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Evaluation of a Multi-Pronged Intervention with an Autistic Child: A Grounded Action Research

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An action research was conducted to develop an intensive multi-pronged individualized therapeutic plan for an autistic child (Asad*). The plan was based on humanistic and behavioral approaches. Mixed method approach was adopted in order to evaluate the progress of the interventions. The quantitative evaluation of the improvement was done using The Childhood Autism Rating Scale (CARS; Schopler, Reichler, & Renner, 1980) and subjective ratings. Qualitative analysis was conducted using grounded theory on reflective journals, which was also used to build theoretical model of therapeutic process. This cyclic process of continuous reflection, action and then again reflection created a prominent change in the child's daily functioning including social interaction, compliance, self help, concentration, on-seat behavior, and multiple verbal and non-verbal behaviors.

Key words: autism, child, multi-pronged, intervention, action research.

* Asad is a pseudonym given to the child in the present study.

Autism first appeared as an identified disorder of children in the 1930s and has been increasing in incidence ever since, to the point that in 2002, nearly 120,000 children with autism were being served under the Individual with Disabilities Education Act (IDEA)—an increase of 500 percent over the previous decade. In the United States, Centre for Disease Control and Prevention hasestimated that one in 110 children have autism (Estepp, 2009).

One recent study, conducted by Suhail and Zafar (2008), shown that the prevalence of autism in Lahore, Pakistan, is 6.31%. Results further elaborated that the equally more common characteristics of autism in these children were "relating to people", "emotional responses" and "visual responses". Autism is quite prevalent in Pakistan but there is a huge gap of research in this field. The statistics about its prevalence is almost non-existent. According to Azeem (2009) the number of people falling in autism spectrum disorders is a minimum of 3,45,600 out of 172,800,048 population of Pakistan. He further argues that this figure is not accurate because of factors like misdiagnosis, social stigma and under-reporting of the disorder. Not much work has been done on the development of individually tailored interventions for autistic children.

Although assessment case studies have been conducted (Sahu, 2006) but very little work has been done on evaluating the efficacy of different intervention models with autism through the use of case studies. There have been many studies conducted on the efficacy of doing intensive behavioral therapy with autistic children. These studies have shown that implementing behavior therapy intensively on autistic children is mostly fruitful, especially if started at an early age. Outcomes of the intensive Behavioral intervention at the age of 35-41 months (Lovaas, 1987) and 6 year old autistic children (Conner, 1998) suggested that intensive behavioral approach could achieve positive outcomes especially if implemented at an early pre-school age. Thus, intensive intervention plan started at an early age can bring drastic improvements in autistic children. These intensive programs are mostly based on the behavioral approaches that have often proved effective while working with autistic children. Behavior intervention is considered more satisfying by parents (Runco&Schieberman, 1983), improves behavioral problems (Campbell, 2003) and also demonstrates greater improvements in IQ, visual spatial skills, and language skills (Smith, Groen, & Wynn, 2000).

In the present study, we have also used humanistic interventions including play therapy, speech therapy, art therapy and music therapy. As children with autism have poor or no communication skills and social interaction and furthermore, they are not much expressive and receptive, parents usually communicate and interact with them less frequently than their other kids. Therefore in this study we used a humanistic approach i.e., giving the child acceptance and unconditional positive regard just by being with the child and giving him control of his situation, to enable him to come out of his autistic shell and explore the world in a safe environment. Trivette (2003) concluded in a study that responsive care giving has positive influence on the cognitive and social-emotional development of the developmentally disabled. Subsequent research has continued to support this finding and also shown that responsiveness and affect are significantly related to increase in children's levels of social competence, joint attention, self-regulation (Mahoney &Perales, 2003; 2005) and language development (MacDonald, 2004; Manolson, 1995)

Expressive therapies are also very helpful in enhancing the functioning of autistic children. Play is helpful in developing thought flexibility, enhancing communication and social interaction (Bromfield, 1989; Sidoli&Villefranche-sur-mer, 2000; Kozima, Nakagawa, & Yasuda, 2005), demonstrating attachment behavior, developing autonomy, pretend play (Josefi, Saba, & Ryan, 2004), establishing sense of mastery, increase in pleasure and motivation to play (Boucher, 1999). Play gives the child with autism, who may have difficulty in expressing feelings and thoughts in words, chances to express himself.

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Speech therapy is very effective in developing language using different models like the Denver model (which merges behavioral, developmental, and relationship-oriented interventions), and PROMPT (a neuro-developmental approach for speech production disorders) (Rogers, Hayden, Hepburn, Charlifue-smith, Hall, & Hayes, 2006) and Developmental Social-Pragmatic language intervention (Ingersoll, Dvortcsak, Whalen, &Sikora, 2005). While using Denver and PROMPT model, Rogers, et al. (2006) found that children used five or more novel, functional words spontaneously and spoke multiple times per hour by the end of treatment. Research in this area indicates the efficacy of different models of speech therapy if used at an early age.

Art therapy is also very effective while working with child having autism. It helps in enhancing their social interaction (Schleien, Mustonen, &Rynders, 1995), improvement in process concentration, diminished typical avoidance, facilitates the working alliance and communicative abilities (Evans, 1998).

