

The present chapter deals with the discussion and interpretation of the findings obtained in this study. It may be mentioned again that the present study tapped cardiovascular disorders, viz., coronary heart disease (CHD), hypertension (HT) and combined disease as the independent (predictor) variables and the group of dependent (criterion) variables covered stress and quality of life (QoL) among the above types of patients. The scores of the participants were subjected to descriptive and inferential statistical analysis. Thus the results obtained are discussed and interpreted in the present chapter under following sections. The graphic method has also been used to present the data of the different patients groups to compare them with one another. The sections containing the discussion are as under.

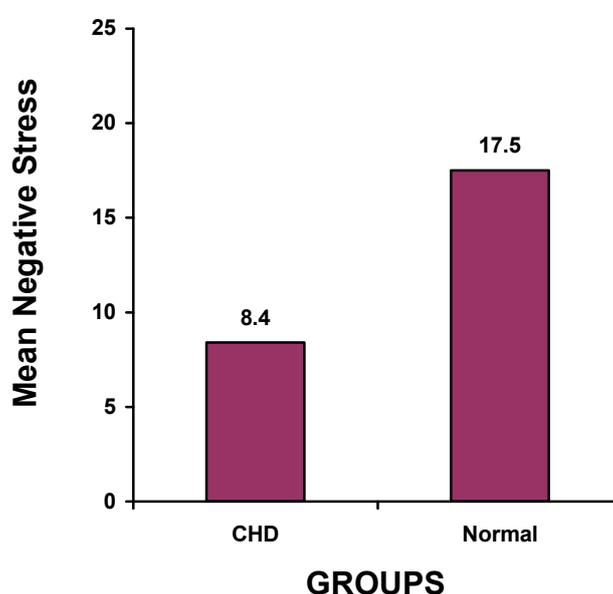
- (i) Coronary heart disease and stress
- (ii) Coronary heart disease and quality of life.
- (iii) Hypertension and stress
- (iv) Hypertension and quality of life.
- (v) Combined disease group and stress.
- (vi) combined disease group and quality of life.
- (vii) Comparison of CVD groups on stress scale.
- (viii) Comparison of CVD groups on QoL scale.
- (ix) Gender of CHD patients stress, and quality of life.
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Section-I

Coronary Heart Disease and Stress

The first hypothesis was that CHD and normal groups would differ significantly on stress scale. An attempt was made in this study to compare the coronary heart disease patients with normal (control) group

i.e. having no such problem on stress scale. CHD happens to be a leading cause of death, and is estimated to account for 40 percent of all deaths. In CHD, one or more coronary arteries are obstructed by deposits called plaques, that thicken arterial walls, a condition called atherosclerosis. The stress among the participants was measured with stress scale known as LES which provides scores in terms of negative and positive stress. It may be observed from table 5.1 that CHD group has scored a mean value of 8.40 and the S.D. is 6.6 and these values for normal group are 17.50 and 9.6 respectively. This makes it obvious that CHD group has reported lower value of positive effects of stress compared to their normal counter part group. The control group has been found to be more positively affected by positive events in comparison to the CHD group. Their comparative evaluation can also be done from the bar diagrams as presented in figure 6.1.



6.1 : The CHD and normal groups compared on positive stress dimension. The Lower score of CHD group indicates that they are less positively affected

No doubt, the two groups have been found to differ on stress scale from the point of view of positive effects on them, but it can not be

said that the two groups really differ with one another in experiencing positive effects of the events in their lives. So, in order to see whether the difference between two groups is real or due to chance, t-test was used. Table 5.1 shows that the t-ratio obtained in this case is 16.20, being significant at 0.01 level. This, very clearly suggests that the two groups really differ in experiencing positive effects of such events. The CHD is less positively affected even by positive events while the normal groups has exhibited higher level of positive effects as an outcome of the positive events. Thus the difference between the two means on stress scale-positive effects, is real, not the function of chance variable. This suggests that coronary heart disease is negatively associated with positive effects of positive events. The first hypothesis H_1 is therefore, accepted.

The second part of first hypothesis, H_1 , was that the CHD and normal groups would differ significantly in experiencing negative stress. The results obtained from this point of view are presented in table 5.2. The mean and S.D. values of CHD groups on this dimension are 27.00 and 9.6 while these values for normal group are 16.7 and 9.55 respectively. The difference between the two groups is crystal clear. The higher mean of CHD group on the negative aspect of stress clearly suggests that they are more negatively affected by the negative events in their life as compared to the normal participants. In real life also, it happens to be that people who are negatively emotionally charged are more intensely negatively affected by negative events in comparison to those who are not already suffering from health problems, whether physical or psychological in nature. A perusal of figure of 6.2 also makes it obvious that CHD participants feel and report more negative effects of stress inducing negative events.

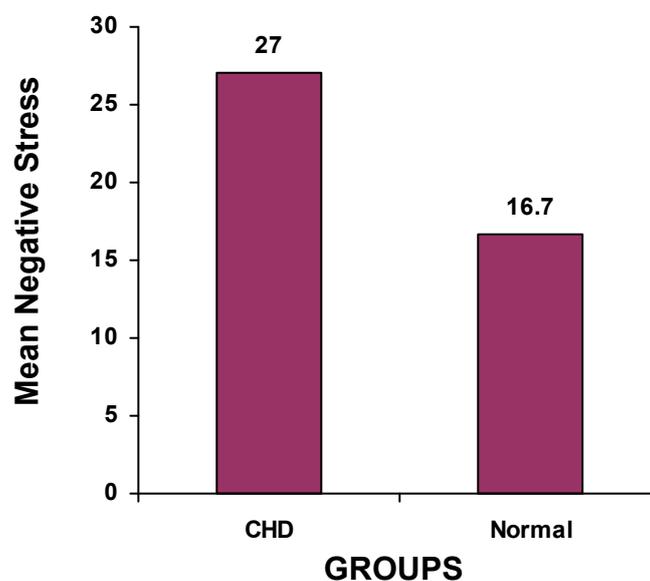


Fig. 6.2 : Bar-diagrams showing the mean scores of CHD and Normal participants on the Negative effect dimension of Negative events. The CHD has reported higher negative effects of such similar negative events.

The bar-diagrams presented in figure 5.2 clearly demonstrate that the CHD group feels more negative impact even in similar negative events in comparison to normal group of people. What may the reason behind it? It is a good question. We know it well that CHD patients suffer more from various types of health problems and also the psychological problems. It can be thought if people are already suffering some sort of problems, be it physical or psychological in nature, will certainly be more negatively affected by negative events in life. This leads to increased negative impact of negative events and causes so many psychosomatic problems, resulting into the feelings about life being as a burden. This tendency reduces their will-power for well-being and enthusiasm in life.

Now the question, whether the difference between CHD and normal group in the feeling of negative effects of stress, is real or not, can easily be answered. It can also be observed from the same table 5.2 that t-

ratio obtained between the two groups is significant. 0.01 level. This clearly suggests that the difference between the two groups on the dimension of negative effects of negative events is real, not the function of chance variable. In other words, the difference between the two means is true, function of CHD problems, not the result of any other factor. So the second part of hypothesis H₁ is approved.

Stress is generally defined as the organism's response to life challenges. (Dimsdale, 2008). It is one of the most common complaint by the patients. (Hemingway et.al. 2001; Miller et.al., 1996). In cardiology, complaints of stress take on special prominence as the links between brain and heart are quite obvious. Stress may mean different meanings for different people, but as regards the case of patients, they usually mean that they have become embroiled in unpleasant challenging new life circumstances, that may not be actually unpleasant but still demand attention. This state of affair of stress in the patients is much more problematic in comparison to their normal counterparts (Huang et.al. 2001; Von Conl et.al. 2003; Matsuo et.al. 1998; Jiang et.al.; 1996; Lampert et.al. 2000; Rosengren et.al., 2004; Thomas et.al., 2006). Such patients can be trained to relax from stress and cardial problems, provided suitable intervention programmes are conducted for them (Wilson et.al., 1998; Rees et.al., 2004. Dimsdale & Mills, 2002; Blumenthal et.al., 2005). These studies clearly suggest that CVD is no doubt, a great threat to human health and stressor contribute to it strongly. So there is a genuine need of intervention programmes for such patients to facilitate healthy living, so that they could also enjoy happy life (Bunk, et.al., 2003; Rasanski et.al., 1999).

Section-II

Coronary Heart Disease and Quality of Life

The second hypothesis H₂, is related to coronary heart disease and quality of life. It was hypothesized that CHD patients would differ

significantly in the feeling of quality of life (QoL). The analysis of the related data yielded results as expected. QoL has said to be the goal for all people across all life stages (Bakas, et.al., 2012; CDC, 2000; WHO, 2007). QoL relative to one's health or disease status is a concern of policy makers, researchers and also health care practitioners (Till et.al 1994). So, keeping in view the significance of this variable, it was tapped in the present study as a criterion variable. The CHD patients were compared with normal (control) participants on QoL scale. Table 5.3 shows the result obtained for the two groups from this point of view. It can be observed from table 5.3 that the mean and S.D. values of CHD group on the QoL scale are 70.00 and 14.7 while these values for normal group of participants are 97.50 and 11.00 respectively. It is evident from the results that CHD group has much lower level of QoL as compared to normal group. QoL is defined as a multidimensional concept (Snoek, 2000). According to Hornquist (1982), QoL has a broad spectrum of dimensions of human experience ranging from those associated with the necessities of life such as food and shelter to those associated with achieving a sense of fulfillment and personal happiness (Patrick & Erickson, 1988; Walker & Rosser, 1987; Spitzer, 1987; Ware, Jr. 1984).

A comparison of the CHD and normal participants from above point of views suggests that CHD patients appear to derive less satisfaction from their life conditions as compared to their normal counterparts. It can also be observed from the figure 6.3 that CHD patients reported low level of QoL while QoL has been found to be much higher among the normal participants. Table 5.3 also contains the t-ratio obtained between CHD and normal participants. The t-ratio has been found to be 98.00, being significant at 0.01 level. It means that the difference between two means is real, not attributable to chance variable. In other words the CHD patients seemed to be deriving less satisfaction from the life circumstances in

comparison to normal participants. The CHD patients, it seems as if, suffer more from distress, physical functioning, mental and emotional problems, social functioning, treatment satisfaction and an overall sense of well-being (Snoek, 2000; Beaser et.al., 1996; Nateghian, 2008). Thus CHD appears to be a serious threat to human well-being and QoL (Zhang & Liu, 2008; Taylor, 2003; Brannon et.al., 2000; Braunwald et.al., 2001; Larzeler & Jones, 2008).

