CHAPTER II

REVIEW OF LITERATURE

Review of literature is an important step in the development of research project and it helps in understanding and developing an insight into the problem. It also helps in developing a broad conceptual context in which the problem fits and helps in building methodology for data collection and analysis.

After the problem statement and research subject is selected, the next important step is to search for related researches. This chapter deals with review of literature i.e. the related researches concerned with problem statement.

The study of related literature is useful for the subject concern, helpful for collection of information related to problem statement, it avoid duplication of work, it is helpful to learn about various techniques of research and it also helps in utilizations of the research findings. The literature review is also useful to learn about effective approaches to solve the problems.

In the present chapter, researcher has attempted to review the literature that is relevant to the present study e.g. literature about the impact of life skill training on the adjustment and academic achievement of ADHD and CD children. This review includes
Life skill training, Adjustment, Academic achievement, Adolescent with ADHD and CD different issues like knowledge about ADHD and CD children, their adjustment and academic achievement and impact of life skill training.

The review has been classified in the following areas.

1. The prevalence of attention deficit hyperactivity disorder (ADHD) and conduct disorder in children.
2. Sign and symptoms of attention deficit hyperactivity disorder (ADHD) and conduct disorder.
3. Extent of adjustment difficulties in children with attention deficit hyperactivity disorder (ADHD) and conduct disorder.
4. Extent of academic deficit in children with attention deficit hyperactivity disorder (ADHD) and conduct disorder.
5. Various interventions used for the treatment of children with ADHD and conduct disorder.
6. Importance and effectiveness of life skill training.
7. Importance of storytelling as life skill training.

Review literature of present study

1. Prevalence studies for ADHD and conduct disorder

    Prevalence of psychiatric morbidity is increasing in children and adolescents. Rakesh, Shashikant, Nilesh, and Tushar (2013) studied the prevalence of common psychiatric disorders in 257 children aged 5 to 14 years in a health post area of an urban slum. The prevalence of psychiatric morbidity was found to be 14.8%. Non-organic enuresis, attention deficit hyperactivity disorder, conduct disorder and mental retardation were identified as the common mental health problems. Srinath et al. (2005) determined
Life skill training, Adjustment, Academic achievement, Adolescent with ADHD and CD the prevalence rates of child and adolescent psychiatric disorders among children aged 0-16 years, indicated a prevalence rate of 12.5%. Only 37.5% of the families perceived that their children had any problem.

Out of the psychiatric disorders in children and adolescent, prevalence of ADHD and conduct disorder is more. Mukhopadhyay, Misra, Mitra, and Niyogi (2003) identified the prevalence of the ADHD disorder in the age group of 5-12 years in India. The results revealed that out of the 238 children referred, 37 were diagnosed as ADHD. 64.9% of the referrals were from pediatricians. The prevalence of ADHD in pediatric clinic was 15.5%, the inattention subtype was predominant. The mean age of boys and girls with ADHD was 8.49 years and 6.82 years respectively. One other recent study by Venkatesh, Ravikumar, Andal, and Virudhagirinathan (2012), revealed that prevalence rate of ADHD in India was 20.3% and the mean age was 5.7 years. The prevalence of attention deficit hyperactivity disorder was found to be 11.32% in primary school children, aged between 6 to 11 years in Coimbatore district. It was found highest in the age group 9 and 10 years (Venkata & Panicker, 2013). Suvarna and Kamath (2009) conducted study on preschool age children between 4-6 years in 40 kindergartens in 6 localities in south west Mumbai and revealed the prevalence of 12.2%. Sarkhel, Sinha, Arora, and Sarkar (2006) revealed that childhood onset ADHD was found in 73% and adolescent onset in 27% of children in Kanke district of Jharkhand.

In countries, other than India researchers have found similar prevalence rates. Jamal, Attia, Amr, and Hassan (2008) revealed the overall prevalence of combined ADHD was 16.4%, with a prevalence of 12.4% for hyperactivity and impulsivity and 16.3% for inattention disorders among 1287 male primary school children aged 6-13
Life skill training, Adjustment, Academic achievement, Adolescent with ADHD and CD years in 67 government and 10 private primary schools in Saudi Arabia. Paria, Ebrahim, Fatemeh, Iraj, and Arash (2007) reported that 133 children (12.3%) were diagnosed to have ADHD out of 553 males and 530 females aged between 5-6 years preschool children in 155 kindergartens in Iran. Vasconcelos, Werner, Malheriros, Lima, Santos, and Barbosa (2009) concluded that ADHD prevalence in a sample of 403 school-aged children from a public elementary school was 17.1%. Median age was 9 years.

