

Relationship between Human Psychology & Phobia and Usage of Modern Technology to treat the Phobias efficiently

Anjali Chandavale¹, Aditya Khedkar², Rucha B. Kolekar³

^{1,2,3}MIT College of Engineering, Pune, India

c.anjali38@gmail.com, adityakhedkar38@gmail.com, ruch.kolekar@gmail.com

Abstract: Phobia has been a topic for research since many years. Detecting the phobia is one part, but determining the appropriate treatment is a challenging task. The type and intensity of fear helps to decide the technique required to treat that phobia. Phobia treatments are divided into two main categories. The exposure treatment methods expose the patient to the phobic stimulus directly whereas the non-exposure treatments make use of a virtual environment. Some exposure treatments are Virtual Reality, Augmented Reality, VIVO exposure and systematic desensitization. The non-exposure treatments are Hypnotherapy, Cognitive Therapy and Applied Muscle Tension. This paper provides an overview of all these methods available for phobia treatment. The types of phobias and the treatment methods are elaborated in detail throughout this paper. This paper also attempts to compare the treatment methods on the basis of results and efficiency. The modern pharmacology treatments are also included in the paper.

Keywords: Acrophobia, Virtual Reality treatment, Vivo exposure, Augmented Reality

1. INTRODUCTION

Human psychology has been one of the most widely studied topics for many years. Whatever an individual does is merely a reaction to the situation that he falls in. This reaction can be spontaneous or sometimes based on past experiences. One such term related to human psychology and reactions is Phobia.

Specific phobia is defined by an extreme, unreasonable terror of a particular thing/item or situation, which is avoided at any cost or accepted with significant difficulty. [1]

Even if phobia is a disorder which typically prevails for years, it is considered to be moderate or subtle since the feeling of fear can be hampered relatively by avoiding the factors that cause the fear. However, avoiding phobic situations can lead to difficulties in performing daily routine activities. In some cases, like a dental phobia or blood-injection-injury phobia, avoidance of situation can cause health problems to the individual. When the phobic stimulus is involuntary such as thunder, lightning or vomiting sensation, dealing with such phobias is even more difficult. Specific phobia also associates with some mental disorder, thereby making it more dangerous.

Earlier, phobia was classified as “phobic reaction” in Diagnostic Statistical Manual (DSM-I) and “phobic neurosis” in DSM-II. Later, it was recognized as “simple phobia” in the (DSM-III). However, the behavioural therapy has made phobia a success story as far as psychiatric treatment is concerned. But the question is how successful are the treatments and how long do they help the patient. Several discussions have been carried out regarding this.

It will not be surprising to say that technology plays some or the other role in every aspect of life today. So does it in the medical and psychotherapy field. [12]

The purpose of this survey paper is to throw light on the different types of phobia and highlight the various methods employed for phobia treatment. The review travels through different treatment techniques: behaviour treatment, cognitive therapy, and other remedies such as applied muscle tension, hypnotherapy, and pharmacotherapy. The categorization of behavioural treatment discussed cover systematic desensitization, imaginal exposure, vivo exposure, interoceptive exposure, virtual reality exposure and applied tension. This paper has attempted to discuss some treatment methods to a certain extent. The rest of the paper is described as follows. Section 2 discusses types of phobia whereas section 3 elaborates phobia treatment methods. Section 4 concludes the paper.

