
Cognitive Behavioral Therapy for Treating Aerophobia: A Case Study

Bushra Akram^{1*}, Sehrish Wazir²**Abstract**

This case study aims to evaluate the efficacy of Cognitive Behavior Therapy (CBT) for reducing Aerophobia (fear of flying). Aerophobics may be afraid of takeoff, landing, being trapped in an aircraft, or other flying-related experiences. This case study highlights the efficacy of CBT in treating a case of Aerophobia in a 32 years old male, Azhar Qureshi (fictitious name) who was referred by the psychiatrist for psychological intervention. One year ago, he was able to travel in an airplane, but after listening to a traumatic incident, he was unable to travel in an airplane. As he imagined the flight, he felt tachycardia, trembling, sweating, chills, and nausea. These symptoms increased day by day, and that led to avoidance of air travel. After eight sessions of CBT techniques, including psychoeducation, cognitive restructuring, systematic desensitization and exposure therapy, he was able to travel in an airplane comfortably without any fear. The present study underscores the efficacy of psychotherapeutic treatment modality in alleviating symptoms of aerophobia.

Key Words: Aerophobia, Case Study, Cognitive Behavior Therapy, Fear of Flying

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Introduction

Many individuals are terrified of flying, even though flying is safer than going by bus, car, or train. When they fly, many people feel anxious or uneasy. Unpleasant aspects of flying include the packed cabin and landing, and takeoff feelings. Nonetheless, some people avoid flying altogether because they feel so terrified or panicked when they fly (Abuso et al., 2023; Laker et al., 2024). Aerophobia is a type of specific phobia that involves fear of flying and air travel. In aerophobia, individuals worry about their safety or that they would be overwhelmed when the plane is in

flight. They frequently realize that flying is safe, yet continue to experience extreme terror. They might experience slight occurrences of moderate anxiousness before or during the journey. A person with aerophobia has symptoms of anxiety, like increased heart rate, nausea, chills, difficulty in breathing, sweating, trembling, irritability, and foggy mind (Xu & Zhang, 2025).

The majority of those who suffer from aerophobia do not truly fear plane crashes. Often, the thought of flying or the expectation of flying is more stressful than actually taking the flight. In the general population, 7-40% suffer from fear of flying, but the prevalence is twice as high for women as for men (2.3:1 ratio). According to research, 10-20% people in the U.S. suffer anxiety associated with flying every year, with 7% suffer from flying phobia and 10% avoid flight due to fear (Batouei et al., 2019; Mor et al., 2022). The majority of the time, aerophobia has no known etiology. But many other factors can play a role in its development. According to one review, the dread differs significantly from person to person and is impacted by a wide range of complicated physiological,

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psychological, and social elements that are particular to each individual. Aerophobia almost seldom results from a traumatic flight experience. One or more specific triggers could be: any new story of a crash, terrorism, a crash landing, fire in an airplane, environmental factors, other related circumstances, and news about any death in flight (Thng et al., 2020; Zsido et al., 2023).

People can reframe their ideas and question their beliefs about their fears by using cognitive behavioral therapy (CBT). For those who have a fear of flying, exposure and response prevention (ERP), a type of cognitive behavioral therapy, can be very helpful. It entails putting someone in an environment that incites fear and then teaching them healthy coping mechanisms. According to research conducted so far, in vivo exposure therapy and virtual exposure are the most efficient forms of treatment for specific phobias, such as a fear of flying. Particularly for aerophobia, evidence suggests that at one to four years after therapy, more than 90% of subjects whose regimen included in vivo exposure were still flying. Virtual reality is a new technology in which therapists may create realistic flight scenarios by manipulating the intensity of triggers like takeoff, turbulent conditions, or limited space, and it has shown effectiveness in treating phobias and anxiety-related conditions (Albakri et al., 2022; Curtiss et al., 2021; Ribe-Vines et al., 2023). About 25% of patients refuse to begin the therapy after learning about the process, or they stop receiving it midway through because they find it to be too upsetting. Just 7.8% of phobia sufferers seek assistance, and only a very small percentage of them (8%) obtain specialized care for their condition. Also, when performed outside of the therapist's office, in vivo exposure implies a loss of confidentiality and substantial associated expenditures (Gottlieb et al., 2021).

Case Study

Mr. Azhar Qureshi, 32 years old, male, single, working as a manager in semi-

government corporation, and belongs to the middle class. He wanted to perform Umrah with his parents, but he could not go due to the fear of flying. He was the only child. During the history of early childhood, he did not report any traumatic event and had a good relationship with his parents. Substance abuse, family history and past psychiatric and medical history were not significant. He described his work as stressful but manageable.

