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CBT and Remedial Training in Adolescent with Writing Difficulty and Emotional Problems: A Case Study

Mahesh A. Tripathi & G. Sridevi

Abstract

In learning disabilities disorder of written expression which is also known as Dysgraphia described as handwriting problems, specifically, a partial inability to remember how to make certain alphabet or arithmetic symbols and the incidence of dyslexia in primary school children reported to be 2-18%, of dysgraphia 14%, and of dyscalculia 5.5%. Dysgraphia facilitates a negative impact on the achievement of an adolescent in his/her academic performance that leads to lack of self confidence and self esteem and research also found that REBT which focused on building positive thinking, and counseling to the parents and teacher which had significant improvement in the children. To study the efficacy of CBT and remedial training in adolescent with writing difficulty and emotional problems, a case study and pre – post design was used. Miss 'S' aged 16 years was diagnosed as “Learning disability (dysgraphia) with mild depression” as per ICD-10 classification. In intervention program she was given Cognitive Behavior Therapy (CBT) and remedial training scheduled of three sessions per a week, with 1 hour duration and the overall intervention completed in 24 sessions in eight weeks at Gems Health Care, Hyderabad. Informed consent was taken from the patient. BDI-II, STAI and SLD administered for pre-post assessment of intervention. The results show that on BDI-II her score was 13 which indicate no depressive symptoms and on STAI her state anxiety score was reduced by 76%. Her errors in spelling were reduced drastically and speed of hand writing was increased.

Keywords: A case study, Cognitive Behavior Therapy, and Remedial Training

Introduction

In 1963, the term 'learning disability' was coined by Samuel Kirk a psychologist who worked extensively with students showing poor scholastic performance and found that these so called 'scholastically backward' students could be helped by specific methods of teaching. Yet specific learning disability (SLD) has traditionally been among the least understood and most debated disabling conditions affecting students (Bradley, Danielson, & Hallahan, 2002; Fuchs, & Fuchs, 1998; Lyon et al., 2001). SLD is described as learning disorders categorized into reading disorder, mathematics disorder, disorder of written expression, and other unspecified. In learning disabilities disorder of written expression is also known as Dysgraphia. Richard (1999) defines dysgraphia as a problem with expressing

thoughts in a written form and Meese (2001) describes dysgraphia as handwriting problems, specifically, a partial inability to remember how to make certain alphabet or arithmetic symbols. There are common errors in learning disabled children- slowness, incorrect directionality of letters, too little slant, spacing difficulty, messiness, inability to stay on a horizontal line, illegible letters, too much or too little pencil pressure, or mirror writing (Mercer, & Mercer, 1985). Research has shown that handwriting is causally related to writing, and that explicit and supplemental instruction of handwriting are important elements in an elementary program to prevent writing difficulties (Graham, Harris, & Fink 2000). The two techniques, drill activities and fine motor activities are helpful to improve the problems associated with dysgraphia, especially in the area of handwriting (Alyssa, & Jennifer, 2007). Computer keyboards can be used as bypass for handwriting but not for the language difficulties which underlie writing problems (Berninger, Mizokawa, & Bragg, 1991).

The incidence of dyslexia in primary school children in India has been reported to be 2-18%, of

Mahesh A. Tripathi & G. Sridevi

GEMS Health Care

Email: matripati@gmail.com

dysgraphia 14%, and of dyscalculia 5.5%. However, awareness of specific learning disability has recently increased (Karande, & Kulkarni, 2005). Dysgraphia facilitates a negative impact on the achievement of an adolescent in his academic performance that leads to lack of self confidence and self esteem. Those students who are facing this type of difficulty are not able to cope up with written assignments, homework because they cannot put coherent thoughts together on the note, or write legibly. Although the impact of LD is primarily in the academic domain, youth with LD also experience social difficulties and psychological disturbance (Capozzi et al., 2008; Willcutt, & Pennington, 2000) and various studies supported the view of co-morbidity of emotional and behavioral problems with learning disabilities, and few studies revealed that prevalence rate of behavioral and emotional problems is higher among the poor performers than the normal (Scott, 1981; Sturge, 1982). The performance of academic strengths and weaknesses is also influenced by a second set of characteristics that are in the psychosocial domain, such as the child's motivation, social skills, or behavioural problems involving anxiety, depression, and/or attention that interfere with performance in academic domains (Fletcher et al., 2007). A learning disabled girl who was shy, sensitive and withdrawn had lot of negative feelings about herself and rational emotive therapy was found to be effective to build positive thinking (Rosario, 1991).

