CHAPTER-3
Review of Literature

Research work has been done by world psychologists to determine the psychological variables which are responsible and may cause the hypertension and cardiovascular disease including the Coronary Heart disease. Some examples of such kind of research work reviewed and in brief given as follows :

1. **Negative affect** :

   (i) Jonas, Bruch S; London, JamesF (2000) Psychosomatic medicine March-April 2000 vol 62 (2) 188-196. Negative affect is a risk factor for hypertension among white and black person negative affect was predictive of the development of hypertension with white women and all men having similar relative risks.

   (ii) Nakao, Mustsuhiro, Nomura, Shinobu, Shimisawa, Talsuo, Fujita, Toshiro; Kuboki, Tomifusa. (2000), Journal of psychosomatic research, Feb 2000 vol 48 (2), 161-169 as per them the blood pressure in group B as well Blood Pressure reduced significantly when they under went the bio-feed back treatment.

   (iii) Niaura, Ramond; Banks, Saram; Ward, Kenneth D; Stony, CatherineM; Spiro, Avron iii, CarolynM; Landsberg, Lewis; scot T; (2000). Psychosomatic medicine journal, Jan-Feb 2000, vol 62 (1), 7-16 examined association between hostility and cardio vascular risk factors representing the metabolic syndrome i.e. Insulin resistance, hyperglycemia, Upper body fat distribution, dyslipidimia and hypertension.

2. **Anger** :

   (i) Davidson, Karina; Macgregor; Michael Wm; stuhr; Judith, Dixon, Kim; Maclean, David (2000). Health Psychology journal, Jan 2000, vol 19 (1), 55-64 Result suggest that constructive anger expression may have an independent beneficial association with resting BP.

   (ii) Picot, Sandra J. Fulton; Zauszniewski, Jaclene A; Defanne, Sara M; Holston, Ezrac 1999, in the journal of Nurshing research, May-
Jun (1999), Vol 48 (3), 150-161 examined the caregivers' elevated anger was associated with significant decreases in DBP while lowered anger was associated with significant increase in DBP. Here it is suppressed anger.

(iii) Brondolo, Elizabeth; Rosen, Raymond C; Kostis, John B; Schwartz, Joseph E (1999) in the journal of psychosomatic medicine, May-Jun 1999 Vol 61(3), 311-318 in which studied blood pressure; emotional states; Hypertension; self perception; symptoms.


(v) Eversson, Susan A; Goldberg, Debbie E; Kaplan, George A; Julkunen, Juhan, Salonen, Jukka T (1998) in the journal of psychosomatic medicine, Nov-Dec 1998, Vol 60 (6), 730-735 examined the relationship between Anger expression style and incident hypertension. Result provide strong epidemiological evidence for a positive relationship between anger expression style and subsequent Hypertension and support the hypothesis that extreme expression of anger in either direction has adverse cardio-vascular consequences (C) 1999 APA/psyc/NFO all rights reserved).

(vi) Thomas, Sandra P (1997), in the journal of nursing research, Nov-Dec 1997 Vol 46 (6), 324-330 in which studied the relationship of anger suppression to BP was examined and evident when women suppressed anger at home show higher systolic BP and diastolic BP. Women who has grown up in families that readily showed anger more likely to do so as adults.

3. Religiosity :

(i) Brown, Corolyn M (2000), journal of Health care for the poor and under served, Feb 2000 Vol iii(1), 19-32, as per study African-American in Hypertension management, their personal religious commitment enabled them to feel protected from immediate and long term negative
consequences of Hypertension as well as find meaning in an exert control over Hypertension management.

(ii) Walsh, Anthony (1998), in the journal of behavioral medicine, Feb 1998, Vol 24 (3), 122-130, Anumber of researchers have found that religious commitment has a salutary effect on blood pressure levels.

4. Alcohol and Tobacco:

(i) Sankai Tomoko, ISO, Hiroyasu, Shimamoto, Takashi, Kitamura, Akihiko, Naito, Yoshihiko, Sato, Shinichi, Okamura, Tomanori, Imano, Hironori, Lida, Minoru, Komachi, Yoshio (2000) Alcoholism Clinical and experimental Research, Mar 2000, Vol 24 (3) 386-389. There is a positive relationship between alcohol intake and sub-arachnoids haemorrhage. Heavy drinking appeared to be an independent risk factor for sub-arachnoids haemorrhage. The combination of heavy drinking with smoking or hypertension increased the risk of sub-arachnoids haemorrhage.