He presented in the Outpatient Department, Nishtar Hospital, Multan, with severe symptoms of Aerophobia. Previously, he travelled many times by air, but it was short flights, and sometimes he felt mild anxiety. For one year, he is unable to travel even a single time after listening to one traumatic incident. Now, thinking of possible travel between Pakistan and Saudi Arabia, negative automatic thoughts were disturbing him, and as a result, he was having tachycardia, fear of fainting, nausea, trembling, cold hands, and difficulty in breathing when thinking about the flight from Pakistan to Saudi Arabia. Now his symptoms were increasing as the flight date was near. Due to this condition, he was looking for an alternative travel facility, e.g. ship and refused to go to Umrah.

Clinical Findings

On clinical findings, he presented with anxiety marked by avoidance of flight and persistent worry about his safety. There were no signs and symptoms of any organic illness. A mental status examination recognized anxious mood and thought distortions about flying risks. No other psychiatric or major medical conditions were reported. The physical symptoms included sweating, trembling, difficulty in breathing, nausea, and tachycardia. In the cognitive findings, automatic negative thoughts were reported such as: *the plane will crash, it can be dangerous to be in an airplane, my breath can be stopped, I cannot get out of the airplane, a long-distance flight can crash*. The behavioral symptoms were avoidance of air travel and

avoiding talking about flights/air travel and Umrah.

Method / Diagnostic Assessment

According to DSM-5-TR criteria, Specific Phobia (Aerophobia), Situational Type was diagnosed by a psychiatrist and referred for psychotherapeutic sessions. For the assessment procedure, the Flight Anxiety Situations Questionnaire (FAS) (Van Gerwen et al., 1999) was used. It is a 32-item, 5-point Likert scale. Scoring range is 32-160. Cut-off score is 70. The patient's score is "120", which indicates a higher-level phobia. After the psychosocial assessment, the therapist decided to apply Cognitive Behavior Therapy. Informed consent was signed. Confidentiality was also ensured. The present case study is reported in accordance with the the CARE Guidelines.

Therapeutic Intervention

After the assessment, the client was introduced to the Cognitive Behavior Therapy sessions protocols for specific phobias. Cognitive Behavior Therapy technique sessions were administered for 8 weeks, each lasting for 50 minutes with home assignments. After a detailed assessment, the therapist explained the fear of flying, explained the fight or flight response, the CBT triad (thoughts, feelings, behavior), and how avoidance reinforces phobias.

Cognitive Behavior Therapy Techniques

Cognitive Behavior Therapy brings gradual exposure to the places, objects, thoughts, and situations either through imagination or reality. Aerophobia can be treated techniques, including cognitive restructuring, relaxation techniques, systematic desensitization, and exposure therapy to be administered in 12-20 sessions (Grimaldos et al., 2025).

Cognitive Restructuring

Cognitive restructuring include the three stages of cognitive restructuring, the identification of negative or problematic thoughts, modifying problematic thought patterns, and assimilating productive thought patterns (Beck et al., 1985). The

client begins to recognize his or her dysfunctional or automatic thoughts and the emotions these thoughts cause during cognitive restructuring. In the case of Azhar Qureshi, his thoughts were that: *it can be dangerous to be in an airplane, his breath can be stopped, I cannot get out of the airplane, a long-distance flight can crash.* That made him more fearful and anxious. His negative or dysfunctional thoughts are recorded in the starting sessions and discussed in each weekly session. However, the alternative thoughts can be that: *although, sometimes airplane crash but not always, in the past never ever my breath stopped, many flights go to Saudi Arabia daily and all reach safely.*

Systematic Desensitization

It is a technique of CBT, utilizing classical conditioning principles. It has three main steps, including deep breathing or relaxation, fear hierarchy building, and exposure as visualization or in a real situation. Breathing and muscle relaxation techniques help to improve difficulty in breathing and anxiety symptoms during imagination and real exposure. Hierarchy can consist of 10-20 items. It can be ranked according to intensity (D'Ambrosio et al., 2021). The client in this study slowly became exposed to the situation in his imagination. As exposure increased, he practiced deep breathing and relaxation until he felt relaxed and comfortable to move to the next step of the hierarchy.