Trait anxiety is a personality disposition that describes a person's tendency to perceive situations as threatening, and hence to experience state anxiety in stressful situations (Gaudry, Vagg, & Spielberger, 1975). In people with learning disabilities, anxiety disorders are well recognized may be under reported and under diagnosed and is more in elderly individuals than young age group (Cooper, 1997). A cohort study comparing people with learning disabilities with the general population revealed significantly higher rates of phobic disorder in young age group (Deb, Thomas, & Bright, 2001). Individual with anxiety have frequently negative cognitions (Ingram, Miranda, & Segal, 1998). Behavioral therapy and cognitive therapy alone or in combination have demonstrated clear experimental evidence of efficacy in the treatment of anxiety disorders.

Methodology

Aim of the Study

To study the efficacy of CBT and remedial training in adolescent for writing difficulty and emotional problems.

Method

A case study was used for the present research study. Miss 'S' aged 16 year old was diagnosed as "Learning disability (dysgraphia) with mild depression" as per ICD-10 classification and in intervention program, she was given Cognitive Behavior Therapy (CBT) and remedial training. Pre- post research design was used to study the efficacy of Cognitive Behaviour Therapy (CBT) and remedial training. She was assessed using Wechsler adult intelligence test (WAIS), Screening Checklists for Suspected Learning Disabilities, Bender-Gestalt test-II (BGT-II), Human Figure Drawing Test (HFDT), Beck Depression Inventory

(BDI-II), and State Trait Anxiety Inventory (STAI). BDI-II, STAI, and SLD administered for pre-post assessment of intervention. The intervention was provided in three sessions per a week, with 1 hour duration and the overall intervention has been completed in 24 sessions in eight weeks at Gems Health Care, Hyderabad. Informed consent was taken from the patient. The intervention using CBT comprised of psycho-education, thought challenging, disputing, activity scheduling, role playing, and positive self statements components. The specific techniques used for remedial training included systematic techniques and fine motor activities.

Chief Complaints

Miss "S" a 16 year old girl was brought by her parents with the complaints of poor concentration during study, difficulty in writing, lack of interest in study (since childhood), forgetfulness, feeling of loneliness, worrying about future (from last six months). The onset was gradual and course was continuous.

Case History

Miss "S" was 16 yrs old, Muslim, girl, studying in X std, having right handedness, belongs to middle SES, nuclear family, hails from urban background of Hyderabad. There were no pre-natal, natal or post natal complications and no childhood delinquencies reported by her parents. In school, her teachers used to complaint about her incomplete homework and assignments as well as poor handwriting and mother reported that she had confusion between letters 'b' and 'd', W and M, p and b in the initial stage, but gradually that was improved. Her writing speed was too slow which lead to poor performance in the class, but she never failed in any class till 8th standard. She was repeated her 9th grade due to her poor performance and she reported that her classmates used to comment about her writing. She was making lot of spelling mistakes and from 9th standard onwards her

performance was significantly decreased as she started avoiding speaking in the class and since from last six months she started showing depressive features such as low mood, lack of energy, decreased self confidence, and self esteem.

Parents reported that Miss "S" used to be calm and quiet, always accept her faults and mistakes, never had any fight with others. Most of the time she remains silent and she does not like to speak with others even though others insist to her. Ophthalmologist revealed that she did not have any problem with her eyesight (3 months back).

On MSE, she was well kempt and tidy, wearing jeans pant and T-shirt, average body-built, appropriate to her age, maintained eye to eye contact partially, co-operative, rapport was easily established and maintained through-out the testing. Speech was audible with appropriate productivity and reaction time was average. She was well oriented with time, place, person, date, day, month, and year. Attention was aroused and sustained for a considerable period of time. Immediate, recent, and remote memory were intact. Mood, subjectively reported to be tensed, objectively appeared to be anxious and depressive (sad). Abstract thinking was on conceptual level and average intellectual functioning. She was worried about her future and feeling of inferiority was present in thought process. No abnormalities in perceptual process were elicited. Judgment was intact and insight was present.