(ii) Ierado, Kayo; Kawakami, Norito, Inaba Shizayo; Takatsuka, Naoyoshi, Shimizu, Hironuki (2000), journal of psychosomatic research. Jan 2000, Vol 48 (1), 31-35 in which it has been studied that tobacco smoking has role in hypertension.

(iii) Corrao, Giovanni; Bagnardi, Vincenzo; Zambon, Antonella; Arico, Sarino (1999), Journal-Addiction, Oct 1999, Vol 94 (10) 1551-1573, examined provided by the epidemiological literature on the association between alcohol consumption and the risk of hypertension. Alcohol consumption, risk duodenal ulcer and liver cirrhosis and liver disease and pancreatitis and injuries and adverse effect 1996-1998.

(iv) Isaacson J. Harry, Nielsen, Craig; Urbamic, Richard; Challengren, Eric (1999), Journal substance Abuse, Sep 1999, Vol 20 (3), 141-147, examine the co-relation among alcohol problems, certain health habits and hypertension

5. Salt Sensitive:

(i) Buchholz, Konrad; Senorr, Ulrike; Turan, Selma; Sharma, Arya M; Detor, Hans Christian (1999), in the journal psychotherapy,
psychosomatic, medizinische psychology, Aug 1999, Vol 49(8), 248-289, salt sensitive individual displayed increase anxiety emotional irritation and a lower level of anger control. Cardio vascular reactivity, hypertension and stress reactions. In crux emotional irritation and anxiety in salt sensitive person of risk to essential hypertension.


6. Exercise and Physical Fitness

(i) Whitely, Jessica, Winett, Richard A, (2000) Hand book of Gender, Culture and Health PP. 343-373 Physical activity and fitness have been associated with the prevention and control of a number of medical conditions including coronary heart disease, hypertension, some cancer, NIDD, obesity, osteoporosis and mental health problems such as depression.


(iii) Craig, Francis Washington (1999), in the journal of Dissertation Abstracts international; section B. The sciences and engineering in which they studied fitness and family history of hypertension and stressor Novelty/familiarity, cardio vascular stress response, college men Vs women.

7. Age

(i) Cirillo, Massima Stellato, David; Lombardi, Cinzia; De Santo, Natale G; Covelli, Vito (1999) Headache journal, Jun 1999, Vol 39(6), 409-416 as per them age is direct related to prevalence of hypertension, hypercholesterolemia and obesity.

8. Obesity

and complications (PP, 167-191), Baltimose, MD, US: Johns Hopkins University Press x 241 PP in which given obesity is clearly associated with diabetes, hypertension, hyperlipidemia, coronary artery disease, degenerative arthritis gall bladder disease as well as cancer of the endometrium, breast, prostate and colon.

(ii) Kawachi, Ichiro (1999), Journal of clinical psychiatry, 1999 Vol 60 (suppl 21), 5-9, explores the relationship between weight gain, obesity and overall health, obesity and over weight are clearly associated with many serious conditions including Type II diabetes mellitus, Hypertension and coronary heart disease.

(iii) Greenberg, Isac; Chan, Samuel; Black Burn, George L (1999), Journal of clinical psychiatry, 1999, Vol 60 (suppl 21), 31-36, as per their study obesity increases the risk of several serious health problems, including heart disease. Type II diabetes mellitus, hypertension and osteo arthritis.


(v) Di Mauro, S; Spallina, G; Leotta, C; Giardina, M; Di Fazio; Maleguarnera, M; Distefana. A. (1998), in the journal of Archives of Gerontology and Geriatrics, July-Aug 1998, Vol 27 (1), 1-8 examined the over weight and sedentary life style are associated with elevated BP values in elderly patients. The result obtained confirm that the non pharmacological treatment of hypertension in the elderly patients of may be applied in combination with the letter in order to reduce drug dosage ((C) 1998 APA Psyc/NFO all rights reserved).