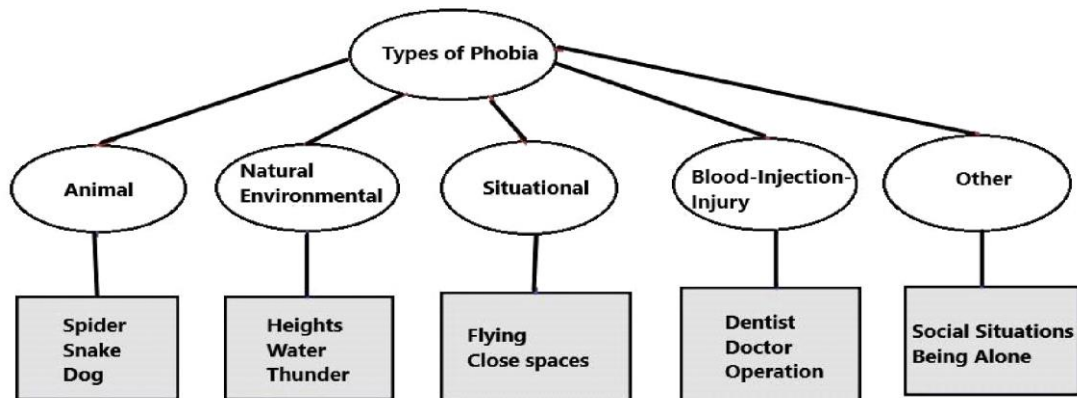


Fig 1: Types of Phobia

2. TYPES OF PHOBIA

Since long, people have the fear of natural, situational, animal and social factors. Based on the type of fear, phobias are classified as shown in figure 1. The various animal phobias are caused due to animals like spider, snake, dog etc. Natural /Environmental related phobias are caused due to heights, water, lightning etc. Situational phobias contain fear of height, fear of close spaces etc. Fear of operation, fear of doctor/dentist come under blood-injection-injury related phobias. Social situations like stage fear, fear of being alone comes in other type of phobias.

2.1 Behavioural Approach Test (BAT) [1]

BAT is a test to determine the type of phobia and severity of phobia. A series of behavioural tasks are included in a BAT wherein the patient(person/animal), on being confronted by the phobic stimulus, is observed with great detail. Evidence is the main advantage of a BAT, hence also objective. The spectator can actually “notice” the reactions of the victim when he/she confronts the phobic factor.

The BAT test is performed base on the following factors:

- Avoidance level: It is calculated relative to a BAT score which is based on the intensity with which the victim was able to advance towards the phobic object.
- Subjective nervousness: It is illustrated by a viewable equivalent scale such as a Subjective Units of Distress Scale (SUDS) (0 to 100) or a fear thermometer scale (0– 10)
- Physiological response: It is associated with the rate of heartbeats or galvanic skin response (GSR). The major factors considered for the BAT test are subjective fear/anxiety and/or escapism intensities.

2.2 Phobia due to animals

The following section describes various phobias caused due to animals.

2.2.1 Arachnophobia

Arachnophobia is the feeling of angst caused due to the sight of spiders or other arachnids. This phobia is very usual. In this study, it is found that it affects almost 33% of women population and 25% of men population [21]. On encountering a

spider, one can get fearful. Moreover, in some cases, only a simple image of an acarine or even the imagination of a spider is sufficient to cause sentiments of intensive terror, distress and panic.

There are an estimated 45,700 different spider species as of November 2015 but not all are harmful. Only about 10-20 types are really harmful to humans in some or the other way [22]. Such animals were once portrayed as a significant danger to predecessors in the past who were unaware of the therapeutic remedies and mechanical or scientific aids to treat and cure the injuries caused by such animals and insects which is one of the primitive factors responsible for this and other related animal distaste. Consequently, the progression of generations led to the persistence of the notion that these creatures are highly dangerous and one should fear them.

2.2.2 Ophidiophobia

Ophidiophobia is phobia caused on confronting snakes or even imagining of snakes. This phobia is very usual and it is also increased due to developmental factors, past individual experiences, or socio-cultural impacts. Some snakes are venomous. The previous generations who prevented such threats were more likely to recover and carry down their genetic features. It is found that there are 3400 species of Snakes in the world out of which 600 is venomous. In a study put forward by analysts, it was concluded that only 3 out of 35 snake-fearing people had been ever bitten by a snake. In fact, maximum people had hardly a direct confrontation with snakes in any manner [20].