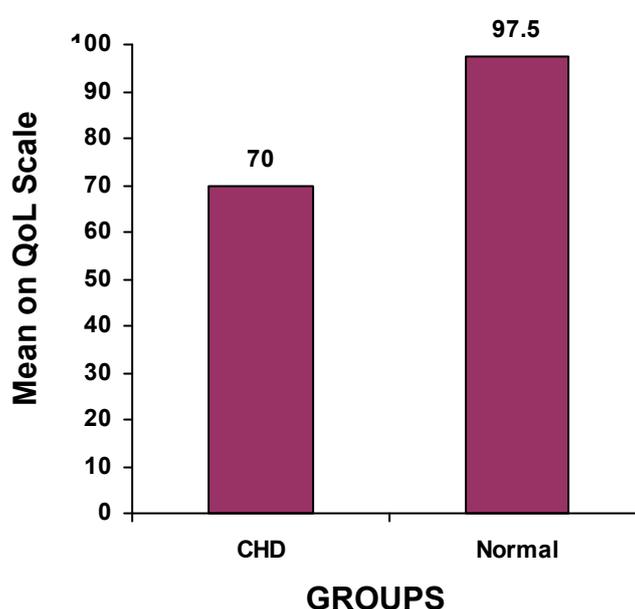


Fig. 6.3 : A comparison of CHD and Normal groups on QoL scale. The feeling of QoL was found to be much higher among normal participants as compared to their CHD counterparts.

The research findings of various previous studies also show that CHD is a serious health problem and a major threat to human life. It is estimated that over 12 million people die because of CHD and other heart related problems (Nateghian, 2008). So, there is great need of identifying and treating such people, around the world to make their lives safe and satisfying (Mousavi et.al., 2004; Kriegbaum, et.al., 2008; Sullivan et.al., 2009). The findings of the present study also indicate that CHD patients are at higher risk of life, So, all possible efforts should be made to provide them the facilities and comforts needed by them to enhance their QoL and well-

being. Since the two groups (CHD & Normal) have been found to differ significantly on QoL scale, the proposed hypothesis H₂ is therefore, accepted, and it is suggested that life conditions of CHD patients strongly need to be enhanced and improved for their better well-being and longer life span.

Section-III

Hypertension (HT) and Stress

This section deals with the findings obtained in the present study relating to hypertension and stress for which HT and normal participants were compared on the two aspects of stress i.e. positive effects and negative effects of the events experienced by the respondents of the two groups. The hypothesis, H₃, proposed for empirical verification was, that HT and normal groups would differ significantly in the feeling of stress, whether positive or negative.

The positive effects of stress on the above groups can be observed from table 5.4. A perusal of this table shows that HT groups has scored a mean value of 10.25 and its S.D. value is 4.23 while these values for the normal group are 18.36 and 6.38 respectively. This makes it evident that HT group feels less positive effects of even good events in life as compared to their normal counterparts. The lower level of feeling of positive effects of stressor is an indicator that they are not in habit of responding so positively to even favourable events in life as they should, whereas the normal respondents have been found to be feeling more positive effects of positive events in life. The figure 6.4 projects their comparative status on the positive aspects of stress as reported by the two groups. Whether the difference between the two group on positive aspects of stress is real or attributable to chance factor, t-test was employed. Table 5.4 also contains t-ratio obtained

between two groups on the above aspect of stress. It has been found to be 7.37 which is significant at 0.01 level. This clearly suggests that the difference between the two groups on the above aspect of stress is real, not the function of chance variable. Hence the first part of hypothesis H₃ is accepted.

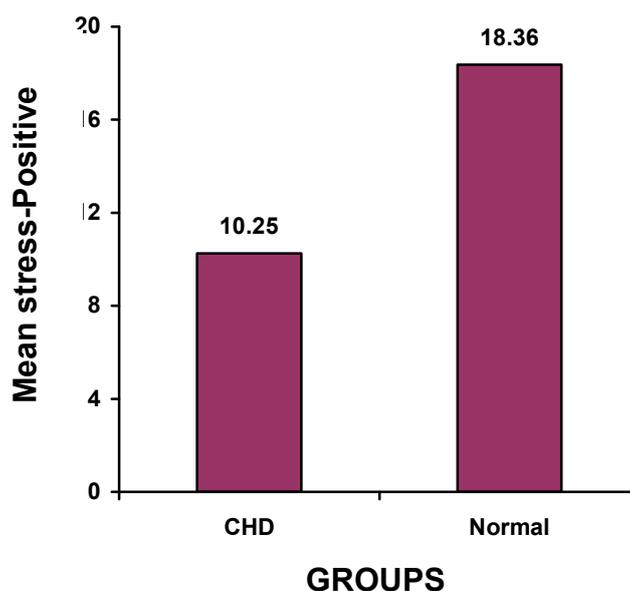


Fig. 6.4 : Hypertension (HT) and stress-positive effects as reported by HT and Normal groups. HT groups reported lower level of positive effects.

The second part of the hypothesis H₃ is related to the negative effects of stress as experienced and reported by the HT and normal participants. The result related to this aspect are presented in table 5.5. A perusal of the said table makes it obvious that HT groups has scored a mean value of 21.8 and its S.D. value is 9.0 while these values for control (Normal) group are 16.70 and 9.55 respectively. The higher score of HT groups on the negative aspect of stress makes it clear that HT patients feel more negative effects from the related stressors, as compared to their normal counterparts. Their comparative status may also be observed from the figure 6.5.

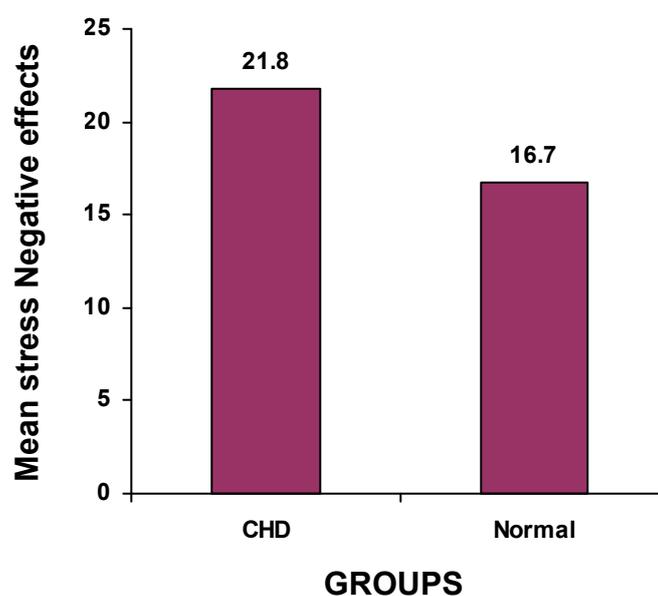


Fig. 6.5 : Mean stress-negative effects of HT and control groups. HT group reported higher level of negative stress in comparison to control group.

The figure 6.5 makes it evident that HT groups has reported higher level of negative stress as compared to the control group, while the negative stressors may be the same for both the groups. But, whether the difference between the means on the above aspect of stress is real or not, is not clear from it. So, in order to determine the significance of difference between the means of two groups, t-test was applied. Table 5.5 also contains the t-ratio. It has been found to be 8.36, which is significant at 0.01 level. It clearly suggests that the two groups really differ in experiencing negative stress even in the same stressing situations. Thus, the difference between two groups is real, not the function of chance variable. Hence, the second part of hypothesis, H_3 is also accepted. In other words H_3 is accepted as the difference between the two means has been found to be significant. Similar results have been reported by some other scholars also (Dimsdale, 2008; Huang et.al., 2001).

According to the statistics available regarding the hypertension, it affects millions of people all over the globe negatively and stress increases its severity (Player et.al., 2007). It is a great public health concern and needs due attention of each and everybody who are associated with public health management. HT is associated with myocardial infarction stroke and disability in millions of persons every year (Fields et.al., 2004; Stamler et.al., 2001). Chobanian et.al., (2003) has also reported that HT is a serious threat to human health and when it is accompanied by negative feeling, danger to human health becomes even more serious. In such a circumstance, it become very difficult to deal with the case to improve the health of the person concerned. Not only this, HT is said to be a risk factor for CHD also. (Vasan et.al. 2001; Quraishi et.al., 2005). Researchers have identified a prehypertension stage as condition for future shock (BP, systolic = 120-139mm Hg or diastolic = 80-89mm Hg). This problem is rapidly increasing in our society and millions of people are in its grip. Such people have higher risk of cardiovascular problems (Chobaman et.al., 2003; Wang & Wang, 2004; Qureshi et.al., 2005; Greenland et.al. 1999-2000; Liszka et.al., 2005). The research findings, as quoted above, make obvious the dangerous outcomes of HT on people's health. Some other researchers have also shown that stress may lead to hypertension, if not dealt with effectively. It is a greater psychological risk not only to HT but to other cardiovascular disorders as well. So, it needs to be effectively managed to enhance the health status of our people (Rozanski et.al., 2005; Rosengren et.al. 2004; Kivimaki et.al. 1998; McEven, 1998; Everly 2002; Bunker et.al 2003; Dimsdale, 2008).

Section-IV

Hypertension and Quality of Life

The fourth hypothesis of the present study was that HT and normal (control) participants would differ significantly in QoL. According to Michalak et.al. (2005), quality of life is a broader term as it encompasses more than just good health. At a basic level, it can represent the sum of person's physical, emotional, social, occupational and spiritual well-being. WHO defines it as the individuals perception of their position in life in the context of the culture and value system in which they live and in relation to their goals, expectations, standard and concern (WHO, 1995). The social support that a person enjoys from his or her context is a strong predictor of QoL (Atkinson & Caldwell, 1997). It has also been shown that poor quality of life may cause suicidal ideation (Berlin et.al., 2005; Ruggeri et.al., 2002). This brief introduction to QoL clearly suggests that poor QoL may cause so many physical, psychological and social problems in the patients of HT, QoL becomes even more important for their better well-being (Lucini et.al. 2002; Lucini et.al., 2003; Steinbrook, 2006).

The results related to hypertension (HT) and quality of QoL are presented in table 5.6. It is obvious from this table that HT group has scored much lower mean on QoL as compared to control (Normal) group. The mean and S.D. values of HT group are 78.40 and 10.45 while these values for control groups are 97.50 and 11.00 respectively. Thus, it is clear that level of QoL experienced by HT group is much poor than QoL experienced by the control group. The comparative status of these groups on QoL scale may also be observed from figure 6.6.

