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Efficacy Of Online Cognitive Behavioral Therapy For Social Anxiety Disorder Comorbid With Depression

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Abstract

To evaluate the effectiveness of online cognitive behavior therapy, treatment of a 20-year-old girl was executed through Skype over 9-months including 22 Psychotherapy sessions. According to DSM-5 she was diagnosed with "Social Anxiety Disorder, Performance Only" and "Major Depressive Disorder, Moderate". Pre-test assessment through Liebowitz Social Anxiety Scale, Brief Fear of Negative Evaluation Scale, Self-Statements during Public Speaking Scale, and Beck Depression Inventory indicated prominent social phobia, clinically significant social anxiety, frequent negative self-statements, and severe depression respectively. Cognitive behavioral techniques were applied including identifying cognitive distortions and cognitive restructuring, belief change through Socratic dialogues, systematic desensitization, problem solving, and developing communication skills. The post-treatment assessments showed no social phobia/ anxiety and depression and more positive self-statements while rare negative self-statements were found till 1-month follow-up that completely faded over 3-months, 6-months, 2.5 years, and 5 years follow-ups. To evaluate progress over time, separate client and clinician ratings were recorded in every session through Subjective Units of Distress Scale and Clinical Global Impressions Scale respectively. Before the start of treatment, client rating indicated a distress level near to freak-out and alienate which coincided with clinician rating showing markedly ill level with no change from baseline. Gradual reduction in distress and improvement was observed throughout treatment while both client and clinician rating at the end of treatment indicated a normal level, improved state, peace, serenity, and total relief suggesting no more anxiety of any kind. Further, the Credibility/Expectancy Questionnaire showed that at beginning client rated on average 85% credibility and positive expectancy of treatment outcomes which improved to 95% on average at the end of treatment. Overall, objective and subjective measures were found to demonstrate stable outcomes over 5 years suggesting that online cognitive behavioral therapy stands as effective treatment for social anxiety disorder and depression. The efficacious outcomes are especially significant in relevance to the pre and post covid technological advancements in the field of clinical psychology.

Keywords: case study, online CBT, social phobia, performance anxiety, comorbid depression.

Introduction

Social anxiety disorder (SAD) also called social phobia is a psychological illness categorized under anxiety disorders and it is described as extreme anxiety or fear of being evaluated, negatively judged, criticized, or rejected in a social or performance situations. The person either starts avoiding these situations and when the situation is unavoidable, they experience intense anxiety and distress. Anxiety or fear is characterized by some physiological symptoms like increased palpitation, heavy breathing, sweating, blushing, shaking, trembling, dry throat, choking, freezing etc. Social anxiety has

been classified as performance only type when the anxiety is restricted to performance situations such as giving presentation and speaking to public etc. This kind of anxiety mostly affects academic or occupational functioning and personal or professional relationships (American Psychiatric Association, 2013). SAD is mostly observed to cooccur with other disorders like specific phobia, substance use, and depression and people with SAD unfortunately do not approach for their mental health treatment unless they experience intense symptoms like depression. To treat social anxiety disorder, a few evidence based therapies such as Cognitive behavioral therapy (CBT) have been utilized as the first line of treatment by mental health professionals (Shorey & Stuart, 2012).

Cognitive Behavioral model for social phobia by Clark and Wells (1995) has been widely applied in single case studies (Avila, Figueiredo, & Vagos, 2022; (Haukeli & Edlund, 2022; Carlbring et al., 2007). Shorey and Stuart (2012) reported an in-depth analysis of a single case with manualized CBT for SAD. Therapist utilized standard CBT techniques e.g., psychoeducation regarding clients' problems to create insight, preparedness, and motivation towards change. Cognitive restructuring to change negative thoughts, emotions, and behaviors into positive and healthy alternatives. Systematic desensitization was demonstrated to create anxiety hierarchy for least anxious to most anxiety provoking situations and then step by step reducing the anxiety by pairing the situation with relaxation during the session and then practicing the task in real life situations. The treatment was comprised of 17 sessions and the outcomes of therapeutic change were measured through multiple measures related to SAD and subjective distress. CBT produced significant clinical change and was helpful in attaining full remission at 8 months follow-up. This case study demonstrated manual based individualized CBT as a highly effective treatment for social anxiety. However, the authors suggested testing of CBT for other SAD comorbid conditions and recommended to include therapist rating for measuring effectiveness.

Haukeli and Edlund (2022) reported a case study of a 4-day intensive exposure treatment program (Bergen 4-Day Treatment) on an adolescent girl diagnosed with SAD and found it to be effective over 2-year follow-up. This case study reported equally applicable effectiveness of CBT during Covid-19 pandemic when the in-person visits and direct exposure to social situation was restricted. Since then, researchers and clinicians have been more focused on the remote methods of treatment (Haukeli & Edlund, 2022). With the development of modern technologies, computer-based or online CBT has been the focus of therapists as well as researchers and programmers. Online CBT is a kind of treatment that utilizes online programs to deliver CBT interventions for a variety of psychological issues. Online modes that are most utilized are smart phone applications, web groups providing support, virtual self-assisted sites, and therapist supported programs etc. People opt for online mode of treatment for their convenience and online CBT is purposefully designed to help people enhance their coping skills to deal with their mental health problems in supervision of therapist (Avila, Figueiredo, & Vagos, 2022).

Internet based cognitive behavioral therapy (ICBT) helps provide people a better understanding of their illness and is more efficient in managing overall stress, not just decreasing its severity, but also enhancing their cognitive skills an overall life satisfaction (Kumar, Sattar, Bseiso, Khan, & Rutkofsky, 2017). A study conducted on ICBT for social phobia in Switzerland randomly assigned 52 individuals with social phobia either to an ICBT with minimal contact with therapists via e-mail or to a waiting-list control group. Significant differences between the two groups were found at

pre and post treatment on all primary outcome measures for social anxiety and on two of the secondary outcome measures including general symptomatology and therapy goal attainment. The results of the study supported Internet-delivered interventions with minimal therapist contact as promising treatment for social phobia (Berger, Hohl, & Caspar, 2009).

Most studies on online CBT for social anxiety have studied therapist assisted programs (Carlbring et al., 2007), self-assisted programs (Botella et, 2008), randomized controlled trials (Carlbring, Nordgren, Furmark, & Andersson, 2009), and reviews or meta-analyses (Hofmann, Wu, & Boettcher, 2014) suggesting effectiveness of online mode of treatment for SAD. Although a few studies have evaluated therapist-supported single case in-depth analysis. Avila and colleagues (2022) also reported about the limitation of manualized CBT which cannot be tailored to individual needs of the client (Avila, Figueiredo, & Vagos, 2022). Hence the present case study is rationalized to present an in-depth analysis of a single case focusing on extensive measures conducted at pre and post treatment, and long-term follow-ups stages to check out the effectiveness of online CBT for social anxiety comorbid with depression. The theoretical grounding of present study further lies in the findings obtained from various studies such as Kumar and colleagues (2017) suggested that Internet based Cognitive Behavioral Therapy (ICBT) is a potential tool emerging with modern day technological advancements and useful in both rural and urban settings, across various languages and cultures, and on a global scale (Kumar, Sattar, Bseiso, Khan, & Rutkofsky, 2017). Especially in times of covid-19 pandemic and lockdown situations where frequent in-person visits to therapists were nearly impossible.

According to Schneier et al. (2011), depression frequently co-occurs with social anxiety disorder, a common and crippling condition (Kessler et al., 2005; Ruscio et al., 2010). Social, occupational, and academic functioning are significantly hampered by both social anxiety disorder and depression. According to studies conducted by Clark et al. (2006) and Hofmann et al. (2012), cognitive-behavioral therapy (CBT) is a successful treatment for depression and social anxiety disorder either alone or co-existing. Online CBT has recently gained popularity as a promising alternative to traditional face-to-face therapy because it is more convenient and accessible (Andersson et al., 2014; Titov et al., 2015). However, to determine whether online CBT is effective for social anxiety disorder that coexists with depression, more research is required.