Psychological Assessments

She was assessed using Wechsler adult intelligence test (WAIS), Wechsler Adult Performance Intelligence Test (WAPIS-PR); Screening Checklists for Suspected Learning Disabilities, Learning Disability- Screening Questionnaire (SLD-SQ), Bender-Gestalt test-II (BGT-II), Human Figure Drawing Test (HFDT), Beck Depression Inventory (BDI-II), State Trait Anxiety Inventory (STAI) and Wide Range Achievement Test (WRAT-4) Blue Form.

Test Findings

Test-1: Human Figure Drawing Test (HFDT): (Mitchel, Richard, & Roland; 1993). Quantitative scores indicate no organicity present in the client and qualitative findings indicate that she has conflict between self and environment.

Test-2: Bender-Gestalt Test (BGT-II): (Brannigan & Decker, 2003). On BGT-II, Miss "S" standard score and percentile suggests adequate visuo-motor functioning. In recall phase, she was able to recall just 6 items out of 12 items which suggesting her poor ability to

encode, store and retrieve information from memory and the sequence of the items 9, 1, 2, 3, 8, 7, 12 further suggests that her organizational ability is lacking. Frequently use of eraser and correcting with much effort are the indicators of learning disability and anxiety.

Test-3: Wechsler Adult Performance Intelligence Test (WAPIS-PR): (Wechsler, 1955). On Wechsler adult Performance Intelligence Test, she obtained a total score of 110, and corresponding IQ=95, that indicate her average intellectual functioning. However, performance on picture completion test was poor than other subtests.

Test-4: Wechsler adult intelligence test (WAIS): (Wechsler, 1958, 1981). Wechsler adult intelligence tests (WAIS) scale used to measure verbal intellectual functioning. Her obtained total score was 104 and corresponding IQ= 95. However, her performance is good in comprehension and vocabulary than other subtests.

Test-5: Beck Depression Inventory (BDI-II): (Beck, 1961). Her obtained score was 25, suggests that she is having mild depression.

Test-6: The State-Trait Anxiety Inventory (STAI): (Spielberger, 1968, 1977). She scored 49 on state and 42 on trait, suggests that she has anxiety traits and at present her mood is anxious.

Test- 7: Screening Checklists for Suspected Learning Disabilities: (Herriot, 2004). Findings suggest that she has significant difficulties in the area of written language such as difficulties in written expression, spelling, poor hand writing, difficulty in regulation and organization such as difficulty in sustaining effort in a task or difficulty in predicting how much time will be needed to complete a task.

Test-8: Specific Learning Disability- Screening Questionnaire (SLD-SQ-Teacher). Total score obtained on SLD-SQ was 5, which indicate she has difficulty in the area of learning.

Test- 9: Wide Range Achievement Test (WRAT-4) Blue Form. WRAT findings suggest that she has difficulty in understanding meaning of words, to comprehension of sentences and difficulty in encoding sounds into written form as letters or words. The findings also suggest that she is not utilizing her potential.

Behavior Observation

The testing was conducted in four sessions and she was co-operative through-out the testing. She was able to understand and comprehend test instructions of testing. She

performance was significantly decreased as she started speaking in the class and since from last six months started showing depressive features such as low mood, energy, decreased self confidence, and self esteem.

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She was assessed using Wechsler adult intelligence test (WAIS), Wechsler Adult Performance Intelligence Test (WAPIS-PR); Screening Checklists for Suspected Learning Disabilities, Learning Disability- Screening Questionnaire (LD-SQ), Bender-Gestalt test-II (BGT-II), Human Figure Drawing Test (HFDT), Beck Depression Inventory (BDI-II), State Trait Anxiety Inventory (STAI) and Wide Range Achievement Test (WRAT-4) Blue Form.

Findings

Test-1: Human Figure Drawing Test (HFDT): (Schuchel, Richard, & Roland; 1993). Quantitative scores indicate no organicity present in the client and qualitative findings indicate that she has conflict between self and environment.