Music therapy has been found to facilitate motivation, communication skills, social interaction, sustaining and developing attention, developing tolerance, flexibility and social engagement to build relationships (Wigram& Gold, 2006); facilitate and support the desire to communicate (Thaut, 1984); break patterns of isolation and engage the individual in external experiences (Baker, 1982; Thaut, 1984); reduce echolalic responses impeding functional language use (Bruscia, 1982); decrease stereotyped motility patterns (Soraci, Deckner. McDaniel, & Blanton, 1982); teach social skills (Reid, Hill, Rawers, &Montegar, 1975); facilitate increased language comprehension (Litchman, 1977) stimulate and develop more meaningful and playful communication in people with autism (Nordoff& Robbins, 1985; Agrotou, 1988; Alvin & Warwick, 1991).

As far as research design concerns, action research has been widely and successfully used with children having autism to increase their social interaction skills, game participation, learning of new games and learning sportsmanship in autistic children (Schoen & Bullard, 2002). Mix method approach of case study and action research was used together by Holmqvist (2009) describing the ways in which variation can be used in learning situations for pupils with autism to evoke deep understanding of activities in natural settings. Results indicated deepened understanding of learning objects, demonstrated by observable differences in performance of activities in which the targeted ability was included.

Above literature has shown the combination of action research and case study while studying autism but there are hardly any researches combining the action research with Grounded theory, though this is not a naïve combination. According to a recent trend in mixed method research, action research and grounded theory are being used together not only in psychology but also in other disciplineslike Health (Teram, Schachter, & Stalker, 2005) andinformation Systems (Wastell, 2001; Henfridsson&Lindgren, 2005). Certain researchers have even coined specific terminology for this i.e., Grounded action research (Baskerville & Pries-Heje, 1999) and Grounded action learning (Yoong&Pauleen, 2004). Dick, Stringer &Huxham (2009) have recently compiled a special issue of Action Research journal devoted specifically to 'Theory in Action Research', in which they have put together a number of different articles integrating action research and grounded theory. A highlighting article in this issue was of Poonamelle (2009) who has worked on developing a theory out of her action research project in a rural area of India. This study is a very good example of developing theory out of the action research.

Rationale of the Study

Autism is one of the common developmental disorders existing in Pakistan but very little research work has been done in this area using Action research and case study method though it is being done in other parts of the world (Shoen& Bullard, 2002; Holmqvist, 2009). Present study focused on developing and implementing an individually tailored management plan based on humanistic and behavioral approaches.From above literature, we can clearly see that this could turn out to be a very good combination of multi-pronged intervention plan with autistic children if implemented at early age. This kind of research has never been reported in Pakistan and no case study action research has been carried out to evaluate the efficacy of certain therapies while working with autistic children. Though there are case studies which are carried out in other parts of world, there is a huge difference between the cultural and social aspects of Western and Eastern societies therefore this method is necessary to reproduce in Pakistan as well. There is a major difference in the social support and stigma attached to the developmental disabilities in Pakistan because of which we cannot generalize western findings in our society. So the present study, helped in drawing attention towards the efficacy of individualized therapeutic plan based on the unique needs of a single unique autistic child. It has also provided guidance about which therapy worked well, either alone or in combination with another therapy, when using with autistic child.

Another important rationale of this study is that this kind of design variation has not been reported in Pakistan especially in the field of psychology. Present study has integrated action research with grounded theory, which is a new but beneficial combination. Although this kind of mixed method approach has been more often reported in the fields other than psychology but it is very promising to use in psychology as well. Through reporting the outcomes of action research process in a more detailed and theoretical manner it will open diverse research opportunities for future researchers.

Objectives of the Study

Following were the objectives of the present study:

1. To develop and evaluate the effectiveness of an individually tailored multi-pronged intervention plan for an autistic child.
   (a) Evaluating the effectiveness of the humanistic and behavioral therapeutic approach while working with autistic children.
   (b) Evaluating the effectiveness of expressive therapies i.e., Speech therapy, music therapy, play therapy, art therapy, and systemic therapy , when used in concert as well as when used alone.
2. To develop a theoretical model out of the data gathered in therapeutic process of action research.

Reflexive Positioning

I am (first author) is a clinical psychologist by profession and designed and conducted this study because of my interest in

Qualitative therapeutic research. Initially, when I started to work with the child I had to face many challenges. The child has almost no communication and didn't like changes at all. So to adjust in his daily routine and be a part of his life for such a long time was achieved by giving him completely unconditional acceptance. Once he accepted me as one of the reliable persons of his life, I began to introduce different therapeutic changes in his life which he began to accept also. I worked with the child for more than a year which resulted in a strong bonding between us. I used that strong attachment for the benefit of the child. I recorded all the details of my therapeutic sessions, therapeutic decisions made, progress of the child, etc. in the reflective journals. This allowed me to review the whole research process, facilitated the future research decision and enabled me to remain self-aware throughout the research. Personal reflexivity refers to the one's self-awareness about how one's personal beliefs and values have affected the whole research process from start till end (Banister, Burman, Parker, Taylor, &Tindall, 1994). Similarly, functional reflexivity has been defined by Wilkinson (1988) as a continuous, critical examination of the process of research to reveal its assumption, values and biases". In this therapeutic research, my involvement as a therapist was more beneficial for the research process and child's progress instead of problematic.