Methods

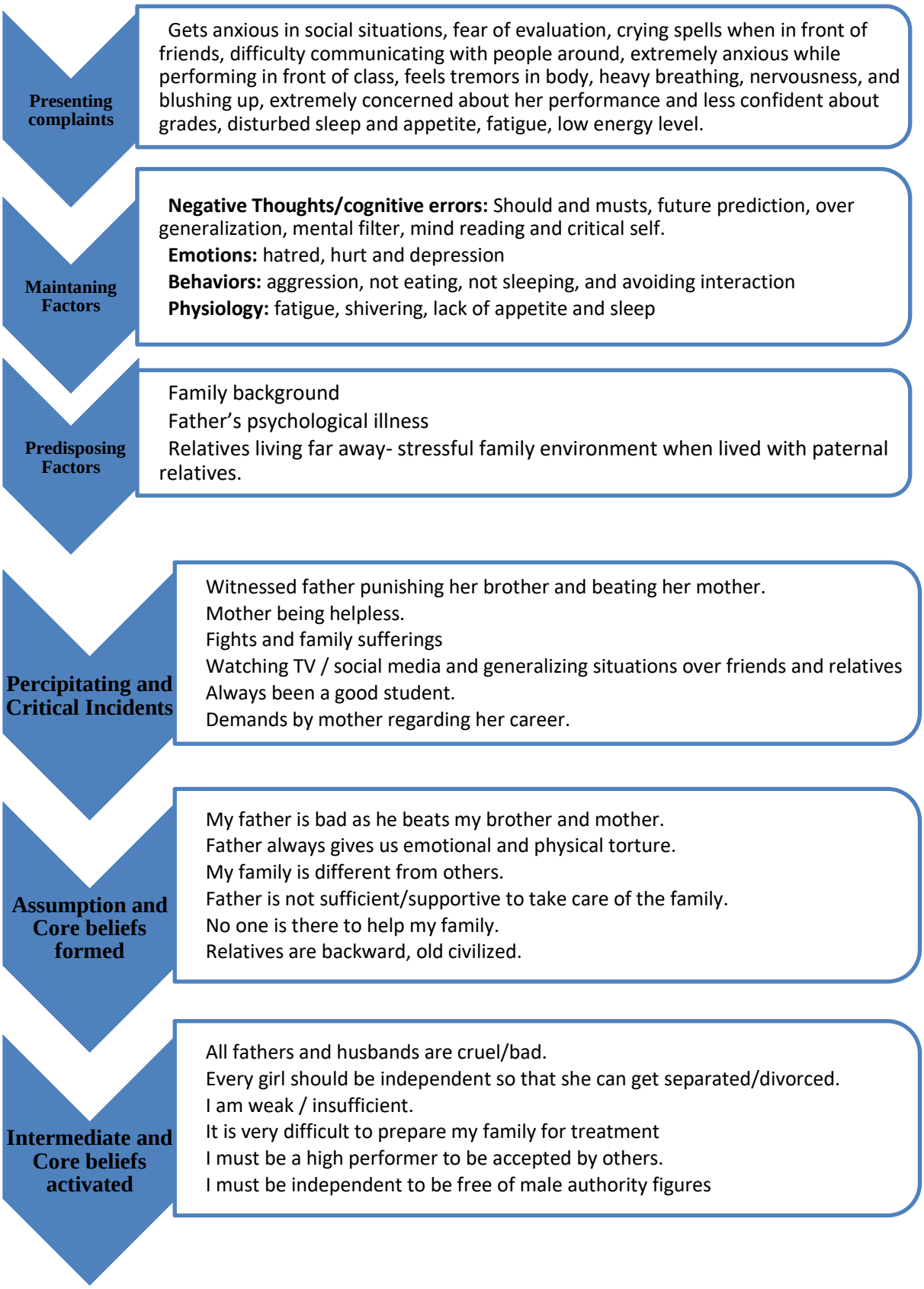
Research Design: A single-subject design with multiple baseline measures was used in this case study.

The Case: The participant was a 20-year-old university student, last born, belonging to middle socio-economic status, living in a nuclear setup in Karachi, Pakistan. The client sought online help from a registered clinical psychologist at Consult A Psychologist Clinic with the presenting complaints of: being anxious in social situations, tremors, heavy breathing, nervousness, and blushing up during performance situations, fear of evaluation, unable to perform well at university due to anxiety, crying spells, disturbed sleep and appetite, fatigue, low energy level, difficulty communicating with others, extreme concern about grades, comparison with high graders, and lack of confidence. Her problems worsened 2 years back when she joined university for her graduation though she was shy and less confident since her adolescence. Before starting university career, she didn't find herself that much concerned about her performance. Her symptoms became serious when she started comparing herself with others and felt that her classmates were more confident, outspoken, and

better than her. As per her course requirements of communication skills, while she had to give presentation in front of class for the first time, she became extremely nervous, blushed up, and experienced heavy breathing. When she needed to work on group assignments, she got nervous so preferred to work on solitary assignments. Although she was a good team player previously, but then she lacked confidence in her abilities and therefore felt inferior to other classmates. She had been a bright student but due to performance anxiety, her academic grades declined that made her worried about her future. She wanted to improve her performance but found herself helpless. Though she was still an average grader, she thought that her performance was not up to the mark which reflected her perfectionistic tendencies. She had satisfactory family relationships but reported a few negative childhood experiences such as tense family environment and father was very strict and aggressive. Her mother always kept high expectations about her career. As far as her prior treatment was concerned, she consulted a psychologist as per her friend's recommendation but couldn't manage to continue visiting her therapist after two sessions therefore she opted to continue with an online therapist.

Based on her diagnostic assessment findings according to DSM-5 (APA, 2013), she was diagnosed with "Social Anxiety Disorder, Performance Only **300.23**" and "Major Depressive Disorder, Moderate **296.22**".

Cognitive Conceptualization of the Case:


Presenting complaints
Gets anxious in social situations, fear of evaluation, crying spells when in front of friends, difficulty communicating with people around, extremely anxious while performing in front of class, feels tremors in body, heavy breathing, nervousness, and blushing up, extremely concerned about her performance and less confident about grades, disturbed sleep and appetite, fatigue, low energy level.
Maintaning Factors
Negative Thoughts/cognitive errors: Should and musts, future prediction, over generalization, mental filter, mind reading and critical self.
Emotions: hatred, hurt and depression
Behaviors: aggression, not eating, not sleeping, and avoiding interaction
Physiology: fatigue, shivering, lack of appetite and sleep
Predisposing Factors
Family background
Father's psychological illness
Relatives living far away- stressful family environment when lived with paternal relatives.
Percipitating and Critical Incidents
Witnessed father punishing her brother and beating her mother.
Mother being helpless.
Fights and family sufferings
Watching TV / social media and generalizing situations over friends and relatives
Always been a good student.
Demands by mother regarding her career.
Assumption and Core beliefs formed
My father is bad as he beats my brother and mother.
Father always gives us emotional and physical torture.
My family is different from others.
Father is not sufficient/supportive to take care of the family.
No one is there to help my family.
Relatives are backward, old civilized.
Intermediate and Core beliefs activated
All fathers and husbands are cruel/bad.
Every girl should be independent so that she can get separated/divorced.
I am weak / insufficient.
It is very difficult to prepare my family for treatment
I must be a high performer to be accepted by others.
I must be independent to be free of male authority figures

Therapist Credentials:

The therapist was a senior clinical psychologist having a doctoral degree in clinical psychology with specialized training in CBT along with extensive clinical experience and research background in treatment of psychological disorders.

Measures:

Therapeutic Assessments

Liebowitz Social Anxiety Scale (LSAS; Baker, Heinrichs, Kim, & Hofmann, 2002):

LSAS is a self-report measure of social phobia consisting of 24 items. Each item is scored on two subscales. The fear/anxiety subscale is rated on 0= none to 3= severe whereas avoidance subscale is scored on 0 (never), 1 (occasionally), 2 (often), and 3 (usually). A total score of the two subscales can range from 0 to 144 with a cutoff value of 30 suggesting screening for SAD and a value above 60 indicates social anxiety (Rytwinski et al. 2009). A total score ranging between 55-65 indicates moderate social phobia, 65-80 shows marked social phobia, 80-95 suggests severe social phobia, and greater than 95 score indicates very severe social phobia. LSAS is reported to have good psychometric properties. The internal consistency estimates of $\alpha = 0.95$ and test re-test reliability of $r = 0.85$ have been reported (Baker et al., 2002).

Brief Fear of Negative Evaluation Scale (BFNES; Leary, 1983):

BFNES is a self-report tool comprised of 12 items that measure the person's apprehensions about negative self-evaluations by others. The items are rated on 5-point likert scale ranging from 1 (not at all characteristics of me) to 5 (extremely characteristics of me). The total score is obtained by adding score on all items ranging from 12 to 60 with a cut off score of 25 or above indicating clinically significant social anxiety. The higher score indicates higher level of fear of evaluation. The scale is reported to have acceptable reliability and validity estimates in clinical samples and it has been found to be sensitive for measuring pre and post treatment change in SAD (Collins, Westra, Dozois, & Stewart, 2005).