Test-2: Bender-Gestalt Test (BGT-II): (Mannigan & Decker, 2003). On BGT-II, Miss "S" standard score and percentile suggests adequate visuo-spatial functioning. In recall phase, she was able to recall just 5 items out of 12 items which suggesting her poor ability to

encode, store and retrieve information from memory and the sequence of the items 9, 1, 2, 3, 8, 7, 12 further suggests that her organizational ability is lacking. Frequently use of eraser and correcting with much effort are the indicators of learning disability and anxiety.

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Behavior Observation

The testing was conducted in four sessions and she was co-operative through-out the testing. She was able to understand and comprehend test instructions of testing. She

appeared tensed where she used to fail in testing items. In second session she appeared little bored and she asked when the task would be finished.

Diagnosis

On the basis of case history, MSE, clinical observation and test findings, this is the case of learning disability (dysgraphia) with depression.

Procedure & Therapeutic Process

Pre-test, post- test design was used in this study. Therapist targeted writing difficulty (Dysgraphia) with direct instructions and fine motor activity; and depressive, and anxiety features were targeted with Cognitive Behavior Therapy (CBT). Intervention was done in three sessions in a week, each session for 1 hour and total 24 sessions were planned. Component of CBT comprised with psycho-education, thought challenging, disputing, examine the evidence, positive statements, activity scheduling, role playing, and behavior rehearsal. Components of fine motor activities are rubbing hands together, squeezing soft tennis balls, rubber balls and tennis balls, clay activities, and fingers movement up and down with pen, sewing and knitting with qureshia (crochet).

Cognitive Behavior Therapy

Initial Sessions (1-2 sessions):

In the initial session informal conversation including sharing of likes, dislikes, interests and hobbies were carried out to develop rapport with the client. After successfully establishing rapport she was psycho-educated about the nature, course, prognosis and management program. Psychoeducation was also given to the parents to gain their support in psychotherapy and remedial training which would help the better out come in the client. Through interview, thought dairy, and with the help of socratic questioning, following negative automatic thoughts and cognitive errors were identified: "No one likes me" "I am not good, because I am weak in study" and "I cannot succeed in the X class, because I could not write properly".

Middle sessions (3 TO 9):

These sessions targeted her underlying core beliefs and application of cognitive techniques. Initially thought challenging was used by examining the evidence such as she was asked to explain that how she came to know that no one is like her and why she is a bad girl? She described some incidents that happened in the school in

which she felt that her classmates were ignoring her and did not give attention towards her. She was also elaborated the situations which made her to feel the same and finally she was accepted that she might be perceived in a different way that they are laughing at her and ignoring her. The logical disputing was also used to change her irrational belief in which some questions were raised such as if someone is weak in studies can we call them as a bad boy or bad girl? Have your parents told you anytime that you are a bad girl? Or any friend had made any comment on you regarding your academics? Have you ever tried to make new friends in the class? Initially she tried a lot to defend her beliefs but when other meanings of interactions were introduced, she started to accept that "May be I was wrong". After convincing the patient that her underlying beliefs were maladaptive by providing lot of examples and she was suggested to write sentences which consisting positive and motivating words. for (e.g., "My parents and friends likes me, as they take care of me, "I am also the part of society and there are so many students like me", "I would be succeed, if I make effort" 'teachers also like me and help me in my academics")

Meanwhile, therapist started intervention for writing problem and initially she was asked to write a given paragraph and later her mistakes were discussed in detail. She was explained the problem of handling pencil with fingers such as grip of the pencil which was at 80 degree angle and her placement of the fingers was very near to the tip of the pencil about $\frac{1}{2}$ inch which resulted decreased speed of writing, irregular letter sizes and shapes, excessive use of erasures, misuse of line and margin. Finally for fine motor program the selected activities were rubbing hands together, squeezing soft tennis balls, rubber balls and tennis balls, rolling clay between fingers and fingers movement up and down on the pen, sewing and knitting activities with qureshia (crochet).

