

## Management of Specific Phobias

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**Abstract :** *Specific phobias are considered among the most common mental disorders. Besides structured and semistructured interviews various self report measures and behavioral approach tests form an important part of comprehensive assessment. Exposure based therapies (EBT) outperform most nonexposure treatments and are considered the treatment of choice. Various factors affect the efficacy of EBT and newer methods of exposure delivery have been developed. Studies examining the role of virtual reality treatment (VRT) and single session EBT are essential for cost effectiveness of the treatment. Applied tension for blood-injection-injury phobias and cognitive therapy for cognitive distortions are other well established treatments. Further research is required to define the role of SSRIs for treatment of specific phobias.*

**Key Words:** *Specific Phobia, Exposure based therapies*

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### INTRODUCTION

Phobia refers to an excessive fear of a specific object, circumstance or situation. In specific (isolated) phobias there is marked and persistent fear that is excessive or unreasonable, cued by the presence or anticipation of a specific object or situation. It is considered as the most common mental disorder among women and the second most common among men. The reported lifetime prevalence rates of specific phobias in women (13.6 to 16.1 percent) were double those of men (5.2 to 6.7 percent).<sup>1,2</sup> The symptoms also frequently occur at milder levels, not quite meeting a clinical threshold for distress or impairment.<sup>3</sup> Many clinicians consider them to be less severe than other disorders therefore warranting less attention. Also few individuals with specific phobias present for treatment, and the ones who do seek help tend to differ from untreated individuals with respect to the number and types of specific phobias.<sup>4</sup> But in recent years it is being increasingly recognized that specific phobias can

interfere seriously with an individual's ability to function. Specific phobias also are the most treatable of the anxiety disorders, often responding to as little as one session of treatment.<sup>5,6,7</sup>

In India predominantly social phobias<sup>8</sup> and school phobias<sup>9</sup> have been studied while there are only few studies on specific phobias. Most of these studies have evaluated the prevalence of the condition in study populations. Dhavale and Sohani<sup>10</sup> report the paucity of cases of specific phobias in clinical practice in India. They surveyed 250 people in the community with a structured proforma and found that 50.2 percent had fear of one or more animals or insects. Females outnumbered males, onset was invariably in childhood, family history was present in 38.8 percent cases but only 8 percent cases fulfilled the criteria for phobic disorder. Shrinath & Girimaji<sup>11</sup> have reported prevalence rates of specific phobias in the 1578 individuals of 4-16 yr age group to be

2.7% in urban areas, 2.9% in slums, and an overall rate of 2.9%, second only to non organic enuresis (6.2%). Specific phobias have been reported to be comorbid in 14% cases of pervasive developmental disorder.<sup>12</sup> Also depressive disorder (63.6%) and specific phobias (30.3) have been reported to be the commonest cause of school phobia.<sup>13</sup> But in a recent review of epidemiological studies in India, Math and Chandershekhar<sup>14</sup> have questioned the adequacy of many of the studies to tap most non-psychotic disorders like phobias, hence the prevalence in the community in India may be more than that reported by these studies.

This review focuses on empirically supported assessment and treatment procedures for specific phobia and critically reviews newer and alternative treatment procedures.

#### **DIAGNOSIS**

ICD-10 classification of mental and behavioral disorders includes category of Specific (isolated) Phobias (F40.2) in which the patient develops prominent primary psychological and autonomic symptoms of anxiety restricted to the presence of highly specific phobic object or situation associated with avoidance behaviors whenever possible.<sup>15</sup> The "simple phobia" of DSM-III and DSM-III-R criteria is included in the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) as specific phobia (300.29): a "marked and persistent fear that is excessive or unreasonable, cued by the presence or anticipation of a specific object or situation" in which "exposure to the phobic stimulus almost invariably provokes an immediate anxiety response, which may take the form of a situationally bound or situationally predisposed Panic Attack".<sup>16</sup> It is important to note that while DSM-IV stipulates that anxiety may be cued by the anticipation of the feared object or situation, while there is no mention of anticipatory anxiety in ICD-10.

The DSM-IV described four main types of specific phobias (animal type, natural environment type, blood-injection-injury type, and situation type), as well as a residual "other type." The difference of blood-injection-injury phobias (BII phobias) from other types have important implications for treatment as these patients exhibit a biphasic anxiety reaction (vasovagal syncope), characterized by short lived sympathetic arousal followed by parasympathetic arousal that may result in fainting. Subjective experiences of these individuals tend to be characterized by disgust and repulsion rather than apprehension.