Self-Statements during Public Speaking Scale (SSPS; Hofmann & DiBartolo, 2000):

SSPS is a 10-item self-report measure of fearful thoughts and level of discomfort the respondent experiences during public speaking. The items are rated on 6-point scale ranging from 0 (do not agree at all) to 5 (extremely agree). It has two subscales that evaluate negative self-statements (SSPS-N) and positive self-statements (SSPS-P). A total score on ach subscale is obtained by adding all 5 subscale items that can range from 0 to 25 with higher score showing greater self-statements (positive or negative). Both subscales have been reported to have higher estimates of internal consistency i.e., SSPS-P $\alpha = .80$ and SSPS-N $\alpha = .86$ and acceptable test-retest reliability i.e., SSPS-P $r = .78$ and SSPS-N $r = .80$ (Hofmann & DiBartolo, 2000).

Beck Depression Inventory-II (BDI-II; Beck, Steer, & Brown, 1996):

BDI-II is a self-report measure of depression comprising of 21 items which are rated by respondents using 4-point scale indicating severity of symptoms ranging from 0 (mild) to 3 (severe) for past 2-weeks. A total score is obtained by adding score of individual items ranging from 0 to 63 and higher score indicates more depressive symptoms. Standard cut off scores for general population range from 0-9 indicating minimal or no depression, 10-18 indicating mild depression, 19-29 indicating moderate depression, and 30-63 indicating severe depression. BDI-II has been extensively used for

clinical research and has sound psychometric properties (Dozois, Dobson, & Ahnberg, 1998).

Evaluations of treatment progress

Subjective Units of Distress Scale (SUDS; Wolpe, 1969):

SUDS alternatively named as Subjective Units of Disturbance Scale is a 1 item self-reported instrument rated on 11-point scale ranging from 0 indicating no anxiety (peace, serenity, total relief. No more anxiety of any kind about any issue) to10 indicating peak anxiety (Feels unbearably bad, beside yourself, out of control as in a nervous breakdown, overwhelmed, at the end of your rope. You may feel so upset that you don't want to talk because you can't imagine how anyone could possibly understand your agitation). The scale measures subjective intensity of discomfort and is used by clinicians as a yardstick to measure treatment progress in exposure-based CBT for SAD. It has been reported to have sound psychometric properties for clinical and research purposes (Daeho, Hwallip, & Yong 2008).

Clinical Global Impressions Scale (CGI; Turner, Beidel, Long, Turner, & Townsley, 1993):

CGI is a therapist-rated instrument particularly devised to evaluate severity of illness and improvement or change occurred since baseline. It has two subscales both rated on 7-point. The subscale CGI-S indicates severity of pathological symptoms ranging from 1= "normal, not at all ill" to 7= "extremely ill". The subscale CGI-I indicates improvement from baseline ranging from 1= "very much improved" to 7= "very much worse". CGI has been reported to show good psychometric properties (Turner et al.,1993).

Credibility of treatment

Credibility and Expectancy Questionnaire (CEQ; Borkovec & Nau, 1972):

CEQ is a self-report measure consisting of 6 items that evaluate respondent's thoughts and feelings about the helpfulness of the received treatment. It has two subscales. The credibility factor consists of 3 items that determines respondent's thoughts and beliefs about the credibility of the received therapy specifically how much reduction in anxiety symptoms would be occurring and how likely the client would recommend this form of treatment to others whereas the expectancy factor consists of 3 items that determine respondent's feelings about the improvement through the treatment or its expected success. CEQ has been stated to have high psychometric properties. The internal consistency estimates of $\alpha = 0.79$ to 0.90 whereas test re-test reliability estimate for expectancy factor is found to be $r=0.82$ and for the credibility factor it is $r=0.7$ (Devilly & Borkovec, 2000). To report the results average rating has been utilized in the study.

Procedure:

All the ethical guidelines for research provided by APA were followed for conducting the case study including, written informed consent provided by the client to participate in case study and written permission was taken from the clinic authorities to publish the findings.

At initial phases of treatment, the therapist conducted diagnostic interview (intake) and checked the suitability of client for CBT, the cognitive conceptualization and treatment plan was prepared by therapist. Online CBT was provided through video conferencing on Skype consisting of 22 sessions of 45 to 60 minutes over the period of 9 months. Therapist utilized cognitive behavioral model of social phobia (Clark & Wells, 1995) for developing cognitive conceptualization of the case and use standard CBT techniques to treat social anxiety as manualized by Hope et al., (2006 & 2010) with a few modifications tailored to the individual needs of client (since the manualized treatment was

designed solely for social anxiety disorder and comorbid depression required additional emphasis) such as the number of required sessions for certain techniques to work was solely based on the decision regarding reduction in symptoms and improvement of condition as indicated by client and clinician ratings (Refer Table-1; Graph 1 & 2). Cognitive Behavioral techniques used by therapist included Psychoeducation: demonstration of ABC model, identification of link between thoughts-emotions-behaviors and consequences, and identification of cognitive distortions/ errors; cognitive restructuring; belief change through Socratic dialogues; systematic desensitization; self-esteem building; problem solving; assertive communication skills; and relapse prevention. During follow-ups (1-month, 3-months, 6-months, 2.5 years, and 5 years) when the client visited the therapist, review of previously demonstrated CBT techniques, discussion of setbacks, client's unhelpful and helpful responses to upcoming setbacks, and psychoeducation helped her the most (Refer Table-1).

Multiple baseline measures consisted of client's rating for 1 month prior to the commencement of treatment on multiple self-reported questionnaires related to social anxiety and depression. The primary treatment outcomes were measured through change in social anxiety symptoms from baseline till follow-ups as measured by Liebowitz Social Anxiety Scale (LSAS), Brief Fear of Negative Evaluation Scale (BFNES), and Self-Statements during Public Speaking Scale (SSPS) and change in depression symptoms as measured by Beck Depression Inventory (BDI). The secondary treatment outcomes were measured through every session record of Subjective Units of Distress Scale (SUDS) rated by client and every session record of treatment progress as measured by Clinical Global Impressions Scale (CGI) rated by clinician. Further, the credibility of treatment was demonstrated by the client at initial and ending phases of treatment as measured by Credibility and Expectancy Questionnaire (CEQ).

Table-1 Therapeutic interventions applied during treatment.

Session No	Techniques	Behavioral observations	Assignment
Baseline	Diagnostic interview, clinical observations, tentative diagnosis, suitability for CBT	Appeared markedly disturbed, need for urgent psychotherapy	Fill out questionnaires and email back
1	Psychoeducation: Introduction to CBT Model, Thought-Emotion-Behavior link, Identification of Negative Automatic Thoughts (NATs), and Thought change process	crying spells and extreme disturbance due to social anxiety	Identify and write down Negative Automatic Thoughts
2	Psychoeducation: ABC Modal, Cognitive Distortions, Cognitive Restructuring through Socratic dialogues introduced.	More confident than previous. Able to identify examples of Cognitive Distortions from life. Was able to	fill out worksheet (Thought Change Record).

		find alternatives through Socratic dialogues	
3	Identification of cognitive distortions: should and must (e.g., I must do something to change fathers' attitude towards brother but I'm helpless), past-memories (since childhood I've seen tensed family environment and it's still like that), black and white thinking (my father is all bad as he treats my mother and brother like hell, this results in mother's poor health condition, he acts all good with me which is in-turn not helpful)	She appeared motivated/ happy upon her ability to participate in class, answer correctly, and interact with friends after suggesting positive alternatives to her NATs. However, appeared tearful upon her father's maltreatment with brother/ mother.	Diary writing (write 3 things every day that made you happy)
4	Systematic desensitization: Created anxiety hierarchy from least to most fearful situations (selecting presentation topic 35%, watching others presenting 50%, making a mistake while presenting in English 65%, presenting to small and familiar audience 80%, final presentation to large unfamiliar audience <90%) Relaxation Exercise: Paired relaxation with presentation topic selection. Assignment Review: Started finding positivity in life. Happy about her class interaction. Confident to find alternative thoughts in times of stress. Felt good about father dropping her to university.	Previously she felt anxious about being tearful during the video session however, she found herself relaxed at home/with friends after this emotional expression. Further, childhood memories about family life still bother her.	Self-esteem building (write 50 positive qualities of herself, continue writing 3 things every day that create happiness) Use above activities to make her Achievement Log.
5	Systematic desensitization: Relaxation exercise to pair relaxation with watching others giving presentation (in-vivo). Previous week Review: While answering the teacher's question from the front row she still doubted her ability to answer from the middle row (being the center of attention among all classmates). Found herself confused about which group to join for her group assignment.	Appeared comfortable, fluent, and confident.	Experimentation: check out her thoughts and ability to answer from middle/backbench in real life situation. Problem solving sheet (decision