The authors of [27] found that the distress caused due to the sight of snakes and other similar animals might occur from a genetic feeling of disorder and contamination. These animals are more likely to incite a hatred reaction. That is the reason snake distaste is so usual although mankind is not showing similar phobias of threatening creatures such as lions or tigers.

2.2.3 Cynophobia

Cynophobia is the feeling of distress caused due to the sights of dogs. It is mostly related to a particular individual's past incidences. For example, if someone has been bitten by a dog in the past life. This can incite fear for dogs in an individual. Such events can be injurious or harmful and lead to stressful reactions that persist mostly throughout life. This particular phobia can be quite usual. There are around 36 percent of people undergo medication for a specific phobia and have an immensely high feeling of fear for dogs. [25]

Cynophobia especially affects the person's day to day life and his functioning. For example, if a person's car is followed by a dog or a group of dogs and if the person gets affected by cynophobia, then that person will probably try his level best to ward off the road on which a dog is seen or present. This avoidance can affect the individual's functioning in day to day activities and cause great difficulty for the person to get to school, office, or other important places which require him/her to leave the home.

2.3 Phobias due to Natural/Environmental conditions

The following section describes various phobias caused due to Natural/Environmental conditions.

2.3.1 Acrophobia [23]

Acrophobia is the feeling of distress caused due to heights. This phobia affects approximately 23 million adults. Due to this stress the person may get feelings of disgust or uneasiness. People who are affected by this phobia may go to any extent to escape elevated locations such as skywalks, bridges, towers, or skyscrapers.

The fear is evolved for acclimatisation with a surrounding in which a drop from high elevation may lead to serious injury or sometimes death. In some cases, this phobia may result in a traumatic experience. Almost every person has fear to some extent when encountering heightened or elevated locations. A person struck with acrophobia experiences a serious fear that can lead to panic attacks and avoidance behaviours.

2.3.2 Astraphobia [24]

Astraphobia is the feeling of distress caused due to thunder and lightning. People suffering from astraphobia go through immense emotions of stress and fear when they confront such environmental events.

Signs of other phobias include shaking, rapid heart rate, and increased respiration are also same for astraphobia but during a thunder or lightning storm. People affected by astraphobia may adopt any means to find for a protective place or cover to keep them safe from the environmental phenomenon such as hiding under bed, under the blankets or even crouching

inner part of a room or washroom. The patients having astraphobia are may likely to instil in themselves an extreme engrossment with the environmental conditions. They can invest considerable amount of time everyday searching and acknowledging themselves about the regional and national environmental conditions so that they are aware of any type of thunderstorm that might occur. In some cases, this phobia may even end up affecting the patient with agoraphobia wherein patients are afraid of confronting lightning or thunder to such an extent that they absolutely resist getting out of their homes.

2.4 Phobias due to Situations

The following section describes various phobias caused due to situations.

2.4.1 Aerophobia [25]

Aerophobia the feeling of distress caused due to flying. In spite of the fact that airplane mishaps are really very unusual, approximately, 2 crores adults in the US suffer from this phobia. On an average, 1 out of every 3 people have the fear of flying at least to some extent. Some of the typical symptoms that accompany this phobia include shivering, accelerated pulse rate and feeling bewildered. In some cases, this particular phobia causes people to totally avoid using the airway for travel.

2.5 Phobias due to Blood-Injection-Injury

The following section describes various phobias caused due to Blood-Injection-Injury.

2.5.1 Trypanophobia [26]

Trypanophobia is the feeling of distress caused due to injections. It is a situation due to which people may sometimes even refrain from acquiring medical treatments and fear to meet doctors which may lead to severe diseases or death. Like many other phobias, this cannot be easily treated because patients ward off from the stimulating element and situation. 20 percent of the total population fear the needles or injections to some extent while 10 percent within those are affected by Trypanophobia.