#### **ASSESSMENT**

Assessment of specific phobias typically includes a thorough psychiatric history and mental status examination. A thorough evaluation may also include a structured or semistructured interview, self report measures and behavioral assessment. Each of these measures provides different types of information. This section overviews the important assessment issues.<sup>17,18</sup>

#### **PSYCHIATRIC EXAMINATION AND INTERVIEW**

During initial evaluation clinician must ask the patient whether discussing the phobic object or situation will provoke anxiety, as it does in few patients. Interviewers should first assess the presence of fear or avoidance associated with any specific objects or situations and then probe for the level of distress or discomfort experienced when the patient is confronted by their feared stimuli or situation. Interview questions should target specific clinical features, including etiology and course of the fear, the physical reactions and symptoms experienced (eg, panic attacks, fainting), types of fearful cognitions (eg, fearful beliefs, predictions, cognitive biases), the extent to which the individual's fear or avoidance is focused on symptoms of physical arousal (eg, fear of dizziness in high places, fear of

breathlessness in claustrophobic situations), situations that are avoided by the patient, patterns of subtle avoidance (eg, distraction and safety behaviors), variables that affect the individual's fear (eg, for driving phobias – weather, amount of traffic, darkness), treatment history, family factors, and any associated medical concerns.<sup>17</sup> Conditions with which a specific phobia might be confused include agoraphobia, social phobia, post-traumatic stress disorder, obsessive compulsive disorder and hypochondriasis.

### **STRUCTURED AND SEMISTRUCTURED INTERVIEWS**

Semi-structured interviews such as the Anxiety Disorders Interview Schedule for DSM-IV (ADIS-IV)<sup>19</sup> and the Structured Clinical Interview for Axis I DSM-IV-TR Disorders Patient Edition (SCID-I/P for DSM-IV-TR)<sup>20</sup> may be useful for gathering some of this information in a standard way, primarily to confirm the diagnosis of specific phobia and to identify any comorbid conditions. Especially ADIS-IV has excellent reliability and includes more questions to differentiate specific and social phobias from disorders with which they share features.

### **SELF-REPORT MEASURES**

These measures are recommended before clinical interview if possible. They can save time, responses can be followed up during interview and can be administered again periodically to assess progress and treatment outcome.

Standard self-report scales include both instruments to screen for various specific phobias and measures designed to assess the severity of particular phobias. The most common is the Fear Survey Schedule (FSS-II) which lists 51 objects and situations and instructs patients to rate each on a seven-point scale ranging from 0 (none) to 6 (terror). Although the FSS-II asks about fear of common specific phobia situations

(eg. needles, heights), it also asks about fear of situations associated with social phobia (eg, speaking before a group) and agoraphobia (eg, crowded places), as well as situations that are not typically feared in any particular anxiety disorder (eg, life after death, not being a success, illness). Although the FSS-II is perhaps the best available screening measure for specific phobias, it has a number of limitations.<sup>21</sup>

There are number of self-report scales designed to assess the severity of particular specific phobias. For some phobias (eg, spiders, blood-injection-injury, enclosed places, and dentists), there are several scales from which to choose.<sup>17</sup>

### **Measures for Specific Phobias<sup>17</sup>**

Fear Survey Schedule, Fear Questionnaire, Fear of Flying Scale, Acrophobia Questionnaire, Mutilation Questionnaire, Medical Fear Survey, Dental Anxiety Inventory, Claustrophobia Situations Questionnaire.

### **BEHAVIOURAL APPROACH TESTS (BAT)**

It forms an important part of any comprehensive evaluation particularly if behavioural or cognitive-behavioural treatment will be used. BAT involves observing or measuring a patient's responses during actual exposure to his or her phobic object or situation.<sup>17,18</sup> The information obtained is especially useful to clinicians because individuals often over-report their fear response to phobic situations or may find it difficult to describe subtle cues that affect their fear in the situation.<sup>22</sup> Two types of BAT have been described in the literature<sup>21</sup>:

**1. Progressive BAT** involves the patient gradually engaging the feared situation or stimulus in a step-by-step manner (eg, gradually approaching a high ledge in the case of a height phobia) while the clinician records the individual's responses at each step throughout the process.

