CHAPTER 5

DISCUSSION

OUTLINE:

5.1 ADHD symptoms severity score at baseline – Need for integrated management.
5.2 Effect of non-pharmacological interventions on ADHD symptoms severity status.
5.3 Pre-to-post treatment change on parental trait anxiety level.
5.4 Effect of interventions on parents’ reported family pathology scores.
5.5 Effect of behavioural and multimodal interventions on parents’ marital quality.
5.6 Effect of behavioural and multimodal interventions on parenting style measure.
5.7 Effect of psychological interventions on parents’ General Well-being measure.
The results presented in the earlier chapter can be further discussed as follows:

5.1 ADHD symptoms severity score at baseline – Need for integrated management.

Literature shows that the pharmacological treatment alone does not normalize the attentional functioning in children with ADHD (Tucha et al. 2006). Previous research demonstrated that children with ADHD suffer from various cognitive deficits despite successful pharmacological interventions (Gualtieri and Johnson, 2008). Present study reflected similar findings. Graph 1 summarized the parent-reported ADHD symptom severity score at baseline. Such moderate to high severity score reflects that only drug treatment is not sufficient to treat the pervasive impairment associated with ADHD (Chronis et al. 2003) and consequently, additional treatment of the deficits should be considered. One of the options can be the use of non-pharmacological treatments, which can be given in combination with a pharmacological treatment.

When separately mothers of both the groups were assessed on ADHD symptoms severity status of their children at baseline (Table 4.1), it was found that there exists a significant difference in their ratings. However, such differences had not affected the findings as the present study was based on a repeated-treatments design, where the same subjects were assessed on two different conditions and pre-post assessment score differences (ipsative scores) were considered for each subject to analyse the efficacy of the two interventions.

![Graph 1: Baseline measure of parent-reported ADHD symptoms severity status](image-url)
5.2 Effect of non-pharmacological interventions on ADHD symptoms severity status.

Existing literature suggests that behavioural intervention combined with medical management improves the ADHD symptoms (Nieweg, 2010). In the present research, active participation in intervention, close monitoring of behavioural problems by the parents, inclusion of attention enhancement package and completion of homework assignments have helped in reducing the ADHD core symptoms severity in both the groups following interventions (Graph 2; Table 4.2).

![Graph 2: Pre-and post-treatment changes in parent reported ADHD symptoms](image)

Comparing the treatment effectiveness (Table 4), multimodal approach found to have pronounced pre-to-post treatment change with respect to ADHD core symptoms severity especially for fathers of children with ADHD (U=23.5; p=.04). Mothers of children with ADHD reported more improvement with respect to hyperactivity/impulsivity symptoms of their children following multimodal intervention. Since different psychotherapeutic concepts have been integrated in the multimodal therapy, it is difficult to pin-point which treatment component yielded more improvement. According to Ciuhan and Vasile (2010), when a child with ADHD discovers new alternative modes of interaction a rapid self-transformation and improvement of self-image is guaranteed.
In the present study, all the children were on stimulant medication throughout the intervention process. Stimulant medication therapy addresses the deficits experienced by the child in the domains of inattention, overactivity or impulsivity through manipulation of the neurological substrates. Whereas, with regard to parent-training, the goal of a “best fit” is achieved through restructuring the types of demands made on the child and through rearranging environmental contingencies to increase work performance, rule-governed behaviour and compliance. Moreover, inclusion of specific between-session assignments to increase parental skill and providing written handouts at the end of each session served as reminder of the steps involved in carrying out a particular between-session assignment that helped parents for the genuine understanding about the disorder. Combining both treatments provides a powerful tool for managing the behavioural deficiencies of children with ADHD (Barkley et al. 1991).

**Fig.9.** Summarizing the effects of non-pharmacological interventions on reducing ADHD core symptoms severity level.
5.3 Pre-to-post treatment change on parental trait anxiety level.