Method

Sample

Sample of this research was a 6-year-old mildly autistic child, Asad, who was living with his family and has never been in any treatment before. The child was diagnosed to have Autism using CARS, behavioral observation and background history. Asad was fulfilling the DSM IV criteria for Autistic Disorder and his scores on CARS were falling in the category of "Mild to Moderate Autism".

Informed Consent

When the research was started the child was just 6 years old and had severe communications problems because of which he was unable to give consent. Such problem of consent arises while working with very young children with autism. According to Ladd (2006), if a researcher wants to make video of child's typical behavior or observe him or gather data by applying therapeutic interventions, this would not raise any ethical issues. The research which raises a red ethical flag is the non-therapeutic research that involves experimentation with children for example to find out the genetic roots to autism. For the research involving benefits to the child i.e., therapeutic research, proxy consent from the parents is enough in this case because children are incapable of giving informed consent. (Ladd, 2006). Therefore, parents' consent was taken after explaining them about the purpose of the study and the possible benefits their child will have as a result.

Instrument

*Childhood Autism Rating Scale (CARS; Schopler, Reichler, & Renner, 1980).*Childhood Autism Rating Scale (CARS) was used in the present study at pre, mid and post level to assess the severity of autism symptoms in the child and relative improvement. CARS is a diagnostic assessment method that rates children on a scale from one to four for various criteria, ranging from normal to severe, and yields a composite score ranging from non-autistic to mildly autistic, moderately autistic, or severely autistic. The scale is used to observe and subjectively rate fifteen items. Internal consistency of the CARS is high, with a coefficient *alpha* of .94. Inter-rater reliability of .71 indicated good overall agreement between raters.

Procedure

An individually tailored intervention plan was implemented on a 6-year-old mildly autistic child intensively over a period of 15 months. The plan was constantly modified in the light of reflections recorded in a journal. CARS was used for the pre, mid and post therapeutic assessment along with the qualitative assessment of reflective journals.

During the initial stage of therapy the main focus was on developing a therapeutic relationship with the child and assessing the current functioning level of the child. During this phase the child's developmental history was taken from his mother. Most of the time was spent with the child in doing what he wanted to do, which generally was wandering around aimlessly.

During the later stage, different activities were used therapeutically to enhance child's social interaction and functioning. Speech therapy was also introduced and implemented through the second phase of therapy.

The record of the child's progress was kept through "Reflective Journals". These journals not only helped in assessing and improving the ongoing therapeutic process but also were used to develop theoretical model of the whole process using grounded theory analysis. The aim of reflective journals is to consciously acknowledge the researcher values rather than making attempt to control those using different methods or bracketing assumptions (Ortlipp, 2008). Keeping self-reflective journals can facilitate the reflexivity in research through the use of journals to examine "personal assumptions and goals" and clarify "Individual belief system and subjectivities" (Ahern, 2002). In this research also reflective journal not only fulfilled the above stated roles but also kept the whole research process transparent.

The validity of the data was ensured through the process of "Triangulation" at two levels, namely, investigator triangulation and methodological triangulation. The use of triangulation was advocated by Patton (2002) as a mean of strengthening the study by combining the several different kinds of methods or data like using both qualitative and quantitative approaches. In investigator triangulation, the speech therapist and primary therapist observed the child's responses to intervention as well as the mother. In methodological triangulation, concurrent analytical strategies from quantitative as well as qualitative approaches were used to validate the data.

Results

Quantitative Analysis

The quantitative results are presented in two forms. One is the

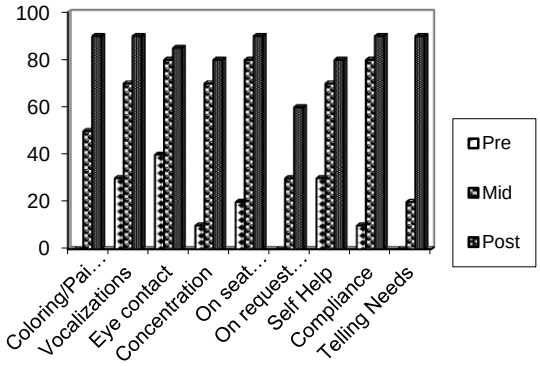


Figure1: Pre, mid and post therapy comparison of positive behaviors by child

informal Subjective Ratings by the therapist and the mother's report about the development and increase in child's positive and pro-social behaviors. There was a marked increase in his vocalizations, concentration, on-seat behavior, verbalizing sensible words, self-help skill, understanding and compliance of different requests and activities like coloring, painting, molding dough, etc. Figure 1 shows the pre, mid and post-treatment comparison.

Secondly, Childhood Autism Rating Scale (CARS) was used at pre, mid and post therapeutic stage to monitor the changes as a result of therapy. The child's overall score on CARS before therapy was 33, which falls in the category of mildly-moderately Autistic, whereas his scores on CARS by the end of mid and post therapeutic phases were 28.5 and 26.5 respectively. These scores fall in the non-autistic category. Although this quantitative change was not that much but the qualitative change was very reflective. Major improvements were observed in areas like imitation, object use, adaptation to change, listening response, taste, smell and touch response and verbal and non-verbal communication.