10 to 15 sessions:

First 20 minutes of the session was done with fine motor activities with fingers such as rubbing hands together, squeezing soft tennis balls, rubber balls and tennis balls, rolling clay between fingers and fingers movement up and down on the pen which were selected with her interest. After 6th session some other activities were included such as sewing a cloth with needle, knitting activities with qureshia. The last 15 minutes she was given a work to write a paragraph from any of the subject of her syllabus and the mistakes were calculated and after every session she was given feedback and finally she was motivated to improve her writing performance.

21 sessions:

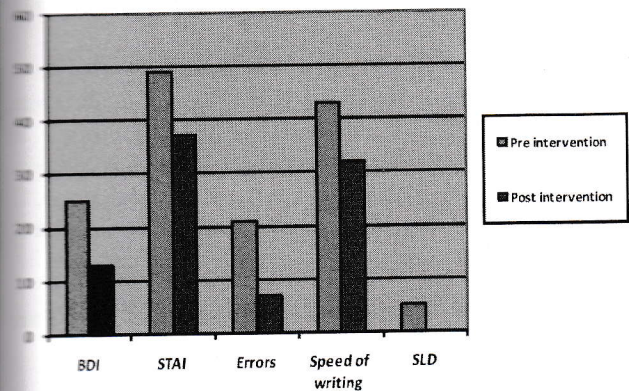
These sessions were taken by second therapist who has the knowledge of these types of activities. Initially large needle was used and gradually the difficulty was increased to fine needle size which made her to gain mastery in that task. In these activities, her mother was also involved and she helped her to learn qureshia (crochet) work with persistent motivation and self statements like "I can do it, and I should learn it", which made her confident and started learning quickly. She made a cap for her father and a scarf for her mother before completing the therapy program.

Terminal sessions (22-24):

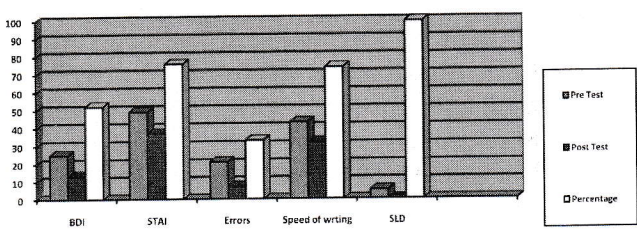
In these sessions homework dairy was checked and self rating and evaluation of therapy was obtained. Activity scheduling was done to bring her in more active and healthy life which was done on the basis of her previous routine such as evening walk or go with her mother for shopping, spend time with friends and other family members etc. Post therapeutic assessment was carried out with BDI-II, STAI and paragraph testing in the last session to evaluate the therapeutic effects on various areas such as writing problem and depression. At the end of the session she was encouraged and motivated and also instructed to feel free whenever she needs any help.

Results and Discussion

Graph-1: Shows Pre and post intervention scores of BDI, STAI, SLD and Paragraph test.



Graph-2: Shows Pre and post- test & percentage of improvement of BDI, STAI, SLD and Paragraph test



Results show that there is significant improvement in the areas of BDI-II and STAI scores. Pre intervention she scored 25 on BDI-II and post intervention her score was reduced by 52%. On STAI she got 49 and 42 score on state and trait anxiety respectively at base line assessment and post intervention state anxiety score was reduced by 76 % but trait score was remained same. Pre- intervention on SLD-Q she scored 5 which revealed presence of specific learning difficulty and post- intervention her score on SLD-Q was "Zero" which indicated 100% improvement in the client. In paragraph writing two different paragraphs were used for pre and post -assessment which consisted of 50 words and have same level of difficulty. Pre- intervention she got 21 errors out of 50 words in paragraph writing and she took 43 minutes. Post intervention her errors were decreased up to 7 and speed of writing was increased as she took 32 minutes which shows that errors decreased to 33% and her rate of speed increased to 74%.

In this case study the aim was to find the effectiveness of remedial training and CBT with an adolescent. Pre-intervention and post- intervention scores show that the positive effects on dysgraphia and depression. The findings on BDI-II and STAI support that CBT is useful in treatment of SLD, when the depressive features and anxiety are co morbid with SLD.

Conclusion

The finding suggests that CBT will improve the self confidence and self esteem of adolescent; and the remedial training such as systematic activity like direct instruction and fine motor activities are effective in the treatment of dysgraphia.

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