Absence (SA) from work. Based on data from 179 (40-55 years old) male managers in a car producing company in Germany, this hypothesis was tested in the framework of the theoretical model of effort-reward imbalance at work. Results indicated that 3 measures of low reward were associated with long-term SA, that 1 measure of low reward is associated with long-term SA and that 2 measures of low reward were associated with a number of SA episodes. No indicator of high effort of work was significantly associated with SA. Middle managers who suffer from high efforts and low reward simultaneously were at an elevated risk for hypertension. Thus, support was found for a sociological model of work stress which allows for differential prediction of health outcomes according to the criterion of active vs passive coping with work demands.

Suls et al. (1997) studied the relationship between protective buffering (a style of coping in which the individual hides his/her concerns from spouse)
and distress level among post-myocardial infarction (MI) patients and their spouses. Forty three male married MI survivors (aged 31-86 years) and their wives completed measures of psychological distress and protective buffering at 4 week and 6 months post-hospital discharge. At both time periods, a greater propensity for protective buffering by the patient was related to higher levels of patients distress. Protective buffering by wife was also associated with higher levels of wife distress. In addition, patient buffering at 4 weeks predicted increased patient distress at 6 months. Results suggest that male MI patients who conceal their worries from their spouses adjust more poorly over time.

Bongard and Hodapp (1997) examined effort hypothesis of cardiovascular effects of active coping on the bases of performance data in 2 experiments. In experiment 1, 84 female students worked on mental arithmetic tasks for 20 minutes. Subjects had to solve the problems mentally and type the results into computer. Heart Rate, systolic and diastolic blood pressure were then measured. In experiment 2, 36 male students worked simultaneously on the same mental arithmetic task, although under difficult task conditions and with a secondary choice reaction time task. Heart rate (HR), R-wave to pulse intervals, systolic and diastolic blood pressure were measured. Data suggested that active coping situations also raise the task demands. Differences and similarities between the ways in which control is operationalised in laboratory settings are discussed, and it is suggested that
a lack of control over work place and the ability to avoid aversive consequences increases task demands and consequently lead to exaggerated cardiovascular responses. It is suggested that these increased demands are coped with by enhanced effort as shown by task performance and magnified cardiovascular responses.

Dath et al. (1997) studied the efficacy of biofeedback induced relaxation and behavioral counselling in reducing anxiety related symptoms in coronary heart disease (CHD) cases. A single case study design with pre-post 2 years history of CHD in the age group of 35 to 45 years was administered to Hamilton’s Anxiety Rating Scale, Symptom Check List, and Jenkins Activity Survey - Form “C”. Therapy continued for 30 days with each case. Comparison of pre-post assessments revealed marked reduction in clinical symptoms and anxiety among the clients. Further, the therapy enhanced the client’s psychological well-being and Quality of Life.

Schwarzer and Schroder (1997) have advocated that the quality of life after surgery can be improved by optimistic self-beliefs and social support. 248 patients undergoing heart surgery were surveyed once before and twice after surgery. Study 1, examined whether pre-surgical (Time 1) personal and social resources would predict quality of life 1 week after heart surgery (Time 2). Synergetic effects emerged upon degree of worry and mental activity as quality of life indicators. Study 2 examined resources of social network members. A sample of 114 significant others, most of them spouses,
reported about their own resources at time 1. Spouses’ optimistic self-beliefs and social support as measured at time 1 predicted patients’ quality of life after half a year (Time 3).

Schwarzer and Schroder (1997) have advocated that coping with stressful events can be facilitated by personal and social resources, such as perceived self-efficacy and social support. This applies also to the adaptation to surgical stress and to severe diseases. 248 patients (mean age 58 years) were surveyed before and after heart surgery. Degree of worry, emotional states, reading activity, and physical activity were chosen as characteristics of the recovery process. Whether presurgical personal and social resources would predict readjustment after heart surgery was examined. Hierarchical regression analyses identified an interaction between the two resources underscoring the existence of the well-known support buffer effect. Covariance structure analysis revealed that perceived self-efficacy was a better predictor of recovery than social support.