Table

CARS Scores at Pre, Mid and Post Treatment Assessment
Theoretical Model of Therapeutic Process and Progress

Subscales	**Pre**	**Mid**	**Post**
1. Relating to people.	2	2	2
2. Imitation	2.5	2	1.5
3. Emotional Response	2	2	2
4. Body Use	1	1	1
5. Object Use	2	1.5	1.5
6. Adaptation to change	1.5	2	2
7. Visual Response	2	2	2
8. Listening Response	3	2	1.5
9. Taste, smell, touch response and use	3	2	2
10. Fear and nervousness	2	2	1.5
11. Verbal communication	4	3	2.5
12. Non-verbal communication	2	1.5	1.5
13. Activity level	2	2	1.5
14. Level and consistency of intellectual response	1.5	1.5	1.5
15. General impression	2	2	2
Total Score	33	28.5	26.5

Reflective journals were used to document the whole process and progress of therapy, which were then used to develop theory out of the action research report and ultimately a theoretical model of the therapeutic process and progress was achieved. This model is presented in Figure 2.

There were several categories and themes that came out, throughout the whole process of evaluating and implementing the individually tailored therapeutic plan on the child having autism. Reflective journals were broadly divided into three phases based on the time elapsed and stage of therapy.

Initial Phase (First 3 months)

In the initial sessions, Asad's present state of functioning and the systemics of the family were assessed and their effects on his functioning in a positive or a negative way. Most of the themes coming out of the journals at this stage were related to the assessment of the child at personal and family level. The main therapeutic work in these sessions came out to be developing an optimum level of rapport with the child and give him unconditional acceptance. In this phase of the process following themes arose: lack of social interaction, child's difficult behaviors, limited non-verbal behaviors, lack of verbal communication, problems in process and facilitating factors to therapy.

Lack of social interaction covered categories like 'don't care attitude of the child'. The data shown that in the initial phase of the process, no matter how much therapist tried to attract child but he seemed to be least bothered. He kept on doing whatever he is doing without getting interrupted. Moreover, the therapist assessed that Asad had poor social interaction even within the family; he was as if in a shell, separate from others and his non-verbal compliance was almost non-existent.

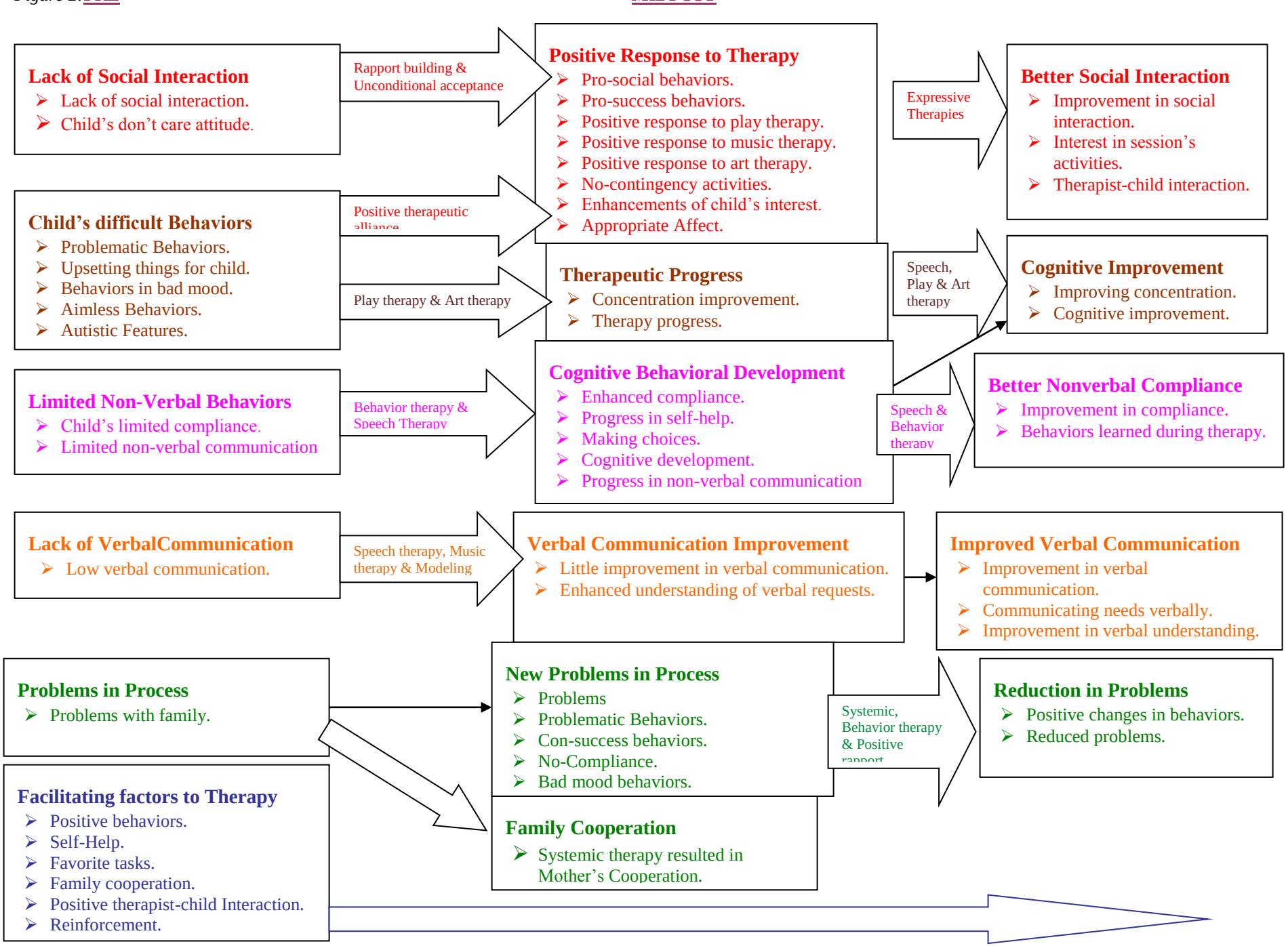
Asad's difficult behaviors included his problematic behaviors, which made rapport building difficult such as "child's non caring attitude", "temper tantrums", "stubborn behavior" and "putting non-edible things into his mouth". Other than these there were things which were upsetting for him, his aggressive behavior in bad mood, aimless behaviors and autistic features of obsession with routine, order and cleanliness, less eye contact and reliance on tactile sensation.