(vi) Kumanyika, Shiri ki K (1997) in the journal of Health care for the poor and under served Aug 1997, Vol 8 (3), 352-365, notes that Blood pressure is strongly related to body weight and control of obesity is a critical component of Hypertension prevention and control. Modest weight losses can not only prevent or reverse BP elevation but also have a favourable impact on obesity related cardio vascular risk-factor such as diabetes and hyperlipidemia ((C) 1998 APA/PSYC/NFO, all rights reserved).
9. Stress & Coping:


(v) Peter, Richard; Siegrist, Johannes (1999), International Journal of Law and psychiatry, Sep-Dec, 1999, Vol 22 (5-6), 441-449 in which suggested health adverse behaviours and psychosocial stress in addition to genetic and physico-chemical determinants, were shown to have a direct impact on the development of athero-sclerosis and thrombosis as well as on the development of important somatic risk factors such as hypertension ((C) 2000 APA PsychINFO, all rights reserved).

(vi) Peter, Richard; Alfredsson, Lars; Knutsson, Anders; Siegrist, Johannes; Westerholm, Peter (1999) Scandinavian journal of work environment and health Aug 1999, Vol 25 (4), 376-381 in which shift work, chronic psychosocial work stress and the result of study indicate that a stressful psychosocial work environment acts as a mediator of
health adverse effects of shift work on Hypertension and partly atherogenic lipids.

(vii) Wu, Jin-Sheng; Ku, Yun-Hui; Li, Li-Sheng; Lu, Yi-chan; Ding, Xin; Wang, Yi-Guang (1999), Brain research Journal, Sep 1999, Vol 842 (2), 392-398, analyzes the possible neural basis of Hypertension. Neural basis for hypertension induced by prolonged emotional stress via corticotrophic releasing factor and substance P, in male rats.

(viii) Olwateluro, Felif (1999), Journal of IFE psychologia: an international Journal, 1999, Vol 7 (1), 70-95. The results of psychological and physiological measures indicate that BP was positively associated with age, reported stress of life events, hypertension symptoms and type A behaviour patterns. As per this psychosocial factors associated with elevated arterial blood pressure in an African industrialized metropolis.

(ix) Abel, Gregory A; Chen, Xun; Boden-Albala, Bernadette; Sacco, Ralph (1999), in the journal of Neuro epidemiology, Jan-Feb 1999 Vol 18 (1), 22-31 studied social readjustment (stressful life events and ongoing stressful illness) and ischaemic stroke: lack of an association in a multi ethnic population.

(x) Garcia-vera, Maria Paz; Labrador, Francisco J; Sanz, Jesus (1999), in the journal of behavioural medicine, Sep 1999, Vol 25 (1), 13-22, during stress management, hypertension, measurement self monitoring and their finding indicate that self measurement improved the estimation of patient's true levels of BP.

(xi) Show, Williams; Patterson, Thomas L; Ziegler, Michael G; Dimsdale, Joel E; Semple, Shirley J; Grant, Igor (1999) in the journal of psychosomatic Research, Mar 1999, Vol 46 (3), 215-227 examined whether the stress of care giving for the Alzheimer's disease (AD) patients accelerates the likelihood of hypertension in care givers. Accelerated risk of hypertension blood pressure recordings among Alzheimer care givers.

(xii) lands Bergis, Paul A; Cahill, Janet; Schnall, Peter (1999), in the journal of occupational health psychology, Apr 1999, Vol 4(2), 108-130 studies have examined the link with Hypertension and cardiovascular disease with job characteristics, occupational safety, occupational
stress & working condition.

(xiii) Carets, Robert A; Blumenthal, James A; Sherwood, Andrew; (1998) in the international journal of behavioural medicine, 1998, Vol 5 (1) 76-85 examined the relation between blood pressure and 2 aspects of social support. Data suggest that perceived satisfaction with social support is associated with lower BP.

(xiv) Weidner, Gerdi; Messina, Catherine R (1998) in the Ortha Gomer, Kristina (Ed); Chesney, Margaret (Ed); et al (1998), women, stress and heart disease, (PP, 210-236), Mahwah, NJ USA; Lawrence Erlbaum associates, Inc. publishers, xiv 298 PP, excessive, cardio vascular responses to stress play a role in the development of hypertension.