**2. Selective BAT** involves the clinician choosing

one or more challenges from the patient's hierarchy and asking the patient to complete each challenge in order to provoke a phobic response. Subjective fear ratings (0-100 point scale), negative cognitions, subtle avoidance behaviors, anxious coping strategies and physiologic reactivity all can be assessed during a BAT and can be used to establish a baseline level of fear and to assess treatment response.<sup>18</sup>

### TREATMENT

The goals of the treatment include to decrease fear and phobic avoidance, decrease distress and functional impairment, treat comorbid disorders, and in some cases improving specific skill deficits.

Evidence-based treatments for specific phobias include a range of strategies in various combinations, including pharmacotherapy, exposure to feared situations, cognitive restructuring and other approaches which will be discussed in this section.

### EXPOSURE BASED THERAPIES (EBT)

Results from five decades of research have consistently demonstrated that exposure based therapies are highly effective and are the treatment of choice.<sup>5,6,7</sup> The various techniques that have been included in EBT are discussed briefly

### TYPES OF THERAPIES

The initial technique of **systematic desensitization** has been used successfully in the treatment since the mid-1960s. Wolpe contended that combining progressive relaxation and graduated imaginal exposure to the feared stimulus progressively in fear and avoidance hierarchy (FAH) helped by the principal of reciprocal inhibition. The necessity of including a relaxation component was soon challenged and alternative theoretical rationale was offered. More recently theorists have taken a position that the exposure component is responsible for the efficacy while the decrease in autonomic arousal

achieved by relaxation enhances habituation to the feared stimulus.<sup>23</sup>

**Exposure therapy** category of treatments involves exposure to the feared stimulus without relaxation exercises, which may be directly (in vivo) or through imagination and either intensive or graded. They are most commonly associated with Mowrer's (1947) two-factor theory: the classical conditioning of fear response with phobic stimulus and the avoidance behavior preventing extinction, which is prevented by therapy. Here the patient is exposed to the feared stimulus in FAH in a systematic and controlled manner, often facilitated by learned coping strategies.

**Participant modeling:** Patients initially observe the therapist making contact with the stimulus they fear or observe another patient receive treatment and then replicate the behavior (based on Bandura's social learning theory). It was subsequently shown to enhance the effects of exposure and to increase the speed at which positive outcomes are attained.<sup>24</sup>

### Variations of standard exposure-based treatments:

These include variations of standard exposure-based treatments with the addition of some other component, such as cognitive restructuring, the use of technology for presenting exposure stimuli (eg, virtual reality [VRT], eye movements (eg, eye movement desensitization and reprocessing [EMDR], and muscle tension exercises (eg, applied tension), and will be discussed separately later.

Numerous studies have shown exposure therapy to be effective for treating phobias of spiders,<sup>25,26</sup> snakes, thunder and lightning, water,<sup>27</sup> heights, flying,<sup>28</sup> enclosed places,<sup>29</sup> choking, dental treatments,<sup>30</sup> and blood. In fact, a single session of in vivo exposure lasting 2 to 3 hours has been shown to lead to clinically significant improvements in some phobias.<sup>25,28</sup> In a meta-analysis of the psychosocial treatments for specific phobia, Horowitz et al.<sup>31</sup> investigated 35

randomized clinical trials for specific phobia and concluded that exposure-based treatments (EBT) significantly outperformed all nonexposure treatments (eg, relaxation techniques, cognitive therapy, tension techniques) at both post-treatment and follow-up.<sup>32</sup> These findings suggest that exposure-based treatments should be the treatment of choice for specific phobia; however, if a patient lacks the motivation or courage to complete exposures, other treatments may provide a suitable alternative.

### **EFFICACY OF EBT**

Numerous studies have investigated variables thought to impact upon the effectiveness of exposure-based treatments for specific phobia. Based on findings from research on agoraphobia, longer sessions are generally more effective than several shorter practices spread out over the course of an afternoon.<sup>32</sup> In addition, more frequent exposure practices (daily sessions) are generally more effective than less frequent practices (weekly sessions).<sup>33</sup> Although some research suggests that spreading out sessions toward the end of treatment may lead to better outcomes<sup>34</sup>, other studies have failed to replicate this finding.<sup>35</sup> Varying the context of exposure and varying the stimuli used during practices appears to lead to better outcomes, particularly over the long term.<sup>36,37</sup> Although most treatment studies have been based on individual sessions, there is evidence supporting group treatments for specific phobia as well.<sup>38,39</sup>

The degree of therapist involvement has been shown to significantly affect treatment outcome, for spider phobias the therapist-directed exposure group performed significantly better (71%) than the self-directed exposure (6%) at reducing fear on self-report ratings, behavioral measures, and clinician ratings when stringent criteria for clinically significant improvement were applied. A follow-up study supported the findings for the therapist-guided exposure by

demonstrating that it produced superior outcomes to three types of self-help manuals at both post-treatment and follow-up.<sup>40</sup> However, the study also found that self-directed exposures in the clinic evidenced clinically significant improvements in 63% of patients, vastly outperforming all self-directed exposures completed at home.