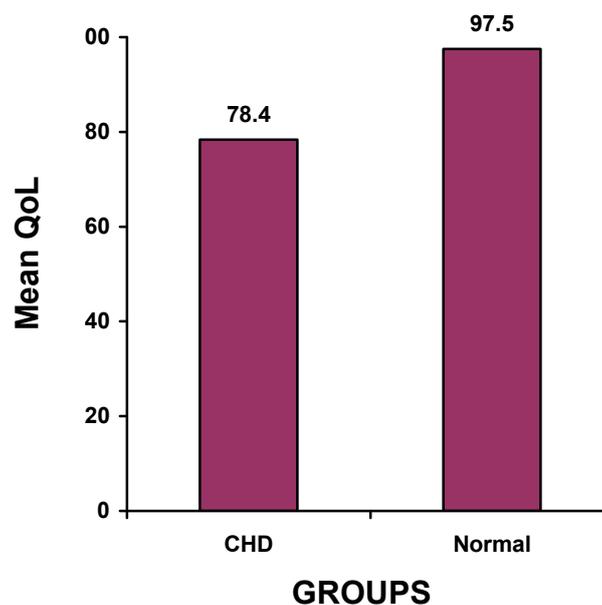


Fig. 6.6 : Comparison of HT and Control groups on QoL scale. HT group exhibited lower level of QoL in comparison to control group.

Figure 6.6 shows that quality of life as reported by the HT patients is much poor than the quality of life reported by control participants. We know QoL is a broader term and encompasses all such aspects of human life which describe an individual's ability to function and derive satisfaction from doing so (Spitzer, 1986; Ware, 1984; Snoek, 2000). If the above two groups are compared from this point, it would be obvious that HT cases are found to be deriving low level of satisfaction from various aspects of life as compared to the normal participants. This is based on their mean QoL scores. But, whether these groups really differ with one another significantly in QoL, this question still remains to be answered. So, in order to answer this question t-test was applied and it yielded a t-ratio of 60.10, being significant at 0.01 level. This suggest that the difference between the two groups is real, not the function of chance variable. In other words, HT patients really feel more decreased level of QoL due to so many reasons and thus their life is more likely to be troublesome and health challenging (Horsten et.al, 1999; Vrijkotee et.al, 2000).

Campbell et.al. (1976) opine that according to clinical researches, QoL is not a unidimensional but multidimensional term. No single factor can explain the real spectrum of QoL (Bergner, 1989). It includes functional status, role activities, social functioning, emotional status, cognition, sleep and rest, energy and vitality, health perceptions and general life satisfaction (Goldman, et.al., 1981; Katz & Akpom, 1976; Patrick & Deyo, 1989). The optimal level of QoL is a must for each and every person to function effectively and to enjoy a satisfying life (McSweeney et.al., 1982; Sahler, 1987; Feeny & Torrance, 1989; Kitler, 1993; Wennger, et.al., 1984; Bulpitt & Fletcher, 1990). In a study by Svedberger (2013) also, it has been reported that improved QoL in children and adolescents enhances their subjective well-being. So it is the responsibility of all those who are concerned with health management, should give due attention and priority to HT patients and also other such groups to make their life happier on the one side and utilizing their resources for the national development on other. (Fayers & Machin 2000; Eiser & Morse, 2001; Danielson, 2006; Michel et.al, 2009; Von Reuden, et.al., 2006; WHO, 2000; Gregory et.al., 2005). Thus, it is obvious that QoL is an important aspects of human life and all the possible efforts should be made to improve it in general and for the cardiovascular patients in particular. As already clarified, the HT and control groups have been found to differ significantly on QoL scale, so the hypothesis H₄ is accepted, i.e. HT patients suffer more from various life circumstances and deriving satisfaction in life doubt, a very, tedious task for them. They need our special affectionate care and support to enjoy happier life.

Section-V

Combined Disease Group and Stress

The H₅ was framed as 'the combined disease group would differ significantly from normal subjects in stress'. One objective of the present study was to compare the combined disease group with the control groups on stress scale. This group refers to those type of patients which show the symptoms of both disease, the CHD and HT. The combined disease group was therefore compared to control groups on stress scale to examine the fifth hypothesis. The result relating to positive effects of stress for both the group can be observed from table 5.7.

A perusal of Table 5.7 shows that combined disease group (CDG) scored a mean value of 7.56 and a S.D. value of 3.16 on the positive aspects of stress. The control group on the other hand, scored a mean value of 17.66 and its S.D. being 6.52. Thus, the two groups have exhibited quite dissimilar means of the positive effects of stress. As expected, the CDG feels less satisfaction in life from its various aspects as compared to the control group. Their comparative status on the positive effects of stress can also be noted from figure 6.7. It is evident from figure 6.7 also that CDG derives low level of life satisfaction from positives events also as compared to normal participants.

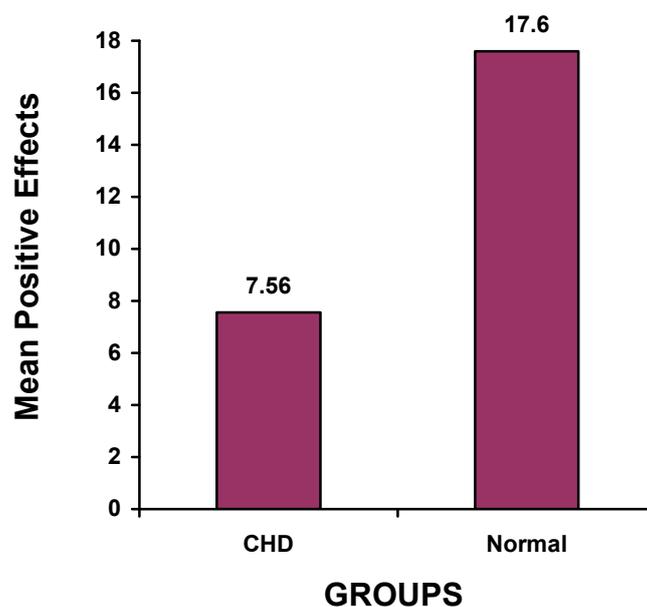


Fig. 6.7 : Comparison of Combined disease group (CDG) and Normal group on positive effects of stress

Let it now be made clear that whether the difference between means of positive effects of stress between CDG and control group is real or not. To answer this question, t-test was used which yielded a t-ratio of 18.76, being significant at 0.01 level. This clearly suggests that the two groups (CDG vs Normal) really differ in deriving satisfaction from various aspects of life. The difference between two means is real, not the function of chance variable. The CDG is a great sufferer of stressing events which reduces the positive effects also. So the first part of H_{5a} is accepted.

The second part of H_5 was that CDG and control group would differ significantly in reporting negative stress effects. The results related to this part of hypothesis are presented table 5.8. Here again the table shows that the difference between the two groups is very large. The mean and S.D. values of CDG are 26.00 and 10.40 while these values for normal group are 16.70 and 7.55 respectively. This clearly shows that CDG is more negatively affected by the stressing situations as compared to the control

group. Their comparative status on the negative aspect of stress can also be noticed from figure 6.8.

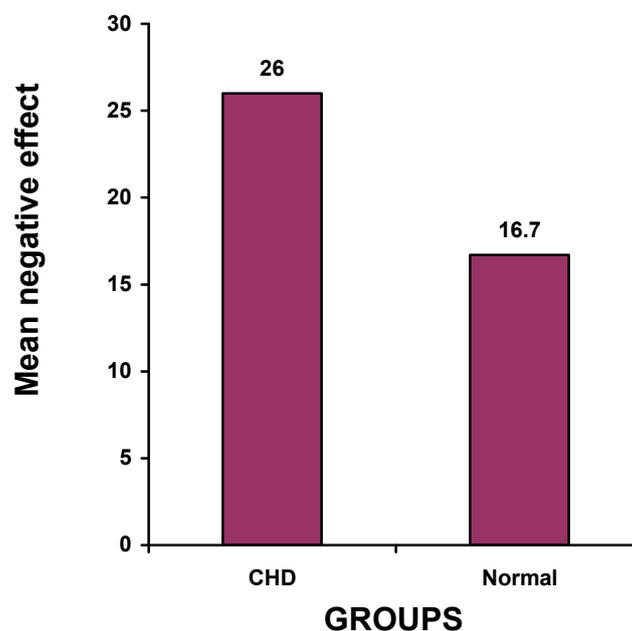


Fig. 6.8 : Comparative status of CDG and control group on stress scale- Negative effect

The two groups, CDG and control group, have scored dissimilar means on the negative aspects of stress also. Whether the difference is real or not, to answer this question, t-test was applied, which yielded a t-ratio of 14.50 being significant at 0.01 level. This clearly suggests that the two groups differ significantly in experiencing negative stress even in the similar stressing situations. However, the CDG happens to be greater sufferer of negative stressors, as they probably do not find themselves in comfortable position to cope with negative circumstances of life. So, they need intensive care and social support to lead a comfortable life. The hypothesis H_{5b} is also thus accepted in other words, H_{5b} is accepted, i.e. CDG and control participants differ significantly in experiencing negative stress. This is a major cause of their reduced subjective well-being. The findings of the present study are in conformity with the findings of some of the

previous studies. (Cabelin et.al., 1980; Twisk et.al., 1999; Thomas et.al., 2004; Jain et.al., 2007).

There are many scholars who advocate that stress is an important psychological risk factor responsible for cardiovascular disorders, be it coronary heart disease, hypertension or the combined disorder. It is a strong predictor of the development of CHD and so on. (Bunker et.al., 2003; Kuper et.al., 2002; Kubzansky & Kawachi, 2000; Scheier & Bridges, 1995). The findings of the present study also suggest that cardiovascular disorders and stress are related to a great extent (Von Kanel et.al. 2005). The higher the level of stress (negative), greater the chances of developing CHD, HT and also the mixed symptoms of cardiovascular disorders (CVD). It is, therefore, suggested that the people suffering from CVD problems must be extended higher level of sympathy and support and be also skilled to cope with CVD problems (Tennant, 1999). It is also suggested that if they have the Type-A personality, chances of CVD problems may increase. So the behavioural management is also greatly needed (Friedman & Rosenman, 1974; Fleet et.al., 2000). We must keep in mind that 'prevention is better than cure (Sarafino, 2002; Carney & Freedland, 2008).