	Assignment Review: Achievement Log: she could write 27 positive qualities and many achievements in her life. Happiness exercise: Felt blessed to have much positivity in life and old friends getting back to her for birthday wish.		making regarding group assignment)
6	Systematic desensitization: Paired relaxation with others making a mistake and then finding mistake during her own presentation (in-vivo). Problem solving: Utilized worksheet to find pros and cons of available options and then chose the best solution. Identified relevant cognitive distortions of disqualifying positives (I'm not good at English while others are fluent and good presenters), future prediction (my grades will be affected due to my lack of presentation skills) and should/musts (I must be a high achiever, best presenter, and fluent English speaker in normal conversations).	Fluent and confident while reviewing problem solving. Appeared disturbed as her friend nominated her for group presentation. She felt anxious, regretted upon friends' request, and started losing her emotions (blushing) so her friend closed the discussion.	Use Thought Change Record and write down the actual skills that previously helped her perform good and get good grades. Continue happiness exercise & follow the action plan of Problem solving.
7	Systematic desensitization: Relaxation while presenting in front of a small group of people she knows like her friends/class fellows (in-vivo). Cognitive restructuring: identify NATs/errors, Socratic dialogues, analyze like a court case, find proofs in favor/ against of NATs. Positive reframes: [Self-discounting]: I'm working on my other skills. [Future prediction]: my grades are average and I'm practicing so my performance will improve. Let's focus on my current work and course. [Should & Must]: Its better if I improve my performance, when I'll give more time to prepare for exams there are more chances I'll perform well in exams and get good grades.	Appeared relaxed and focused. Able to identify her errors and positive alternatives. Started asking questions and taking feedback about her condition from the therapist. More interactive and confident.	Continue practicing thought change. Focus on assignments (presentation/ group work) and exam preparation. Experimentation: for her language skills
8	Systematic desensitization:	She found herself confident and	She was encouraged to

	Paired relaxation with presenting in front of a large audience (in-vivo). Review: Experimentation: She identified her English language skills as barrier in presentation and consulted her teacher who in turn clarified upon the bi-lingual native style as acceptable during presentation. Unexpected group situations identified as bothering. She felt sad upon it for a while and then turned to thought change and problem solving in real life situations.	prepared for the presentation, having command over material. She appeared fluent in thought change and felt happy upon her ability to deal with social/ performance situations.	pursue cognitive restructuring in real life situations. Practice for upcoming presentation in class (in-vitro).
9	Review of systematic desensitization: She confidently delivered a presentation in front of her class and teacher. The real-life presentation experience changed her beliefs, and she suggested positive/healthy beliefs about her overall performance: As I've prepared well and delivered confidently, my class performance and overall grades would improve. She was able to overcome social anxiety, however, deep rooted depression stroked her strongly.	She started relying on self-qualities rather than social comparisons and high standards. Appeared disturbed as she discussed family arguments although she reported intensity of disturbance low as compared to the start of therapy.	Start picking NATs related to family situations.
10	Discussed family issues and painful memories she had in life. Father's mental illness and cruel behavior towards mother/brother caused disturbance in her. She couldn't identify her cognitive errors while reported her father to be responsible for her negative beliefs. She felt unready to change her beliefs and extreme hostility towards father although he was quite caring towards client despite being cruel to her mother and brother.	Appeared extremely disturbed while discussing her past experiences. Discrepancy between her rated SUD (3 out of 10) and her body language/ tears showed more disturbance. That might be due to the cathartic experience, or the	She was asked to write down the things she finds disturbing for her. Identify cognitive errors.

		client lacked insight regarding her condition.	
11	Identification of thinking errors and cognitive restructuring: Jumping to conclusion: "Others will judge her as bad because of her father". Socratic Dialogues: if she could judge her friend as bad if her friend had similar experiences with father? Alternative Thought: No one can judge me bad due to my father's bad behavior with mother. Shoulds & Musts: "family like mine is unacceptable in our society", "suffering due to father is unbearable for me", "I feel helpless in sharing this dark side of my life with anyone", "people may only sympathize with me", "mother should had left such abusive partner". Critical incidents and beliefs: No social support available to family since family was not in good relationships with relatives. Mother tried to convince father for psychological treatment, but he denied. Her mother had no choice than living with abusive partner since her own maternal/paternal family appeared instable too.	Too much crying spells during session and she reported experiencing headache during previous week due to these painful memories. She also felt greatly upset to share it with therapist. She was psycho-educated about crying as a natural way to express disturbing emotions.	Use "unhelpful thinking patterns sheet" And "thought change record" to note down her experiences.
12	Further cognitive errors identified: Should/Must: "I must be independent to avoid hazards as depending on others will leave me helpless". Socratic dialogues demonstrated to shatter beliefs/errors.	She effectively identified her thinking errors and engaged in discussion without crying spells. Although feelings of hurt observable upon discussing father.	Continue working on Thought Change Record
13	She was able to precisely identify her cognitive errors and demonstrate the intermediate beliefs. shoulds and musts: "I should be organized in studies, must remain a high performer to meet	Fluent and relatively OK however, appeared disturbed when talking about fathers' punitive	Use "belief change sheet" to write unhealthy and healthy beliefs.

	mother's expectations and since I've been always a good student". To compensate for the felt deficiencies in family life she adopted her mothers' high standards for achievement as a coping mechanism. Demonstration of Socratic dialogues and beliefs change.	behavior towards brother.	Fill achievement log to restore self-esteem. Happiness exercise to find positivity in life.
14	Discussed background factors of father-mother relationship leading to disturbance. Realization that mother's coping was also not healthy which resulted in faulty beliefs rather than effective problem solving. She identified her adopted belief that "It's unbearable to live with a mentally disturbed person rather one should leave this relationship". This core belief resulted in her independent striving to avoid future catastrophes.	She was able to discuss family matters comparatively much easily than before. She also analyzed errors but appeared less accepting of her mother's unhealthy adjustment.	Use cognitive errors sheet to name her thinking errors.
15	Performance Review: She identified her thinking errors and demonstrated cognitive restructuring for upcoming presentation in front of foreign delegates. Errors of future prediction turned into problem solving and she suggested alternative options and solutions to enhance performance. Should and must turned to identifying basic needs of the situations and getting satisfied on realistic results. She was encouraged to apply similar strategies of thought change to her family situation.	She appeared confident in solving social anxiety (performance situations). Disturbance was identified upon turning to family related matters where her tested techniques were encouraged to bring about change.	Question herself, identify errors, and find alternative explanations.
16	Review of Thinking errors sheet. Identified interlinked beliefs/ errors: Should and Must (I should be more knowledgeable in Islamic teachings), Overgeneralization (I dislike my father's aggression due to which I hate him and avoid. It results in my spiritual incompetence)	Crying spells during session. Though she appeared focused to suggest a few alternative thoughts, she wasn't ready to write.	Write down the suggested alternative thoughts against the errors.

17	Identified core beliefs triggering emotions and behaviors: Should and Must ("life is unfair with me I should have got favorable circumstances to grow like my friends and relatives". Trigger feelings of Self-pity. Can't take any action to improve family circumstances). Overgeneralization (all fathers are same. Men are bad. Triggers Hatred. Avoids interaction).	Crying spells upon brother bearing bad attitude of father. She rated her progress as effortful, not automatic yet. Her progress was appreciated	Encouraged writing down NATs / positive thoughts so she can make it accessible whenever needed
18	She identified the link between her thoughts-feelings-actions and negative life consequences. Felt ready to act against family-based perceptions. Problem solving: What steps she can take to change circumstances? How the conflicts can be resolved? Assertive communication skills: intervening fights between father and brother.	She had control over her crying spells and reported less disturbance compared to start of therapy.	Analyze family circumstances and talk about problem resolution.
19	She demonstrated ABC model, picked her errors of emotional reasoning, should and must, and overgeneralization. Problem identification and solutions: Her hatred towards father kept her avoid thinking regarding solutions. Mother's response to dealing with father's illness wasn't effective (she argued instead of understanding his condition). Identified father's mental illness as real problem and regulating his medication as better option to solve the problem. Secondly, refer her mother for counselling to develop better coping and continue supporting her father's treatment.	She reported better state of mind and least disturbance while discussing family issues.	Talk to mother about focusing on his father's treatment. If it doesn't work, then refer her for counselling. Just like demonstrated in session, make 2 other ABC scenarios, and solve these.
20	Review of assignment: Situation 1: She assumed that her friends talked about and evaluated her. Feeling of hurt but she controls crying. The consequence was communication gap and poor relationship. Experiment to test mind reading (friends dislike her, think negative about her and that's why don't talk to her): she shared her thoughts to another friend for opinion who clarified the misunderstanding.	Quite improved state. She fluently suggested alternative positive thoughts. She rated her disturbance as minimal and reported that this level of stress is acceptable, she	Find out reasons of stress, pick the problem and apply strategies she learned during therapy.