Sarkhel et al. (2006) found that prevalence of conduct disorder and its DSM-IV subtypes was 4.58% in 4 schools of Kanke block (schools of Jharkhand state) among 240 students of classes Vth to Xth. Mild conduct disorder was found in 36% of children, moderate in 64% of children and severe conduct disorder was found in none. The prevalence of conduct disorder was found to be 13.7%. The result of study of Kilic and Sener (2005) showed the prevalence of ADHD was 69.6% and prevalence of comorbid ADHD with oppositional defiant disorder and CD was 30.4%. Pineda and Puerta (2001) estimated the prevalence of conduct disorder (CD) in 190 Colombian male adolescents, 12 to 16 year-old.

Prevalence rates of ADHD vary according to perceptions of teachers and parents. Soma, Nakamura, Oyama, Tsuchiya, and Yamamoto (2009), determined the prevalence of ADHD symptoms in Japanese preschool children based on evaluations performed by parents or teachers. The study concluded that compared to teachers, parents consider their children’s symptoms much more serious. The overall prevalence of ADHD symptoms was 31.1% according to the parent survey and 4.3% according to the teacher survey, with a prevalence ratio of 7.2. Thus, parental evaluation of ADHD symptoms using DSM-IV criteria may be inappropriate for ADHD screening. ADHD adolescents perceived
Life skill training, Adjustment, Academic achievement, Adolescent with ADHD and CD themselves as better adjusted, whereas low rating was given by their parents and teachers in terms of adjustment.

The review shows that, among all psychiatric disorders in childhood, ADHD and conduct disorder is affecting majority of children from 0-16 years of age. Thus, the present study was targeted at these children of ADHD and conduct disorder to save resources of our country.

Gender differences in the prevalence of ADHD and CD in children

Venkata and Panicker (2013) showed that prevalence of ADHD was higher among the males (66.7%) as compared to that of females (33.3%). Another study by Venkatesh et al. (2012), revealed that male: female ratio for the prevalence of ADHD was 6.3:1. Vasconcelos et al. (2009) concluded that among children diagnosed with ADHD, 65.2% were boys and 34.8% were girls (ratio 1.9:1). Mukhopadhyay et al. (2003) identified the male to female ratio was 6.4:1 in ADHD disorder in the age group of 5-12 years. Boys were more commonly affected by ADHD than girls and the male: female ratio is approximately 3:1 to 4:1 (Benjasuwantep et al., 2002). The study of Soma et al. (2009) indicated that variables significantly associated with the presence of ADHD symptoms were gender, age and school type.

Jamal et al. (2008) determined the prevalence of ADHD among 1287 male primary school children aged 6-13 years in 67 government and 10 private primary schools in Saudi Arabia and showed that the majority of the boys suffering from ADHD were from government schools (83.0%), were of age between 6 to 9 years (40.5%) and of Saudi nationality (80.7%). The prevalence of conduct disorder was more common in boys according to the studies of Sarkhel et al. (2006).
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The review literature shows that ADHD and conduct disorder affect both males and females. These disorders are more prevalent in males than females. Hence this study focused on both males and females.

Socioeconomic status in the prevalence of ADHD and CD

Venkata and Panicker (2013) studied the distribution of ADHD among different socioeconomic status. The result of the study revealed that prevalence of ADHD was higher in lower socioeconomic group (16.33%) as compared to middle socioeconomic status group (6.84%). Similar results were shown by Venkatesh et al. (2012). The study revealed that a majority of the children with ADHD and CD belonged to middle and lower socio-economic class. According to another study by Mukhopadhyay et al. (2003), majority of patients were from middle socio-economic status belonging to Hindu families. The findings of the study of Srinath et al. (2005), is contradictory which stated that prevalence of ADHD was not significantly associated with urban and middle class, slum and rural areas.

According to Pineda and Puerta (2001), there was no significant difference found between socioeconomic strata for diagnosis of conduct disorder. The prevalence of conduct disorder in urban (4.25%) is almost same as in rural area (4.75%) as stated in the study of Anita et al. (2003).

The review literature shows that few researchers explained that ADHD is more prevalent in lower socioeconomic status, whereas others found that there is no association of socioeconomic status with ADHD and conduct disorder.

2. Sign and symptoms and co-morbidities associated with ADHD and CD
Venkata and Panicker (2013) identified various co-morbid conditions associated with ADHD. The common sign and symptoms found were poor academic performance, difficulty in reading, writing difficulties, behavioral problems, and poor social behavior. The academic performance was found poor in 33.3% of children, reading difficulty was present in 15.3% of children, and writing difficulty was present in 15% of children in that study.

