Review of Literature

This chapter deals with the review of literature pertaining to the parenting stress, depression, anxiety and family burden in parents of children with developmental disabilities. For this purpose a literature search (retrieval search) guided by variable like parenting stress, depression, anxiety and family burden in parents of children with developmental disabilities was got done from National Informatics Centre, Planning Commission, Government of India, New Delhi. This search was from 1991 to 2007. For studies beyond this period retrieval search on internet was done. In addition, books and journals relating to this area were also consulted from the M.D. University library. In this chapter the relevant studies are described and reviewed in four sections. In the first section studies relating to parenting stress are given. Studies relating to depression and anxiety are given in section two and three respectively. Section four of this chapter deals with the studies relating to family burden.

Parenting Stress

Several studies have found that parents of children with chronic disease or disabilities have higher stress scores than parents of normal children. Mash and Johnson, (1983) studied the parental perceptions of child behavior, parenting self-esteem and mothers reported stress of younger and older hyperactive and normal children. Forty families with hyperactive children and fifty one families with normal children participated in the study. Hyperactivity rating scale, child behavior checklist, parenting sense of competence scale, and parenting stress index were the instruments used for the data collection. Results indicated that parenting self esteem was lower in parents of hyperactive children than in parents of normal children. Mothers of hyperactive children
especially younger hyperactive children reported markedly higher level of stress. Inverse relation was found between parental self-esteem and perceptions of child problems, whereas rating of child disturbance and maternal stress were positively correlated. Harper, (1984) evaluated the generalizability of parent–child rearing with inventory designed for normal children and parents of disabled children. A total of 101 mothers of multihandicapped children completed the inventory (parent report of child behavior) reporting their child’s behavior towards them in five areas (1) positive relationship, (2) detachment, (3) obedience, (4) independence, and (5) control problems. Factor analyses revealed a qualitatively different set of underlying factors as contrasted to the original normative group. A positive relationship with their disabled child was contingent upon a combination of compliant behaviors (obeying rules, doing things independently, actively trying to please), all of which were likely associated with general child competence. The disabled child’s age, intellectual level, degree of physical impairment, and number of nonhandicapped siblings influenced maternal report of child behavior. Kazak, (1987) compared mothers and fathers of children with handicapped (n=125) and parents of non disabled children (n=127) from three separate sample on personal stress, marital satisfaction, and social network size and density. Parents of disabled children experienced higher levels of stress in comparison to parents of non disabled children. No difference was found in marital satisfaction. Few group differences were found for social network variables, although mothers of handicapped children had higher density of networks in comparison to mothers of non disabled children. Beckman (1991) compared parental stress of 54 mothers and fathers of children with disabilities with the parental stressors of equal number of mothers and fathers of normal children. Mothers generally reported more stress in parent domain than fathers but both parents experienced high level of stress in child domain. Parents of disabled children reported greater amount of parenting stress than parents of normal children in the child and parent domain of parenting stress inventory.

Virtanen, Moilanen, and Inhalainen, (1991) examined causes of stress for mothers of 6-9 years-old-children (n=42) with minimal brain dysfunction (MBD) (hyperkinesis, perceptual or motor deficits, learning disabilities or speech disorder) and among mothers of non-disabled children (n=42) matched for age, sex, social status of the family and
marital status. Results indicated that the mothers of children with minimal brain dysfunction experienced more parenting stress than matched controls. The mothers of children with hyperkinesis and perceptual or motor deficits considered their mastery lower and experienced less positive affects than their matched controls. The mothers of children with speech disorder experienced less positive affects than their matched controls. Mothers of children with both few and several symptoms experienced more parenting difficulties in the child domain, and more negative cognitive appraisals of their stakes in parenting than mothers of normal children. Prey, Salro, Mc Garvey, and Factor (1992) studied parenting stress, marital adjustment, and family functioning in parents of girl with Rett syndrome (mothers and fathers of 29 girls with Rett’s syndrome) and parents of normal children. The parents of girls with Rett’s syndrome reported more stress, lower marital satisfaction and certain adaptation in family functioning as compared to parents of normal children. There were few significant differences between mothers and fathers and little relationship between specific characteristics of the daughter with Rett’s syndrome, such as her age and level of functioning. Person, and Chan (1993) examined relationship between social support and parenting stress in 100 mothers of children with learning disability and 75 mothers with similar age nondisabled children. Results revealed that the mothers of children with learning disabilities have significantly more stress and less support than those in the mothers of normal children.

Meadow-Orlans, (1995) studied mothers and fathers of 20 deaf of hard-of-hearing and 20 hearing-9-month-old infants. Parents completed the parenting stress inventory and questionnaire tapping the stress of life events (SLE). Results indicated that the over all scores on the PSI were quite similar but sub-scale scores show that mothers were more likely than fathers to perceive their infants were distractible and reported more negative spousal relationships. Mothers whose infants are deaf/ hearing hard reported greater life stress compared to mothers of normal hearing infants, especially in relation to finances and work. Horsch, Weber, Bertram, andetroit, (1997) compared the stress experienced by parents of children with cochlear implants with the parents of deaf children and hearing children. The parenting stress index and problem oriented interview method were used with the parents of three groups of children. Results showed that parents of deaf and dumb children were found to experience greater level of stress than parents in the other
two groups. Parents of children with cochlear implants experience about the same level of stress as parent of hearing children.