	Consequence: experiment revealed that her friends care about her feelings. She started talking to friends and remove misunderstandings. She further changed her beliefs (gossiping is bad so I should avoid such friends) through Socratic dialogues to helpful beliefs (every time they don't talk bad but sometimes, they refer specific people who misbehave) and she realized that all the friends enjoy talking and she also enjoys their company. Situation 2: during presentation she suggested herself that "there is no language barrier I just need to prepare the material and I can do it" she felt concerned and prepared for presentation. Consequence: she did well without shivering or feeling pressured. New beliefs formed: I can do it when it comes to giving presentations because what matters is preparation.	considers it normal because it's impossible that someone is free of stress all the time. (Her communication revealed that she was able to automatically apply positive alternatives to her thinking errors).	
21	Filled out belief change worksheet: Old belief: Fathers are cruel and bad. New belief: my father is caring and responsible despite his emotional disturbance. Evidence against and favor of old and new beliefs were discussed. Therapist shared Cognitive Conceptualization with client.	Quite relaxed, focused, and settled. She reported her last week as quite relaxing despite assignments and upcoming examination.	Fill out cognitive conceptualization form and belief change record for more beliefs to be altered. (post-test assessment forms were emailed)
22	The cognitive conceptualization prepared by therapist and client was consistent. Therapist and client reviewed the progress and techniques learned during therapy. She picked her mild level of anxiety/concern about speaking to authority figures (director etc.) during her upcoming interview. She demonstrated Socratic dialogues to find out evidence against and favor of NATs. Then, suggested alternative	She was quite calm and stable. However, she appeared concerned over readiness of her family for treatment which was found to be a positive sign and therapist was confident about her	Fill out set back form and email back to therapist. Continue using strategies learned during therapy.

	balanced/realistic thought "currently no such event is expected and when situation will arise, I'll prepare accordingly". Setback Form introduced for 1-month follow-up.	ability to convince family.	
1-month follow-up	Review: she picked her thinking errors and used Socratic dialogues to change. Setback Form: possible setbacks for 3 months, her unhelpful response to setback, and helpful response.	Fluent in discussing her problems and solutions through cognitive restructuring and assertive communication.	Follow 3-month setback form for helpful coping responses. Follow-up questionnaires sent and received via email.
3-months follow-up	Review: she identified unhelpful responses/ disturbance, did reality check, and suggested positive reframes. Emotional reasoning (beliefs behind independence of girls/divorce) neutralized. She achieved satisfactory results (3.5 GPA), joined an internship where she got an opportunity to revise her performance related beliefs (reduced comparison and clarity about personal goals). Practiced assertive communication with father and had a good time going to a recreational activity (mushaera). She started taking hold of family situations such as counselling her mother to keep check on father's medication/ treatment. She improved her friendship and joint work with friends.	Quite stable and happy about her performance. She reported that she hadn't experienced any anxiety during the previous 3-months that she used to experience before treatment.	Follow 6-months setback plan. Follow-up questionnaires sent and received via email.
6-months follow-up	Review: she was able to practice learned skills even in minor daily matters. However, rigidity in matters of career and life choices was questioned during the session and she quickly came to the point of flexibility. She reported that she regained her confidence, is skilled at decision making, has gained command over her life, can confidently solve her life problems, is learning more skills in life, and has gained a feeling of stability.	Relaxed, focused, insightful.	Follow 1-year setbacks (she managed till 2.5 years). Therapy bilaterally terminated. Follow-up questionnaires sent/received via email.

2.5 years follow-up	Review: Found satisfying workplace and started MS from different university. Identified difficulty managing time for research synopsis and experienced anxiety about rejecting a marriage proposal for which she sought counselling. Cognitive Restructuring & Problem solving: At this point when she is focusing on her studies and job, it's better to postpone accepting proposals and she would prefer getting married as she finds an attractive and understanding partner.	Relaxed, focused, insightful.	Plan for 2-years setbacks (she managed for longer) Therapy terminated until she felt the need. Follow-up questionnaires sent/received via email.
5 years follow-up	Sought counselling for triggering/confused state upon her close friends' multiple breakups and confusion upon how to pursue future goals along with job. Revised cognitive restructuring and problem solving: Socratic Dialogues (identify reasons for relationship problems and solve them timely) Should and musts (despite holding full time job, must develop own business). Positive Alternatives (setting lenient standards for self, taking breaks during work). Problem identification (hurdles in developing her own training programs) and possible solutions (step by step execution of plans, develop workshop modules, search funding partners, market to target audience like parents and students etc.)	Relaxed, focused, and very expressive. Appeared happy upon discussing her good relationships with boss. Confident about her skills	Plan for upcoming setbacks. Follow-up questionnaires sent and received via email.

Results

Table-2 Table showing scores of scales administered at pre-test, post-test, and follow-ups.

Scales/ Scores	Pre-test	Post-test	Pre-Post Difference	RCI	CSC	1-month FU	3 months FU	6 months FU	2.5 years FU	5 years FU
LSAS	67 (Marked SP)	12 (No SP)	55	-3.97	-11.67	4 (No SP)	1 (No SP)	2 (No SP)	1 (No SP)	1 (No SP)

BFNES		39 (Clinically Significant SA)	24 (No SA)	15	-3.35	2.24 (MDC= 9.34)	23 (No SA)	21 (No SA)	17 (No SA)	16 (No SA)	14 (No SA)
SSPS	**PSS**	13	21	-8	2.67	12.02 (MDC= 3.92)	21	21	22	22	23
	NSS	10	1	9	-5.02	3.50	2	0	0	0	0
BDI		38 (Severe Dep)	0 (No Dep)	38	8.78	31.09	0 (No Dep)	0 (No Dep)	0 (No Dep)	0 (No Dep)	0 (No Dep)

Note:
LSAS = Liebowitz Social Anxiety Scale
BFNES = Brief Fear of Negative Evaluation Scale
SSPS = Self-Statements during Public Speaking Scale
PSS = Positive Self-Statements
NSS = Negative Self-Statements
BDI = Beck Depression Inventory
RCI= Reliable change Index
CSC= Clinically Significant Change
MDC= Minimum Detectable Change
FU= Follow-up
SA= Social Anxiety
SP= Social Phobia
Dep= Depression

Statistical Analysis

Quantitative Analysis:

Results were analyzed through Jacobson-Truax method of measuring clinically significant change from client's pre and post-test scores (Jacobson, Roberts, Berns, & McGlinchey, 1999). This method involves calculating the Reliable Change Index (RCI), obtained by subtracting post-test score from pre-test score and dividing by the standard error of measurement. The RCI represents the amount of change that can be considered statistically significant, taking into account measurement error (Jacobson & Truax, 1991). The next step is to calculate the Clinically Significant Change (CSC) value, which is obtained by using formula [CSC = (M1 + M2)/2], where M1 is the mean of healthy controls and M2 is the mean of dysfunctional patients at post-treatment. The CSC represents the amount of change that is both statistically significant and clinically meaningful. To determine whether a client has experienced a significant change, the difference between their pre-test and post-test scores is divided by the RCI. If the resulting quotient is greater than or equal to the CSC, then the client has experienced a significant change. Additionally, given the instrument's precision and variability, the RCI score is multiplied by 1.96 and SEdiff (standard error of pre-post difference) to obtain MDC which is Minimum Detectable Change used in clinical research to determine smallest real change in measurement that can be detected with confidence. In other words, if the amount of change observed in a patient's score is less than the MDC, it is unlikely to be a true change and may be due to measurement error (Stratford, Gill, Westaway, & Binkley, 1995).