Harper et al. (1998) explored the value of patients self-report assessment in heart transplant candidacy evaluation, utilizing the Millon Behavioral Health Inventory (MBHI). Ninety heart patients (mean age 33 years) with end stage cardiac disease completed the MBHI during pretransplant candidacy evaluations, and also were interviewed concerning their coping effectiveness, stress vulnerability, support resources, and compliance history. Post-transplant follow-up of 61 living and 29 deceased
patients induced measure of survival time, post-surgical medical care, rejection and infection episodes, and nurse ratings of medication compliance and problematic interpersonal health behaviours. The MBHI coping scales were found to be significantly discriminate good and poor pre-transplant compliance, and interview judgements of good and poor coping and support resources, with modest accuracy. The MBHI also was superior to these interview judgements in predicting Post-transplant survival time and medical care used. Certain scales were also positively associated with physical parameters of pretransplant and post-transplant status.

Fontana et al. (1998) used an anger-provocation paradigm to assess coping and stress reactivity during different phases of the menstrual cycle in 20 women with a positive parental history of cardiovascular disorders (mean age 39.5 years) and 14 women whose parents had no cardiovascular disease. Frequency of seeking social support in the natural environment was assessed, as were systolic and diastolic blood pressures, while the women performed anger-inducting arithmetic and speech-stressor tasks during the premenstrual and postmenstrual phases. Premenstrually, the women with a positive cardiac history sought support less frequently than those with a negative history. No differences were found between the groups postmenstrually. When the women were identified according to the frequency with which they sought social support, those who more often sought support registered lower baseline blood pressure levels than those women who less often support during both cycle phases.
Agrawal and Pandey (1998) examined the role of future orientation (FO) and optimism in coping with chronic diseases and in satisfaction with life (SWL). The sample comprised 44 middle class women (age 25-45) years (22 women were suffering from chronic diseases like cancer, diabetes, cardiovascular disease or asthma) and 22 were normal healthy women). Story writing technique and semantic differential strategies were used. Findings indicate significant differences between the groups in FO and optimism. High FO patients portrayed an active positive, and optimistic future. There were differences in the coping techniques and expressed greater satisfaction with life.

George et al. (1998) assessed the effectiveness of a cognitive-behavioral intervention programme in (a) modifying Type A Behaviour Pattern (TABP), (b) reducing anxiety, and (c) changing maladaptive cognitions in a 55-years old married male patient with coronary heart disease (CHD). Pre-, mid- and post-treatment assessment were done using Jenkins Activity survey, Emotinal Control Scale, State-Trait Anxiety Inventory, Dysfunctional Attitude Scale, and Physiological measures of galvanic skin response. The cognitive-behavioural intervention programme consisted of coronary counselling, education about TABP, behavioural counselling of significant others, and stress inoculation training. Clinically significant assessment scores indicate the effectiveness of the intervention programme in the modification of TABP and associated problems.
Van Eldern et al. (1998) studied the effect of gender and social support on quality of life one month after myocardial infarction and/or coronary bypass surgery. Human Ss: 111 male Dutch adults (aged 23-74 years) 61 female Dutch adults (aged 29-75 years). The impact of sex, perceived social support, and perceived satisfaction on well-being, social inhibition, feelings of invalidity, and displeasure was assessed. Tests used: The General Questionnaire for Heart Patients, Medical Psychological Questionnaire for Heart Patients and the Dutch Version of the Social Support Questionnaire - 6. Results show that women scored lower on well-being and higher on social inhibition and tended to score higher on feelings on invalidity compared to men. Perceived social support and satisfaction with social support had a significant negative relation with displeasure and social inhibition, while there was a tendency for satisfaction with social support to have a positive relationship with well-being. Women with relatively low perceived social support scored higher on well-being and lower on displeasure compared to men, while women with relatively high perceived social support scored lower on well-being and higher on displeasure than men.

Salori et al. (1999) assessed the efficacy of an inpatient physical rehabilitative program on impairment, disability, and quality of life of 50 multiple sclerosis (MS) patients (aged 18-65 years) participating in a randomized, single blind, controlled trial. Subjects were assigned to 3 weeks of inpatient physical rehabilitation (study treatment) or exercise performed
at baseline and 3, 9 and 15 weeks. No changes in impairment occurred in either group, as measured by the expanded Disability Status Scale. At the end of the intervention the study group improved significantly in disability, as assessed by the functional independence. Measure motor domain, compared with controls, with the improvement persisting at 9 weeks. The study group also improved in overall health-related quality of life profile compared with controls; however, the difference was significant only for the mental composite scores at 3 and 9 weeks.