Section-VI

Combined Disease Group (CDG) and QoL

The hypothesis H₆ was formulated to examine the quality of life among the CDG patients and control participants. It was assumed that CDG and control group would differ significantly in the feelings of quality of life. The results obtained show that CDG also like CHD and HT groups reported lower level of QoL. As stated earlier, the combined disease group shows the symptoms of both the types of heart related problems, i.e., coronary heart

disease (CHD) and hypertension (HT). The results related from this point of view are presented in table 5.9.

Table 5.9 shows the combined disease group (CDG) has scored a lower mean value than the control group. The mean and S.D. values of CDG are 79.40 and 18.41 whereas the mean and S.D. values of control group are 97.70 and 11.00 respectively. Thus it is obvious that CDG has exhibited lower level of quality of life as compared to the control group. This clearly suggests that people suffering from cardiovascular disorders derive poor satisfaction from their life circumstances and lower level of QoL may aggravate the feeling of anxiety, stress, strain and depression etc. These psychological factors happen to be closely associated with above problems and decreased QoL. The figure 6.9 also projects the comparative position of CDG and control group of QoL scale.

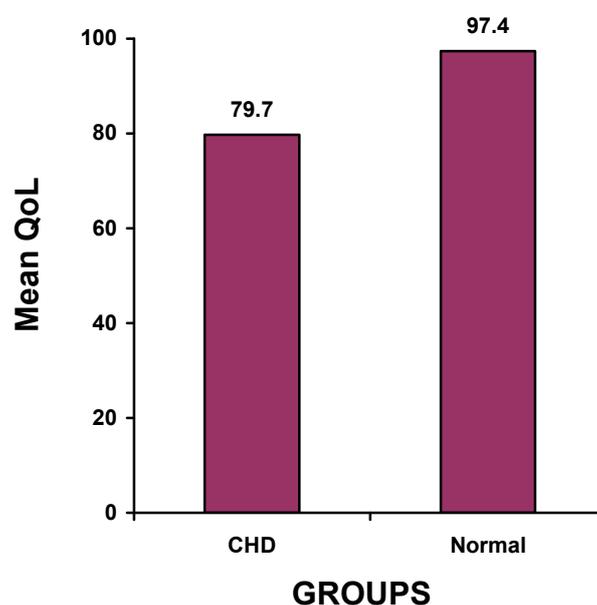


Fig. 6.9 : Means of CDG and control group on QoL scale. CDG reported poor QoL in comparison to control group.

The mean scores of the two groups on QoL scale clearly show that CDG experiences less satisfaction from life contexts as compared to the control group, which has reported much higher level of QoL. The lower

level of QoL among CDG patients is not desirable. It needs to be enhanced for their better health and well-being. The statistical treatment of data was extended one step further to see whether the difference between two groups on QoL scale is real, or the function of chance variable. It may also be noted from table 5.9 that t-ratio obtained in this case is 23.70, being significant at 0.01 level. Thus, the difference between the two groups on QoL is real, not attributable to chance variable. The hypothesis H_6 is, therefore, accepted.

As regards the empirical support to the present findings, some studies may be referred to here (Svedberger et.al., 2013; Dey, et.al. 2012, Monsour et.al. 2003; Hagquist, et.al., 2009). These scholars advocate that cardiovascular disorders impair the health status of affected people, be it physical health or psychological health or both. Thus there is a great need of promoting QoL among the CVD patients for their betterment and also for the welfare of our society. The health of people is a valuable asset for any society to be dynamic, productive, and economically efficient. Since CVD leads to deterioration in status of QoL, so the health managing agencies are suggested to take all possible care to ensure better health which, in turn, is expected to enhance QoL (Player, et.al. 2007; Kawachi et.al. 1996; Williams et.al., 2002; Yan et.al. 2003; Palatini, 2001).

Section-VII

Comparison of CVD groups on Stress Scale

This section deals with H_7 that CVD group would differ significantly in positive and negative stress feelings. The term cardiovascular disorder refers to a pathological condition that is related to the functioning of the heart and blood vessels. There is a growing evidence that psychological and social factor play important roles in CVD problems : coronary heart disease (CHD) and hypertension (HT). These conditions are

said to be the cause of over half of all the deaths. Each day our heart beats approximately one lac times, delivering the equivalent of 4300 gallons of blood to all parts of the body. The arteries provide food and oxygen to all cells, while the veins remove carbon dioxide and waste products. Thus, it is not difficult to estimate the negative impact of CVD in our lives. So, the attempt has been made to see whether the CVD groups differ with one another in the feeling of stress or not.

There are three groups within CVD, namely, coronary heart disease (CHD), hypertension (HT) and combined disease group (CDG). The scores of these group on stress scale (positive effect) were subjected to ANOVA and the results obtained in this case are presented in table 5.13. Since there were three CVD groups, so the ANOVA was applied. It is obvious from table 5.13 that F-ratio has been obtained to be 194.28 in this case. This value is significant at 0.01 level. This clearly suggests that there are strong variations in the feelings of positive effects of stressors among the three CVD groups. Thus, it becomes obvious that the difference between the three CVD groups on positive aspect of stress is real, not the function of chance variable. The first part of hypothesis H₇ is, therefore, accepted. It means, the three CVD groups really differ in experiencing positive stress even in similar events also. It can be mentioned here too that mean of CHD group on the positive aspect is 8.4, the mean of HT group is 10.25 and the mean of combined disease group (CDG) was found to be 7.56 (Table 5.9).

These statistics make it evident that the lowest positive effects of stress has been exhibited by the combined disease group (CDG). The CDG, i.e. the group having both the types of problems (CHD+HT) are the worst suffers of cardiovascular problems, as such problems have been found to decline their level of happiness, pleasure and satisfaction owing to various types of stressors. The figure 6.10 also portrays their status on the positive effects of stressing situations. This makes it obvious that stress and

strain affect the people's health (Berland et.al. 2008; WHO, 2002, Ebright et.al., 2004).

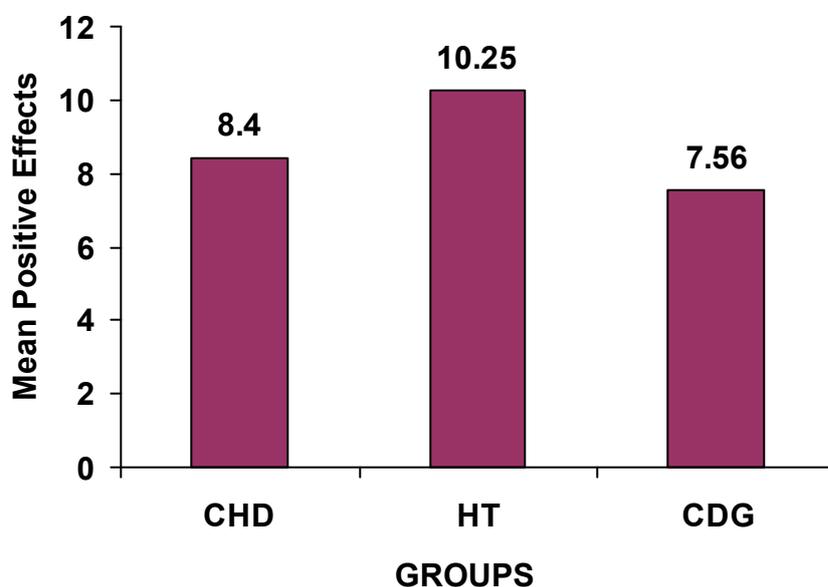


Fig. 6.10 : means of three CVD groups on positive effects of stress. The CDG has shown the lowest positive level.

Besides determining the difference between the scores of three CVD groups on positive effects of stress, significance of difference between their means was also checked. The t-ratios are presented in table 5.14. A perusal of this table makes it obvious that the t-ratio obtained between CHD and HT is 0.94, but it is not significant. It means the positives effects of stress on these two groups is more or less equal. Hence the difference is attributed to chance variable. But the difference between the means of CHD and CDG is significant at 0.01 level ($t=5.19$). In this case the difference between the two means is real, not attributable to chance factor. The HT group has reported higher level of positive effects as compared to their CHD counterparts. As regards the CDG, it has reported lowest level of positive effects of stress is comparison to HT also CHD groups. The t-ratio between HT and CDG has been found to be 4.00, being significant at 0.01 level. Here too, the difference between the two means is real, not the function of chance variable. Since, two t-ratios are significant and one not

being significant, so it is concluded that the three CVD groups differ to a great extent in the feeling of positive stress. The three types of CVD cause variation in the feelings of positive effects of stress. The stressors induce health problems and are thus great risk for people's health (Elfering et.al. 2006; Chappy, 2006; Cheng et.al 2000; Davis et.al. 2001; Johnson et.al. 1988; Karasek & Theorell, 1990).

The significance of difference in negative effects, as reported by CVD groups has also been determined by applying ANOVA and the F-ratio can be observed from table 5.15. It is obvious from this that ANOVA has yielded an F-ratio being 138.34 which is significant at 0.01 level. This very clearly shows that the three CVD groups differ with one another in experiencing negative effects of related stressors even in the same situations. Thus, the differential effects of CVD problems on negative effects of stress is quite obvious. Thus, the proposed hypothesis (H_{7b}) is approved.

In order to have a more clear picture about their comparative, status on the negative effects of stress their means may be referred to here again. The mean values of these groups on the negative effects of stress are 27.00, 21.80 and 79.40 for CHD, HT and CDG respectively. (Table 5.10). Here again, it is evident that CDG has reported highest impact of negative stressors as compared to their other counterpart groups. The HT has reported lowest level of impact of negative stressor, while CHD has stood between the two groups. Their comparative status on negative effects of related stressor can also be noticed from the bar diagrams presented in figure 6.11.

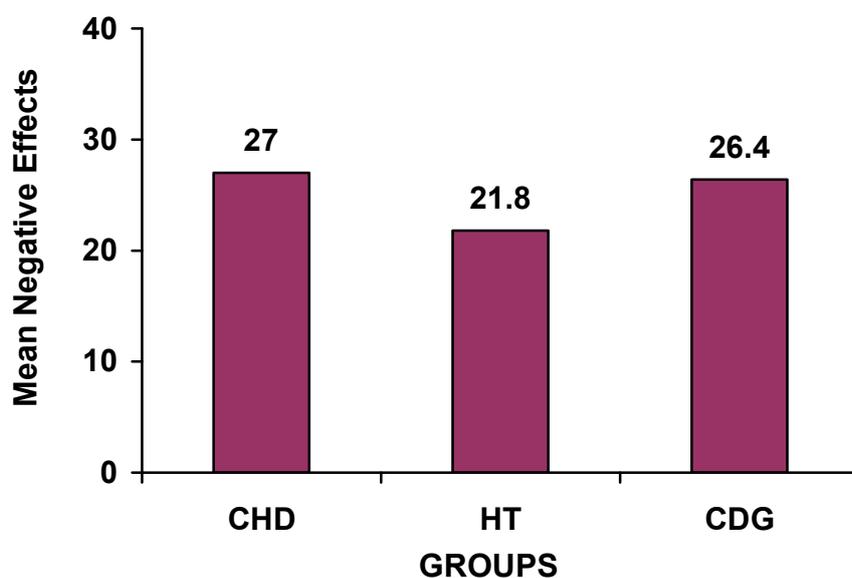


Fig. 6.11 : Mean scores of CHD, HT and CDG groups on negative effects of stress. The HT is worst sufferer of negative effects of stressors.