Coghill et al. (2008) highlighted the breadth of problems experienced by ADHD children and the impact throughout the day on both activities and relationships. Parents of ADHD children reported that ADHD children consistently displayed more demanding, loud, disruptive, disordered, and impulsive behavior, and significantly more parents reported that ADHD children experienced challenges throughout the day starting from morning till the end of the day. Although the difference was not apparent, in children with ADHD receiving 12-hour stimulant medication, parents reported that children experienced fewer challenges during early afternoon and late afternoon and early evening than children receiving 6-8 hour stimulant medication; by late evening and bedtime. ADHD was reported to impact most significantly on activities of daily living such as homework, routines of family, and playing with other children. This study also stated that all relationships between ADHD children and others were negatively affected, particularly between parent and child (72% of respondents). ADHD children were also more prone to experience personal injury.

Researches indicated a pattern of co-morbidities in Indian children & adolescents with ADHD. Palaniappan et al. (2013), conducted a study on sixty children aged between 6 to 16 years diagnosed as ADHD, identified from a tertiary care centre during a period...
Life skill training, Adjustment, Academic achievement, Adolescent with ADHD and CD of 6 months and found 55% of identified children with ADHD had co-morbidities. The result showed that oppositional defiant disorder (25%) was the most highly prevalent lifetime disorder, followed by conduct disorder (13.3%), bipolar affective disorder (13.3%), major depressive disorder (10%), communication disorder (10%), substance use disorder (8.4%), obsessive compulsive disorder (8.3%), tic disorder (5.4%), learning disorder (5%), elimination disorder (3.3%), social phobia (1.7%) and separation anxiety disorder (1.7%). The comparison of children with and without ADHD showed children with co-morbidities had poorer global functioning in contrast to children without co-morbidities.

Similar results by Venkatesh et al. (2012) revealed that ADHD with co-morbidities were the most common type. At least one co-morbid diagnosis was seen in 86.3% of children and learning disability was the most common co-morbid diagnosis. The mean IQ was found to be 90. Mukhopadhyay et al. (2003) found that 27.0% of children with ADHD had developmental problems. Oppositional defiant disorder was the most prevalent while depression was the least prevalent co-morbid problem. ADHD children develop co-morbid ODD and CD (Garg & Arun, 2013).

Study by Russell, Arthur, David, and Kenneth (1991) shared the similar findings and indicated that majority of ADHD adolescents had oppositional defiant disorder (68%) and conduct disorder (39%). Busch et al. (2002) revealed that the number, type, clusters and age at onset of ADHD symptoms were nearly identical for youths at pediatric and psychiatric ascertainment sources. Children with ADHD were significantly more likely to have a higher prevalence of mood disorders, other disruptive behavior, anxiety disorders and substance use disorders.
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Review indicated that 5.3% of children belonging to the age group of 4-16 years with psychiatric disorder have significant impairment. The prevalence rate of disabilities in 4-16 year old children was 12.0%. Enuresis, specific phobia, hyperkinetic disorders, stuttering and oppositional defiant disorder were the most frequent diagnoses (Srinath et al., 2005).

Sarkhel et al. (2006) assessed the common symptoms in children with conduct disorder and observed that lying, bullying and cruelty to animals were most frequent symptoms. Co-morbidities were also associated with conduct disorder, with most common being ADHD, found in 36% of children (hyperactive impulsive being predominant). Pineda and Puerta (2001) identified the symptoms of CD in Colombian male 12 to 16 year-old adolescents. The most prevalent CD symptoms were staying out at night before 13 year-old (10.5%), having been cruel to animals (8.4%), being cruel to people was found in 7.4%, having broken into someone else’s house or car was the feature found in 7.3% of children and using weapon or other objects that can cause serious physical harm to others was found in 6.9% of children.

Biederman et al. (2008) determined the long-term scope and impact of the co-morbidity with oppositional defiant disorder (ODD) and conduct disorder (CD). It was found conduct disorder was associated with significantly increased risk for psychoactive substance use disorders, smoking and psychiatric disorder like bipolar disorder. ODD was significantly associated with major depression in the interval between the 4th year and the 10th year follow-up. Oppositional defiant disorder significantly increased the risk for CD and antisocial personality disorder. ADHD in adolescent with comorbid CD was
Life skill training, Adjustment, Academic achievement, Adolescent with ADHD and CD found to be the strongest predictor of later alcohol dependence. The CD children were six times more likely to develop alcohol dependence (Joachim et al., 2009).

The review suggested that the children suffering from ADHD and conduct disorder have wide variety of symptoms at individual level, home level, school level and are at increased risk of various co-morbid conditions. They lack various life skills of handling emotions, decision making, communication skill and interpersonal skills. Thus the present study is aimed at teaching life skills to these children.