Limited non-verbal behaviors included the categories like Asad's limited understanding and compliance of non-verbal commands and other gestures. The reflective journals mentioned about events when the therapist pointed to a thing and asked him to get it for her, he never responded to it. A similar theme was of lack of verbal communication. Journals reflected that the child was verbal but his speech was just echolalia and does not include any situation specific request or comprehensible sentence.

During the initial sessions the therapist also had to face the problems in the surroundings of the child like over-interfering attitude of his maid, but after psycho-education of the family and the maid these problems were resolved.

There were also some facilitating factors that stood out from the data and seemed to remain facilitating throughout the process. These included the positive behaviors of the child that facilitated the rapport building, like going out alone with the therapist to the duck's lake and swings. His good self-help skills, response to reinforcement and interest in doing some favorite tasks also proved to be useful in developing positive interaction between the child and the therapy Moreover, family cooperation was an important factor especially Asad's mother was very cooperative which played a

Figure 2:Theoretical Model of Therapy Process and Progress



crucial role in implementing the therapy successfully.

Middle Phase (4-10 Months)

During the middle phase of therapy an optimum level of rapport was already established which mainly helped in developing Asad's positive response to therapy. In this phase, expressive therapies i.e., art, music and play were introduced and speech therapy was also initiated on a weekly basis for which a speech therapist was introduced in the therapeutic process. Asad's response to expressive therapies was quite positive. He enjoyed playing with play dough, making puzzles, listening and jumping to music and also playing musical instruments mainly piano. These were the main activities, which also helped in enhancing his attention span and on seat behavior. Themes came up at this stage were: Positive response to therapy, therapeutic progress, cognitive behavioral development, verbal communication improvement, new problems in process and family cooperation. In this phase, reflective journals have shown the efficacy of different therapies while used alone or in combination with each other. It has brought out the categories regarding the particular modes of therapies which worked better for improving particular behaviors.

Positive response to therapy included categories like pro-social and pro-success behaviors, positive response to play, music and art therapy, non-contingency behaviors, expanding interests and appropriate affect. Analysis of journals showed that Asad developed a lot of pro-social behaviors as a result of good rapport with the therapist and her unconditional acceptance of him. An excerpt from the reflective journals show his pro-social behaviors below

'*Asad began to greet me daily by shaking hands, made more eye contact, gave social smiles, made positive gestures while hugging me and initiated non-verbal interactions on his own.*'

Other than developing these social behaviors he also showed some positive behaviors, which were facilitating to the therapy, like imitating the therapist, concentrating in a one-to-one session, exploring things, try to undo the damage he had done on the therapist's requests and so on. Similarly the child started to take interest in a wide variety of constructive activities like painting, making puzzles, blowing exercise (part of speech therapy for the strength of vocal muscles), listening poems and music, watching picture books, etc. and did them without any reinforcement contingency. An interesting excerpt from my reflective journal shows an example that to some extent his affect was also began to be regularized,

'*…he began to show happiness on achieving mastery of tasks like making a huge tower of blocks and also becomes happy when praised for completing some activity.'*

Analysis of the journals showed that the positive rapport and unconditional acceptance by the therapist transformed many of Asad's previous difficult and aimless behaviors into positive and constructive ones.

Further analysis of this phase pointed out to the categories like concentration improvement and overall therapeutic progress. Positive rapport, art and play therapy helped in enhancing Asad's attention/concentration even in the presence of other people. Following excerpt from journals show their efficacy with other behaviors also,

'*These also helped to increase his on-seat behavior, response rate, shunning of non-edible items, eye contact, vocalizations, practice of blowing exercises, saying sensible words. All these behaviors were also successfully generalized outside therapy.'*

Theme of cognitive behavioral development included the categories like enhanced compliance, progress in self-help, making choices, cognitive development and progress in non-verbal communication. Behavior and speech therapy helped in developing compliance and non-verbal communication in the child and enhancing his cognitive understanding of tasks like changes in routine and searching for things at new places. In behavior therapy reinforcement and modeling, whereas in speech therapy, small and clear instructions specifically proved to be useful in enhancing Asad's compliance, non-verbal communication, self-help skills, cognitive development and decision making.

With reference to compliance,Asad started obliging to almost all the small and clear requests made to him and if he did not comply, it is modeled to him once i.e., how to do it and he would comply with it next time. He also began to make a lot of non-verbal requests like using gestures for '*make cereal*', '*open cupboard*', '*open snacks*', '*take scarf*', '*wear shoes*', '*play CD player*', '*come here*' and so on. Asad's self-help skills, other than changing cloths and eating by himself, also enhanced to a great extent. He started doing many things on his own like bringing play dough, puzzles and piano to play with, packing the play dough and puzzle after playing, bringing the CD player and CDs for listening, switching the light on and off according to need, etc. He also began to make choices when given options.