Halmbeck, Gorey-Ferguson, Hudson, Seefeldt, Shapera, Turner, and Uhler, (1997) examined family functioning (individual, maternal, paternal), and social – ecological perspective in parents of 8 and 9 year old children with spina bifida (n= 55; 29 male, 26 females) and parents of 8 and 9 years old non-disabled children with (n= 55; 29 male, 26 female). Results indicated that the mothers and fathers of children with spina bifida reported more psychological stress, less parental satisfaction than parents of normal children. Mothers of children with spina bifida reported less perceived parental competence, more social isolation, and less adaptability to change; fathers in the spina bifida group reported more psychological symptoms. No difference was noticed between the parents of children with spina bifida and parents of normal children in the marital satisfaction domain. Dyson, (1997) examined parental stress, family functioning and social support in parents of children with developmental disabilities (n= 30) and parents of children with non disabled children (n= 32). Family scale indicated that father and mothers of children with developmental disabilities did not differ from each other. Parents of children with disability experienced a disproportionately greater level of stress relating to their children than parents of children without disability. Fathers’ and mothers’ stress was associated with aspects of family functioning as perceived by themselves and their spouses. Padeliadu, (1998) studied the time demands placed on mothers of children with Down’s syndrome and the possible relationship between those demands and stress that the mothers experience. Forty one mothers of children with Down’s syndrome living in Northern Greece and an equal number of mothers of non-disabled children. Three type of questionnaires used (a) questionnaire for biographic information (b) a self report for assessing the time demands placed on the mothers and (c) an adaptation of the Clark questionnaire on resources and stress (QRS) for the evaluation of the stress experienced. Results revealed increased time demands on the mothers of children with Down’s syndrome in comparison to the mothers of non-disabled children in terms of recreational, educational activity and total time. The mothers of children with Down’s syndrome perceived the time they spent with their children less positive than the mothers of the comparison group. It appeared that mothers of children with Down’s syndrome differed
significantly from mothers of non-disabled children, not only on the level of the stress which they experienced, but also on the activities related to this stress as well. Pelchat, Ricard, Bouchard, Perreault, Saucier, Berthiaume, and Bissm, (1999) compared parenting stress, stress appraisal psychological distress in parents of children with Down syndrome, parents of children with congenital heart disease, parents of children with cleft lip palate and parents of normal children by using a self administered questionnaire given to each parents 6 months after the birth of their baby. Results indicated that parents of children with Down’s syndrome and parents of children with congenital heart disease reported greater level of parenting stress and psychological distress than parents of children with cleft lip / palate or parents of normal children. Mothers were found to report greater level of stress and distress overall but differences across diagnostic groups were similar for mothers and fathers. Gash, (2001) assessed the quantity of stress in 85 mothers of children with mental retardation of different etiology (Williams syndrome, Down syndrome, and mental retardation) and equal number of mothers of non disabled children. Measures used were parenting stress index and child behavior checklist. Groups were matched according to the children’s mental age, sex, family socio-economic status and verbal comprehension. Results revealed that the significant differences were found in the child domain. Mothers of children with Williams’s syndromes and Down’s syndrome scored significantly higher on acceptance and demanding ness scale, mothers of children with mental retardation scored higher on the acceptance scale than mothers of normal children. Mothers of children with William syndrome reported higher scores on the hyperactivity, mood and adaptability scale. No significant difference was found in the parent domain on the attachment and social isolation subscale. Mothers of children with Down syndrome scored higher than the other groups on the scales; depression, sense of competence and parent health. Mothers of children with mental retardation scored lower on restriction of their role as a parent and relationships with spouse. The degree of the children’s mental retardation as well as conspicuous behavior correlated positively with maternal stress but not with the familiar socioeconomic level or the age of the children. Specific behavior problems associated with the behavioral phenotype of a syndrome also influenced the level of maternal stress.
Ong, Chandna, and Peng, (1999) compared parenting stress among Malaysian mothers of children with mental retardation and a control group, to determine factors associated with stress. 75 mothers of children with mental retardation aged 4-12 years and 75 controls. They used parenting stress index, intelligence quotient (IQ) and child behavior checklist (CBCL). Results indicated that the mothers of children with mental retardation scored significantly higher than control domain and parent-related domain of the parenting stress index. The total child behavior checklist scores from the CBCL, IQ scores and sibling size were associated with child related domain scores. The parent-related domain, CBCL and IQ scores remained important factors and maternal unemployment were also significant predictors of stress. A large proportion of mothers of children with mental retardation experienced substantial parenting stress. Schaunig, Willinger, Diendarfer-Radher, Hager, Jargl, and Sirsch, (2004) investigated stress in 63 mothers of children with a specific language impairment and equal number (63) of mothers with normal children. They used parenting stress index (PSI) (Abidin 1995). Results showed that the mothers of language impaired children have higher stress than mothers of normal children. Sixty eight percent of mothers of the clinical group were exposed to above-average stress level whereas only 1.5% of mothers of children with normal language development show above-average parenting stress. Oelofson, and Richardson, (2006) studied relationship between parental stress sense of coherence, social support and health in parents of preschool children with developmental disabilities (n=59) and parents of children without developmental disability (n=45) completed the study questionnaire. Results indicated that mothers and fathers of children with developmental disability reported high level of parenting stress, weaker sense of coherence, and poor health than parents of children without developmental disability. Donovan, (1988) compared mother perception, family stress and ways of coping with adolescents who were autistic or had mental retardation (n=36 for both group). Mothers of adolescents, who were autistic, perceived greater level of family stress than mothers of mentally retarded children. Von Gontard, (2002) compared psychopathology, family stress and coping in parents of children with Fragile X Syndrome, Spinal muscular atrophy and parents of normal children (n=32) by using child behavior checklist, structured psychiatric interview, parental stress with questionnaire on resources and stress (QRS), coping with F-COPES and social support with F-SOZU questionnaire. Results indicated
that parental stress was significantly higher in the Fragile X Syndrome than in the spinal muscular atrophy families. There was no major inter-group difference regarding social support and familial coping.

Drews, Celano, Player, and Lambert, (2003) examined parenting stress among caregivers of young children with congenital cataracts and assessed whether diagnosis or treatment differences are associated with difference in perceived parenting stress. Parents of 41 pre-school-age children with congenital cataracts (13 with bilateral cataracts and 28 with unilateral cataracts of whom 14 were pseudophakic) completed the parenting stress index (PSI) of a diseases-specific parental stress measure the ocular treatment index (OTI). Results indicated that parents of children with congenital cataracts reported normal parenting stress level on the PSI whereas parents of children with unilateral cataracts tended to report higher level of stress. Degenais, and Hall, (2006) assessed caregiver satisfaction and stress of children with cerebral palsy using parenting stress inventory. Results revealed that the parental stress was significantly correlated to the severity of child’s cerebral palsy.

There are many studies which reported significant difference in the stress level of mothers and fathers of disabled children. Girolametto, and Tannock, (1994) compared directiveness and parental stress of 20 mothers and fathers of children with developmental disabilities and language impairment. Results indicated that the fathers differed from mothers in two of the dimension of directiveness; fathers used more response control and topic controls than mothers. Both parents had similar levels of child-related and parenting stress, but mothers perceived more stress than fathers related to responsibilities associated with parenting a child with a handicapped. Esdail, and Greenwood, (2003) compared the mothers (n=53) and fathers (n=25) for parenting stress and attribution for parent child interaction outcomes. Measures like parenting stress index (PSI) (Abidin 1995) parenting attribution test (PAI) and child interaction survey (CIS) were used. Results indicated significant differences in mother’s and father’s experiences of parenting stress, and parenting attribution. Mothers generally reported more stress than the fathers. Salovita, Italiana and Leinonen, (2003) attempted to explain the parental stress of fathers (120) and mothers (116) caring for a child with intellectual disability. They emphasized the importance of intervening factors in explaining the stress. In the mothers the single most
important predictor of parenting stress was the negative definition of the situation while in the fathers it was associated with the social acceptance of the child.