Family characteristics associated with ADHD and CD

Jamal et al. (2008) reported that a variety of family factors are significantly associated with the development of ADHD. Physical abuse and parental mental disorder were significantly associated with psychiatric disorders in children (Srinath et al., 2005). The prevalence of each subtype of ADHD was higher if the child was the 6th one in the family. The prevalence of hyperactivity impulsivity disorder was significantly higher among children living with single parents than those living with both parents. Inattention was significantly higher among those who had bottle feeding than breastfeeding. The result of Venkatesh et al. (2012), is contradictory, he found that children with attention deficit hyperactivity disorder were first-born in the family. Most children were brought up in nuclear families. History of delayed speech and language development was commonly seen in these children. According to Rakesh et al. (2013), factors like nuclear family, separated parents or parents not living together, large family size and having family history of psychiatric disorder were significantly associated with psychiatric morbidity in children. Maternal depression and paternal drinking problems were high in the ADHD and ODD/CD group of children (Kilic & Sener, 2005).
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Rousseau, Hassan, Measham, and Lashley (2008) supported the role of psychosocial stressors in the emergence of conduct disorder. This study also reported the role of ‘perceived racism’ and ‘low collective self-esteem’ in problem behaviors of adolescents with conduct disorder. Kathleen, Stefanie, Karin, Chien, Wei, and William (2008) reported that some family characteristics like parental antisociality and parenting behaviors such as levels of family activities and negative discipline were typical characteristic of girls with conduct disorder.

The review literature suggested lot of family factors are associated with ADHD and conduct disorder.

3. Adjustment of ADHD and CD children

Home adjustment

Garg and Arun (2013) revealed that adolescents with behavioral disorders like persistent ADHD and conduct disorders had significant problem with family adjustment, problems with parents and maladjustment in the family environment. Another researchers, Smith, Brown, Bunke, Christophersen, and Blount (2002) found that ADHD behaviors are significant predictors of family quarrel, conflict in the relationship between mother and child with ADHD, differences in the relationship between mother and younger sibling and conflict in the relationship between the child with ADHD and the younger sibling. These researchers concluded that, more the behavior problems in ADHD child, more will be family conflict, thus family adjustment of these children will be poor.

Klassen, Miller, and Fine (2004) reported that the problems of children with ADHD had a significant impact on the parents’ emotional health and parents’ time to meet their own needs and they causes disturbance in family activities and family
Life skill training, Adjustment, Academic achievement, Adolescent with ADHD and CD cohesion. Significant impairments in family functioning were observed in the study of Busch et al. (2002). Parents’ survey by Coghill et al. (2008) highlighted all relationships between ADHD children and others were negatively affected, particularly between parent and child (72% of respondents).

Researchers have indicated that children with conduct disorder had significant family distress, thus affecting home adjustment (Scott, 2008). Children with conduct disorder have tremendous impact on the home environment and home adjustment. This disorder also affects physical and emotional welfare of siblings and others sharing the household. (Martin, Encyclopedia of children’s health)

Literature highlighted that the children with ADHD and conduct disorder have significant problem of home adjustment. Thus, the present study was aimed at exploring the home adjustment of these children and develops a strategy for its improvement.

Social adjustment

These children with ADHD and conduct disorder have significant peer problem, problems in social behavior, interpersonal deficits, maladjustment with society (Garg & Arun, 2013). Russell et al. (1991) showed similar findings that these children have impairment in area of social competence and behavioral problems. Peer rejection and social immaturity is another problem found in the adolescents with ADHD in the study of Erika, Sandra, May, Jeff, and Susan (2009). Further, social immaturity was associated with a greater number of hyperactive symptoms while high peer rejection was associated with increased aggression and lower IQ in the ADHD children.

Nijmeijer et al. (2008) critically reviewed research on social dys-functioning in children with ADHD and co-morbid conduct disorder. The findings highlighted that
Life skill training, Adjustment, Academic achievement, Adolescent with ADHD and CD children with ADHD, frequently had conflicts with adults and friends, low esteem and lack of interpersonal relationships. Oppositional defiant or conduct disorder as comorbidities with ADHD, aggravate these impairments. The presence of pervasive developmental disorders (PDD) in children with ADHD also posed risk for impairment in social behavior. Social dysfunctioning increases their risk of psychopathology in later years. Zavadenko, Lebedeva, Schasnaia, Zlobina, and Semenova (2009) showed that children with ADHD had significant disturbance in behavior and interactions problem with peers.

Studies have shown that both girls and boys with behavior disorders like ADHD and conduct disorder experience significant deficit in interpersonal functioning and evidenced a similar degree of social impairment (Ross et al., 2001). Both Attention deficit hyperactivity disorder and associated comorbid disorders were significantly associated with specific domains of social dysfunction in boys and girls with ADHD. Prahbhjot and Singhi (2001) assessed the psychosocial adjustment of children with attention deficit hyperactivity disorder (ADHD) and indicated ADHD children had significantly lower self-esteem, poorer adjustment and higher psychopathology. 29% of children with ADHD had behavioral problems and 43% had peer problems which led to poor social adjustment. Prahbhjot and Singhi (2000) revealed the similar results that children with ADHD have several psychosocial adjustment problems.