During sessions patients should be discouraged from engaging in subtle avoidance strategies (e.g. distraction) and overreliance of safety signals (e.g. being accompanied by one's spouse during exposure). Distraction can prevent fear from occurring during exposure to a fear stimulus and should interfere with emotional processing of fear.<sup>41</sup> However, the research on distraction and exposure-based treatment has produced mixed results, with some research suggesting distraction interferes with the effect of exposure<sup>42</sup> and other research suggesting that distraction has no effect on treatment outcome.<sup>25</sup> Although the effects of distraction on exposure remain unclear, most experts still suggest that patients not distract themselves during exposure practices.<sup>5</sup>

A study from NIMHANS<sup>43</sup> report use of behavioural analysis and behavioural intervention in form of EBT in children with zoophobia and phobia of travel in automobiles and report marked improvement in the patients with EBT. The benefits of EBT were found to be sustained over follow up. Also Narayana & Chakrabarti<sup>44</sup> reported exposure and response prevention to be useful in a case of insecticide phobia. The authors noted that the case resembled traumatic phobias which are known to resemble PTSD in that in both there is fear from specific cues and both are mitigated by exposure treatment.

### **NEWER METHODS OF EXPOSURE DELIVERY**

Technological advances in techniques have also been subject of recent research. Videotapes and computer assisted treatments have been



developed for spider phobias<sup>45</sup> and dental phobias.<sup>46</sup> Research on exposure-based treatments have demonstrated that computer-guided self-exposure works just as well as therapist-guided exposure. Newer technologies may be used to administer the routine aspects of exposure therapy, saving time and resources.

### **COGNITIVE THERAPY**

Phobia specific irrational thoughts may contribute to the development of phobia, maintain avoidance behavior and contribute to physiological symptoms.<sup>47</sup> Cognitive restructuring treatments help patients to monitor irrational thoughts and change underlying beliefs, so that they are better able to enter feared situations. When combined with exposure to feared stimuli, cognitive restructuring has been shown to be effective.<sup>5</sup> In a review, Craske and Rowe<sup>48</sup> concluded that cognitive therapy adds little to the effectiveness of exposure for specific phobias. These findings parallel the results of a recent meta-analysis.<sup>49</sup>

### **VIRTUAL REALITY TREATMENT(VRT)**

Computer-generated, interactive, virtual environments in VRT are used to expose patients to simulated situations that are more difficult to replicate in vivo such as flying<sup>50</sup> and heights. Several randomized controlled studies report that VRT treatments are more effective than a wait-list control condition for height fears<sup>51</sup> and driving fears. Rao&Gomez<sup>52</sup> have described how an aviator can develop the fear of flying because of repeated experiences of spatial disorientation. These patients have been found to respond well to virtual reality treatment. VRT has been reported to be as effective as EBT at post-treatment and at 12-month follow-up.<sup>53</sup> Also Parsons et al<sup>54</sup> report better treatment outcomes which can be enhanced by self statements.<sup>55</sup>

### **EYE MOVEMENT DESENSITISATION& REPROSESING (EMDR)**

After early research involving small sample sizes

and case studies, two larger sample studies by Muris and Merckelbach<sup>56,57</sup> have provided conclusive support for EMDR's effectiveness in treating specific phobias. However, these positive findings were primarily limited to subjective fear ratings rather than measures of avoidance or physiologic measures. In addition, some researchers have argued that the active component of EMDR is the imaginal exposure.

### **APPLIED TENSION**

Applied tension involves teaching patients of blood-injection-injury(BII) phobias to tense different muscle groups instead of relaxing them thereby countering parasympathetic arousal. In a comparison of applied tension and exposure therapy, Ost et al.<sup>58</sup> showed that applied tension was significantly more effective than exposure alone. Given these findings, applied tension is nowadays considered the treatment of choice for BII phobia.

### **APPLIED RELAXATION**

Two studies have investigated the efficacy of applied relaxation and have reported it as an effective treatment, especially among patients who demonstrate higher levels of physiological reactivity than behavioral avoidance.