Several studies have found that nature and severity of a child’s disability to be significantly related to parental stress, as well as a child’s temperament, behaviour problems and demands placed upon the parent. Frey, Greenberg, and Fewell, (1989) examined parenting stress, relations of child characteristics, family social network, parent belief system, and coping styles in parents of 48 young handicapped children. Child characteristics predicted mothers and father’s parenting stress and father’s psychological distress. Parental belief system predicted all three parent outcomes for mother’s and father’s family adjustment. Social network predicted family adjustment and father’s psychological distress. Psychological distress was low in mothers who had either a positive belief system or a noncritical family network. Margalit, Shulaman and Stuchiner (1989) investigated feelings of stress, interrelation of the children’s pathology and family climate variable with the levels of parental stress among parents of mentally retarded children who demonstrated behavior disorders. Thirty nine families with moderately mentally retarded children divided into two groups: children demonstrating disruptive behavior (n=17) and children who did not demonstrate behavior disorder (n=20). They used child behavior checklist, classroom behavior inventory, family environment scale and the questionnaire on resources and stress. Results revealed significant differences between the two groups. The children with disruptive behavior were described by their parents as more hyperactive and aggressive, and were described by their teachers as more distractible and dependent on adults. No differences were found between the profiles of family climate among the two groups of parents. The levels of children’s pathology and aspects of family climate predicted the parental stress, pinpointing different patterns of variables for fathers and mothers. Interrelation between children’s pathology, family climate, and parental feeling of stress was found. Lacharite, Ethier, and Piche, (1992) examined parental stress of 122 mothers of hyperactive children by using parenting stress index (Abidin, 1983; Loyd and Abidin 1985). Results revealed that the mothers of children with hyperactive children reported higher level of stress. Greeenberg, Seltzer, and Greenley, (1993) investigated the impact of later life care giving on 105 mothers of adult children with mental illness and 208 mothers of adult children with mental
Review of Literature

retardation. Results showed that mothers of adult children with mental illness have higher level of caregiver stress, frustration and lower level of gratification. The size of the mother’s social network, the family social climate, child’s participation in an out-of-home program and adult child’s behavior problems were the strongest predictor of caregivers stress. Baker, and Heller, (1996) examined externalizing behaviors related to stress and maladjustment of family with pre-school-aged children (52 mothers and fathers of preschool age children). Results revealed that the higher child externalizing behavior was associated with greater negative family impact, lowered parenting sense of efficacy, child rearing practice that were more authoritarian and less authoritarian. Mothers and fathers did not differ in actual perceived level of child behavior problems. Mothers experienced high level of parenting stress and a need for help with moderate as well as high child externalizing behaviors than fathers. Baker, Blacher, Crnic, McIntyre, Law, and Eelbrock, (2002) examined child behavior problem and parenting stress in families of three year-old-children with and without development delays (n=225 three-year old children with or without development delay. Parents completed Bayley behavior scale and child behavior checklist. Greater problems were found in children with delays than in those without delays. Children with delays were 3-4 times as likely to have a total child behavior checklist scores with the clinic range. Parenting stress was higher in delayed condition families. Regression analyses revealed the child behavior problem was having much stronger contribution to parenting stress than was the child’s cognitive delay. Chan, Lau, Fong, Poon, and Lam, (2005) studied children with cerebral palsy and their neuroimpairment. Results showed considerable limitation in daily activities including mobility and self-care tasks and this posed great stress to parents when taking care of their children. Children’s participation in both social and leisure activities was regarded as a low priority. A high percentage of parents reported difficulty in traveling.

Khamis, (2007) examined relatives contribution of child characteristics, parent’ sociodemographics and family environment to parental stress and psychological distress among parents of children with mental retardation. Parents of 225 mentally retarded children, (of whom 113 were father and 112 were mothers). Were administered measures of parental stress (QRS-F), psychiatric symptom index (PSI) and family environment scale (FES) in an interview format. Hierarchical multiple regression was used to predict
parental stress and psychological distress. Results indicated that the child characteristics, parents' sociodemographics, and family environment, accounted for 36.3% and 22.5% of parental stress and parents' psychiatric symptomology variance. The age of the child was significantly associated with parents' feelings of distress and psychiatric symptom status, and parental stress was less when the child was older. Parents reported more psychiatric symptomology when the child showed a high level of dysfunction. Fathers' work appeared to be a significant predictor of parental stress, indicating that for fathers who were not working the level of stress was higher than fathers who were working. Lower socioeconomic level was associated with greater level of stress. Neece, and Baker, (2008) examined the contribution of child social skill to maternal parenting stress across middle childhood, as well as the direction of the relationship between child social skill and parenting stress. Sample consisted of family of children with intellectual disabilities (n=74) or typical development (n=115). Results indicated that the child social skills accounted for unique variance in maternal parenting above and beyond child intellectual status and child behavior problems. The children matured, there was a significant interaction between child social skills and behavior problems in predicting parenting stress. The direction of these effects, a cross-lagged panel analyses indicated that early parenting stress contributed to later social skills difficulties for children, but the path from children's early social skills to later parenting stress not supported, once child behavior problems and intellectual status were accounted for. Parenting stress, child social skills are important variable to consider, especially in the context of child behavior problems. Early parenting stress predicted child social skill difficulties.

Few studies reported that not only parents were disturbed due to child problems, caregivers and other family members were also found to have stress as well as parents. Gath, (1989) reported that siblings of the handicapped children showed psychological disturbances, emotional deprivation, frustration, resentment, tension and sometime aggressive behavior. Sighi, Goyal, Walia, and Pershad, (1990) studied psychological problems faced by parents and other family members in 50 families with a physical handicapped children, 50 parents of mentally retarded children, and 50 parents of healthy children. A semi structured questionnaire assisted interview and standardized scale were used to measure social burden, marital adjustment and maternal neuroticism. Results
indicated that families with disabled children perceived greater financial stress, frequent disruption of family routine and leisure, poor social interaction and ill effect on the physical and mental health as compared to families of healthy children. Overall social burden score were significantly higher in both the groups with disabled children as compared to controls and significant inverse correlation with the socio- economic and educational status of parent. Walker, Van Slyke, and Newbrough, (1992) assessed stress in families of children with pediatric conditions that varied on 2 dimensions: (a) fatal vs. nonfatal outcome and (b) presence vs. absence of cognitive impairment. Families of children with cystic fibrosis (n = 23), diabetes (n = 24), families of normal children (n = 24) in 3 age groups. Maternal responses to a multidimensional measure of family stress, the questionnaire on resources and stress – short form (QRS), indicated that – (1) families of children with chronic conditions did not differ from families of normal children on scale assessing generic aspects of family stress, such as family conflict (2) diagnostic groups differed QRS – S scales assessing stressors specific to the child disability (e.g., families of children with mental retardation were characterized by concerns about caring for the child as an adult ). There was no evidence of higher levels of stress for families of older children.

Brown and Bramston, (1998) found significantly greater stress in parents of young people with intellectual disability in all aspect of stress examined including stress from the child with disability, internal family stress, from financial strain of having a family member with disability, stress from community etc. Mcglone, Santosh, Kazama, Fong, and Mueller, (2002) examined parental and psychological stress in parents of special need children. They used qualitative and quantitative data with parenting stress index. Results indicated that higher than average levels of stress, particularly on subscales related to parent-child dysfunctional interaction and to the raising a difficult child. Increased stress levels associated with poorer family adjustment and with higher levels of behavior problems. Johnston, Hessal, Blasey, Fliez, Erba, Dyer-Friedman, Glasser, and Reiss, (2003) assessed parenting stress in parents of children with general developmental disability and parents of children with Fragile X syndrome (n= 75 families with a child affected by Fragile X syndrome and general developmental disability). They used Parenting Stress Index. Results demonstrated that aspects of child behavior, family

Waissbren, Rones, Read, Marshal and Long, (2004) examined predictors of parenting stress in parents whose children were diagnosed with a biochemical genetic disorders or through newborn screening. Parents of two hundred sixty three children with biochemical genetic disorders (139 identified by newborn screening, 124 identified clinically) completed interviews focused on child health, medical services use, satisfaction with service, parenting stress and family functioning. Multiple regression analyses suggested that child adaptive functioning, parental satisfaction with support, and difficulties parent experienced meeting their child's health care needs were associated with scores on parenting stress index. Koller, and Hang, (2004) examined maternal, paternal stress in families with school children with disabilities. Results revealed that the, children's demandingness and neediness for care was related more to maternal stress and that child's acceptability was related more to paternal stress. Family of children with disabilities may need to more specialized support programs to help fathers become emotionally close to their atypical children and may need to provide more respite services for mothers.