The comparative status of three CVD groups on a positive and negative effects of stress are not very similar, as on positive side, the CDG reported lowest effect but on negative aspect it did not report the highest ill effects of stress. The highest negative effects have been reported by CHD group followed by CDG while HT group stands between the two. The difference between their means was also checked by using t-test to examine the significance of differences between means, if any, on negative effects aspect. Table 5.16 contains the t-ratio obtained in this case. The difference between means of CHD and HT is significant at 0.05 level ($t=2.29$), but the difference between CHD and CDG is not significant (NS), while the difference between HT and CDG is significant at 0.05 level ($t=2.14$). Thus, two ratios are significant while one is not significant. This suggests that the three CVD groups differ, with one another in experiencing negative effects of stress to a great extent. So, the proposed hypothesis is rejected only partially. However, on the basis of F-ratio, hypothesis is approved.

If the results of the present study for cardiovascular disorders (CVD) are compared with normal group, it would be obvious that stress is a significant factor in the causation of CVD problems and such patients report, as a consequence, relatively much higher level of negative stress but much lower level of positive effects in response of such stress events. In a study by Natighian (2008), it was reported that such patients exhibit higher degree of negative effects in response to stress as compared to their normal counterparts. Not only this, they also report more stressful life events and that is why it is inferred that psychological factors are very important in such disorders. This problem may be more severe if they feel lack of social support and sympathy from family members and other care givers (Ogden, 2000; Brannon et.al. 2000; Braunwald, et.al. 2001; Tennant, 1999; Hassan et.al. 2008). Similar views have been expressed by some other scholars also (Larzeler & Jones, 2008; Sullivan et.al. 2009; Friedman, 2002. Bauer et.al. (2012) and many others are also of the view that stress is harmful for anyone and for the patients of cardiovascular problem its negative impact becomes even more serious burden and life threatening (Christiane, et.al. 2012; Beer, 2009; O'Daniel et.al. 2012; Duschek & Shandry, 2007). In a review by Dimsdale (2008), it has been vividly explained that psychological stress contributes to many problems to cardiovascular diseases, such as job stress, marital stress and disaster related stresses cause numerous problems to CVD patients and they need to be provided, all types of social and emotional supports to cope with their problems (Huang et.al. 1999; Von Kancle et.al. 2001; Watanabe et.al. 2008; Leor, 1996; Deanfield et.al. 1984; Rozanski et.al. 1988; Twisk et.al. 1999; Sparen et.al. 2004; Orth-Gomer et.al. 2000).

Thus, there is a great need of making our people aware of the relationship between cardiovascular disorders and stress to make their lives happier and productive. The stress is a serious risk factor for CVD and

lack of social and emotional supports aggravates contribute to such problems to the alarming stage (Bunkert et.al. 2003; Hill, 1965; Eriksen, 1994; Schnall et.al. 1994). Briefly stated, stress can trigger CVD while a personality trait called hardiness may be helpful in managing negative affects of stress (Singh, et.al. 2005; Kobassa et.al., 1982).

Section-VIII

Comparison of CVD groups on QoL Scale

The hypothesis H_8 was that three CVD groups would differ significantly in experiencing quality of life (QoL). The 8th section deals with this hypothesis i.e. whether cardiovascular disorder (CVD) group differ from the point of view of quality of life (QoL) as reported by the three CVD groups, namely coronary heart disease (CHD), hypertension (HT) and combined disease group (CDG). The mean and S.D. values of these groups can be observed at a glance from table 5.12. Their mention has already been made separately in relation to control (Normal) group on preceding pages, yet their mean values may be referred to here in this context also for easier comparison with one other on QoL scale.

A perusal of table 5.12 makes it obvious that the mean values of CHD, HT and CDG on QoL scale are 70.00, 78.40, and 79.40 and their S.D. values are 14.70, 10.45, and 18.41 respectively. Their comparative status can also be observed from figure 6.12. It clearly shows that CHD group has reported lowest quality of life while CDG has exhibited the highest level of QoL. However, the highest mean by CDG on QoL scale seems to be striking. It seems as if, they enjoy much more comfortable social support which may be responsible for it.

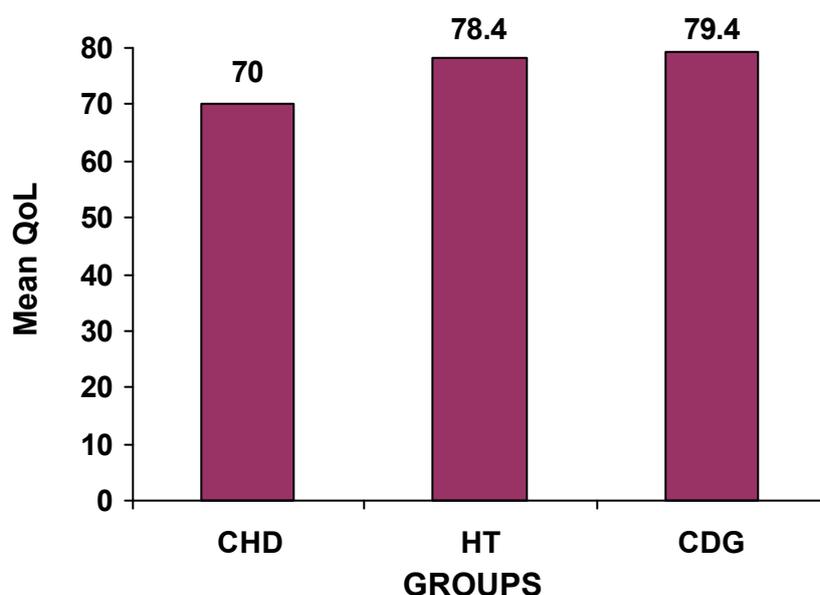


Fig. 6.12 : Mean values of CHD, HT & CDG on QoL scale.

The HT group stands between these two groups. Their mean value of QoL indicates that they differ with one another as regards their feeling of quality of life (QoL). But do they really differ in experiencing varied QoL or the variation in their means are just a function of chance variable. In order to answer this question, ANOVA was applied and from table 5.17 it is evident that F-ratio has been found to be 73.57, being significant at 0.01 level. This very clearly suggests that the three CVD groups differ with one another globally in experiencing QoL. Thus, keeping in view the finding of the present study, hypothesis H_8 is accepted.

The significance of difference between means of three CVD groups was further checked by using t-test. Thus, the t-ratio obtained are presented in table 5.18. It can be noticed from this table t-ratio between CHD and HT patients group has been found to be 3.29, being significant 0.01 level. The t-ratio between CHD and CDG is also significant, but at 0.05 level. The value of t-ratio in this case is $t=2.55$. However, the t-ratio obtained between HT and CDG ($t=0.33$) is not be significant. These findings suggest that CHD vs HT and CHD and CDG really differ with one another in

the feeling of quality of life, and thus the differences between their means can not be attributed to chance factor. But, as the table 5.18 shows, the HT and CDG groups have not been found to differ significantly in their experience of quality of life. Hence, the difference between these two groups on QoL scale is attributed to chance variable. Thus, keeping in view the results as a whole, relating to CVD problems and quality of life, the proposed hypothesis H₈, with minimal exception, is accepted. In other words, with the CHD, HT and CDG patients differ significantly to a great extent in their experiences regarding QoL. It is felt that the affected groups are in need proper caring and social support for their well-being (Mor et.al. 1984; Campbell et.al. 1976).

Now, having discussed and interpreted the findings related with CVD and QoL in good detail, some previous studies conducted in this are can also be referred to demonstrate further empirical evidences about the relationship between these variables on QoL scale. Michalak et.al. (2007) have reported that QoL is often reduced or lowered among the psychosomatic patients as well as patients affected by mood disorders. They express that QoL is a broader term while health related quality of Life (HQoL) is relatively specific concept, as it refers to only health related aspects of well-being (also Angermeyer et.al. 2002; Namjoshi et.al. 2001; Patterson et.al. 1996; Kuzsner et.al. 2000; Atkinson et.al. 1997; Ritsner et.al. 2002; Namjoshi, et.al. 2004; Micholack etl.al. 2005). The researchers as named above have obtained reduced level of quality of life among the patients suffering from depression and some other psychophysiological disorders. The findings of the present study also make it clear that different types of cardiovascular problems cause variations in the perceived quality of life among cardiovascular disorder (CVD) patients. It is of course one of the important reasons why the Governments of different countries and WHO as well are trying to make people aware of the significance of QoL for

their effective (Gregory et.al. 2009; Martha Nussbowm & A. Sen, 1993; Costanza et.al. 2008; Richard L. 2006; FRB 2008; WB, 2009).

Thus, the findings of the present study and conclusions given by some previous researchers make it obvious that quality of life of our people must be ensured not only for their own betterment but also for ensuring the proper development of human researches keeping in view its importance in individual as well as national development and economy in medical cost of the society. It is rightly said that 'prevention is better than cure'. So, it is advised that our human resources must be protected from health problems to ensure better quality of life for them and also for the betterment of the nation as whole. It will lead to not only individual well-being but to the families and society as well. In order to realize this objective health awareness programmes must be launched and those who are affected from health problems must be given due medical, social and psychological support to enhance their morale and well-being (Hass, 1999; Wilson & Cleary, 1995; WHO, 2007; Ferrane, et.al. 2005; Klassen et.al. 2009; Penckofer et.al., 2005., Mathias et.al. 2008; Hofer et.al. 2005).