### **PHARMACOTHERAPY**

Studies examining the use of benzodiazepines(BZD) and beta blockers alone or with EBT have found that drugs do not contribute much to the treatment.<sup>5</sup> BZD treatment reduces self-reported anxiety during an initial exposure, and may reduce fear particularly in situational specific phobias, however was associated with higher rates of relapse, interfere with the therapeutic effects of EBT and are less useful than CBT on long term follow up.<sup>59</sup> In recent years controlled studies have reported that selective serotonin reuptake inhibitors (SSRI) drugs like paroxetine, fluvoxamine, fluoxetine reduce anxiety and fear levels in individuals with

different types of specific phobias.<sup>60</sup> Alamy et al<sup>61</sup> have recently reported usefulness and safety of Escitalopram in a 12 week placebo controlled pilot study.

**TREATMENT DECISIONS**

The treatment must be tailored to individual patient and may follow the following steps<sup>5,6,7</sup>:

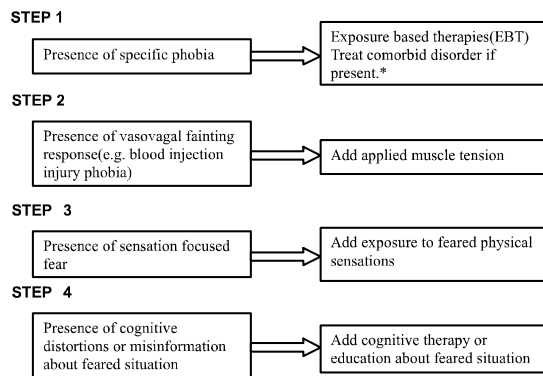


Fig 1 Treatment decisions for specific phobias

\* SSRIs (paroxetine, fluvoxamine, fluoxetine and escitalopam) may be used to treat comorbid conditions as they also reduce panic sensations for patients with situational phobias that are similar to panic disorder (eg. claustrophobia).

Patients with a profile of heightened physiological reactivity may respond preferentially to applied relaxation, while patients with profile characterized with avoidance to in vivo exposure.<sup>58</sup> Those who experience anxiety primarily as anxious thoughts may respond better to cognitive techniques.<sup>49</sup>

**TREATMENT OUTCOMES**

Variety of factors predicting treatment outcomes of patients have already been discussed above. Patients with more severe initial symptoms demonstrate greater change after treatment. High level of generalized anxiety and extensive prior experience are associated with poorer outcome.

It is common for some fear to occur in the presence of the phobic stimulus but relapse is rare after treatment. These are most commonly associated with variables affecting initial EBT or

comorbidity. Poor compliance, poor motivation and poor understanding of the treatment procedures, interpersonal issues and other possible conflicts may interfere with successful treatment and may lead to initial non-response or refractoriness.<sup>5</sup>

**FUTURE DIRECTIONS**

Further research is necessary to better understand the differences between the specific phobia subtypes and how these differences may affect treatment. In addition, there is a need to further study and refine VR and computer-assisted treatments for specific phobias and determine which of the specific subtypes (other than animal and BII) can be treated with one session exposures and massed exposure treatments for cost effectiveness. Further research is required to establish the efficacy of SSRI and to precisely determine their role in management. It must be emphasized that most of what we know about the treatment of specific phobias is based on a relatively small number of phobias. Additional work is needed to develop standard self-report scales for many subtypes and study their treatment modalities and outcomes.

**CONCLUSIONS**

To date, specific phobias have received a great deal of attention in the literature. Assessment procedures have been developed in diagnose specific phobias and to identify key cognitions and behaviors related to the disorder. Although several types of assessment tools exist, a combination of behavioral, interview, and self-report measures is recommended. With respect to treatment, exposure therapy is generally considered to be the intervention of choice for specific phobia. Research has supported the use of exposure for a wide range of phobias, and for some types of phobia, treatment can be effective in as little as one session. Newer technologies such as virtual reality treatments and computer-directed exposures may be especially useful for

phobic stimuli that are difficult to reproduce in real life (eg, flying, storms),but they will require additional study prior to replacing traditional exposure practices.

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**Corrigendum**

Publication of article "Open Label Study on Amisulpride in Augmentation with Atypical Antipsychotics in Treatment Resistant Schizophrenia and Schizoaffective Disorders" by Dr Harish Arora & Dr Rajdeep Kaur published in March issue of 2008 stands cancelled as this article was simultaneously published in two journals