(xv) Hurwitz, barry E; Schneiderman, neil (1998), Krantz, David S (Ed); Baum, Andrew (Ed); et al (1998), Technology and methods in behavioural medicine (PP 245-273), Mahwah, NJ USA; Lawrence Erlbaum associates, Inc, publishers. Xviii, 250 PP. this chapter reviews evidence supporting the association between pathogenic processes leading to the development of CHD and hypertension.

(xvi) Schnell, peter L; Schwartz, Joseph E; Lands Burgis, Paul A; Warren, Katherine; Pickering, Thomas G (1988), in the journal of Psychosomatic medicine, Nov-Dec 1998, Vol 60 (6), 697-706 investigated the hypothesis that exposure to job strain is related to increase ambulatory blood pressure. Results provide new evidence supporting the hypothesis that job strain is an occupational risk factor in the aetiology of essential hypertension. ((C) APA/Psyc/NFO all rights reserved).

(xvii) Hein rich-Heine-U Duesseldorff, inst of medical sociology, Duesseldorff, Germany (1998), in the journal of Epidemiology and community Health, Sep 1998, Vol 52 (9), 540-547, examined associations between measures of work stress (i.e. the combination of high effort and low reward) and cardio-vascular risk factors, finding land support to the hypothesis that effort-reward imbalance represents specific constellation of stressful experience at work related to cardio vascular risk ((C) 1998 APA/Psyc/NFO all rights reserved).

(xviii) Han, Songping; Chen, Xiaoli; Cox, Bryan; Yang, Chunlian;
W, Yumei; Naas, Linda; Westfall, Thomas (1998), in the journal of Peds, 1998, Vol 19 (2), 351-358, chronic cold stress produced a sustained increase in mean arterial pressure in both normotensive and borderline hypertensive rates. Results suggest that chronic cold stress induced hypertension.


(xx) Sheffield, David, Smith, George Davey; Carroll, Douglas; Shipky, Martin J; Marmot, Michael G (1997), in the international journal of psychophysiology, Sep 1997, Vol 27 (2), 79-86 in which collected evidence that individuals with elevated resting blood pressure display excessive cardiovascular reaction to laboratory stress is regarded as implicating excessive reactivity in the photogenesis of hypertension accordingly the excessive cardiovascular reaction characteristics of individuals with elevated resting BP would not appear to be explainable to any substantial extent by labiality effects ((C) 1998 APA/Psyc/NFO, all rights reserved).

(xx) Dykman, Roscoe A; Gantt, W Horsley (1997), in the journal of integrative physiological & behavioural science, Jul-Sep 1997, Vol 32 (3), 272-287, examined blood pressure conditioning to signals for a slightly painful stimulus. The conditioned Hypertension was parallel to the condition heart rate. The conditioned hypertension was parallel to the motor conditional reflex with certain exceptions; the conditioned hypertension was like the cardiac conditional reflex quicker to form and more persistent, thus being present often in the absence of the motor conditioned reflex an evidence of schizokinesis.

(xxii) Peter, Richard, Siegrist, Johannes (1997), in the journal of social science and medicine, Oct 1997, Vol 45 (7), 1111-1120, 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. Result indicate that 3 measures of low reward are associated with short term SA (Sickness absence). Middle managers who suffer from high effort and low rewards simultaneously were at an elevated risk for Hypertension.

(xxiii) Amigo, Isaac; Gonzalez, Ana; Herrera, julio (1997) in the journal of stress medicine, Jan 1997, Vol 13 (1), 59-65 examined 45 adult patients with mild essential hypertension were randomly allocated to 3 different treatment groups. Muscle relaxation training, Isotonic physical exercise or placebo. Relaxation and physical exercise were superior to the placebo procedure in reducing BP at post treatment for systolic BP and diastolic BP and at follow up for systolic BP.

10. Racial and Ethnic Differences :

(i) Saab, Patrice G; Liabre, Mariam; fernander-scott, Anita, Copen, Rachel; Ma, mindly; Dillilo, Vicki; Mc Calla, Judith R; Davalos, Marisabel; Gallaher, Carol (2000), stress and copying, Maccabe, Philip M(Ed); Schnoidorman, Nell (Ed); et al (2000), stress copying and cardiovascular disease, stress and coping (PP 145-180).