Few studies related to this area reported that single parent show high level of stress than two parents. Beckman, (1983) conducted interview on mothers of 31 handicapped infants for determine the which specific kinds of behavior and characteristics of the child were related to stress. He examined five characteristics (1) rate of child progress, (2) responsiveness, (3) temperament, (4) repetitive behavior patterns, (5) the presence of additional or unusual care giving demands. Results indicated that the all characteristics except rate of progress were significantly related to the amount of stress reported. The only demographic characteristic associated with the amount of stress reported was the number of parents in the home. Single mothers reported more stress than mothers in intact homes. Weinraub, and Wolf, (1983) studied social networks, coping abilities, life stressors, and mother-child interaction in single and two parents families.
Twenty eight mother-child pairs-14 single mothers and their pre school children and 14 matched married women children. Measures used were mother’s social network, coping abilities, and life stress. Results showed that the single parent remained socially isolated as compared to married parents. No significant difference was found in any of the mother-child interaction in single-parent families.

maternal stress and child's acceptability was related more to paternal stress. Khamis (2007) found that parenting stress was related to age of the child, severity of disability, parents working status and other sociodemographic features i.e.-low socioeconomic status was associated with greater stress. Mothers generally reported more stress than fathers related to responsibilities associated with parenting a child with handicap. Ramans, et al (1986) reported significantly higher level and psychiatric morbidity in mothers, however fathers did not differ. Girolametto and Tamock, (1994) reported high level of parenting stress in mothers than fathers of children with developmental disability. Esdail and Greenwood, (2003) found significant difference in mothers and fathers experiences of parenting attribution mothers generally reported were stress than fathers. Salovity, et al (2003) in mothers the single most important predicator of parenting stress was negative definition of the situation while in the fathers it was associated with the social acceptance of the child. The review of studies relating to parenting stress clearly shows that majority of studies indicated significantly higher level of stress was observed in parents of children with disabilities however several studies (e.g. Walker, et al, 1992) failed to observed such difference. In addition several studies have highlighted the mediating and moderating effect of family and social resources on parenting stress.

Depression

Developmental disability of children may cause depression among their parents. Studies have reported significant depression level in the parents of children with developmental disabilities. Tomkiewicz, (1987) conducted a survey among 78 families and examined the psychological, social and economical consequences of severe mental retardation for the parents of the sick child. He found psychological and socio-economic guilt feeling; social isolation and risk of parental separation were most important consequences. The discloser of the child’s handicap resulted in various reactions: psychological shock at first, then denial of the handicap, depression, and fear and apprehension. Herman, and Marcentko, (1997) examined parent’s perception and parental depression in parents of children with disabilities. Parents’ perception, amount, and quality of respite indirectly affected parental depression. Hadbell, (2004) examined parental chronic sorrow following the birth of a child with neural tube defect and explored the relationship between chronic sorrow and depression. One hundred and thirty
two parents (sixty-three mothers/fathers pairs and 6 single parents) responded to 3 measures of chronic sorrow and measures of depression. Multivariate analysis of variance demonstrated significant difference between mothers and fathers in chronic sorrow. Relationship between chronic sorrow and depression was demonstrated. Chronic sorrow was a potential barrier to parental understanding of their child’s care and diagnosis. Bailey, Golden, Roberts, and Ford, (2007) examined maternal depression in families having a child with disability. Results revealed that mothers of children with disabilities generally exhibited a higher than average rate of depressive symptoms and were more at risk for clinical depression. Child behavior problems, maternal stress, coping style, and support were consistently associated with depression symptoms. Harjan, (1989) assessed offspring of parents with affective disorder and long lasting depression exhibited elevated rates of psychomotor and language delay, behavior problems and greater need for somatic psychiatric care in the parents of children with developmental disabilities and parents of normal children. Results indicated that parents of children with affective disorders and long-lasting depression differ from those without affective disorder with respect to early behavior problems, need for child psychiatric care during latency, and they were loaded by more broken homes and longer stay in pediatric wards. The high rate of developmental delay among offspring of parents with affective disorder stressed the importance of giving attention to the children of parents with affective disorders and long-lasting depression.

Olsson, and Hwang, (2002) studied the sense of coherence in parents of children with different developmental disabilities. The aim of the study was to test Antonovsky’s theory of sense of coherence. It was also intended to examine why parents of children with intellectual disability generally experience higher levels of stress and depression than parents of children who develop normally. Sense of coherence (soc) and depression were assessed using the short sense of coherence scale (131 items) and the Beck depression inventory in 216 families of children with intellectual disability or autism, and in 213 families of normal children. Results indicated that (1) parents of children with intellectual disability with low sense of coherence and were having increased risk for developing depression compared to parents of normal children.

Trute, (1995) studied gender differences in the psychological adjustment of parents of young developmentally disabled children. Mothers and fathers were
interviewed separately in 73 households. The study was to explore predictors of symptoms of depression to better understand what child, family and life circumstances might be differently related to psychological stress in the cohorts of men and women. Hierarchical regression analysis showed similar levels of variance explained in depression of mothers (42%) and fathers (40%). Mothers with younger children, and fathers with male children, appeared to be at higher risk for depression. Personal and intra-psychic coping resources (self-esteem) and strong tie social support resources (spouse relationship) were found to be significant predictors of depression in both mothers and fathers.

Higher levels of depression have been reported by other family members of disabled children. Fesman, and Wolf, (1999) examined psychological effects of parental, marital, and sibling relationship of the handicapped child. Results indicated that presence of child with a pervasive developmental disorder had a significant effect on family members and family functioning. Maternal mental health suffers, and the resulting depression affects her roles as mothers and marriage affects her role as mother and marriage partner. Unlike other handicapping conditions with obvious physical stigma, the invisible handicap of the autistic child and the frequent delay in diagnosis contribute to the mother’s self-doubt about her parental competence. While the impact on paternal psychological health is less, the fathers of autistic children are nevertheless highly stressed and appear to be particularly vulnerable to the stress generated by these difficult children. Kavanugh, Halterman, Mantes, Epstein, Hightower and Weitqman, (2006) examined relationship between maternal depressive symptom and select prevention practice and parenting behavior for older preschool children (n= 40) using mental health inventory-5. Results revealed that a total of 17.7% of mothers had depressive symptoms, with increased rates among women who were poor and less educated.