Improvement in verbal communication came out to be a repeated theme in this phase while covering the categories like improvement in verbal communication and enhanced understanding of verbal requests. Journals shown that Asad's verbal communication got improved through the use of speech therapy, music therapy and modeling. During the middle phase of therapy, his understanding of requests enhanced to a great extent as compared to speech itself. He developed an understanding of a wide variety of requests through clear and small instructions as well as modeling. He understood '*if-then*' requests, commands like '*open and close the door*', '*lock and unlock the door*', '*switch off the T.V*', '*throw wrapper in the dustbin*', etc. He began speaking words according to situations rather than just echolalia. Speech therapy and modeling also proved effective in developing verbal understanding and helped promote sensible speech to some extent as he spoke words like '*give me, hold it, piano, cookies, Allah (God), Spiderman, open,'*etc. on request but with great difficulty.

In this phase of therapy a new set of problems arose which is shown in an excerpt from journals,

'*….when I reached at his home,Asad was not ready for sessions, he was lazy or stubborn, threw temper tantrums, and ate slowly and at times not eating at all*'

As a result of this he was unable to concentrate because of hunger. Other problem categories covered things like behaving hyperactively after having some fizzy drinks, lacking interest in the activity at hand, not complying in some situations, snatching reinforcers before completing the requested tasks, etc. These behaviors were handled well through positive child-therapist relationship. Another important factor which was helpful throughout this phase was extraordinary cooperation by the mother of the child. This theme was recurrent in this phase and helped sought out a number of difficulties during the process.

Last Phase (11-15 Months)

Most of the themes of this phase were related to further improvement in the behaviors introduced in the middle phase. Asad

Table 2
What Worked and What Did Not Work based on Grounded Theory Analysis

Behaviors	What Worked	What did not Work
Social Interaction	• Unconditional Acceptance • Positive rapport i.e., talking and spending time with child in activities of his will. • Expressive therapies i.e. listening and jumping on music, painting on paper, molding play dough, etc.	• Punishment i.e., child was tried to give time out but it was useless for him as it did not matter to him and other punishments like saying stop loudly was also useless as he does whatever he wants to do.
Learning Skills	• Modeling i.e., modeling how to clean his hand and mouth with tissue. • Verbal instructions i.e., "clean your hands and mouth with tissue" • Physical Prompting i.e., guiding him with my hand to tell how to clean his hands and mouth.	• Modeling used without verbal instructions did not made sense to child of what he is being asked for. • Verbal instructions were not sufficient alone and required some modeling and physical prompting.
Problematic Behaviors	• Positive Rapport i.e., talking to child gently and holding him, was effective in dealing with his anger tantrums. • Ignorance i.e., ignoring the problematic behavior at times was effective.	• Positive Punishment i.e., shouting loudly or stopping harshly did not work.
Compliance	• Modeling i.e., client was modeled how to lock and unlock the door by turning the keys along with verbal instructions and then reinforcement was given. • Instructions i.e., giving small, easy and clear instructions or making requests like give me tissue, close the door, etc.	• Modeling or verbal and physical prompting alone were not effective.
Verbal Communication	• Modeling correct statements that what to say when want something like ask "give me" if want cookies or anything else. • Requesting and reinforcing sensible words i.e., constantly asking child to say the desired word and then reinforcing it. Asking him to say chocolate if he want one or cookies if he want cookies, etc.	• Child asked to say words without based on any action like saying just to say hands without anything to do with hands. • Fulfilling child's demands without pushing him to ask for it verbally or without waiting for his verbal request.

was also assessed in the last phase of process i.e., post therapeutic phase. As a result of analysis following themes were extracted: Better social interaction, cognitive improvement, better non-verbal compliance, improved verbal communication and overall reduction in problems. As a result of positive rapport and expressive therapies Asad developed better social interaction with the therapist as well as with others. He also started taking interest in session activities without any reinforcement contingency. He developed a routine for the sessions as a child going to school and doing work.

The themes of cognitive improvement and compliance came out of the data in an interesting manner. As a result of speech and behavior therapy Asad's cognitive development enhanced, for example, he learned the concepts of open, close, up and down. Similarly, he began recognizing and differentiating between his and other people's hands. His concentration improved to a great extent through play and art therapy. Not only did his nonverbal communication and compliance got improved through speech and behavior therapy but he also developed many new behaviors like sitting for some time, making shapes out of play dough, staying in one room for entire session, painting, etc.

In this phase major changes occurred in his verbal communication and this became the most prominent theme at this stage, as the journals shown that he started speaking simple two word sentences to convey his needs, likes and dislikes. Later these became 3-4 word sentences and they were said by the child without any reinforcement or request.

As a result of good rapport and behavior therapy Asad also developed positive changes in his behaviors, like he no longer

disturbed his father when he was resting; he developed his own routine of constructive activities, which he followed while in session. Overall number of problems also got reduced and the whole process became much smoother than before.

On the basis of the above analysis, we have extracted the efficacy of specific therapies for specific behaviors. Table 2 shows a summary of what worked better for the child and what did not.