Response of blood pressure variability is there and affected race to race and ethnic differences also. Here the working factors are self sensitivity, sodium metabolism and insulin resistance. In addition the regulation are explored and stress induced responsivity, of the different ethnic groups.

(ii) Ontiverso, Jorge A; Black, Sandra A; Jakobi, Patricia L; Good win, James (1999), journal preventive medicine: An international journal devoted to practice and theory and results of their study that African Americans were more likely to attribute hypertension to health behaviour and stress.

11. Sex and Race :

reactivity; Human sex differences, Racial and ethnic differences, socio economic status; stress in which Black and males exhibited higher systolic BP during recovery VS whites and females respectively.


12. Parent Child Relations & Social Perception :

(i) Hentschel, Uwe; Nooijen, Edith (1999), Journal of Psychiatry and Psychotherapia Analytica, Jun 1999, Vol 18 (2), 121-1234 study found that a tendency toward idealization of the parents was found in the asthmatic group, and a disturbed object relation, specially with the father was found in the hypertensive group (C) 2000 APA/Psyc/NFO, all right reserved)


13. Alcohol :

(i) Fuller, Mark G (1999), Ammerman, Robert T. (Ed); OH, Peggy J. (Ed); et al (1999), prevention and social impact of drug and alcohol abuse have studied many serious medical and psychiatric disorders are caused or exacerbated by substance abuse. For example the incidence of accidents, myocardial infarctions, strokes, seizures, birth defects, hypertension, liver failure and cancers are all heavily impacted by chemical use.

(ii) Harwood, DC; Barker, W.W; Loewenstein, D.A. own by; RL; St. George Hyslop, P; Mullan, M; Duara, Ranjan (1999), in the journal of Neurology Feb 1999, Vol 52 (3), 551-556 in which they examined the risk of Alcohol use and hypertension approached significance as risk
factors in WNH (white non-Hispanics) but not WHIS (White Hispanics), other risk factors such as low education and hypertension appear to be important only for WNH ((C) 1999 APA/Psyc/INF, all right reserved).

(iii) Jerez, Susan; Coviello, Alfredo (1998), in the journal of Alcohol, Jul, 1988, Vol 16 (1), 1-5 evaluated alcohol consumption a weak but significant, relationship between quantity/frequency index and diastolic BP was found. A greater prevalence of hypertension in male heavy drinking was noted as well.

14. Anxiety, Depression and Quality of life:

(i) Kleinschmidt, Julia J; Digre, Kathleen B; Hanover, Rita (2000), Neurology Journal, Jan 2000, Vol 54 (2), 319-324, persons are more affected with BP if they have anxiety, depression and bad quality of life.

(ii) Dobkin, Patricia L; Treiber, Frank A; Tremblay, Richard E (2000), psychotherapy and psychometric journal, Jan-Feb 2000, Vol 69(1), 50-56, anxious and anxious disruptive boys exhibited greater systolic blood pressure reactivity to the social stressor.

(iii) Bar-On, Dan, Lazer, Alon, Amir, Marianne (2000), social Indicators Research, Jan 2000, Vol 49 (1), 37-49, for some certain issues in family life determined their quality of life & for some these issues are at work place and has influence on Hypertension.


14 in which they studied that Essential Hypertensive (EH) subjects (SS) reported higher trait anxiety and higher frequency of Anger regardless of the direction of anger expression, EH SSs reported higher active suppression of angry feelings (Ax/Con) than did surgical/Orthopedic controls. No significant difference was observed on aggressive behaviour directed toward other people or objects in the environment. Data highlight the association of negative emotion (Anxiety, anger) in EH patients (© 1999 APA/Psyc/NFO all right reserved).

(vii) Kubzansley, Laura D; Kawachi, Ichiro; Weiss, Scott T', Sparrow, David (1998), in the journal of Annals of behavioural medicine, Sep 1998, Vol 20 (2), 47-58 examined the epidemiological, psychological experimental evidence for an association between anxiety and coronary heart disease suggests that anxiety may be a risk factor for the development of IHD, Chronic anxiety may increase the risk of IHD by (a) influencing health behaviours eg. by smoking (b) Promoting atherogenesis e.g. via increased risk of hypertension. Suggests that anxiety may contribute to risk of IHD.