Some other researchers have also obtained low QoL among the patients of other diseases as well, like AIDS, HIV, diabetes, brain injury (e.g. Cosby et.al. 2000; Petchprai Winkelman, 2007; Fischer et.al., 1999; Miller et.al. 2010). The findings of the present study also show that the CVD patients experience much lowered quality of life as compared to their normal counterparts. It has also been obtained that the three CVD group, tapped in the present study, also differ with one another in experiencing quality of life to a considerable degree. The result yielded in the present study, indicate the patient groups are really in troubled condition which is bound to affect their QoL negatively. They need to be dealt with psychological attachment, friendly and family support, not only to face the challenges posed by CVD problems but also to enhance their quality of life

as well. (Post et.al. 1999). If the affected people get affectionate social support from the caregivers, they too can enjoy a better life and enhance their behavioural efficacy (Snoek, 2000; Cambell, et.al. 1976; Bergner et.al. 1981; Anderson et.al. 1997; Swartz & Scheuring, 1992; Bradley et.al. 1996; Klein et.al. 1998; Does et.al. 1996; Mases et.al. 1996). Thus, the need of the hour is to provide the CVD patients all possible helps and supports to improve their QoL. (Brown & Harris, 1982; Oldridge et.al. 1991; Katen et.al. 1991; Guyatte et.al. 1986).

Section-IX

Gender Differences in Cardiovascular Disorder Effect

Although, differences in male and female cardiovascular disorders are generally reported to exist, but whether the male and females patients differ in experiencing the stress effects and quality of life also, is not clear. So, keeping this gap in knowledge, an attempt was made to see the effects of CVD on the stress and quality of life among the three types of patients from the point of view of their gender.

Gender of CHD Patients, Stress and QoL

The hypothesis H₉ states that male and female CHD patients would differ significantly in stress. The male and female CHD patients were compared on stress scale to examine the hypothesis that gender difference would be obtained in stress the positive and negative effects. Table 5.19 shows that the male and female CHD patients have obtained varied means (Male : M=9.16; Female : M = 10.25) but the difference between two means is not significantly. The two groups have not been found to differ significantly as regards experiencing the positive effects of life events. Hence, the difference between two means is attributed to chance variable.

The two groups have also not been found to differ significantly on the aspect of negative effects of stressors. The mean and S.D. of male

CHD patients are 25.42 and 7.66 while these values for female patients are 28.85 and 8.02 respectively. The t-value was been found to be 1.66, which is not significant. Here again the difference between male and female CHD groups on negative aspect of stress is attributed to chance variable, i.e. the difference is not real, but the function of chance variable. Hence, the proposed hypothesis (H_9) is rejected. The comparative position of the two groups can also be observed from figure – 6.13.

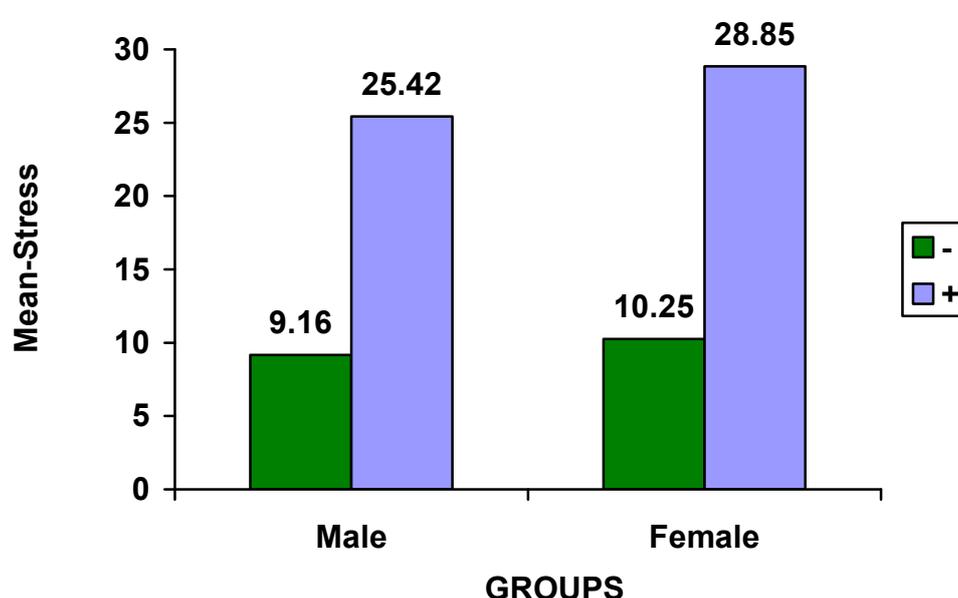


Fig. 6.13: The male and female CHD patients compared on positive (+) and negative (-) effects of stress on them. No significant difference was found between M&F patients on stress scale.

Hypothesis H_{10} was formulated to test the assumption that male and female CHD patients would differ significantly on QoL scale. The mean and S.D. values of male CHD patients are 73.46 and 12.32 while these values for female group were found to be 65.18 and 11.89 respectively. t-value is 2.43, being significant at 0.05 level. Thus, the difference between the two means is real, not the function of chance variable. The proposed hypothesis (H_{10}) is, therefore, accepted. Figure 6.14 also portrays their status on QoL scale.

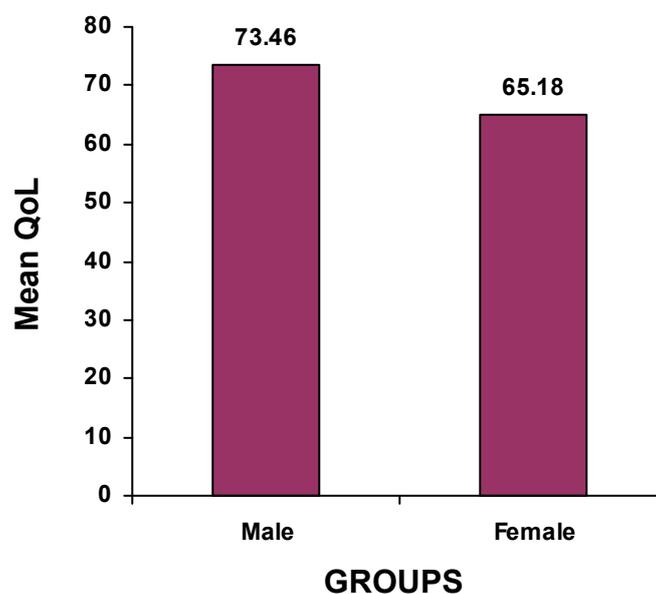


Fig. 6.14 : Mean of QoL of Male and Female CHD patients. Two groups differ significantly on QoL scale, showing the role of gender difference in QoL between M&F CHD groups.

SECTION-X

Gender of HT Patients, Stress and QoL

Like CHD group, HT group was also compared from the point of view of gender and differences in stress and quality of life. The male HT patients obtained a mean value of 9.45 and S.D. being 5.21 on positive aspect while these values for female HT patients are 10.31 and 6.35 respectively (Table-5.21). The difference between their means ($t=0.53$) is not significant. The difference between their means on negative aspect is also not significant. The mean of male group is 19.29 and the mean of female group is 23.76 and $t=1.75$. But it is not significant. Thus, the difference between their means is attributed to chance variable and the related hypothesis, H_{11} is therefore, rejected. The comparative position of male and female HT patients on stress can easily be noted from the bar diagrams in figure 6.15.

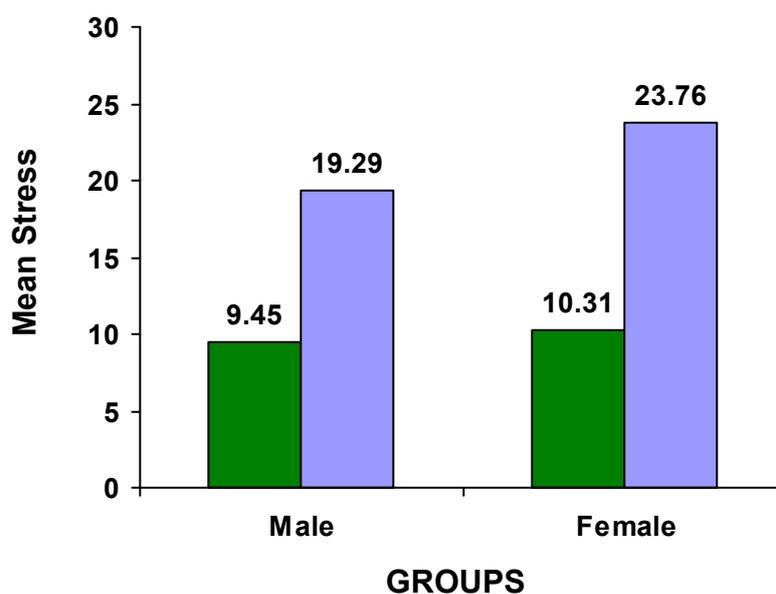


Fig.: 6.15 : Means of male & female HT patients on stress-positive & negative effects.

Their means on positive effects dimension are almost similar but slightly different on negative aspects. However, the difference is not significant. It seems as if both the groups of HT patients are equally affected by the life events.

The hypothesis H_{12} was framed to examine the assumption that male and female HT patients would differ significantly in QoL. A comparison of male and female HT patients on QoL scale (table 5.22) shows that both groups experience more or less similar satisfaction from life circumstances. The mean and S.D. values of male HT patients are 80.26 and 12.66 while these values for the female group are 78.45 and 13.08 respectively Figure 6.16. The t-value is just 0.49, not being significant. Hence the difference between the two groups on QoL scale is attributed to chance variable and as a result of it proposed hypothesis H_{12} is rejected. The findings suggest that male and female HT patients are equally affected by the circumstances of life. There is no significant difference between them on QoL scale.

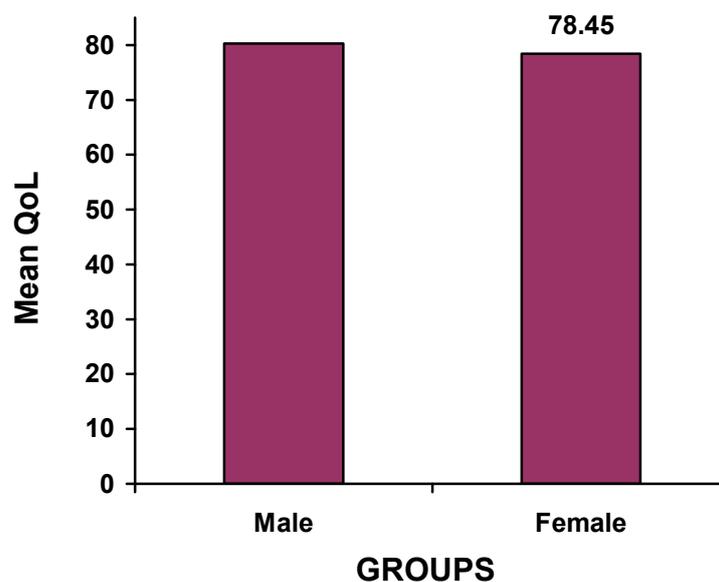


Fig. 6.16 : Male and Female HT patients compared on QoL scale.