The client demonstrated clinically significant improvement in all measures from baseline to post-treatment and follow-up

assessments (Refer to Table 2). Clinically significant improvements were seen in LSAS total score from pre-treatment (67) to post-treatment (12), as well as at all follow-up assessments (1 month: 4, 3 months: 2, 6 months: 0, 2.5 years: 1, 5 years: 0). Clinically significant change required for LSAS score is a reduction of 11.67 points or more and client's LSAS score had reduced by 55 points (67 - 12), which is much greater than the CSC of -11.67 hence the difference between the LSASpre and LSASpost scores is clinically significant which indicates a marked reduction in social phobia. The client also demonstrated clinically significant improvements in the BDNES total score from pre-treatment (39) to post-treatment (24), as well as at all follow-up assessments (1 month: 22, 3 months: 19, 6 months: 16, 2.5 years: 13, 5 years: 10). By comparing the RCI (-3.35) and the CSC (2.24), it can be seen that the change in the BFNE score from pre-test to post-test (39-24=15) is statistically significant. However, to confirm clinical significance, the pre-post difference on BFNE (15) was found greater than MDC (9.34) showing clinically significant reduction social anxiety. The client also showed clinically significant change in positive and negative statements during public speaking (SSPS). The positive self-statements increased from pre-test (13) to post-test (21) and remained increasing during follow-up assessments (1 month: 21, 3 months: 21, 6 months: 22, 2.5 years: 22, and 5 years: 23). The PSS-subscale values of RCI (2.67), CSC (12.2), and MDC (3.92) indicated that the pre-post difference (13-21=-8) was found greater than MDC hence the increase in positive statements was found both statistically and clinically significant. Further, the negative self-statements decreased from pre-test (10) to post-test (1) which gradually declined during follow-up assessments (1 month: 2, 3 months: 0, 6 months: 0, 2.5 years: 0, and 5 years: 0). The NSS-subscale showed greater RCI (-5.02) score than CSC (3.50) hence NSS pre to post difference (10-1=9) is both statistically reliable and clinically significant. The decrease in pre-post score by more than CSC indicated a meaningful reduction in negative self-statements related to public speaking. The client's BDI score also decreased from 38 at baseline to 0 at post-treatment that was maintained throughout 5 years follow-ups. The difference between BDIpre and BDIpost (38 - 0 = 38) was much larger than the RCI of 8.78 suggesting that the difference is not only statistically significant but also clinically significant, indicating a substantial improvement in depressive symptoms. Further, the significant change was maintained throughout the follow-ups on all measures.

Qualitative analysis

Qualitative analysis from pre and post treatment measures showed substantial change. At pre-test, social anxiety measure (LSAS) indicated prominent social phobia with a severe fear and avoidance of acting, performing, or speaking in front of an audience, being the center of attention, speaking up at a meeting, expressing disagreement or disapproval to someone unknown, looking straight into the eyes of a stranger, and giving a prepared oral talk to a group. A moderate level of fear and avoidance was noticed in situations like working or writing while being observed, meeting and talking face to face with stranger, entering a room while others are already seated, trying to make friendships or romantic relationship, and resisting a high-pressure salesperson. Participant's beliefs about fear of negative evaluation (BFNE) demonstrated clinically significant social anxiety. Her beliefs were strongly characterized by fear that other people noticing her shortcomings, people finding faults in her, being worried about what kind of impression she is making and that she will say or do something wrong. She had a moderate level of worry about other peoples' opinions, how they think about her, judge her, and make an unfavorable impression of her. She was afraid

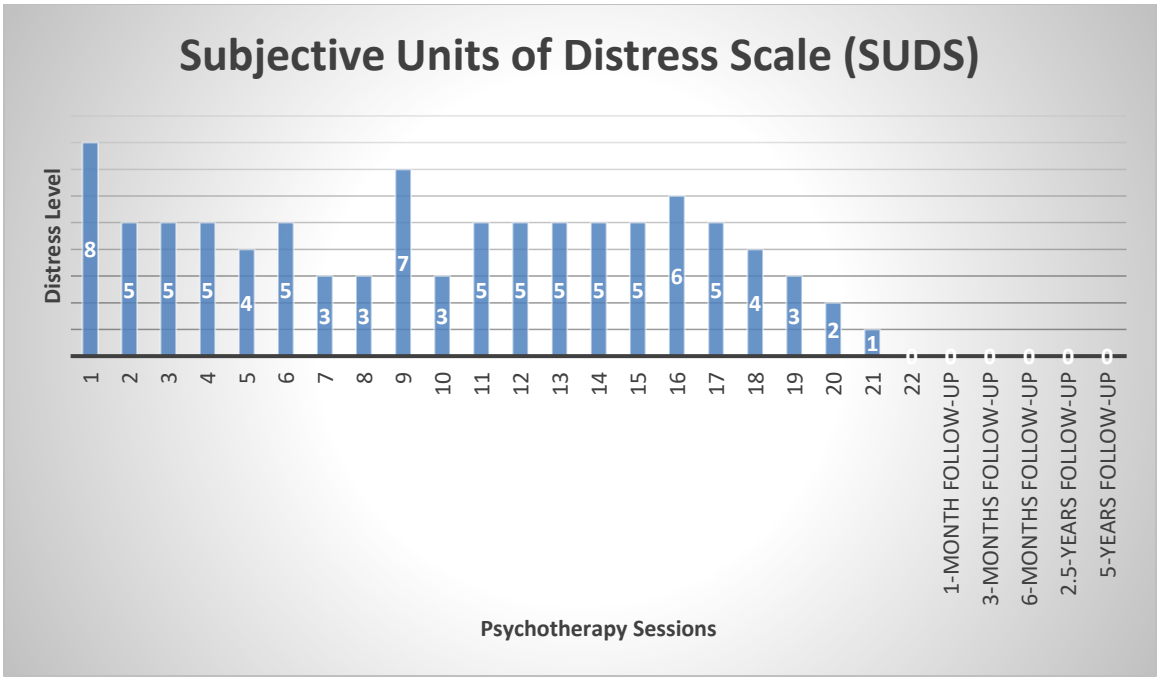
that others would disapprove of her. Negative self-statements (SSPS-N) before the start of treatment were categorized as: A failure in certain situation is more of a proof of my incapacity; I feel awkward and dumb, people are bound to notice; I'm unable to try because I know I would fail. A few positive statements were also found such as though it is an awkward situation, but I can handle it; Even if things are not going well, it's no catastrophe; Instead of worrying I could concentrate on what I want to say. The ability to identify certain positive thoughts and insight into her problematic thoughts was found to be a sign of good prognosis for CBT. Moreover, she was suffering from severe depression (BDI) before the start of treatment.

At post-test, overall rating (LSAS) showed no social phobia however, mild level of fear was found to be limited to situations like acting, performing, or speaking in front of an audience and being the center of attention. She usually avoided expressing disagreement or disapproval to someone she didn't know very well. Further, no social anxiety was found through BFNE. Her beliefs were then changed to seldom worry about what kind of impression she is making on someone. Other people's opinions about her no longer bothered her and if she knew that someone is judging her, it had little effect on her. She was unconcerned about people forming an unfavorable impression of her. However, she was slightly worried about what kind of impression she is leaving on others and people might be noticing her shortcomings. At the end of treatment, she had developed plenty of positive statements (SSPS) such as instead of worrying she was able to concentrate on what she wanted to say, she thought that she has nothing to lose so worth trying a presentation, and she was able to cope with situations that previously seemed awkward to her. She thought that even sometimes things don't go well but it is not a catastrophe, and that she can handle everything. Further, she "disagreed at all" with most of the negative statements that were found before treatment. Further, she was falling at non-depressed range on BDI at post-test and no social anxiety, depression, and negative statements were found at 1-month, 3-months, 6-months, 2.5 years, and 5-years follow-ups (Refer Table-2).