Researchers have indicated that significant social impairments are associated with children with conduct disorder, thus affecting social adjustment and in interpersonal relationship (Busch et al., 2002; Scott, 2008). Smith, Brown, Bunke, Christophersen, and Blount (2002) reported that the psychosocial adjustment and peer competence of siblings
Life skill training, Adjustment, Academic achievement, Adolescent with ADHD and CD of children with oppositional defiant disorder and attention deficit hyperactivity disorder was poor. Significantly low psychosocial health related quality of life was found by Klassen et al. (2004), in children with oppositional defiant disorder or conduct disorder as compared to children with no co morbidity.

Review literature suggested that children with ADHD and conduct disorder experience significant social impairment and problems in social adjustment. Deficit interpersonal skills and communication skills are shown as contributing factors for social impairment.

Emotional adjustment

Zavadenko et al. (2009) indicated increased disturbances in emotional intensity in children with ADHD and CD. Russell et al. (1991) found that children with ADHD had problems in emotional adjustment. Parents of children with ADHD had reported problems in terms of emotional behavioral role function, behavior problem, mental health issues and self-esteem (Klassen et al., 2004).

According to the study of Harty, Miller, Newcorn, and Halperin (2009), adolescents who were diagnosed with both ADHD and CD in childhood reported increase levels of physical aggression whereas adolescents diagnosed with both ADHD and ODD had elevated levels of verbal aggression as compared to control group of adolescents. Children with both co-morbid disorders (ODD and CD) experienced significantly greater amounts of aggression, but not hostility. Adolescents diagnosed with ADHD and comorbid disruptive behavior disorders during childhood reported elevated levels of aggression which was presents along with increased emotionality in the form of anger but less hostility. Thus, emotional dys-regulation was shown as an important component of
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ADHD in addition to inattention, hyperactivity and impulsivity, particularly in adolescence. Decreasing anger, hostility, handling emotions are the major ingredient of life skills. Thus, review showed that life skills would be appropriate.

These areas of adjustment problem i.e. social adjustment, health adjustment and emotional adjustment are linked with deficit in life skills. Patil, Saraswathil, and Padakannaya (2009) concluded that children having reading and writing difficulty had poor scores on general and academic aspects of self-esteem and also less scores on peers and teachers related areas of adjustment. Hussain, Kumar, and Husain (2008) indicated inverse and significant relationships between academic stress and adjustment. Higher the academic stress, poorer is the adjustment. Life skills like handling emotions also effects adjustment. This is also shown by Damle and Amar (2013), who found that life skill training improved students level of emotional intelligence which further improved overall adjustment level of students. Thus training in the skill of handling emotions may improve overall adjustment of children.

4. Academic performance of ADHD and CD children

Garg and Arun (2013) revealed that adolescents with long term ADHD had shown impairment in scores related to academic performance, school performance and impairment in relationship with teachers and peer group. They had significant poor academic performance. Similar results regarding impairment in school performance is shown by Russell et al. (1991). Children with behavior disorder had very poor performances in verbal learning and vigilance and greater difficulties for a math task. Hinshaw and Stephen (1992) showed that inattention and hyperactivity are stronger correlates of academic problems than aggression. However, during adolescence,
Life skill training, Adjustment, Academic achievement, Adolescent with ADHD and CD antisocial behavior and delinquency were clearly associated with underachievement. Other factors associated were low socioeconomic status, family adversity, sub average IQ, language deficits and neuro-developmental delay. Prahhjot and Singhi (2001) assessed the psychosocial adjustment of children with attention deficit hyperactivity disorder (ADHD) and compared the adjustment with a similar group of healthy children. Results indicated that as compared to controls, ADHD children had significantly lower self-esteem, poorer adjustment and higher psychopathology. These children have higher rates of failures and grade retention, very few reaches for high school graduation and post-secondary education. Approximately 60% of the children suffering with ADHD were reported to have academic difficulties which were measured in terms of failing in one or more school children, inability to complete with school homework or getting just pass marks. Along with this problem, 20% of children with ADHD had to repeated classes. Types of ADHD did not differ on the proportion of academic difficulties and a higher proportion (43%) of these children had repeated grades (Prahbhjot & Singhi, 2000).