Section-XI

Gender of Combined Disease Group (CDG), Stress and Quality of Life (QoL)

The combined disease group (CDG) was also divided into male and female groups in order to compare them on the scales of stress and QoL. Hypothesis H₁₃ states that male and female CDG patients would differ significantly in stress. It can be observed from table 5.23 that male and female CDG patients have not been found to differ significantly on either of the aspects of stress, i.e. positive and negative effects. The mean and S.D. values of male CDG patients on positive aspect are 8.16 and 5.32 while these values for their female counterparts are 6.15 and 4.33 respectively. The t-value is 1.72 and it is not significant. Thus the difference between two means (positive aspect) is attributed to chance variable. Figure 6.17 portrays their status on stress scale.

But the difference between the two CDG patients on the negative aspect of stress is significant. The mean and S.D. values of male CDG on negative aspects of stress are 24.41 and 6.70 and these values for

female CDG patients are 29.02 and 8.78 respectively. Table 5.23 shows that t-value obtained in this case of comparison is 2.06 (negative aspect of stress), and it is significant at 0.05 level. Hence, the difference between the two means on negative aspect of stress is real, not the function of chance variable. The hypothesis (H_{13}) is therefore, accepted only partially. Thus, gender has appeared as a determinant of negative effects of stress but not the positive effects.

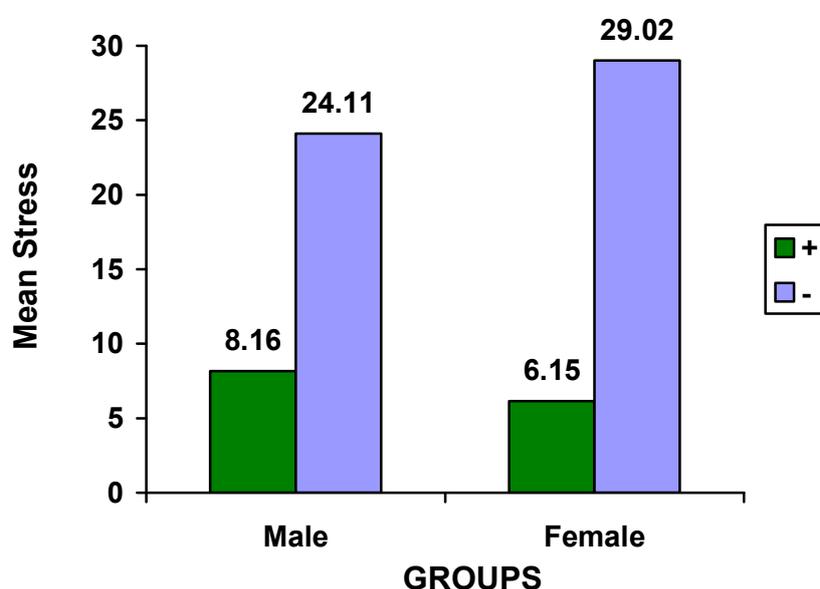


Fig.: 6.17 : Means of male & female H1 patients on stress-positive & negative effects.

Hypothesis H_{14} is that male and female CDG patients would differ significantly in quality of life (QoL). So, the role of gender in deriving satisfaction from the life circumstances among male and female CDG patients was also evaluated in the present study and the results are presented in table 5.24. A perusal of this table makes it obvious that male CDG patients scored a mean value of 84.32 and their S.D. being 15.35 while these values for the female CDG patients have been found to be 77.10 and 13.42 respectively. Though there is an apparent difference between the means of two groups but the difference is not significant ($t=1.17$). So, the difference

between the means is attributed to chance variable and the related hypothesis (H_{18}) is rejected. The findings suggest that gender is not an important determinant of QoL among the combined disease group patients. Figure 6.18 shows their comparative status on quality of life scale (QoL).

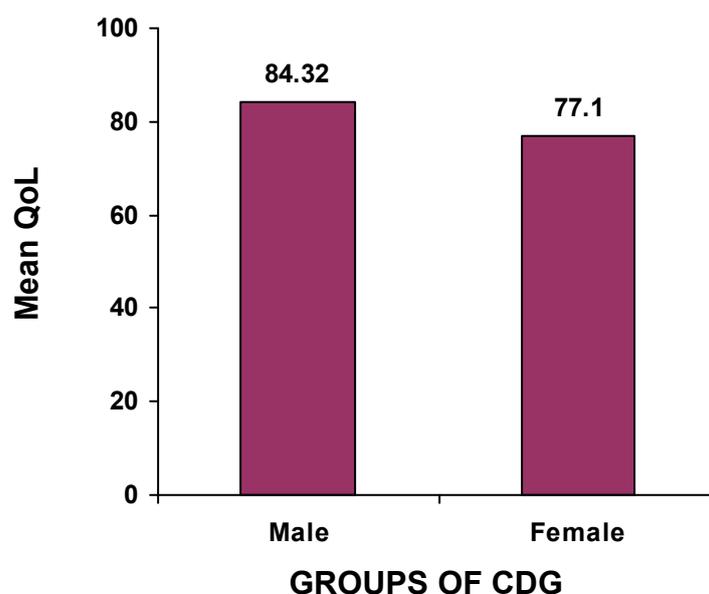


Fig. 6.18 : Mean scores of male and female CDG patients on QoL scale.

Briefly stated, it was assumed that male and female CHD, HT and CDG patients would differ significantly in experiencing stress and deriving satisfaction (QoL) from the circumstances of life. But when their scores were subjected to inferential statistics, only two t-values were found to be significant. For example, the male and female CHD patients differed significantly on the negative aspect of stress. But two groups (Male vs Females) did not exhibit significant differences on the positive aspect of stress. Thus gender has not emerged as a strong determinant of stress and quality of life in CHD, HT and CDG patients.

Section-XII

Social Support, Stress and QoL among CVD Patients

If there is a difference in the social support enjoyed by the different types of cardiovascular patients, will it cause any difference in the stress and quality of life among them? The present study covered this question also and to answer this question the three types of CVD patients (CHD, HT & CDG) were divided into high social support group (HSG) and low social support group. The statistical analysis made it clear that social support plays very vital role in reducing the negative effects of stress and enhancing quality of life (also, Tennant, 1999; Niteghian, 2008; Corney et.al. 2008). The results obtained from this point of view are depicted in tables 5.25 and table 5.26.

Social Support and Stress among CVD Groups -

Hypothesis H₁₅ states that three CVD groups with high social support would differ significantly from low social support group. A perusal of table 5.25 makes it obvious that CHD-HSG has exhibited higher positive effects of stress (M=11.80) as compared to LSG (M=9.95). It means that patients receiving poor social support from family members or care givers feel low positive effects from even positive events in their life. The t-value has been found to be 6.38, being significant at 0.01 level. Their comparison on negative effects of stress also yielded significant difference. The CHD patients having high social support (HSG) obtained a mean value of 20.27 and S.D. value of 6.14 while these values for LSG-CHD patients are 28.24 and 7.04 respectively. The t-value (t=4.96) is significant at 0.01 level. The proposed hypothesis H_{15a} is therefore, accepted. Their comparative status on stress can also be observed from figure 6.19.

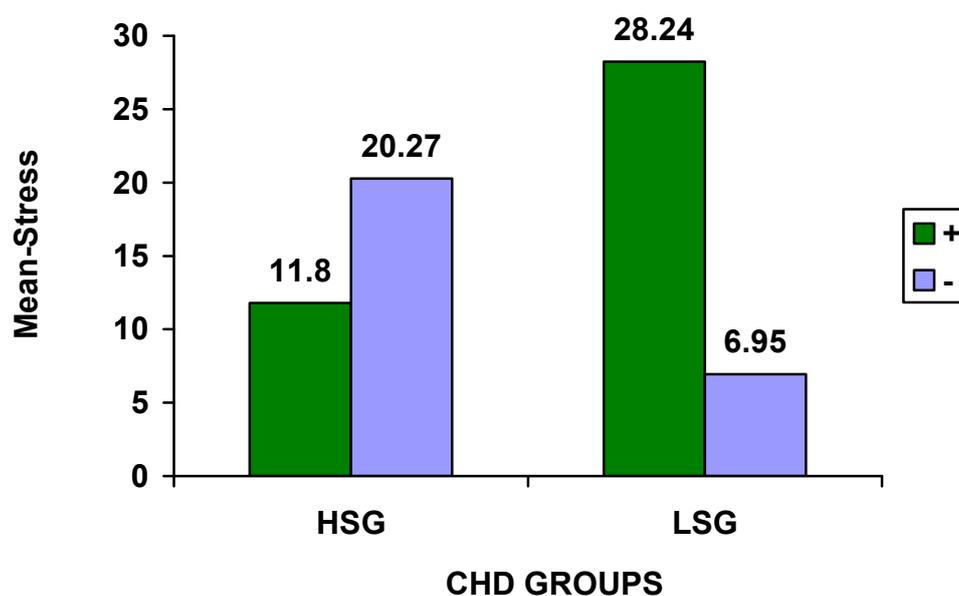


Fig.: 6.19 : Means of CHD patients with high social support (HSG) and low social support (LSG) on Positive and Negative dimensions of stress.

Role of social support has been found very useful for hypertensive group (HT) also in dealing with stress. Table 5.25 shows that HSG scored a mean value of 12.17 and the S.D. being 5.13 on positive dimension of stress while these values for LSG are 9.78 and 4.14 respectively. The HT patients receiving high social support exhibited higher positive effects than their LSG counterparts. The t-value ($t=2.29$) is significant at 0.05 level.

They (HSG vs LSG) also differed significantly on the negative dimension of stress. The mean and S.D. values of HSG on it are 19.3.2 and 5.24 while these values for LSG are 23.39 and 5.67 respectively. The t-value ($t=3.03$) is significant at 0.01 level. It is again proved that social support plays very important role in facing the negative effects of stressors. The comparative status of HSG and LSG HT patients are also observable from figure 6.20. The hypothesis H_{15b} is accepted.