Studies cited above revealed that parents of disabled children were at higher risk for depression. Olsson and Hwang (2002) reported parents of child with intellectual disability with low sense of coherence were having increased risk for developing depression compared to parents of normal children. Mothers develop self doubt about their parental competence. It has also been observed that mothers experience more depression than fathers. Even mothers with younger children appeared to be at higher risk
for depression. Trute (1995) reported that mothers with younger children, and fathers with male children, appeared to be at higher risk for depression. Feshman and Wolf (1999) found that presence of child with developmental disorder has significant effect on family members and family functioning. Kavanugh et al (2006) found that 17.7% of mothers had depression symptoms, with increased rate among women who were poor, less educated, and single parents. Thus parents of disable children have had higher risk of developing depression than parents of normal children.

Anxiety

In previous two parts studies clearly revealed that parents show the symptoms of stress and depression and in this part studies relating to anxiety in parents of children with disability are reported. Nanda and Shukla, (1978) reported the emotional impact on the parents who had just been told that they had ‘handicap child’. It is beyond the comprehension of an individual that has never thought of it and faced such a problem. The parents start experiencing anxiety, and have the feeling of hostility or rejection towards the child. Strand, (1979) and Burden, (1980) found that mothers may develop unrealistically low expectation for their child to protect themselves from disappointment and adapt a custodial rather than parental roles. Even more common are the feeling of anxiety and uncertainty, often producing over protectiveness and overindulgence to words the child. Anxiety may focus initially on the appearance and care of the child and latter may be directed to question of future function and survival.

Thomassen, Heiberg, and Kase, (1992) studied anxiety in mothers related to feeding problem in children with heart disease (40 mothers of children with congenital heart diseases). Refusal to eat or poor appetite in nineteen children with subnormal height and weight were recorded in 11 children. Children with poor appetite had significantly lower outcome values of growth and upper- arm measurements than their disabled counterparts with no feeding problems and good appetite. Mothers of children with congenital heart diseases with feeding problem reported high level of anxiety. Tideman, (1997) examined parental anxiety, and their children age, gender, length of hospitalization and previous admission (n = 52) of 5 to 11 year old disabled children during and after hospitalization of their child. Results showed that the there was a positive relationship
between parental anxiety and the length of the child’s hospitalization whereas no relationship was found between parental anxiety and the children age, gender, and previous admission.

Patistea, Makrodimitri, and Panteli, (2000) examined parental psychological reactions, difficulties and resources during period following the diagnosis of childhood leukemia. Seventy three randomly selected mothers and fathers of children diagnosed with leukemia at least 3 months. The content analysis revealed a wide diversity of parental responses including many of the defensive mechanisms described such as shock, denial, anxiety and guilt. The most difficult factors for the parents to deal with during the initial period were the psychological upset and financial burden. Problems associated with relating to others and to the health care system were also identified. Social support and the marital relationship were the most helpful resources in managing the multifaceted problems caused by the diagnosis. Mothers and fathers of children with leukemia. Results indicated that the parents of children with leukemia reported high anxiety, guilt, shock, denial. The most difficult factors for the parents to deal with during the initial period were the psychological upset and the financial burden.

Parents of disabled children show high level of anxiety than normal children. Lenhard, Breitenbach, Ebert, Schindelhauert, Deutscher, and Henn, (2005) studied psychological benefit for diagnostic certainty for mothers of children with disabilities. In this study, mothers of non disabled children were compared with mothers of children with Down’s syndrome, and to mothers of children with a diagnostically unassigned mental retardation with regard to the level of anxiety, feeling of guilt, and emotional burden. Mothers of children with Down’s syndrome scores high level of anxiety, feeling guilt and emotional burden comparably to the mothers of nondisabled children.

Other family members also show heightened level of anxiety. Mondell, Currtis, Gold, and Hardie, (2005) studied how the family of anaphylaxis children live with their severe problems using qualitative methodology, parents from seventeen families were interviewed about their experience adjustment to a diagnosis of anaphylaxis in child. From participation responses about the nature and sources of information and social support, parenting dilemmas, family activities, anxieties, challenges, and coping
strategies. Results indicated that the parents in the adaptive process related to predictable
development and episodic events that increased anxiety and support needs. Weisbort,
Gadsow, Devincent, and Pomeray, (2005) examined anxiety in parents of children with
pervasive developmental disorder and parents of children with non pervasive
developmental disorder. Children were divided into four groups: 3-5 years old with
pervasive developmental disorder (n = 182) and without pervasive developmental
disorder (n = 135) and 6 – 12 year old with (n = 301) and without (n = 191) pervasive
developmental disorder, using the measure of early childhood Inventory-4. Results
revealed that the parents of children 6-12 year old with pervasive developmental disorder
were significantly more anxious than the non pervasive developmental disorder.

Like depression and stress the parents of disabled children have had significantly
high level of anxiety than parents of normal children. Strand et al (1979) found that
mothers may develop unrealistically low expectation for their child to protect themselves
form disappointment. Mothers of children with congenital heart diseases with feeding
that parents of children with leukemia reported high anxiety, guilt, shock and denial. The
most difficult factors for the parents to deal with during the initial period were the
psychological upset and financial burden. Parents and family members of disabled
found broad emotional disadvantage of having children with mental retardation of
unknown etiology. Mothers of children with Down syndrome score high level of anxiety
compared to mothers of nondisabled children. It has also been observed that parents of
children with pervasive developmental disorder were more anxious than non
developmental disorder (Gadsow, Devincent and Pomeray, 2005).

Family Burden

Parents of disabled or handicapped children show more burden in giving care to
their disabled child. Brust, Leonard, and Sielaff, (1992) studied maternal time and the
care of disabled children. To assess the time commitment required, one hundred thirty
three mothers of disabled children were asked to estimate by specific task categories the
extra time required to care for the children. Total average daily care time was reported as
12 hours and 6 minute, with 6 hours and 30 minutes consumed in vigilant task (watching a child who can not be left alone and providing emotional support). Multiple regression analysis showed and increase in total care giving associated with a younger child who was more physically and mentally impaired, and who required more medical treatment. The amount of time required by parents to care for their chronically ill children of necessity results in lost opportunities.

Ray, and Ritchie, (1993) examined care giving burden in twenty nine parents of chronically ill children. Measures used were clinician’s overall burden index, coping health inventory for parent, and home interviews with parents. Result indicated that parents described many dimensions of care giving burden. Increased care giving burden was associated with greater stressfulness. McDermott, Valentine, Anderson, Gallup, and Thompson, (1997) studied care giving and gratification in parents of children with mental retardation. Interviews with parents of adult children with mental retardation were conducted to identify differences in caregiver burden and gratifications, based on in-home and out-of-home placement. Parental responses indicated that caretaker of adult children with mental retardation were worried and feel responsible for their care regardless of residential placement of the adult child.