Daley and Birchwood (2010) reviewed the relationship between attention deficit hyperactivity disorder (ADHD) and academic performance and showed that the symptoms of ADHD and underlying cognitive deficits are at the root of academic impairment not co-morbid conduct problems. Galera et al. (2009) revealed that hyperactivity inattention symptoms autonomously predicted grade retention, failure to graduate from secondary school, obtaining a lower-level diploma and lower academic performance. The results of the study remained significantly associated even after accounting for school difficulties at baseline.
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Other researchers have found that childhood symptoms of conduct disorder were also significantly associated with negative academic outcomes, even after accounting for adjustment variables. Significant impairments were observed in intellectual abilities, academics in children with ADHD and conduct disorder (Busch et al., 2002). Stormshak et al. (1998) examined the factors associated with school adjustment problems and interpreted that hyperactive, inattentive behaviors, conduct problems and oppositional behavior at home were associated. Similar finding were shared by Scott (2008), that children with conduct disorder have significant educational impairment.

5. Intervention programmes

There are lot of interventional programs for children to improve academic problems and adjustment problems. Treatment for ADHD and CD, includes parent skills training combined with training of the child to improve his or her relationships with peers, teachers and academic performance. The suitable use of medications and combination of child and parent education and support, as well as individual, group, family, residential and inpatient treatment found to be beneficial for patients with CD and ADHD children (Turgay, 2005).

Greydanus (2005) reported that the three major classes of drugs used for treatment of ADHD include stimulant medications, non-stimulants and antidepressant medications. Stimulant medication is one of the extensively used treatments for the management of ADHD. The frequently reported adverse effects were decreased appetite, headache, gastrointestinal problems, sleep problems, irritability etc. In patients with co-morbidities like conduct disorder with ADHD and other disorders, various drugs are useful, psychostimulants are very frequently used in such children. Psychostimulant includes
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atomoxetine like Strattera; antidepressants like imipramine, desipramine; Selective
Serotonin Reuptake Inhibitors (SSRIs) like fluoxetine; atypical antipsychotics such as risperidone (Risperdal); or mood stabilizers like lithium (Eskalith). In the recent research
by Garg and Arun (2013), it was found that more than 90% of children became non-
adherent to medication at various time intervals during the phase of treatment. There
were various reasons reported by parents. One of them was fear of side effects of these
medicines (due to the mistaken belief that it could negatively affect their children’s
brain). Other reasons were development of minor side effects, difficult to follow-up in
outpatient clinic, child refusal to take medication, apparent remission and perceived no
improvement. Thus medication treatment is effective, but because of its delimitation,
other alternative interventions are required. Large randomized trials, in which behavioral
interventions were compared with pharmacological therapy, showed that behavior
interventions were as effective as pharmacological therapy (Pelham et al., 1993). So,
multimodal interventions are required in which medication management is combined
with behavior intervention. Multimodal behavioral interventions integrate play therapy,
exercise and reward systems that have been shown to help the children with ADHD
(Jensen et al., 2007). These behavioral interventions have an added significance. After
this multimodal interventions came into being, these interventions are viewed as the gold
standard among ADHD treatment and also they are good in terms of cost-effectiveness
(Jensen et al., 2005). In recent years, several complementary and alternative medicine
techniques have been used in the management of ADHD with encouraging results (Sadiq,
2007). Thus the most effective treatment for ADHD is a multimodal approach including
psychostimulant medication and behavioral strategies that are implemented in multiple
Life skill training, Adjustment, Academic achievement, Adolescent with ADHD and CD settings. Other therapies used as treatment strategies, includes meditation, yoga and parental training. This emphasizes the need of life skill training which targets the behavior by improving life skills of individual.

The suitable use of medications and combination of child and parent education and support, as well as individual, group, family, residential and inpatient treatment was found to be beneficial for CD and ADHD children (Turgay, 2005). There are basically two types of treatment which includes use of both proactive and reactive classroom interventions for the improvement in academic, behavioral and social performance of children and adolescents with ADHD. Proactive treatment interventions involve a change in conditions that triggers behavior and examples include choice-making, peer tutoring and computer assisted instruction. Reactive treatment interventions involve a change in environmental conditions following behavior and include token reinforcement, self-management interventions and contingency management (Barkley, 2002). Here, lies the importance of life skill training, as it acts as proactive treatment for these children to improve adjustment level.

Mehta, Shah, and Shah (2012) proved that there is remarkable improvement in the students’ academic performance after one-year, peer-mediated interventional program consisting of yoga, meditation and play therapy as treatment. Wilson, Gottfredson, and Najaka (2001) examined the features of effective school based prevention of conduct problems. It summarized results from 165 studies of school based prevention activities that ranged from individual counseling or behavior modification programs using meta-analytic techniques. The study showed, however, that school-based prevention practices appeared to be effective in reducing dropout and nonattendance and other conduct
Life skill training, Adjustment, Academic achievement, Adolescent with ADHD and CD problems. Non-cognitive-behavioral counseling, social work and other therapeutic interventions showed consistently negative effects, whereas instructions related to self control or social competency promotion that makes use of cognitive-behavioral and behavioral instructional methods showed consistently positive effects. Non instructional cognitive-behavioral and behavioral methods programs were also effective. Environmentally focused interventions appeared to be particularly effective for reducing delinquency.