Exposure Therapy

Virtual Reality Exposure Therapy provides safe and realistic simulations of flight scenarios with movement and sounds, integrating well with CBT techniques, and achieving significant long-term improvements in flight activity and reduced anxiety. It is a highly effective treatment for aerophobia. It is frequently comparable to or better than real-life exposure (Abuso et al., 2023). In this method, during sessions, Azhar Qureshi was gradually exposed to locations, ideas, or experiences associated with flying throughout this sort of therapy. He started his visualization in the safe

setting of the psychotherapy room in OPD. After that, gradually, exposure to the parking lot, waiting area, and observation desk on the airport's perimeter to observe jets from a distance, and also observe aircraft taking off and landing was given. He moved slowly through a mock security checkpoint, into the interior of the terminal, and sat in the cabin. He also got over his phobia of flying by using virtual reality technologies like computer simulations of flights.

Session Plan

Session 1

The first session included Initial evaluation (onset, triggers, avoidance behaviors), identify the signs and symptoms of Aerophobia, signed informed consent, demographic detail, pre-assessment using the Flight Anxiety Situations Questionnaire, introduction to therapist, set treatment goal, set agenda for time period, duration, and exercises.

Session 2

Psychoeducation

The therapist explained the findings from the evaluation and best treatment options, care related information, and psychoeducation about aerophobia; explained how avoidance maintains fear, introduced therapy, and discussed the exposure-based interventions and CBT techniques.

Session 3

Cognitive Restructuring

Identified automatic negative thoughts, e.g., fear of crash, loss of control, examined cognitive distortions, introduced thought record, challenged irrational beliefs, practiced alternative thoughts as homework assignment.

Session 4

Session four taught deep breathing, progressive muscles relaxation, role rehearsal, and emphasized the use of relaxation techniques before and during exposure.

Session 5

Systematic Desensitization

The fifth session included development of a hierarchy of fear related to flying (e.g.,

thinking about flying → airport scenes → boarding → fear/turbulence), combined relaxation techniques with gradual exposure to lower-level anxiety stimuli, visualized feared situations while maintaining relaxation, and discussion of previous and next homework assignment.

Session 6

The sixth session included continuation of Systematic Desensitization to the next and higher level of hierarchy, encouraged practice during the session, and discussion on homework assignment.

Session 7

Exposure Therapy

The seventh session included conduct of exposure therapy through imaginal and Virtual/Simulated flight exposure scenarios, encouraged prolonged exposure until fear or anxiety decreased, relaxation during exposure and discussion of homework assignment.

Session 8

Termination

The final session included review of progress, and summarizing all previous sessions. The Post-Assessment was done using the Flight Anxiety Situations Questionnaire. The client was taught real-life application with possible exposures (e.g., visiting an airport, booking a flight), relapse prevention strategies, and coping plans for future flights. Additionally, he was asked to visit for a follow-up after three months.

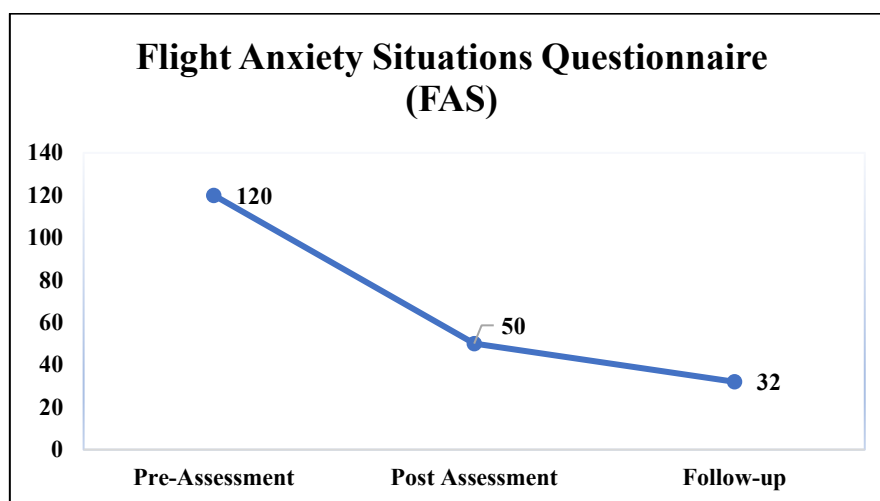
Follow-Up and Outcomes

He completed all exposure tasks and homework assignments. After 8 sessions, Table 1 shows his score on the Flight Anxiety Situations Questionnaire (FAS) decreased from 120 to 50. It indicates that his fear shifted from severe to mild. He reported on three months follow-up visits that he completed long-distance flight successfully. His follow-up score on FAS was 32. Figure 1 shows the Pre-Assessment, Post-Assessment, and follow-up line graph on FAS that indicates a significant decrease in fear of flying.