Speech Therapist's Report

When I started my work as a speech therapist with this child, the primary therapist had been successful in building rapport with him and their relationship was healthy. Initially Asad was a very active child and showed many motor disturbances like walking aimlessly, pushing his shoe with his foot and making noises. It seemed as if it was difficult for him to comprehend any verbal instructions, as he did not understand language clearly and would echo words.

The outcome of therapeutic techniques was markedly visible in many areas as many of his dysfunctional behaviors decreased like noise making reduced noticeably, however, not completely and his attention span increased gradually. The frequency of making eye contact increased with the help of verbal prompting and praising however the duration of maintaining eye contact still needed improvement. Compliance with simple requests increased markedly due to reinforcement given in different forms, with verbal prompting and modeling.

Asad's learning also improved as he caught up with new concepts like '*open' 'close' 'up' 'down' 'here'* and '*there'* and requesting like '*give me*' very well when these were taught through demonstration.

As a part of speech therapy and to make him help understand instructions better, communication strategies of the therapist and the parents were improved. The focus was placed on giving him one instruction at a time along with a demonstration so that he would be able to comprehend it and also associate the words with the action. This strategy helped us make him comply with many instructions such as opening and closing doors and locking them upon request, handing over stuffed toys and tissues, putting puzzles back in their place, etc. With this he understood verbal instructions better by the middle phase of therapy. Moreover, he had shown verbal communication on some occasions like he said '*oho*' in agitation when the therapist kept on dropping his stuffed toys and he would say'*fallen*' in imitation when I would say '*it has fallen*'. Such occasional displays of proper language were encouraging and showed his response to therapy and indicated improvement in his ability to imitate. He also started making small requests like '*give cookie*' and '*open the door*' occasionally. By the later phase of therapy, Asad started conveying his demands and needs verbally more than non-verbally, which was a major therapeutic success.

Asad's emotional responses also improved a lot as he shown expressions like agitation and sense of achievement. This overall improvement in his emotional display and responses was achieved through the freedom of expression he was given in his play along with appropriate praise and appreciation.

Therapy was also helpful in weakening the child's pathological attachment to the finer details of routines such as putting play dough in a specific, putting puzzles and toys in their specific places. By the end of the therapy, praise and encouragement on putting things in different places and modeling done by the therapist by putting toys in different places made it possible for him to break his routine and be comfortable with small changes.

Overall therapy showed a lot of improvement in areas of communication, understanding of language, routine attachment and motor disturbances.

Discussion

The present study was carried out to assess the efficacy of intensively using an individualized multi-pronged therapeutic approach with a mildly autistic child. The results have shown that an intensive multi-pronged therapeutic approach is very effective while working with mild autism.

The therapy continued for almost 15 months and there was a clear change between the initial sessions, middle sessions and later sessions. The whole process of therapy involved implementation of different therapeutic techniques (one at a time as well as with different combinations) and viewing their efficacy as well as modifying them according to requirements. The problems therapist faced during the therapeutic process and how they were dealt with were also recorded. CARS and subjective ratings by mother were also used to assess Asad's improvement and to validate the data gathered through reflective journals. Moreover, a theoretical model was developed through the analysis of reflective journals using grounded theory.

Asad's results on CARS decreased as the therapy progressed. His scores were previously falling in the category of mild to moderate but in the mid and post therapeutic assessment they reached the non-autistic category. Although this wasn't a big change considering numbers but in view of the qualitative improvements observed in the child this was a meaningful change. There were improvements in the basic learning skills like imitation, object use, adaptation to change, listening response, taste, smell and touch response and verbal as well as non-verbal communication. Research has shown that an intensive therapeutic plan, like this one, for autistic children has been very successful (Lovaas, 1987; Conner, 1998; Higbee, 2007).

The results of the subjective ratings shown marked improvement in child's vocalization, concentration, on seat behavior, verbalizing sensible words, self-help skills, understanding and compliance of different requests and activities like coloring, painting, molding dough and so on. In this study, unconditional acceptance of the child helped in building positive rapport with the therapist, improving social interaction, decreasing problematic behaviors and developing a positive response to therapy. Research has shown that client-centered, humanistic approach is very helpful in working with autistic children. It helps in transforming their obsessional themes into common games to increase positive social play interactions (Baker, Koegel, &Koegel, 1998) and a responsive care giving style positively affect cognitive and social-emotional development of these children (Trivette, 2003). This shows that humanistic and child centered approach is very useful while working to improve certain skills of developmentally delayed children, thus providing support to the results of present study.

Results further indicated that behavior therapy including modeling, prompting, clear instructions and planned ignorance were also helpful in developing new skills and decreasing the problematic behaviors. Modeling, clear instructions and prompting specifically helped in developing basic learning skills, improving

social interaction, developing compliance and enhancing verbal communication, whereas planned ignorance helped in decreasing the unwanted behaviors in the child. According to Fein (2009) researchers says about 10 percent of children overcome autism by age 9 after going through intensive behavioral therapy. In the current study, behavior therapy also gave fruitful results as shown in previous literature.

Expressive therapies have proved to be of great help while working with the child having autism. Play therapy helped in concentration improvement, cognitive development, enhancing social interaction and verbal communication. Research has shown that play therapy has been a very important tool in the management of autistic children.It is during play that autistic children learn appropriate behavior, task completion imagination, turn taking, building relationships, imitation, appropriate language, tolerance to a variety of ways to play with toys, reciprocal interaction and most of all to have fun (Sund, 2005).