Whenever patients affected by trypanophobia need to get injected, they may experience sentiments of excessively fearful and accelerated pulse rate leading up to the measure. Some patients may get die while getting injected. These symptoms can be highly disturbing. Hence, patients affected by this phobia sometimes stay away from doctors, dentists, and other medical professionals in spite of suffering from some type of physical or dental disorder that requires medical aid.

2.6 Phobias due to Social Situations

The following section describes various phobias caused due to Social Situations.

2.6.1 Social Phobia [28]

Social Phobia is the fearful feeling experienced in social situations and can be really enfeebling. These phobias often turn out to be very severe. They become serious to such an extent that people tend to refrain from attending occasions, avoid visiting such areas and humans who can trigger an attack of nervousness. Patients affected by this phobia are fearful about being watched or talked about or criticized in front of others. Also, the regular, day-to-day activities such as eating a meal or reading a book can be anxiety triggering. The American Psychiatric Association specifies that social phobias are most commonly developed during teen age and can persist for whole life if they are not attended medically.

The most frequent form of social phobia is the fear of express in front of people or verbal communication with crowds. Social phobias often cause people to stay away from routine social situations like school and work, which can adversely affect an individual's behavioural ability to function smoothly.

2.6.2 Agoraphobia

Agoraphobia is actually the fearfulness of being lonely or unaccompanied in a situation or place where flight may be really not easy. Agoraphobia may involve the nervousness about social places, overcrowded areas, open locations, or conditions that tend to initiate an anxiety attack. People affected by this phobia start preventing the provoking circumstances, sometimes to the extent that they refrain from getting out of their home totally. Around 33% of the population who suffer from panic disorder also suffer from agoraphobia [21].

Agoraphobia generally strikes in the period between 18-20 and mid-30s. According to the American Psychiatric Association report around 67% of patients who suffer from agoraphobia are females [21]. The disorderliness mostly starts off as a sudden and abrupt panic attack, which eventually causes a level of anxiety which can trigger another panic attack.

2.6.3 Mysophobia [29]

Mysophobia is the extreme feeling of fearfulness for germs and dirt. This fear can cause the patients to invest time and money in excessive sanitation, compulsive hand-washing, and also prevention of things or circumstances anticipated as unclean. In some cases, mysophobia may also associated with obsessive-compulsive disorder.

People suffering from mysophobia try their best to not be in physical contact with other people because of the perception that things might be contaminated. Such patients make extreme use of disinfectants, and have too much obsession in continually being updated with media articles about sickness epidemics. Men or women affected with mysophobia also try their best to ward off the places where there is high probability of presence of germs. For example, doctor's offices, airplanes, schools, and pharmacies.

Figure 2 contains the pie chart which shows the percentage of people affected by different types of phobia [19]. Population experiencing the fear of spiders, snakes or insects is highest i.e.13%. Phobias like fear of water, fear of leaving home, fear of population, fear of avoiding participation in seminars exist in small percentage i.e. between 5-6%. Percentage of fear of visiting new places is also high i.e. 12%. Percentage of population experiencing other remaining phobias is 14%.