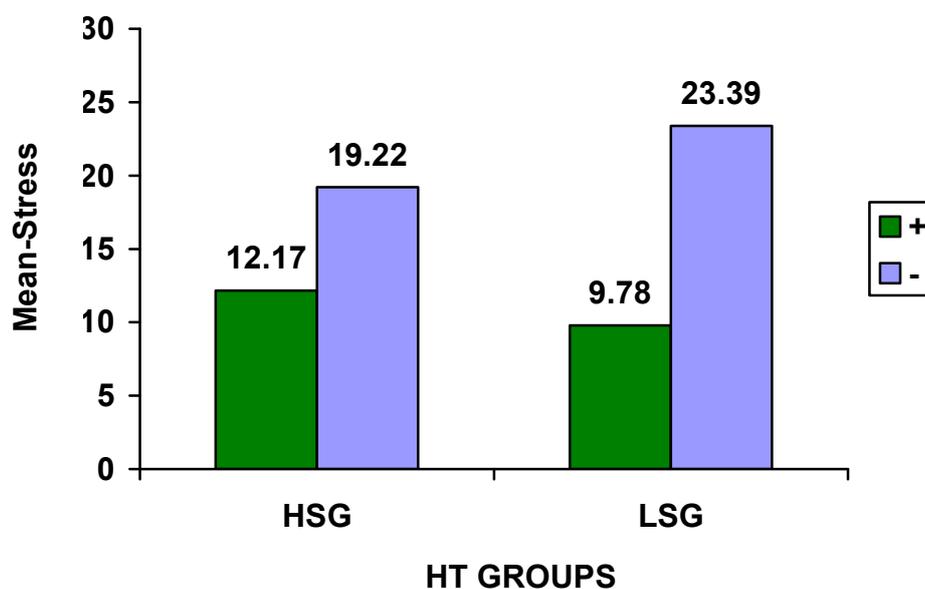


Fig. 6.20 : Mean scores of HSG and LSG HT patients on positive (+) and Negative (-) effects of stress.

A comparison of combined disease group (CDG) with high and low social support (HSG vs LSG) yielded a mixed bag of results. They were found to differ significantly on the positive dimension of stress only. The mean and S.D. values of HSG on the dimension of positive effect are 10.29 and 3.40 while these value for LSG are 8.15 and 4.08 respectively. The t-value ($t=2.35$) is significant at 0.05 level. It means the difference between two means is real, not the function of chance variable. But these groups were not found to differ significantly on negative aspects of stress. In this case t-value was found to be 1.94, and it is not significant. Thus the difference between the two means in this case is attributed to chance variable. So, the hypothesis H_{15c} is only partially accepted. Since out of six, five t-values are significant, hence the proposed hypothesis is accepted with one exception. The comparative status of CDG on stress can also be noted from figure 6.21. These findings extend support to some of the previous studied conducted in this area (Weidner 2000; Murray et.al. 1995; Schwarzer et.al. 1994; Glynn et.al. 1999; Heitman 2006; Inagaki &

Eisenberger, 2011; Roussi & Vassilaki, 2000). It is felt that care givers should encourage CVD patients for positive health behaviour.

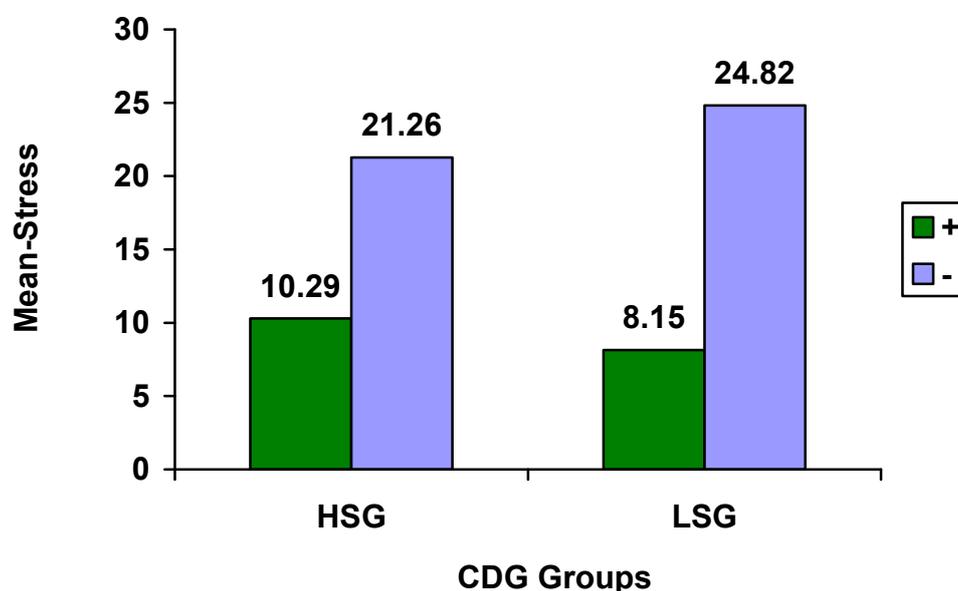


Fig. 6.21 : Comparison of CDG groups with high and low social support (HSG vs LSG) on stress scale (Positive (+); Negative (-))

Social Support and QoL among CVD Patients -

The hypothesis H_{16} states that CVD patients with high social support (HSG) and low social support (LSG) would differ significantly in experiencing quality of life.

Is social support a predictor of quality of life among CVD patients. Results show, yes it is. (Lakey et.al. 2008; Huang et.al. 2010). The three groups of cardiovascular patients (CHD, HT & CDG), when compared from the point of view of social support received by them, were found to differ significantly from one another on QoL scale. The statistical details regarding it can be observed from table 5.26. A perusal of this table makes it quite clear that social supports to such patients exerts very strong positive effects on their quality of life. The groups having high social support (HSG) exhibited higher QoL as compared to their LSG counterparts disregarding their type of cardiovascular problems. The mean of CHD-HSG on QoL scale is 74.29 and S.D. being 12.66, while these values for LSG are

59.85 and 10.26 respectively. The mean and S.D. values of HT-HSG are 78.36 and 14.10 and these values for LSG are 63.91 and 11.82 respectively. The CDG-HSG scored a mean value of 80.15 and its S.D. being 14.78 and these values for LSG are 72.61 and 13.55 respectively. Figure 6.22 also portrays their comparative status on QoL scale.

It is also observable from table 5.26 that HSG and LSG belonging to all three CVD group (CHD, HT & CDG) have been found to differ significantly on QoL scale. The highest mean on QoL scale has been obtained by CDG-HSG followed by CHD and HT-HSGs. The HSG and LSG comparison for CHD group yielded t-ratio of 10.26, being significant 0.01 level.

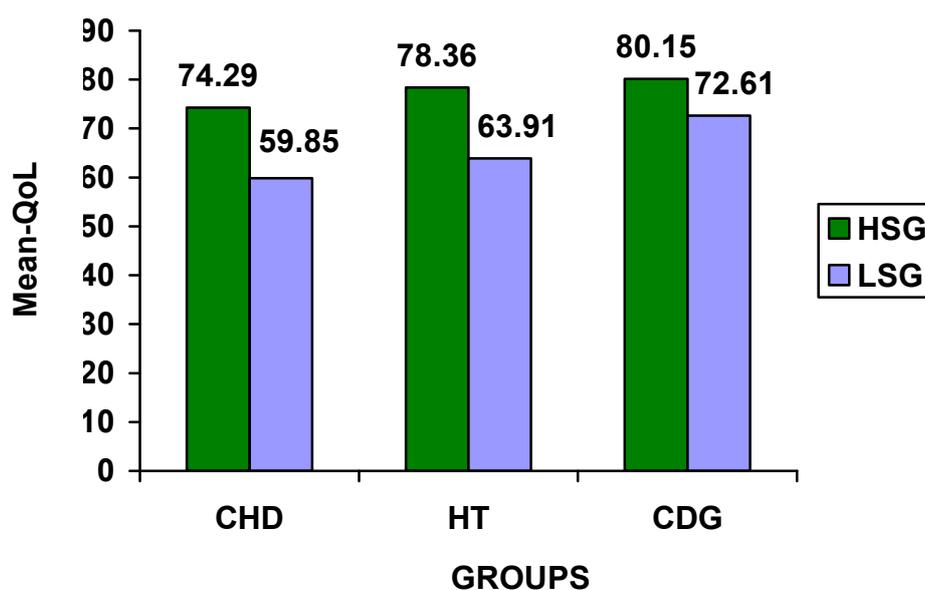


Fig. 6.22 : QoL among CHD, HT and CDG patients with High & Low social support (HSG vs LSG)

The HSG and LSG comparison belonging to HT group yielded a t-value of 4.39 and it is also significant at 0.01 level. The comparison of HSG and LSG belonging to CDG also yielded significant t-values ($t=2.15$; $P=0.05$). Thus it is obvious that social support enhances the quality of life among the cardiovascular patients. All the three t-values have been found to be significant. Hence the hypothesis $H_{16a,b,c}$ that social support would enhance

the QoL among the CVD patients is accepted. So, if the CVD patients are provided affectionate social supports the harmful effects of acute and sudden psychological stresses and chronic stresses can easily be managed (Nateghian, 2008; Hassan et.al. 2008; Pourshahbaz, 1993).

Thus, the findings of the present study clearly suggest that higher the level of social support, received in various forms, higher the life satisfaction and quality of life, even in unfavourable circumstances too. Those who are affected by various types of physical and psychological problems must be ensured that there are people who are committed to provide them help as and when needed. This type of assurance will certainly prove to be a panacea for them. (Heatman, 2006; Wills, 2004, 1985, 1991; Taylor, 2011; Heaney & Israel, 2008; Uchino, 2009). It means social support has so many positive functions, not only for cardiovascular patients but for those also who are in need of psycho-social assistance in different situations of life. It also seems to be important that people suffering from such problems should try to remain connected with their social network and members of social network should also be sympathetic and help oriented towards them. (Krause, 1986, Tilden & Wienert, 1987; Uchino, 2004; Gurung, 2006; Bolger & Amarel, 2007; Hogan et.al., 2002; Huang et.al. 2010). Such gestures will certainly enhance the satisfaction and quality of life among those who are affected by CVD problems. The findings of the present study also indicate that there seems to be causal pathways that involve social-psychological support in the etiology of disease and recovery from illness (Uchino et.al. 1996; Schwarzer et.al. 1989; Hobfall, 1998; Berkjman et.al. 1992). The health care personnel, the administration, professional, NGOs and other associated agencies are suggested to take care of it (Bano & Singh 2012; He & McGreager, 2009; Marshall, 2012).