Therapeutic Outcomes

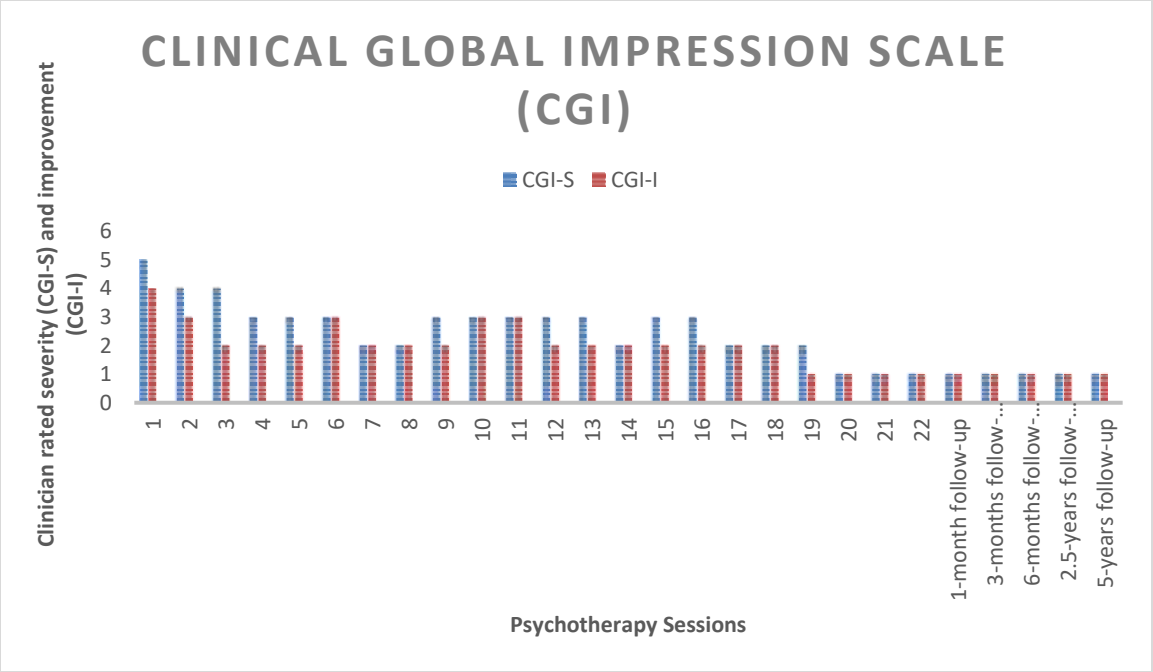
To evaluate therapeutic progress over time, independent ratings by client and clinician were recorded in every session through Subjective Units of Distress Scale (SUDS) and Clinical Global Impressions Scale (CGI).

Graph-1 Graph showing participant's self-reported level of distress throughout the treatment.



The participant's rating on SUDS indicated decrease in subjective distress. Graph-1 specified that she rated herself at "freaking out and beginning of alienation (8)" at the baseline stage while a significant reduction in distress level was observed after sixth session of the therapy that client rated as "mildly upset, worried, or bothered to the point that she just noticed it (3)". More improvement was observed after nineteenth session which reduced to normal level indicating "a state of peace, serenity and total relief suggesting no more anxiety of any kind about any particular issue (0)" at the end of treatment on twenty second session. The outcomes were equally stable throughout the follow-up sessions till 5 years.

Graph-2 Graph showing clinician's rating on CGI indicating Severity (CGI-S) and Improvement (CGI-I) throughout treatment.



The therapist's CGI ratings consistently indicated improvement throughout the treatment. The clinical judgment of therapist showed that at baseline, her CGI-S rated severity of symptoms lied at "markedly ill (5)" level which was substantially reduced after sixth session to "borderline (2)" level. A further decline in severity was observed after nineteenth session and the client attained a "normal (1)" level at the end of treatment which was stable throughout five years of follow-ups.

Further, the clinician rated improvement measured through CGI-I showed "no change from baseline (4)" at initial phase while she appeared "much improved (3)" after third session. A marked improvement was observed after eighteenth session when client's condition was rated as "very much improved since the initiation of treatment (1)". The clinician rated treatment progress was observed to be equally stable throughout the follow-ups over 5 years.

Credibility of treatment

The results of the Credibility and Expectancy Questionnaire (CEQ) indicated that the client rated the treatment as highly credible and had positive expectations for treatment outcomes showing an average of 85%. At the beginning of treatment, Credibility Factor of CEQ indicated an average score of 7.3 out of 9 for perceived credibility of the treatment. Expectancy Factor of CEQ indicated a score of 8 out of 9 and an average improvement of 85% for treatment expectancy. The client rated the therapy as somewhat logical (6) and very useful (8) in reducing trauma symptoms. Additionally, she was very confident (8) in recommending similar treatment to a friend. She expected 90% improvement in her trauma symptoms until the end of therapy and believed that therapy would be very helpful (8) in reducing her symptoms and felt that therapy will really cause 80% improvement in symptoms.

After the completion of therapy, the client's ratings on the Credibility and Expectancy increased further to 95% on average, indicating a high level of satisfaction with the treatment. The average rating improved to 8.6 out of 9 on treatment credibility. She viewed the therapy offered to her as very logical (8) and very useful (9), and was very confident (9) in recommending the treatment to someone facing similar

problems. The Expectancy Factor showed an average improvement of 95% in real, indicating that the client believed that the treatment was highly effective. Client expected 100% improvement from treatment, had "very much (8)" reduced symptoms, and rated 90% improvement of symptoms in real.

Overall, the results of the CEQ indicated that the client had a positive perception of the treatment and believed that it would lead to significant improvement in her symptoms. This suggests that the online CBT program was not only effective but was also perceived as a credible and valuable treatment option by the client.

Discussion

Due to the rise of teletherapy, it is now possible to receive CBT for SAD online, which is especially popular among individuals who may not have access to in-person therapy or who are extremely anxious to face the therapist (Bouchard et al., 2016). Consistent with prior research showing that online CBT can be as effective as face-to-face CBT (Andersson et al., 2014). Positive secondary outcomes, such as reduced depression, have also been linked to online CBT (Bouchard et al., 2016). Additional research such as Hofmann and associates (2014) published a meta-analysis on the efficacy of online CBT for SAD. The results showed that online CBT was effective in treating social anxiety disorder, with an average effect size of 0.73. Similarly, Sijbrandij, Kunovski, and Cuijpers (2016) reported an average effect size of 0.77. Tulbure et al., (2015) conducted a randomized controlled trial on the efficacy of online CBT for SAD co-occurring with depression which indicated an average effect size of 0.75. The robustness of the positive outcomes associated with online CBT interventions is highlighted by the consistent findings across these studies. It bolsters the idea that online CBT can be an effective treatment for social anxiety and depressive symptoms because of its accessibility, convenience, and efficacy. The positive results seen in these studies are consistent with the findings of current case study, providing further support for the idea that online CBT can lead to stable and long-lasting therapeutic results.

This case study provides in-depth analysis of online CBT for comorbid depression with social anxiety which would help researchers to individualize and improve manual-based treatments for comorbid depressive conditions with social anxiety. Detailed analysis revealed that the initial 9 sessions helped client recover from social anxiety and remaining sessions were focused on treating comorbid depression whereas full remission was obtained in 22 sessions. The study has highlighted the specific CBT techniques and course of treatment that researchers and programmers can effectively utilize to develop components of therapist assisted online CBT programs. The significant improvement demonstrated by the client on all measures suggested that the treatment was successful in addressing the target symptoms. The clinically significant reduction in social anxiety and depression symptoms, along with improvement in negative self-statements during public speaking, indicates that online CBT can be a viable treatment option for individuals with SAD. The reduction in distress ratings during exposure sessions and the client's consistent progress as reported by the therapist through CGI, along with the client's high ratings of treatment credibility as measured by the CEQ, further supported the effectiveness of the treatment approach. The client found the treatment credible and had positive expectations, which is crucial for treatment success. The use of multiple measures to assess treatment outcomes including LSAS, BFNES, SSPS, and BDI allowed for a comprehensive evaluation of the client's symptoms and treatment response. The use of a single-subject case study design with multiple baselines strengthens the internal validity of the study.

The efficacious outcomes are especially significant in relevance to the covid-pandemic since the online mode of treatment was not preferred by professionals before the covid pandemic however, clients and professionals had no choice other than online mode during the global lockdown situation. The significance of this case study lies particularly in the use of online mode of treatment through video conferencing before the covid-pandemic that pursued over the lock downs and post-covid period which showed equally stable therapeutic outcomes. Hence, through the positive findings obtained from extensive objective and subjective measures administered throughout the treatment ensure that professionals in overall the globe can confidently use online mode of therapeutic treatment considering the client's situation wherever applicable.

Further, randomized trails can include larger sample sizes with participants having social anxiety and comorbid depression to generalize the findings of this preliminary evidence.

The present study has several limitations that must be considered. First, the study used a single subject case study design, which limits the generalizability of the findings. Second, the study did not include a follow-up assessment beyond 5 years, which limits the long-term evaluation of treatment effectiveness. Finally, the study relied on self-report measures, which may be subject to response bias. Future research must replicate current findings using a larger sample size, more objective assessment of therapeutic outcomes, adding a control group and rigorous methodologies which might help to compensate for study limitations. Further research might also notice the long-term efficacy of online CBT and compare it to traditional face-to-face CBT.