ADHD symptoms caused increased parenting stress resulting in negative reactions from parents thus increasing their general anxiety level. Statistical analyses comparing the pre-intervention and post-intervention performances within a group showed improvement on trait anxiety measures of both the parents following interventions, but the change was significant in case of parents undergoing multimodal therapy (Graph 3; Table 4.2). Non-significant differences of the ipsative scores between the two groups (Table 4) indicated that though the change was in the desired direction for both the interventions (i.e., decreased trait anxiety score) but the pre and post assessment score differences were not significant between the two groups to reflect the efficacy of the two interventions.

![Graph 3: Pre-Post treatment change in parents' trait anxiety.](image)

The present findings revealed that the general feelings of anxiety, tension that is, trait anxiety was high for both the parents, however, mothers’ trait anxiety level was found to be comparatively higher than fathers’ trait anxiety level (Table 4.2). It was difficult to predict that whether such high anxiety was one of the consequences of dealing with the problems of these children or its result of biological disposition. Studies have suggested that mothers of ADHD children display higher levels of depression and anxiety (Johnston, 1996) compared to fathers. Possibly, that hyperactive children exhibit less competing behaviour in response to paternal
instruction compared to maternal instruction (Johnston, 1996). On the other hand, other studies have suggested that fathers’ affect may have a greater influence than mother’s on the mood of family members including children (Larson and Richards, 1994). Thus, dealing with different problems of ADHD children can have adverse effects on parents’ mental health which in turn can exacerbate ADHD symptoms, making family environment more stressful (Soltanifar et al. 2009).

In multimodal intervention, exploration of family characteristics and integration of parental approach within families of children with ADHD was found to be effective in reducing the baseline trait anxiety level for both the parents in Group B. However, considering the ipsative scores which were then statistically compared between the two groups, it cannot be said that one therapeutic approach was significantly more effective compared to other. Thus post-treatment outcome results suggested that both therapeutic approaches had increased the parental skill to handle their children’s behavioural deficits that made them perceive their child’s future as less uncontrollable and unpredictable, increasing parental competence and lowering anxiety level.

![Diagram](Fig.10. Analysing the underlying treatment process change on reducing parents’ baseline trait anxiety level.)
5.4 Effect of interventions on parents’ reported family pathology scores.

Researchers have demonstrated higher levels of family dysfunction in families of children with ADHD (Foley, 2010). Family pathology treatment outcome measure showed significant improvement in case of mothers and fathers showed non-significant pre-to-post treatment improvement. (Graph 4, Table 4.2). Improvement within a group following behavioural intervention, might suggest that consistent engagement and implementation of the behavioural strategies to modify their child’s behaviour had helped improving the family functioning process. The improvement of the family pathology scores also got reflected between the two interventions groups in case of mothers (Table 4.4). Though behavioural intervention showed improvement, direct integration of family therapy concepts might have increased the treatment outcome efficacy of multimodal therapy.

Several studies have shown that mothers of children with ADHD have higher rates of psychological difficulties (Fisher, 1990) and seek treatment for personal psychopathology significantly more often than mothers of normal children (Gillberg et al., 1983). Present study results had also shown a similar trend; mothers were found to score higher in family pathology baseline measure compared to fathers of children with ADHD.
A diathesis-stress model of ADHD suggests that families, schools and peer groups which contain members who are intolerant and punitive of inattention, overactivity and impulsivity, and who offer limited structured and supportive opportunities for developing self-regulation skills probably maintain or exacerbate ADHD symptomatology in vulnerable youngsters (Carr, 1999).

Multimodal therapy was found to be more effective in reducing the family pathology score in case of mothers compared to the behavioural intervention (Table 4.4). Integrating the concepts of subsystems and family boundaries in the multimodal therapeutic approach helped to develop structure in the family, securing the parent-child hierarchy and teaching the parents to avoid parenting practices, cycles of interactions, and other environmental factors that might exacerbate the problem. The combination of these components from each intervention not only helped in structuring the home environment but the dynamics in the family as well. Structure provided the child with ADHD with a sense of confidence and security that helped the child to manage his or her own behaviour (McNamara and McNamara, 1993).

Fig.11. Analysing the underlying pre-post treatment process change on family pathology outcome measure.
5.5 Effect of behavioural and multimodal interventions on parents’ marital quality.