Art therapy helped in improving social interaction, enhancing expression, building concentration and improving cognition. Previous research has supported these findings as studies have shown that Art therapy helps in enhancing social interaction (Schleien, et al., 1995), facilitating social and cognitive growth (Emery, 2004; Osborne, 2003) a working alliance and communicative abilities in autistic children (Evans, 1998). In the present research, music therapy also played an important role in providing a safer mode of expression to Asad. It also helped in his verbal communication and speech development as he used to sing the songs he heard. It also helped in improving his social interaction and attention. Research supports present study's findings (Baker, 1982; Thaut, 1984; Wigram& Gold, 2006) and music therapy has played an effective role in withdrawing Asad from his inner world to much extent.

Speech therapy helped to improve child's verbal communication, making request, improving social interaction and conveying needs. These results are in accordance with the researches that speech therapy has the maximum efficacy if started earlier in life. An analysis of Autism Research Institute's data involving 30,145 cases indicated that 9% never develop speech. Of those who develop speech, 43% begin to talk by the end of their first year, 35% begin to talk sometime between their first and second year, and 22% begin to talk in their third year and after. A smaller, more recent survey conducted by Adams (2004) found that only 12% were totally non-verbal by age 5 (as cited in Adams, et al., 2008) So, with appropriate interventions, there is reason to hope that children with autism can learn to talk, at least to some extent.

Lastly, systemic therapy also proved to be effective for facilitating the whole therapeutic process. Parents were psycho-educated about their right and wrong ways of communicating with the child. Systemic therapy also helped in decreasing the problems arose during therapy. Simon (2004) indicated in a study that people diagnosed with Asperger's Syndrome and their families can be communicated with and understood as living in meaning generated systems. Instead of following common lines of systemic enquiry, the therapist-client system immerses itself in the area of special interest of the young person who is diagnosed as having Asperger's syndrome. Thus systemic therapy is also very effective along with the main therapies while working with autism.

In the present study, action research and grounded theory has been integrated to generate results. This integration is not new although not much used in the field of clinical psychology. This mixed method approach has been employed by many researchers in various fields (Baskerville & Pries-Heje, 1999; Wastell, 2001; Yoong&Pauleen, 2004; Henfridsson& Lindgren, 2005; Terum, et al., 2005). Poonamelle (2009) has used action research and grounded theory in a somewhat similar way. She collected her data in the form of diary writing while conducting action research in a rural area of India and then later on applying grounded theory analysis on the notes to develop a theory based on her action research reflections. So, this form of combine use of both the methods has been successfully reported in the previous research and has also been undertaken in the present research. This theoretical model can be used by the therapists and care givers of autistic children to implement and evaluate the same plan while tailoring it according to their needs.

Conclusions

This brings us to the conclusion that the intensive implementation of a multi-pronged individually tailored therapeutic plan could be very effective in improving different areas of a mildly autistic child's functioning. In some cases individual techniques while in others a combination of different therapies was more effective. This research has also helped in developing a theoretical model of therapeutic process and progress while working with children having mild autism using the grounded theory approach.

Implications

1. The data collected through reflective journals and the theoretical model developed based on that would serve as a rough guide for a multi-pronged intervention plan for autism.
2. As it was an ongoing action process research, it has provided information for clinicians about which form of therapy is most effective for which kind of behaviors.
3. This outcome research has also provided information on the efficacy of a particular combination of therapies with autistic children.

Recommendations

Following is a list of recommendations based on this study which can be used by the therapists, parents, teachers and clinicians in order to improve their social interaction of autistic children:

a) Small and clear verbal instructions accompanied with modeling and at times physical prompting are helpful in developing compliance in a mildly autistic child.
b) Action words or verbs are easier to inculcate in a mildly autistic children's language as compared to nouns or non-action words.
c) Punishment is not very effective when used with mild autism instead calm and gentle dealing with them during their temper tantrums is more effective in soothing them.
d) Expressive therapies like art, music and play actually help in enhancing a mildly autistic child's expression through drawings, coloring, dancing, jumping, playing a musical

instrument, molding shapes, playing with toys, etc. These actually allow them to express themselves in a safe mode.

e) Giving positive acceptance to the child and creating a constructive relationship is a key to success in working with mild autism as it enables them to explore their environment in a safe and non-threatening manner.

f) Giving a child freedom to explore things or use them according to his own will give him a sense of control over his environment.

g) Expressive therapies are also very helpful in enhancing a mildly autistic child's attention span, concentration and on-seat behavior.

h) While teaching concepts to a mildly autistic child more action statements should be used along with modeling or physical prompts like teaching the concepts of 'Up' and 'Down' by actually going up and down with the child first and then calling him up and down.

i) Similarly when teaching names of body parts and recognition, some action should be involved like "Hit my hand with your hand".

Limitations and Suggestions

1. The time period of therapy was too short so in order to carry on the long term benefits, the therapy should be continued on the same lines and using the same approach. For this purpose therapist already trained a psychologist to work with that child on the same grounds.
2. The research design was a single case study, which enabled to develop a multi-pronged and individualized plan for an autistic child but it cannot be generalized on a larger population of autistic children. Another large-scale study should be carried out on a larger sample using the same multi-pronged intervention plan to evaluate its efficacy.

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