(ix) Cicconetti, P; Thau, F; Bauco, C; Bianchi, A; Fidente, D; Vetta, F; Ettore, E; Marigliano, V (1998), in the journal of Archives of Gerontology and geriatrics, 1998, Vol Suppl 6, 79-42. Assessed anxiety levels and presence of symptoms of depression with newly diagnosed systolic hypertension. Significantly higher anxiety levels were found in SS with mild systolic hypertension.

15. Mood Emotion:

Jacob, Rolf G; Thayer; Julian F; Manuck, Stephen B; Muldoon, Mathew F; Tamres, Lisak; Williams, David M; Ding; Yijun; Galsonis,

16. Genetic:

(i) There is a role of genes in aging person regarding Hypo and Hypertension: Heininger, Kart (2000), Human psycho pharmacology clinical and experimental, Jan 2000, vol 15 (1), 1-70. Alzheimer's disease; Genetics; Health; psychosocial factors; Risk analysis.

(ii) Absi, Mustafa : Buchanan, Tony W; Marrero, Abner; Lavallo William R (1999), Journal-pain, Nov 1999, Vol 83 (2), 331-338, data obtained during the test included systolic and diastolic blood pressure levels heart rate and pain ratings every 15 sec during and after cold pressure. Results show that men with a parental history of hypertension showed greater Diastolic Blood Pressure responses while female groups showed no such differences.

(iii) Frazer, Nicole Lynn (1999), in the journal of dissertation abstracts international: section B; the Sciences and Engineering Vol 60 (I-B), Jul 1999; 0406, the relationship between cardio-vascular reactivity to stress and family history of hypertension examination of overt and covert responses to stressors.

(iv) Sherman, Jeffrey J; Mc Cubbin, James A; Matenga, Jonathan, (1998), in the journal of international journal of behavioural medicine, 1998, Vol 5 (1), 48-62, examined the relation between parental history of hypertension and urbanization on resting blood pressure. Subject with a positive parental history of high BP had resting BPs and greater systolic blood pressure increases in response to laboratory stress. Data suggest that although parental history for hypertension influences both resting and reactivity BPs, parental history of urbanization may influence only resting BP. (C) 1999 APA/Psyc/NFO all rights reserved.

(v) O' Brien, William H; Haynes, Stephen N; Mumby, Patricia B (1998), in the journal of psychophysiology, 1998, Vol 12 (1), 17-28 in which 54 normotensive college students with parental history of hypertension and without parental history of hypertension were exposed
to laboratory stressors and results suggestive that constitutional influence on vascular recovery may over ride state influences.

(vi) Lawler, Kathleen A; Kline, Keith; Seabrook, Elizabeth; Krishnamoorthy, Jonelle; Anderson, Sharon F; Wilcox, Zachary C; Craig, Francis; Adlin, Richard; Thomas, Sandra (1998), in the international Journal of psycho physiology, Mar 1998, Vol 28 (2) 207-222, Family history of hypertension (positive and negative) and gender groups were compared on cardio vascular responses at rest, during stressors and during recovery. Significant correlation were found between low anger expression, low anger experience and high anger control and task systolic blood pressure levels in positive family history individuals (C) 1998 APA/Psyc/NFO all rights reserved) (Journal extract).

(vii) Adler, Perry S.J. Ditto, Blaine (1998), in the journal of International journal of psychophysiology, May 1998, Vol 28 (3), 263-271, Normotensive individuals with a parental history of hypertension have been found to exhibit greater cardio vascular reactivity to a variety of laboratory stressors than offspring of normotensives.

17. Patterns of Elevated BP Behaviour:

Auseon, Alex, OOI, Wee L, Hossain, Monir; Lipsitz, Lewis A (1999), in the General of American Geriatrics society, Mar 1999 Vol 47 (3), 285-290 and the results show that the pre break fast reading was consistently the highest, and mean systolic pressure decreased after breakfast. Older subjects taking anti-hypertensive medications had higher systolic pressure at all times and showed the same patterns of decline after breakfast.