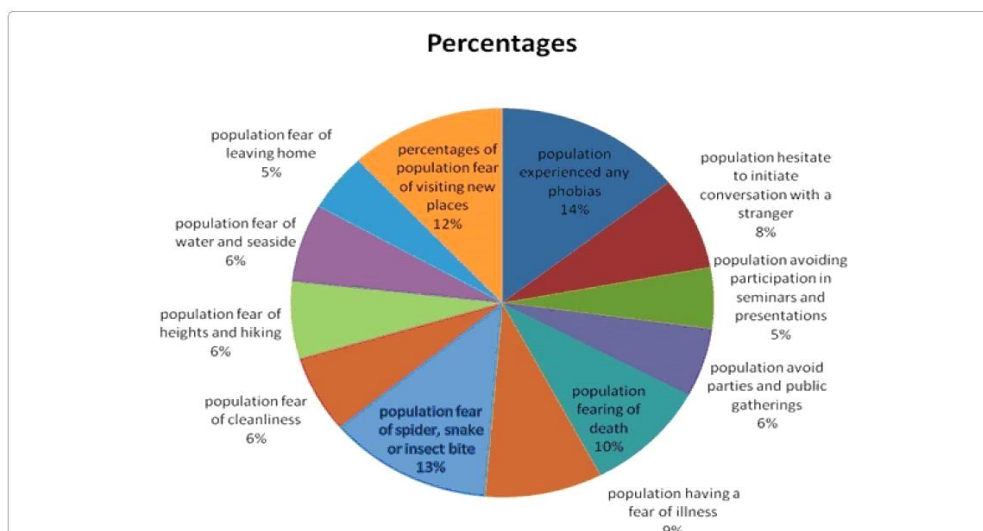


Fig 2: Statistics of Phobia [19]

3. TREATMENTS OF PHOBIA

The treatments for phobia can be classified into 2 categories.

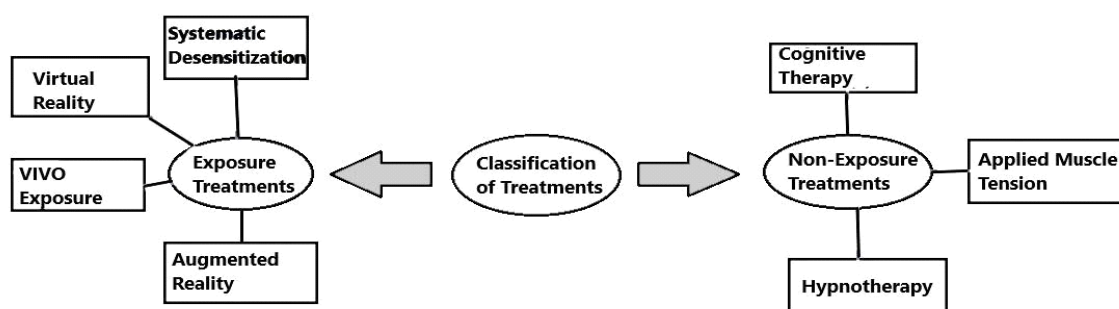


Figure 3: Classification of Treatments

As shown in figure 3, phobia treatments are classified as exposure and non-exposure treatments. Any treatment involving an exposure component to be an exposure treatment. The treatments in which a person does not expose to direct or indirect encounter with the phobic factor are called as Non-exposure treatments.

3.1 Exposure treatments:

These are the treatments which involve direct or indirect exposure of the phobic stimulus to the patient. Such treatments include vivo exposure with safety behaviour availability, vivo exposure with safety behaviour utilization, imaginal exposure, active imaginal exposure, systematic desensitization, Eye movement desensitization and reprocessing (EMDR), Virtual Reality (VR), VR with a tactile component, computer-assisted virtual environments (CAVE), negative practice, therapist-assisted flooding, flooding by tape recording, and guided mastery.

For example, in an AR treatment, the patient uses his/her skills under the exposure of the stimulus.

“Cognitive restructuring” involves cognitive restructuring in dealing with the phobic stimulus. EMDR includes imaginal exposure. Hence, all these treatments fall under exposure treatment category.

3.1.1 Systematic desensitization and imaginal exposure:

This part involves deep analysis of imaginal exposure and systematic desensitization. Imaginal exposure treatment directly exposes the patient to the fear-provoking factor using imagination wherein the fear factor is actively visualized. The main objective of the therapy is to attain adaption and gradual vanishing of the phobic response or stress [1]. Systematic desensitization also involves confrontation with the phobic factor through imagination, but the main objective is to overrule the distress using a method called deep muscle relaxation.

3.1.2 VIVO Exposure:

In vivo exposure therapy, the affected person actually encounters the fear-provoking factor. For example, a patient suffering from snake phobia faces a live snake or a patient suffering from height phobia is made to stand on a rooftop. This is conducted in different phases or levels. Initially the intensity or level of exposure is less and is gradually increased. For example, if a person is having height phobia, he will be made to stand on a particular height. The height will be increased slowly as the treatment progresses. Exposure generally lasts several hours. The therapy may be in the form of a single session (lasting for three hours) or, around five sessions, lasting for one hour each.