Brosnan, Fitzpatrick, Sharry, and Boyle (2006), described the effectiveness of a therapeutic groupwork intervention for adolescents experiencing various mental health issues like depression, neurotic disorders like anxiety and many other issues. In their study, a cognitive behavioral therapy (CBT) was used as the intervention programme that used an animated story in combination with a series of short movie vignettes to help clients develop their own coping skills, for expressing their experiences creatively and to increase their ability to communicate their emotions effectively.

Review showed a lot of interventions had been used for children with conduct disorder and ADHD, but life skills training have not been used. The present research focused on life skill training as a measure of effectiveness for adjustment and academic problems in children with ADHD and CD.

6. Importance and effectiveness of life skill training

Life skills programs had improved the pro-social behavior and also helped in decreasing alcohol intake, drug abuse, tobacco use and smoking, law-breaking behavior, aggression and suicide (Botvin & Kantor, 2001; Dennis, 2005; Edward, John, & Judith, 2004; Sharon, Abigail, & Susanne, 2008). Many factors promote risky behavior e.g.
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dullness, insurgence, uncertainty, peer pressure and inquisitiveness. Other psychological
drive factors such as the inability to deal with emotional pain, anxieties about the future,
conflicts and frustrations are often the motivating force for high risk behavior. These
factors are known as host factors that increases and promote high risk behaviors e.g. drug
abuse, alcoholism and casual relationships. Life skill training is a successful tool for
empowering the children to act maturely, take initiative and able to take control. It is
based on the postulation that children are less likely to engage in anti social activities or
high risk behaviors when they are able to handle emotional problems arising from daily
conflicts, disheveled relationships and peer pressure.

Effect of life skill training on adjustment

Life skill training brought positive results in bringing change in adolescent’s
attitude, thinking and behavior by providing supportive environment to them. Yadav and
Iqbal (2009) studied the impact of life skill training on self esteem, adjustment and
empathy in a group of 60 adolescents. The results revealed that life skill training
significantly improved self-esteem, emotional adjustment, educational adjustment, total
adjustment and empathy. However, improvement of social adjustment was not seen in
that study. There is another study done by Maghsoudi, Sabour, Yazdani, and Mehrabi
(2010) which concluded that learning life skills was effective in improving social
adjustment. Life skills also improved health adjustment and general health of the
adolescent. This is proved by study of Mohammad et al. (2012).

All areas of adjustment were affected by life skill training. It significantly
improved the adjustment of home, health, social, emotional adjustment of children.
Niaraki and Rahimi (2013) studied effect of life skill training on self-esteem of five high
Life skill training, Adjustment, Academic achievement, Adolescent with ADHD and CD school students and found that there was a significant difference between pre and post condition on all the dimensions of self-esteem, which included general, social, school academic and home parent self-esteem. It was concluded that life skill training was effective in increasing self esteem and thus adjustment in family and general health.

According to Rahmatia, Adibradb, Tahmasianc, and Sedghpour (2010), training life skills to children promoted their social adjustment. It reduced peer rejection thus improved social adjustment. Walker (1983) defines social skills as “a set of competencies that a) allow an individual to initiate and maintain positive social relationships, b) contribute to peer acceptance and to a satisfactory school adjustment, and c) allow an individual to cope effectively with the larger social environment”. Social skills can also be defined within the context of social and emotional learning-recognizing and managing our emotions, developing caring and concern for others, establishing positive relationships, making responsible decisions, and handling challenging situations constructively and ethically (Zins, Weissbert, Wang, & Walberg, 2004). These skills help to navigate everyday interactions as a) exchanging greetings and holding conversations, b) starting friendships and maintaining them, and c) asking for help and instructing others.

Arya, Ranjbar, Salehi, Roustaei, and Mazandaran (2012) determined the effectiveness of life skills instruction on general health and social adjustment in girl students. The study showed that life skills instruction helped in increasing general health as well as social adjustment. Sahebalzamani, Farahani, and Feizi (2012) also showed that life skills education increased general health level of the students.
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All the above quoted studies were conducted on the normal children. The review showed that the similar studies related to effect of life skill training on children with ADHD and conduct disorder were grossly missing in the review and call special attention. The present study was a unique attempt to address the problems of adjustment among ADHD and conduct disorder through interventions of life skill training.