18. Hypnosis:

19. Miscellaneous:

(i) Pickering, Thomas (1999), Adler, Nancy E (Ed); Marmot, Michael (Ed); et al (1999), Socio economic status and health in Industrial Nations: Social, Psychological, and Biological Pathways, Annals of the New York Academy of Sciences, Vol 896. (PP.262-277). New York NY, US; New York Academy of Sciences, XV, 503 PP. As per them people from lower socio economic status more disease. There is a strong gradient for smoking which parallels the gradient in disease. Central obesity and Physical inactivity may also be contributory factors. In US there is a strong association between Socio-economic Status and race and it is suggested that higher prevalence of hypertension and cardiovascular disease in blacks may be attributed to psycho-social factors.

(ii) Walsleben, Joyce A, Noreman, Robert G; Novak, Ronald D; O'Malley, Edward B; Raport, David M; Strohl, Kingman P; (1999) New York U School of Medicine, Sleep disorders etc., New York NY, US, Sept 1999, Vol 22 (6), 728-734; explored effects of commuting on sleep habits, Reports of excessive day time sleepiness and history of Hypertension, diabetes and obesity.

(iii) Nakao, Mutsuhiro; Nomura, Shinobu; Shimosawa, Talsuo; Fujita, Toshiro, Kuboki, Tomifusa (1999), Psychotherapy and Psychosomatic Nov-Dec 1999, Vol 68 (6), 341-347 clarified the clinical effects of biofeedback on mild hypertension in the absence and presence of organ damage.

(iv) France, Christopher R (1999), in Journal of psychophysiology, Nov 1999, Vol 46 (6). 683-692, Research have demonstrated that hypertension is reliably associated with decreased perception of pain. Hypoalgesia may served as a valuable method of identifying individuals at greatest risk for hypertension ((C) 2000 APA/Psyc/NFO, all rights reserved).

(v) Nykolick, 1; Vinger Hoets, A.J.J.M; Vaniteck, GL, (1999), Biological psychology Journal, Jan 1999, Vol 50 (2), 127-142 in which hypertensive women showed diminished pain sensitivity compared with their normotensive counter parts.
(vi) Stewart, Robert (1999) in the journal of British journal of Psychiatry, Apr 1999, Vol 174, 286-287 studied that the complex interrelationship between blood pressure levels and cognitive decline has begun to be clarified ((C) 1999 APA/Psyc/NFO all rights reserved).


(viii) Macgarvey, Stephen T (1999), Panter brick, Catherinc (Ed), Worthman, Carol M (Ed), et al (1999), Hormones, Health and behaviour: A socio, ecological and life span perspective (PP 244-280). New York, Ny, USA, Cambridge University Press IX 290 PP described the role of hormones associated with energy metabolism and sympathetic nervous system as they relate to changes in cardiovascular health and disease with modernization. The emphasis on insulin and its role in adiposity and psycho physiological stress in modernizing groups, cardiovascular diseases related out comes and risk factors such as blood pressure and hypertension. Cardiovascular system; Culture change; Hypertension.

(ix) Davis, Catherine Lucy (1998) in the journal of dissertation Abstracts international: Section B. The science and engineering. They examined insulin metabolic syndrome in postpartum women who had gestational diabetics or healthy pregnancies (Diabetics, Hypertension).

(x) Frank, Yitzchak; Pavlakis, Stiven; Black, Karen; Bakshi, Saroj (1998), in the journal of Neurology, Sep 1998, Vol 51 (3), 915-916, Reports the case of 12 years old girl with aids and reversible leuko Encephalopathy. The authors suggest that the brain is effected in a more extensive way and the both gray and white matter are involved. They conclude that the aetiology of reversible leuko encephalopathy is related to a combination of an underlying immunologic abnormality and disturbance of homeostasis in a particular hypertension. ((C) 1998 APA/Psyc/NFO all rights reserved).

437, studied the role of a depressor factor, Atrial natriuretic peptide in the development of arterial hypertension in adolescents with pubertal hypothalamic syndrome.