Luescher, Dede, Gitten, Fennell, and Maria, (1999) conducted a study on children with ‘Joubert syndrome’ to assess its impact on parental burden, caring and family functioning. Forty-nine primary caregivers were surveyed (49 were mothers and 6 fathers). They were administered Beck depression inventory, child developmental inventory, caregiver strain index, family assessment device and ways of coping checklist. Results indicated that caregiver burden was not related to the severity of the child’s illness but that caregiver reported significant burden. It was further reported that higher burden was associated with the use of palliative coping method, and family functioning was problematic. It was noted that in parents of children with Joubert syndrome, the degree of parental burden depend more on the parents “coping skill and on the level of family functioning and on the degree of the child’s impairment. Hartnick, Bissel, and Parsons, (2003) conducted a study to examine the impact of pediatric tracheotomy on parental care giving burden and on their health status. It was found that parental care giving burden and health status significantly correlated with illness.
Parents of disabled children show more burden than parents of normal children. Singhi, Goyal, Parsad, Singhi, and Walia, (1990) studied psychosocial problems in parents and families of disabled children. Fifty families with physically disabled children, fifty families with mentally retarded child, and fifty with a healthy child. They used standardized scale to measure social burden, marital adjustment, and maternal neuroticism. Results indicated that the families with disabled children perceived greater financial stress, frequent disruption of family routine and leisure, poor social interaction, and all ill effects on their physical and mental health as compared to families of healthy children. The overall social burden score were significantly higher in both the groups with disabled children as compared to families of healthy children. The neuroticism score was significantly higher and marital was adjustment lower in families with disabled children. Carpinello, Pirass, Pariante, Carta, and Rudas, (1995) examined psychiatric morbidity and family burden among parents of disabled children. Twenty parents of mentally retarded children and twenty parents of neurological impairments were interviewed to determine their level of psychiatric symptoms and of subjective and objective burden associated with care for their disabled child. Results indicated that parents of disabled children had significantly higher level of psychiatric symptoms and were more likely to meet criteria for depressive disorder, compared with matched parents of children without disabilities. The two groups of parents of disabled children reported considerable subjective and objective burden although there was no difference between these two groups in the level of burden. Syal, (2004) on the basis of his study reported higher level of perceived burden in parents of children with brain injury than those with normal children.

Level of burden among the parents may be dependent on the severity of the disability. Angold, Messer, Stangl, Farmer, Castello and Burns, (19980) on the basis of their study reported that about 10.7 % of the parents in general population perceived burden resulting from their children’s symptomatology. Significant predictors of perceived burden were level of child symptomatology and impairment and parental mental health problems. Parents of children with disability score higher burden than parents of children with other diagnosis. Rangel, Garralda, Jeffs, and Rose, (2005) compared family health and characteristics in parents of children with Chronic Fatigue Syndrome (CSF), in Juvenile Rheumatoid Arthritis Syndrome (JRA) and Emotional Disorders. Parents of 28
children and adolescents aged 11 to 18 years with CFS, 30 with JRA, and 27 with emotional disorders were recruited from specialty clinical settings and completed interviews and questionnaires assessing family health problems, parental mental distress, illness attitudes and family burden of illness. Results indicated that the parents of children with CFS were significantly more likely than those of children with JRA to report a history of CFS like illness, high levels of mental distress, and a tendency to experience functional impairment in responses to physical symptoms. Families of children with CFS were characterized by significantly greater emotional involvement and reported greater family burden related to child illness in comparison with families of children with JRA. CFS in childhood and adolescence is associated with higher levels of parental CFS-like illness, mental distress, emotional involvement, and family illness burden than those observed in association with JRA, a chronic pediatric physical illness.

Mugno, Ruta, D’Arrigo, and Mazzone, (2007) assessed quality of life and parental burden in parents of children with pervasive development disorder (PSD) (n= 212, mothers (115) fathers (97)), parents of children with cerebral palsy with mental retardation (n= 77, 42 mothers and 35 fathers), and parents of normal children (n= 48). Quality of life was assessed by the WHOQOL-BREF questionnaire. Results revealed that compared with parents of healthy children, parents in the PDDs group reported impairment in physical activity and social relationship and worse overall perception of their QOL and health. Score in the physical, psychological and social relationships domains were lower compared to the mentally retarded group, cerebral palsy group. Little difference was observed between mental retardation, cerebral palsy and control groups. The level of impairment of physical and psychological well being were higher in mothers than in fathers in the PDDs and CP groups, in the other groups, and across all the other domains of QOL impairment was similar. There ween no statistically significant differences in scores between the AD, HFA, AS and PDD-NOS sub-group. Parents of children with PDDs seem to display a higher burden, probably for a combination of environmental and genetic factors.

Other family members also reported burden in giving care to disabled children. Tausig, (1985) examined family burden, decision making in family of children with developmental disabilities. Results found that the younger disabled children’s, behavior
problems, were directly related to disruption of family relation and family burden. Platt (1985) opined that family is affected by the patient's illness in almost at every aspect of functioning. Effects on physical and mental health of relative and interactions with others outside the family were also important. The patient's difficult or troublesome behavior was also a major source of burden. Schene, (1990) linked objective and subjective burden experienced by the family in the socio-cultural perspective. He also postulated about the role of coping attribution style, social skills etc. for the understanding of burden of care givers. Mavrin and Boyed, (1990) posited that levels of objective burden predict level of subjective burden and other mediating factors between them may be social support coping etc. which help to reduce subjective burden. Birchwood, Smith and Cochran, (1992) suggested that care giving may result in role strain because it is added to culturally defined roles that define the relationship between family members. Burkett, (1989) assessed acceptance of the child disability, and adjustment in parents of children with cerebral palsy and spina bifida. Results found that the limited financial and psychosocial resources relate a burden on both family and society as the child continues to require high technology care.

It is clear from the review related to family burden that parents of handicapped children were prone to extra burden in giving care to a disabled child. Studies revealed an increase in care time with younger child who was more physically and mentally impaired. Parents reported many dimensions of care giving burden the most important was associated with greater stressfulness. Luescher, et al (1999) reported that higher burden was associated with Jaubert syndrome. Degree of parental burden depends on parents coping skills, level of family functioning and on degree of child's impairment. Studies revealed that families with disabled children perceived greater financial stress frequent disruption of family routine and leisure, poor social interaction and ill effects on physical and mental health as compared to families of healthy children (Singhi, Goyal, Parsad, Singhi and Walia, 1990). Level of burden among the parents was depending on severity of their disabled children. Anglod, et al (1998) reported that parents of children with disability score have higher burden than parents of children with other diagnosis. Rangel, et al (2005) reported parents of children with chronic fatigue syndrome were significantly high levels of mental distress, greater emotional involvement and reported greater family
burden related to child illness in comparison with families of children with juvenile ill
rheumatoid arthritis syndrome and emotional disorder. Other family members and care
givers reported burden in giving care to disabled children. Tousing, (1985) reported that
younger disabled individual, behavior problems are directly related to disruption of
family and family burden. Platt, (1985) found that the family was affected by the patient’s
illness in almost at every aspect of functioning.