Marital quality is defined as an evaluation of the functioning and success of a marital partnership (Spanier and Cole, 1976). Marital quality outcome measures reflected that mothers showed significant improvement following multimodal intervention (Graph 5; Table 4.2; Table 4.4). Since, in this therapeutic approach special focus was given on private couple time and in helping families to develop patterns of organizations conducive to effective child management the system had resulted in less inter-parental problems and increased marital satisfaction (Table 4.3). The concept of marital satisfaction was used to describe the extent to which a person enjoys his/her marriage. Considering the marital subscales findings, pre-post statistical analysis within a group, suggested that significant improvement obtained in ‘decision-making’ scores in case of fathers and on ‘self-disclosure’ measure in case of mothers following behavioural intervention.

A long list of research studies support the notion of a general decline in marital satisfaction following the birth of the ADHD child (e.g. Belsky and Kelly, 1994; Shapiro et al. 2000). The parents of the ADHD child are likely to experience less alliance, more dissatisfaction and fighting with the spouse than the control group (Harvey, 2000). The defiant nature of ADHD children may elicit higher of marital miscommunications in parents. Parents who attribute the
negative spousal interactions due to child-related stress may be more likely to remain married than parents who attribute negative spousal interactions to an undesirable quality in their spouse or a problem in their marriage.

Negative spousal communication behaviours (e.g. put-downs, blaming and denying responsibility) directly affect child’s adjustment. Increased marital conflict reduces the sense of safety and security children derive from home environments, disrupt parent-child relationships, contribute to inconsistent discipline practices, and decrease parental monitoring of potentially risk child or more directly model aggressive social interactions (Zarei et al. 2010).

In the multimodal therapeutic approach, special attention was given to assure the existence of a well-defined spouse subsystem which is often found to be missing in the families of children with ADHD. Focused on the private couple time, proper functioning of different subsystems within the family helped parents to experience more alliance and less conflict. Mothers are still the primary parent involved in the caretaking of their children, and present sample comprised mostly of non-working mothers. Thus, in comparison to fathers, mothers experience more caregiving burden. Involving both the parents in the treatment helped especially the mothers to share their burden and parents gained knowledge and acceptance of the disorder which in turn reduced child-rearing disagreement and feel satisfied with their marriage.

Fig.12. Understanding the underlying process of how multimodal intervention affected the marital quality of the parents.
5.6 Effect of behavioural and multimodal interventions on parenting style measure.

Parenting is considered one of the most important factors for evolving and behavioural problems persistence in children (Diaz, 2005). In the present study, results showed both significant and non-significant improvement in the parenting style measures following interventions (Graph 6, Table 4.2). Fathers of children with ADHD provided with multimodal intervention found to have significant change in ‘perfectionistic supervisor’ and ‘avoider’ dimensions. Active participation by the fathers in intervention have helped in reducing under-controlling parenting such as ‘avoidance’ and in turn enhanced the need to take responsibilities and interest in their children’s activities. Whereas, mothers after undergoing multimodal therapy, found to have increased ‘balanced’ parenting style measure.

![Graph 6: Pre-and post-treatment changes in Parenting style scores.](image)

* =p<0.05 (Wilcoxon Signed Ranks Test) ------Pre-to-post change trend.

Although parenting is not thought to play a significant etiological role in the development of ADHD, it is thought to contribute to symptomatology expression and the development of co-morbid problems (Barkley, 1990). ADHD is a genetically based neurological disorder and parents of these children frequently misinterpret their child’s behaviour or intentions. Moreover, in our country, parents are still reluctant to consult psychiatric services for their children due to
stigma attached. There is also a common myth that the disorder will improve with the child’s age. There is still a strong preference for non-medical or non-psychiatric interventions as well as greater acceptance for traditional healing. Thus, it may be helpful for therapists to make parents aware of the repercussions of corporal punishment, and, to help them develop parenting styles that involve rewards and reinforcement. Frequent use of physical and harsh forms of punishment is more likely to display problematic behaviours (Larzelere et al. 2010).

There are five styles of parenting that had been considered in the present study. Each style has positive qualities, but the extreme forms of these qualities in the forms of over-controlling parenting styles, Power patrols and Perfectionistic supervisors were found to be harmful for ADHD children. One is more extreme and negative than the other. Over-controlling parents use “power tools” to control their children. Perfectionistic supervisors are usually highly capable adults - self-disciplined, organized, scheduled and responsible - and they expect their children to be that way too. These qualities if not extreme or critical, can be helpful.