(xii) Malik, AK; Sabharwal, Madhulika (1998), in the journal of Psycho-Lingua, Jul 1998, Vol 28 (2), 121-123. The JMPl (Jodhpur multiphasic, Personality Inventory) and 16 PF (SD Kapoor’s Hindi) adaptation were administered. Hypertension scores tend to be associated with emotional immaturity, introverted, absent minded and high ergic tension.

(xiii) Al’ Agi, Mulafa; Lovallo, William R; Mc Key, Barbara; Sung, Bong Hee; Whisett, Thomas L; Willson, Michael F (1998), in the journal of psychosomatic medicine, Jul-Aug 1998' Vol 60 (4), 521-527, examines Pituitary-Adreno cortical responses to dietary doses of Caffeine 2-3 Cups of coffee alone and combined with behavioural stress. The high risk group also showed the highest levels of ACTH and cortisol after caffeine plus tasks. These findings demonstrate the combined effect of caffeine plus stress on ACTH and demonstrate greater corticosteroid effects in hypertension prone men. As such they may have implications for the dietary use of caffeine during periods of stress and in those at risk for hypertension ((C) 1998 APA/Psyc/NFO, all rights reserved).

(xiv) Mann, Samuel J, James, Gray D (1998), in the journal of Psychosomatic research, Aug 1998, Vol 45 (2), 139-148, investigated the association between essential Hypertension and defensiveness. It is concluded that defensiveness is more closely related to essential hypertension than is self reported anger or anxiety. ((C) 1998 APA/Psyc/NFO, all rights served).

(xv) Nyklick, Ivan (1998), In the journal of psychology, Jun 1998, Vol 33 (6), 260-266, reviewed literature concerning the relationship between BP and self reported stress. Results indicate that hypertension was some times related to diminished appraisal of unpleasant stimuli; and defensiveness did not explain this effect, although it appeared to be an independent predictor of hypertension in women.

(xvi) Captuto, Jennifer L, Rudolph, David L, Morgan, Don W
(1998) in the journal of behavioural medicine, Apr 1998, Vol 21 92), 115-129, studies an inverse relationship between positive life events and diastolic BP suggesting that adolescents experiencing more positive life events were more likely to have lower Diastolic BP's. Result suggest that increased perception of positive life events may act as a buffer to elevated BP in adolescents, ((C) 1998 APA/Psyc/NFO, all rights reserved).

(xvii) Ditto, Belaine, Sequin, Jean R; Boulerico, Barnard; Phil, Robert O, Tremblay, Richard E (1998), in the journal of health psychology, May 1998, Vol 17 (3) 249-254. Reduced Pain perception has been observed in many studies of spontaneously hypertensive rats and human hypertensive patients, these findings could not be explained by personality factors and suggest that hypertension related Hypoalgesia is associated with processes involved in the development of the disorder. ((C) 1998 APA/Psyc/NFO, all rights reserved).

(xviii) Freidt, Wolf, Gang, Schmidt, R; Stronegger, W-J; Reinhart, B (1997) in the journals of Gerontology, Series A; Biological science and medical sciences, March 1997, Vol 52 A (2), M 111-M 116 investigated the influence of environmental and behavioural factors on Mattis Dementia rating scale (MDRs, L Bellak and T.E. Karasu, 1976) administered results indicate that higher age and arterial hypertension were associated with poor cognitve performance, while better education and moderate general life stress exerted a positive effect on the subjects test results.

(xix) Kohler, Th; Fricke, M; Ritz, Th; Scherbaum, N (1997); in the journal of Psychotherapy and psychosomatics, Sep-Oct 1997, Vol 66 (5) 261-267 examined young males with borderline BP levels and normotensive controls were recruited during a routine examination. Borderline hypertensives showed greater reactions to stressors in systolic blood pressure only. In recovery only moderate support is given to the hypothesis that borderline hypertensives show increased and slowly recovering psychophysiological responses ((C) 1998 APA/Psyc/NFO, all rights reserved).

were recruited during a routine examination. Borderline hypertensives showed greater reactions to stressors in systolic blood pressure only. In recovery only moderate support is given to the hypothesis that borderline hypertensives show increased and slowly recovering psychophysiological responses ((C) 1998 APA/Psyc/NFO, all rights reserved).