Anxiety, Stress, Depression and Family Burden in Parents of Children with
Developmental Disabilities

Studies described above in different sections relating to the parenting stress,
depression anxiety and family burden in parents of children with developmental
disability. There are several studies which are multivariate in nature and have been
conducted with the aim of comparing the level of stress, depression, anxiety and family
burden etc in parents of children with developmental disabilities and normal children e.g.
Hasting and Brown (2002) examined parental anxiety, depression, parental self-efficacy
mental health and behavior problems of children with autism. A total of twenty mothers
and twenty fathers of children with autism were assessed. Results revealed that self-efficacy
mediated the effect of child behavior problems on mothers’ anxiety and depression but
not in case of fathers. Ozlen, Aktindog, Akein, Iscon, Sait, Acan, Savas, Kaksal, Metin,
Leman and Egg, (2006) assessed depression and anxiety in mothers of children with
cerebral palsy. It was also intended to examine the relationship of anxiety and depression
with functional limitations. Fifty two mothers of children with cerebral palsy and sixty
seven mothers having normal healthy children were included in the sample. Pediatric
functional classification systems were administered along with Beck depression inventory
and State- Trait anxiety inventory. Results revealed that mothers of children with cerebral
palsy scored higher on anxiety and depression than mothers of normal children. The
functional disability level in children was strongly related to psychological distress in
mothers. It was also found that depression was negatively correlated with functional
independence and positively with GMFCS scores in the patient group. Cooper, Ketona,
Orrel and Livinston (2008) anxiety depression and coping strategies in caregivers of
people with dementia. In addition to anxiety and depression scales measures for assessing
burden and coping strategies were also administered. It was found that caregivers of
people with dementia reported fewer emotion focused strategies were found to have mediating relationship with caregivers’ anxiety and burden. Kim (1994) reported that care giving has been found that to be association with a range of negative experiences including emotional crises, physical discomfort, guilt feelings, anxiety, depression, and feeling of isolation, hopelessness and financial difficulties.

Studies have also revealed care giving of children with developmental disabilities though associated with increased parenting stress, anxiety, guilt, hopelessness, depression, burden etc (as studies cited above indicate) yet there are evidences that it (care giving) has differential impact on mothers and fathers. In are study Hastings (2003) examined the stress, anxiety and depression on parents of children with autism. It was found that mothers and fathers did not differ in their level of stress and depression but mothers scored significantly higher on anxiety than fathers. Hastings, Koushaff, Ward, Dele, Epinose, Brown and Remington, (2005) examined the stress and positive perception in mothers and fathers of preschool children with autism. It was found that though mothers scored higher on depression yet they have had more positive perceptions about the child than fathers. Regression analysis revealed that parental stress and positive perception were predicated by maternal depression. Children’s behavioral problems and partners’ depression are emerged as significant predictors of maternal stress. Not only thus the sex of the child have also been reported to be differentially related to parental stress, anxiety and depression e.g. Gath (1997), Breslou, and Prabucki,(1981,1982) reported that of the handicapped child is female than the stress and family burden was more in parents than in case of male child. Though, the handicapped ness of the child is associated with increased level of parenting stress, burden etc yet there are several factors with mediate and moderate the stress, anxiety, depression and other associated problems in parents. For example, Zhah (2005) explored depression and subjective burden among current caregivers. Findings suggested that family and individual economics conditions were related to caregiver depression.

The review of literature given above clearly highlighted that parenting is a stressful job and parenting of a disabled child is bound to add in parenting stress. When the parents learn that the child is not that ‘dream child’ whom they expected, it acts as a shock, dismay and disbelief. They become worried about their and their child’s future.
The feeling of helplessness and hopelessness may result in frustration and depression. The additional care giving responsibilities may force the parents to devote more time in care giving and they may have to readjust their job timings and types of job and thus may add to the financial burden on the family. Considering the important of such studies as the number of such parents is significantly high and further such studies may add to the understanding the stress, anxiety, depression etc. in parents of disabled children and the associated factors. The present study was planned to assess and compare the parenting stress, depression, anxiety and burden in parents of children with developmental disabilities.

**Training Program**

It has been well recognized that parents are the primary caregivers and success of the program related to the training for management and rehabilitation of the children with developmental disabilities depends largely on the participation and involvement of the parents. The parenting stress, anxiety, depression or psychological health of the parents is also adversely affected as results of the extra demands of care of the child with developmental disability. Training program focusing on these objectives have been initiated and the results are mixed, in the sense that though majority of the studies report positive effect of training program yet the type of training and the timing have had significant role in influencing the outcomes of intervention.

Feldman, Mannella and Vani, (1983) examined behavioral parent training program for single mothers of physically handicapped children. Single mothers of four children with congenital physical disorders participated in a-week long parent training program. The program was developed to instruct them in the systematic utilization of behavioral techniques in order to enable them to teach their children self-help skill and reduce behavioral problems. The mothers successfully taught their children seven self-help skills, with average self-help skill performance increasing from eighteen percent correct during base line to ninety nine percent correct during a five month follow up period. The mothers provided each other social support and practical suggestions related to psychological stressors facing single parents of handicapped children. Findings suggested the potential of behavioral parent training techniques in facilitating functional
independence in physically handicapped children, as well as providing single parents with increased feelings of being able to systematically contribute to their children’s physical and psychological development. In another study Feldman, Case, and Sparks, (1993) examined the effects of parent training program consisting of verbal instruction, modeling, and feedback on the affection and responsibility of three developmentally handicapped mothers towards their children. Results indicated that the training package increased maternal physical affection, praise, and imitation of child vocalizations. Parenting skills increased to level found in comparison of mothers of non handicapped children. Second, the training package was more effective than verbal instruction alone, the latter being the predominant method presently used by social service workers. Third most maternal gains were maintained over a three to eighteen month follow-up period, although one mother required a reinforced maintenance procedure. Forth, instructing mothers to generalize served to increase the generalization of newly acquired skills from play times (the training context) to child-care tasks (e.g. diapering, feeding). Fifth teaching the parents to imitate child vocalizations was related to gains in both the frequency and quality of verbal behavior of the two language delayed children. All over results show that behavioral instructions can improve important child-rearing skills of mothers of developmentally handicapped children. Landem, and Kashima, (1991) examined the effect of parent training on families of children with mental retardation and found that parents reported high satisfaction with program and though small but statistically significant decrease in symptoms of depression, family stress and parent and family problems was observed. Gross, Fogg, and Tucker, (1995) examined effectiveness of a parent training program for promoting parent-child relationships among families of 2-year-old children (46 mothers and fathers). Parents completed measures of parenting self-efficacy, depression, stress and perception of their toddlers’ behavior. Results showed that the parent training program led to a significant increase in maternal self-efficacy, decrease in maternal stress, and improvement in the quality of mothers-toddler interaction. Pelchat, Bisson, Ricard, Perreault, and Bouchard, (1999) assessed the longitudinal effects of an original early intervention program on the adaptation of parents of children with disability (Down syndrome, Clef lip palate). Variations in the effects of the program according to the time of measurement, the type of disability and parent’s gender were also examined. The results showed a better adaptation among parents who
participated in the intervention program compared to those who did not participate in the program. These parents had lower levels of parenting stress, they had more positive perceptions and attitude concerning their child's disability and their parental situation, they were more confident in their own resources and the help received from others, they had lower levels of emotional distress, anxiety and depression and they perceived more emotional support from their spouse. In general, these gains were maintained throughout the year when the children were between six and eighteen months of age, these were relatively similar for parents of children with Down syndrome and parents of children with Cleft Lip Palate. Barlow, and Coren, (2001) did a review of studies related to whether group-based parenting training programs are effective in improving maternal psychological health including anxiety, depression, and self esteem. A total of twenty three studies were included in the original review which was increased to 26 at the first update. Of these 20 provided sufficient data to calculate effect sizes. The twenty studies provided a total of 64 assessments of outcome on a range of aspects of psychosocial functioning including depression, anxiety, stress, self-esteem, social competence, social support, guilt, mood, automatic thoughts, dyadic adjustment, psychiatric morbidity, irrationality, anger and aggression, mood, attitude, personality, and beliefs. Data sufficient to combine in a meta-analysis existed for only five outcomes (depression; anxiety/stress; self-esteem; social support, and marital adjustment, relationship with spouse). The results of the meta-analyses show statistically significant results favoring the intervention group for depression; anxiety/stress; self-esteem; and relationship with spouse/ marital adjustment. The meta-analyses of the social support data showed no evidence of effectiveness. Hasting, and Beck, (2004) in a study reviewed studies relating to stress intervention for parents of children with intellectual disabilities. They suggested that standard service models (respite care, case management) may probably help to reduce parental stress. The strongest evidence was for cognitive behavioral group interventions, especially for the reduction of stress in mothers. Some data also indicated the potential value of parent-led support networks. It was also suggested that more research and clinical development are needed to establish a firmer evidence base for stress interventions with parents of children with intellectual disabilities.
Dellve, Samuelsson, Tallborn, Fsth, and Hallberg, (2006) assessed stress, well being and supportive resources experienced by mothers and fathers of children with rare disabilities (n=136 mother and 108 fathers) and how these variables were affected by an intensive family competence intervention. They used prospective design with baseline data and two follow-ups (at 6 and 12 months) after an intervention. Intervention aimed at empowering parents in managing their child’s disability. Parents from all parts of Sweden visiting a national centre for families of children with rare disabilities. Instruments of parental stress, social support, self-rated health, optimism and life satisfaction and perceived physical or psychological strain were used. Stratified analyses were carried out for mother and father, and related to parental demands: single mother, full time employment, participation in a parent association, children’s age and type of disability. They found that high level of parental stress, physical and emotional strain among mothers especially among single mothers. Fathers showed high stress related to incompetence, which decreased the after the intervention. Decreased strain was found among full time working mothers and fathers after the intervention. Parents’ perceived knowledge and active coping and perceived social support were increased at follow up. Factors related to parents overall life satisfaction changed after the intervention, from being more related to internal demands (perceived strain, incompetence and social isolation) to other condition, such as problems related to spouse, paid work and social network. Parents, especially fathers and full time working parents may benefits from an intensive family competence program.