It is seen that in comparison with the outcome of systematic desensitization, the outcome of the vivo therapy were steadily optimistic and effective. [10]

3.1.3 Virtual Reality:

In virtual reality treatment, a virtual environment is generated using a computer program. This stimulates the phobic situation with the use of VR headsets, VR controllers, headsets, headphones and other additional peripheral devices. The authors have stated that virtual reality treatment method may be equally efficient as vivo exposure in case of treating flying and height phobia, and even more efficient than systematic desensitization [10]. According to a study, VR was used as an adjunctive therapy along with cognitive therapy for treating flying phobia [10]. Virtual reality is an effective and favourable therapy for specific phobia, especially for fear of flying. VR exposure therapy has proved to be very effective in handling the acrophobia patients. Anxiety, avoidance, distress, and fearful attitudes towards heights reduced considerably for the VRE group.

Auditory-Visual Virtual Reality is used as an analysis and therapeutic tool for Cynophobia (phobia for dogs).

VR uses the combination of human perception and experience and allows patients to respond to computer generated environments, making it an ideal exposure therapy. VR not only creates a virtual environment but also makes it possible for the user to interact with the environment, mostly using hands and eyes. Users feel that they have physical as well as mental control over the things in the virtual exposure (VE) [6].

Anxiety disorder:

To defeat the anxiety, one must confront it. A psychological model called emotional processing theory explains anxiety disorder [18]. Fears are coded as memories in the brain. The fear memory has three parts, namely, details about fear factors which includes what kinds of things stimulate the fear, reactions (the way we feel and the things we do when

exposed to the phobic fear factors), and interpretation (how we perceive the circumstance). This fear memory is changed during treatment. Firstly, the therapy must stimulate the memory where fear resides. Secondly, when the fear memory is stimulated, new knowledge or instances that are conflicting with memory associated with fear should be provided so that a new fresh memory is formed. Exposure therapy is widely used to handle anxiety.

Exposure therapy involves encountering the fearful circumstances in imagery (imaginal exposure) or in the realistic way (in vivo exposure). Then, knowledge conflicting with the anxiety is communicated and observed during the treatment. It is observed that the method which activates the memory area where fear resides and modifies it, reduces symptoms of anxiety [18]. Thus, Virtual Reality is a constructive path for the treatment of anxiety disorders.

Virtual Reality was used as exposure therapy for the treatment of patients suffering from acrophobia (fear of heights) in the first controlled study which applied VR to a psychological disorder. The authors have illustrated a case study [7] wherein 7 members were frequently made to encounter virtual footbridges, outdoor balconies, or a glass lift. Virtual Reality exposure (VRE) treatment was efficient in considerably decreasing the anxiety caused on facing areas of high elevation and developing a better approach towards the concept of height. Anxiety, restraint, discomfort, and frightened behaviour toward heights reduced considerably for the Virtual Reality Exposure group.

Post-traumatic-stress-disorder:

VR was successful in curing combat-related post-traumatic stress disorder (PTSD) among Vietnam veterans. PTSD is a severe disease which can occur after experiencing a dreadful incident such as a combat, sexual assault, or an accident. In this situation, the affected person experiences a challenging time which is accompanied by experiencing of the incident again and again by means of memories, illusions, hallucinations or nightmares. The patient avoids thoughts, emotions, and memories of things which are related to the incident. The common symptoms are hyperarousal, such as difficulty in falling asleep and irritation.

3.1.4 Eye movement desensitization and reprocessing (EMDR):

This treatment was first developed by Shapiro (1989) for treating post-traumatic stress disorder (PTSD) [10]. In this, the patient gets engaged in moving his/her eyes rapidly and he is exposed to virtually visual commands which are associated with the dreadful incident or memory.