Conclusion

This case study provides preliminary evidence for the effectiveness of an online CBT program for social anxiety comorbid with depression. The pre-test assessment indicated prominent social phobia, clinically significant social anxiety, frequent negative self-statements, and severe depression, respectively. The interventions were found to reduce the symptoms of social anxiety and depression. Post-treatment assessments showed no social phobia/ anxiety and depression at post-test, more positive self-statements and rare negative self-statements, and these changes were maintained in long run till 5-year follow-ups. Further, client and clinician ratings supported these findings. Before the start of treatment, client rating indicated a distress level near to freak-out and alienate which coincided with clinician rating showing markedly ill level with no change from baseline. Gradual reduction in severity and improvement was observed throughout treatment. At the end of treatment, both client and clinician rating indicated a normal level, very much improved, a state of peace, serenity and total relief suggesting no more anxiety of any kind. Overall, the primary and secondary outcome measures along with the objective and subjective measures were found to demonstrate stable outcomes over 5 years suggesting that online cognitive behavioral therapy stands as effective treatment for social anxiety disorder and depression. This case study highlights the potential benefits of online mode of treatment with specific emphasis on CBT techniques associated with social anxiety and secondary depression. More research with larger sample sizes and more rigorous designs would help to supplement the findings of this preliminary evidence. This case study adds to the weight of the meta-analyses and randomized controlled trials showing that online CBT is an effective treatment for people with social anxiety disorder and comorbid depression. This is especially true in the context of the COVID-19 pandemic and lockdown situations, where the increased availability of teletherapy has increased access to evidence-based treatment. When it

comes to treating social anxiety disorder and comorbid depression, online CBT is an effective method because of its accessibility, convenience, and positive therapeutic outcomes. To further improve its clinical utility, online CBT will benefit from further investigation into the specific mechanisms underlying its effectiveness and its long-term outcomes.

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References

1. American Psychiatric Association (2013). Diagnostic and statistical manual of mental disorders (5th). https://doi.org/10.1176/appi.books.9780890425596.
2. Avila, A. G., Figueiredo, D. V., & Vagos, P. (2022). Online CBT for social anxiety disorder in adolescents. Clinical Case Studies, 21(6): 533 –551. https://journals.sagepub.com/doi/full/10.1177/15346501221091519
3. Baker, S. L., Heinrich, N., Kim, H. -J., & Hofmann, S. G. (2002). The Liebowitz Social Anxiety Scale as a self-report instrument: A preliminary psychometric analysis. Behavior Research and Therapy, 40 (6), 701– 715. doi:10.1016/S0005-7967(01)00060-2
4. Baker SL, Heinrichs N, Kim H-J, Hofmann SG. The Liebowitz social anxiety scale as a self-report instrument: a preliminary psychometric analysis. Behav Res Ther. 2002;40(6):701-715.
5. Beck, A. T., Steer, R. A., Brown, G. K. (1996). Beck Depression Inventory manual. 2. San Antonio, TX: Psychological Corporation.
6. Berger, T., Hohl, E., & Caspar, F. (2009). Internet-based treatment for social phobia: a randomized controlled trial. Journal of Clinical Psychology, 65(10), 1021-1035. doi:10.1002/jclp.20603
7. Botella, C., Gallego, M. J., Garcia-Palacios, A., Banos, R. M., Quero, S., & Guillen, V. (2008). An Internet-Based Self-Help Program for the Treatment of Fear of Public Speaking: A Case Study. Journal of Technology in Human Services, 26 (2/4), 182-202. doi:10.1080/15228830802094775
8. Borkovec, T. D., Nau, S. D. (1972). Credibility of analogue therapy rationales. Journal of Behavior Therapy and Experimental Psychiatry, 3: 257–260.
9. Carlbring, P., Nordgren, L. B., Furmark, T., & Andersson, G. (2009). Long-term outcome of Internet-delivered cognitive–behavioural therapy for social phobia: A 30-month follow-up. Behaviour Research and Therapy,47 (10): 848-850. https://doi.org/10.1016/j.brat.2009.06.012
10. Collins, K. A., Westra, H. A., Dozois, D. J. A., Stewart, S. H. (2005). The validity of the brief version of the Fear of Negative Evaluation Scale. Journal of Anxiety Disorders. 19: 345–359. [PubMed: 15686861]
11. Daeho, K., Hwallip, B., & Yong, C. P. (2008). Validity of the Subjective Units of Disturbance Scale in EMDR. Journal of EMDR Practice and Research, 2 (1): 57-62.
12. Devilly, G. J., Borkovec, T. D. (2000). Psychometric properties of the credibility/expectancy questionnaire.

Journal of Behavior Therapy and Experimental Psychiatry, 31: 73–86. [PubMed: 11132119]

13. Dozois, D. J. A., Dobson, K. S., Ahnberg, J. L. (1998). A psychometric evaluation of the Beck Depression Inventory-II. Psychological Assessment, 10: 83–89.
14. Hofmann, S. G., Wu, J. Q., & Boettcher, H. (2014). Effect of cognitive-behavioral therapy for anxiety disorders on quality of life: a meta-analysis. Journal of consulting and clinical psychology, 82(3), 375.
15. Hope, D. A., Heimberg, R. G., Turk, C. L. (2006). Therapist guide for managing social anxiety: A cognitive behavioral therapy approach. New York: Oxford University Press.
16. Hope, D. A., Heimberg, R.G., Turk, C. L. (2010). Managing social anxiety: A cognitive-behavioral therapy approach (workbook). New York: Oxford University Press.
17. Haukeli, K, & Edlund, K. (2022). Two-year longitudinal case study of intensive exposure treatment in an adolescent girl with social anxiety disorder. Clinical Case Reports, 10:e05588. doi:10.1002/ccr3.5588
18. Jacobson, N. S., Roberts, L. J., Berns, S. B., & McGlinchey, J. B. (1999). Methods for defining and determining the clinical significance of treatment effects: Description, application, and alternatives. Journal of consulting and clinical psychology, 67(3), 300-307.
19. Jacobson, N.S., Truax, P. (1991). Clinical significance: A statistical approach to defining meaningful change in psychotherapy research. Journal of Consulting and Clinical Psychology, 59, 12–19. [PubMed: 2002127]
20. Kumar, V., Sattar, Y., Bseiso, A., Khan, S., & Rutkofsky, I. H. (2017). The Effectiveness of Internet-Based Cognitive Behavioral Therapy in Treatment of Psychiatric Disorders. Cureus, 9(8), e1626-e1626. doi:10.7759/cureus.1626
21. Leary, M. R. (1983). A brief version of the Fear of Negative Evaluation Scale. Personality and Social Psychology Bulletin, 9: 371–375.
22. Liebowitz, M. R. (1987). Social phobia. Modern Problems of Pharmacopsychiatry, 22, 141– 173.
23. Rytwinski, N. K., Fresco, D. M., Heimberg, R. G., et al. (2009). Screening for social anxiety disorder with the self-report version of the Liebowitz Social Anxiety Scale. Depression & Anxiety. 26(1): 34-38. doi:10.1002/da.20503
24. Shorey, R. C. & Stuart, G, L. (2012). Manualized Cognitive-Behavioral Treatment of Social Anxiety Disorder: A Case Study. Clinical Case Studies,11(1): 35–47. doi:10.1177/1534650112438462.
25. Sijbrandij, M., Kunovski, I., & Cuijpers, P. (2016). Effectiveness of internet-delivered cognitive behavioral therapy for posttraumatic stress disorder: A systematic review and meta-analysis. Depression and anxiety, 33(9), 783-791.
26. Stratford, P., Gill, C., Westaway, M., Binkley, J. (1995). Assessing disability and change on individual patients: a report of a patient specific measure. Physiotherapy Canada, 47, 258-263.
27. Tulbure, B. T., Szentagotai, A., David, O., Ștefan, S., Månsson, K. N., David, D., & Andersson, G. (2015). Internet-delivered cognitive-behavioral therapy for social anxiety disorder in Romania: a randomized controlled trial. PloS one, 10(5), e0123997.

28. Turner, S. M., Beidel, D. C., Long, P. J., Turner, M. W., & Townsley, R. M. (1993). A composite measure to determine the functioning status of treated social phobics: The social phobia end state functioning index. Behavior Therapy, 24: 265–275.
29. Wolpe, J. (1969). The Practice of Behavior Therapy, New York: Pergamon Press, ISBN 0080065635. Retrieved from https://en.wikipedia.org/w/index.php?title=Subjective_units_of_distress_scale&oldid=714643199