Singer, Ethridege, and Aldana, (2007) examined primary and secondary effects of parenting and stress management interventions for parents of children with developmental disabilities. The study was aimed at assessing the effectiveness of behavioral training, coping skills education, cognitive behavior training and multicomponent interventions in reducing and managing the stress in parents of children with developmental disabilities. It was found that multicomponent intervention was more effective compared to both behavioral training and cognitive behavioral training alone. McIntyre, (2008) examined parent training for young children with developmental disabilities. A randomized controlled trial was used to evaluate parent training intervention for caregivers with preschool-age children with developmental disabilities. The twenty families in the
experimental group received usual care plus the twelve weeks incredible parent training program with developmental delay modifications. Families in the control group (n=23) received usual care, including early childhood education and related service. Results suggested that this parent training intervention was superior to usual care for young children with developmental delay or disabilities in reducing negative parent child interaction and child behavior problems. Participants in the experimental group indicated high satisfaction with treatment program.

The studies relating to the training programs for the parents of children with developmental disabilities cited in the above section clearly reveal the benefits of such programs. Such programs help parents in facilitating functional independence in the handicapped children as well as in enhancing the perception of competence in them (Feldman, 1983). Increase in maternal physical affection and praise in parents (mothers) was observed in a study conducted by Feldman, et al, (1989). Not only this the parental training programs have been reported to significantly increase child rearing skills in mothers (Feldman, et al 1989). Parental training has also been reported to decrease stress, anxiety and depression (Landem and Kashima, 1991, Barlow and Coren, 2001; Hasting and Beck, 2004) in parents of children with developmental disabilities. Gross, Fogg and Tucker (1995) have reported that parental training improved self-efficacy and quality of mother’s toddler interaction and decrease in maternal stress in parents (fathers and mothers) of children as young as two year old. The review clearly highlight the importance of training programs for parents of children with disability, however there are variations in the effectiveness of different type of programs. The review clearly indicates that there is a dearth of studies where in a model or training program developed comprehensively and given to parents of children with different type of disabilities simultaneously. Therefore one of the objectives of the study was to examine the effectiveness of parental training program and to compare its effectiveness in parents of children of different type of disabilities.

Problem, Objectives and Hypotheses

Parents of children with disability or chronic health problems suffer a great deal from stress, anxiety, depression, and family burden. All parents of children with
disabilities must cope with grief, worries about the future of their children. Parents of children with disability face some additional stress, first, they often live with uncertainty about what caused their child’s disability, as well as possible guilt over whether they did or failed to do something that led to their child’s disability (Anderson, 2008). Parents of children with developmental delays are at risk for increased level of psychological problems such as depression, anxiety, distress, guilt, poor social and marital adjustment, less satisfaction with life, poor parent child- interaction and hopelessness (Johnston, Galdbrg, Morris and Livenson, 2001; Murphy, Bruno, Abbeduto, Giles, Richmond and Orsmond, 2004). Parents of such children face challenges in every day living to cope with different stressful events (Hastings, 2005). They have to face more financial strain to provide necessary medical expenses, have to pay more attention to the child and parental demands increase which in turn enhance psychological strain and burden on parents (Gathe, 1974). Mothers continue to carry the disproportionate burden in raising a disabled child, therapy being more prone to experience stress, related to child care (Miller, Gorden, and Daniele, 1998) and often demonstrate depression, anxiety, health concerns, social isolation and self esteem (Schilling, and Schinke, 1984). Therefore considering the relative paucity and relevance of such studies, present study was designed to assess parenting stress, anxiety, depression and family burden in parents of children with developmental disabilities and normal children. Further it was also intended to examine the impact of parental training on parenting stress, anxiety, depression, and family burden in parents of children with developmental disabilities. The study was entitled as “Impact of parental training on stress, anxiety, depression, and family burden in parents of children with developmental disabilities.

Objectives

The following were the objectives of the present study:

1. To assess and compare the parenting stress, anxiety, depression, and family burden in parents of children with developmental disabilities and normal children.

2. To compare the parenting stress, depression, anxiety, and family burden in mothers and fathers of children with developmental disabilities and normal children.
3. To assess the impact of parental training on parenting stress, anxiety, depression, and family burden in parents of children with developmental disabilities.

**Hypotheses**

The following were the hypotheses of the study:

1. Parents of children with developmental disabilities would score higher than parents of normal children on parenting stress, anxiety, depression, and family burden.

2. Mothers of children with developmental disabilities would score higher than fathers of children with developmental disabilities.

3. Parental training programs would result in decrease in parenting stress, anxiety, depression, and family burden in parents of children with developmental disabilities.