The present findings suggested that parents of children with ADHD being provided with multimodal therapy found to have increased perfectionistic supervisor style measure and simultaneously decreased in the ‘avoider’ parenting style measure. Avoiders are under-controlling parents; they don’t teach skills, set limits, supervise, or follow through because it takes too much time; they are either too busy or too tired to be bothered. Extreme avoiders are physically or emotionally neglectful. Children of Avoiders usually have a poor sense of self-worth because their parents didn’t make an effort to show they cared. Inclusion of play, attention and involvement, listening, praise, problem-solving, incentives and limit-setting and other non-aversive discipline strategies within the multimodal therapeutic approach have helped parents to modify their parenting practices in the desired direction.
Studies by Cunningham and Barkley (1979) and Mash and Johnston (1982) for instance, showed mothers of ADHD children to be more commanding, less rewarding, and less interactive than mothers of controls. In turn, their children were less compliant and more negative (Wood, 2007).

In the present study, mothers of children with ADHD found to have significant improvement in the post-intervention balanced parenting style measure following multimodal intervention. The balanced parenting style is based on a healthy, democratic orientation and uses effective parenting techniques that have positive long-term effects.

The therapist should focus not only on modifying the parenting styles but also on the parenting similarity. When parenting styles clash; having one parenting partner with an opposite style, then one can fall into an overcompensation cycle. Overcompensation cycles damage parenting partnerships and children learn how to manipulate better. Thus, it is important to consider parental alliance in order to reduce child-rearing disagreement.

![Diagram](Fig.13. Understanding how multimodal intervention affected parenting style measures.)
5.7 Effect of psychological interventions on parents’ General Well-being measure.

Well-being is typically handled as a concept associated with happiness, pleasure, life satisfaction. Results of the present study indicated that mothers of children with ADHD in both the groups showed improved general well-being measure following interventions. Fathers showed significant improvement following multimodal intervention (Graph 7; Table 4.2). When both the groups were compared to find out the efficacy of the two interventions, multimodal treatment found to be more effective for both the parents (Table 4.4). Positive peer interactions, low ADHD symptomatology, maintaining positive ties to family connections, proper emotional expressions, and all these factors have helped both the parents to enhance their sense of mastery and competence in managing the environment, which in turn increased the general well-being following multimodal intervention.

![Graph 7: Pre-and post-treatment changes in General Well-Being Scores.](image)

Living in a family with a child having ADHD influences the whole family both inside the family sphere and socially (Moen et al. 2014). Parents with ADHD reported more psychological distress, weaker well-being and less favourable family functioning than the other parents (Moen et al. 2016). The more perceived negative emotional consequences of ADHD for parents are, the more likely they are to use dysfunctional coping strategies resulting in reduced well-being.
Mapping relationships among the members in the family might provide a key to understanding the collective orientation and help to facilitate family adaptation in the management of children with disabilities such as ADHD (Moen et al. 2016). Structure and routine in the family life with a sense of security and control, helped to make the life with a child with ADHD more stable (Moen et al. 2014). Bowman (2010) found that the development of positive peer interactions contributes positively to well-being while adverse social relations have a negative impact on well-being. In the present study, multimodal intervention influenced to decrease ADHD symptoms severity, closeness with a spouse, more paternal involvement in parenting, positive peer relationships leading to more predictability in family life, less conflicts, better family functioning, mastery, growth and quality connections to others, resulting in greater well-being.

![Diagram](image)

**Fig.14.** Analysing the underlying process change on general well-being measures following multimodal intervention.

Results of the present study showed that along with medicinal management, both therapeutic approaches were effective in reducing the severity of the ADHD symptoms. Mothers of children with ADHD found to be benefitted more from the interventions in comparison to fathers. Comparing the treatment effectiveness of the two groups, multicomponent-behavioural therapy (Multimodal) found to have a global progress in understanding and managing the impact of ADHD and in enhancing the general well-being of both the parents.