Effect of life skill training on academic adjustment

Life skill training improves academic adjustment. Yadav and Iqbal (2009) revealed that life skill training helped in the improvement of academic adjustment of the children of the study. Niaraki and Rahimi (2013) concluded that life skill training was effective in increasing self esteem and thus adjustment in school performance. Fallahchhai (2012) showed that the students who had received academic and life skills training gained significantly higher scores in life skills and academic achievement than those with no training. When compared with gender, no significant difference was observed between male and female students. It was concluded that assessing and training student’s life skills and academic achievement plays very vital role in the first year of their college study.

Another study by Bharath and Kumar (2010) revealed that life skill training was effective in improving adjustment. The study implemented and studied the impact of the NIMHANS model of life skills education program. The adolescents in this program had significantly increased self-esteem, perceived adequate coping and better adjustment. Adjustment was measured with respect to homework, relationship with peers in schools. Teachers who educated and taught life skill also perceived constructive changes in the students involved in the program. Their class room behavior and interaction improved.
Life skill training, Adjustment, Academic achievement, Adolescent with ADHD and CD after training. Thus, life skill education was integrated into the school as mental health program by means of accessible resources of schools. Teachers had seen life skills as an effective way of empowering children and adolescents.

Similar study by Savoji, Ganji, and Ahmadzadeh (2013) showed the effectiveness of life skills training program on achievement motivation and academic achievement. The finding showed that the life skill training program had positive effect on achievement motivation and academic achievement of students and no significant difference was observed between girls and boys. Amirian (2012) examined the effect of life skills education on academic achievement on high school male students. The study assessed the impact of training on problem-solving skills, self-awareness skills and coping with stress skills and the impact of these three methods together on students’ academic achievement. The results of this research suggested that teaching, problem-solving, self awareness and coping with stress, separately as well as together had significant impact on students’ academic achievement and there were significant differences in the experimental groups.

The review of literature identified the need of training of these skills to be included at all levels of education as a main component of curriculum of schools. It improved academic performance and adjustment of children of all ages.

7. Life skill training in the form of storytelling

Results of the study by Cashin, Browne, Bradbury, and Mulder (2013) revealed that significant improvement was identified on the emotional symptoms of autism children with the intervention of narrative therapy. Narrative therapy had merit as an intervention with young people with autism. It was effective in helping young people
Life skill training, Adjustment, Academic achievement, Adolescent with ADHD and CD with autism who present with emotional and behavioral problems. In their study, narrative therapy was working with stories that individual tells himself or herself about the world. This therapy was helpful to help in social adaptation, at the same time it was helpful in solving specific problems of living. Significant improvement in psychological distress was identified in their study. Trostle and Hicks (1998) compared effects of storytelling versus story reading on comprehension and vocabulary development of 32 British primary children. Study designed two groups, first group listened to stories in storytelling style and second group listened to stories read by a student teacher. The findings of the study suggested that the children who witnessed storytelling scored higher on comprehension, vocabulary measures than did children who listened to story reading.

Another researcher concluded that story telling is therapeutically effective for learning disabled children. Brooks (1987) described that process of creating stories represents key features of the child’s world. Story telling served as a vehicle through to strengthen both cognitive and emotional functioning, including the reinforcement of self-esteem. He employed a therapeutic storytelling technique called creative characters that was found to be very helpful with learning disabled children and adolescents.

Social Stories, an intervention designed to help children interpret challenging or confusing social situations by composing personal stories. Every story helps in breaking down a challenging social situation into clear steps of descriptions and illustrations to help a child understand an entire situation. Stories help children to learn where they can display the appropriate behaviors. Social stories are interventions to help the student learn and internalize the messages and strategies found in the story and use them smoothly and automatically in their daily activities (Steedly et al., 2008).
Life skill training, Adjustment, Academic achievement, Adolescent with ADHD and CD

Study on panchatantra

Study of Mohammad, Mohammad, Mohammad, and Kaur (2013), explained the place of “Panchatantra” in the World of literatures. This article represented an effort to interpret Panchatantra which is a classical Sanskrit book and is known for its importance in the world of literatures. These tales are as important as they were, these tales did not lose their authenticity and effectiveness till now. Panchatantra highlighted its origins that cut across the boundaries of cultures, translated in variety of languages and existent in lots of literatures.
The above review suggested that

- Among all psychiatric disorders in childhood, ADHD and conduct disorder is affecting majority of children. Thus, the present study was targeted at these children of ADHD and conduct disorder.

- Children with these disorders have impairment in home, health, social and emotional adjustment and academic performance.

- Studies related to effect of life skill training on adjustment and academic performance in children with ADHD and conduct disorder were grossly missing.

- Storytelling seems to be effective for children with autistic disorder, but studies related to its effect on children with behavior disorder were not available.

On the basis of the above review of researches and conclusion, the present study explored the effect of life skill training on adjustment and academic performance in children with ADHD and conduct disorder.