Table 1*Flight Anxiety Situations Questionnaire (FAS) Score (N=1)*

Assessment Phase	Score
Pre-Assessment	120
Post-Assessment	50
Follow-up	32

Table I shows the score on the Flight Anxiety Situations Questionnaire at Pre-therapy, Post-therapy, and follow-up.

Figure 1*Flight Anxiety Situations Questionnaire*

Note. This line graph shows a significant decrease in fear of flying after intervention.

Discussion

It is thought that specific phobias are learned through classical conditioning. Up to 40% of Americans may be affected by flight phobia, making it a significant problem. Treatment with exposure therapy is permissible under the cognitive behavioral theory model. In addition to psychological treatment, pharmacologic treatment can be beneficial but it only brings relief in somatic symptoms and does not address the root cause of the phobia (Abuso et al., 2023; Lotfizadeh et al., 2024).

The progressive exposure used in this case study has many aspects that are similar to exposure response prevention therapy, a behavioral treatment. In the past, although he had travelled many times by flight within Pakistan but now, he was now facing fear due to long-distance flight and from

one year, unable to do single travel. The therapist-client interaction is essential to the therapeutic process. It is important that the client has faith in the therapist and is at ease during therapy. It is also important to establish a secure and compassionate setting from the very first therapy session. Azhar Qureshi understood the session's agenda and was regular in OPD weekly visits. During sessions, he learned how to do homework assignments and how to monitor progress. It helped to reduce his anxiety and manage his flying phobia.

A good therapeutic relationship was developed with him that helped in the intervention. He was able to face his fear. He also learned to identify his automatic thoughts and then replaced them with alternative thoughts. In systematic desensitization, he learned relaxation training, deep breathing, and followed the

procedure for the hierarchy items. He was able to manage the anxiety and fear by imagining the flight from takeoff to landing. He regularly visited OPD for sessions with a completed homework assignment that helped achieve a good outcome. During psychotherapy sessions, he was exposed to virtual technique and also visited the airport and was ready to go via flight. After 8 sessions, he travelled successfully without any phobia and performed his Umrah. This study aligns with other studies' results that indicate CBT techniques such as imaginal, virtual, and real exposure are well established for specific phobias, including fear of flying (Albakri et al., 2022; Curtiss et al., 2021; Thng et al., 2020). Flight phobias can be effectively treated with CBT, which frequently decreases anxiety through methods like exposure, cognitive restructuring, and relaxation. A randomized controlled trial by Mor et al. (2022) concluded that vivo exposure scenarios are effective in treating flying phobia. In one recent study, CBT techniques such as exposure, cognitive restructuring, and relaxation were applied to treat specific phobia and anxiety, and post-therapy results indicated their effectiveness in reducing fear and anxiety (Xu & Zhang, 2025). The study by Abuso et al. (2023) demonstrates for aerophobia, gradual real-life exposure provides a safe and effective management for enabling functional recovery. This case study used virtual exposure technique and it was effective for reducing his fear. One study's results indicated that virtual reality exposure therapy is significantly effective in reducing fear of flying, especially when integrated into CBT frameworks and increasing real-life flight activity (Gottlieb et al., 2021).

Conclusion

Cognitive Behavior Therapy is an effective treatment for aerophobia. In the case of Azhar Qureshi, he understood each session agenda, had regular visits, and participated in all therapeutic modalities including psychoeducation, cognitive restructuring,

systematic desensitization, and exposure therapy that brought significant relief to his symptoms of aerophobia and was able to perform Umrah.

Limitations and Suggestions

The limitations of the study are; it's a single case study, which limits the generalizability. In this study follow-up was after three months, which can limit the ability to assess the long-term effects of the intervention. Future study should be conducted on a large sample size and with long-term follow up.

Implications

The present case study provides an effective alternative to pharmacotherapy for the treatment of specific phobia. Pharmacotherapy can only offer relief for somatic symptoms but can not fully address the phobia, yet CBT provides a cost effective and efficacious protocol for the treatment of specific phobia of aerophobia.

Ethics Statement

The study was conducted in accordance with the APA Ethical guidelines. Informed consent was obtained from the participant.

Contribution of Authors

Bushra Akram: Conceptualization, Investigation, Methodology, Data Curation, Formal Analysis, Writing – Original Draft, Writing - Reviewing & Editing

Sehrish Wazir: Methodology, Formal Analysis, Writing – Original Draft, Writing - Reviewing & Editing

Conflict of Interest

There is no conflict of interest declared by the authors.

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The authors declared no source of funding.

Data Availability Statement

The datasets of the current study are not available publicly due to ethical reasons but are available from the corresponding author [B.A.] upon the reasonable request.

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