The affected person is made to concentrate on a distressing visual, memory, feeling, or awareness. At the same time, the clinician moves a finger within the person's visual range and the person keeps focussing on the finger as it moves. One objective of the therapy is to improve the perception about the event or incident from pessimistic to more and more optimistic. When this method is adopted for treating specific phobias, the virtual exposure element comprises of imagining encounter with the fear factor, instead of a dreadful event.

3.1.5 Augmented Reality:

Augmented Reality (AR) comprises of a setting wherein different unreal components are integrated into the patient's interpretation about the real world [4]. The goal of this method is to improve the patient's attitude with respect to an incidence experienced in the existing world, where 3-dimensional unreal objects seem to exist parallelly along with the components in the existing world. The unreal components in AR provide very supporting content the real world. The results of the paper [5] show that augmented reality (AR) treatment method could also be applied to handle some psychological disorders.

AR and VR have proven to be more advantageous than conventional treatment methodologies. But, Augmented Reality treatment method provides a better sensation of existence and real-like judgment (as if the experience is real) than Virtual Reality treatment method as the surrounding and the components that the affected person interacts with are actual or real. In addition to it, in AR, patients view their own body parts like limbs, fingers etc whereas in VR only stimulation of experience occurs. These differences help us to determine what is to be applied according to the case.

3.1.6 The Therapeutic Lamp (TL): Treating Small-Animal Phobias: [30]

The setup for TL incorporates the user's hands, a coffee mug, a cardboard box, a flyswatter, and finger and item sensing and tracking over a horizontal surface (a table or floor). For the Virtual Reality and Augmented Reality treatments, usually some demonstrations like head-mounted displays (HMDs) are used where an efficient virtual world can be

imagined or visualized. These displays can restrict evident realization, which is significant in all types of direct communication and indicates involvement, consideration, and inclination of the patient.

Illuminating the Therapeutic Experience TL facilitates direct evident therapy involving face-to-face encounter and communication with an unreal creature in a real environment. The therapeutic lamp helps patients deal with small creatures with least level of anxiety in an extremely connected and involved environment. While using the Therapeutic Lamp, the affected person can acknowledge details about the phobic creatures, face the creatures, and examine their own abilities regarding those creatures. Therapeutic Lamp therapy can presently be applied for treating cockroach and spider phobias. For demonstrating the cockroach application of the therapy, an American cockroach with wings, an American cockroach without wings, and a black cockroach was modelled. However, this area is being further explored for extending it to treat other phobias as well.

3.2 Non-exposure treatments:

The treatments in which a person does not expose to direct or indirect encounter with the phobic factor are called as Non-exposure treatments. These included relaxation, Physical medicine and rehabilitation (PMR), tension techniques alone, and cognitive therapy.

3.2.1 Applied Muscle Tension:

A biphasic physical reaction on seeing blood, wound and injury is a unique characteristic of blood injury phobia in most of the cases [1]. There is a basic introductory sensitive reaction which is accompanied by high blood pressure and pulse rate succeeded almost immediately by a nervous-system reaction, now with a fall in blood pressure and pulse rate. Using this series of reactions efficiently, Ost [2] invented an applied muscle tension therapy for treating the patients suffering from blood-injury phobia. Applied tension method is actually a blend of muscle tension and vivo exposure method. It is important for a person to understand the initial symptoms of reduced blood pressure, and then apply muscle tension, stretching, relaxing and comforting the body tension. Then muscle tension is used along with vivo exposure therapy so that the reduced blood pressure can be increased or regained back to normal blood pressure and the patient doesn't faint.

3.2.2 Cognitive Therapy:

The main base of cognitive therapy is cognitive re-establishment wherein the disturbed or unreasonable notions that are related to the phobic factor or circumstance are changed or improved, with a consequent reduction in distress, anxiety and avoidance. With the help of cognitive therapy flying phobia or an animal phobia is reduced [4]. For example, aerophobia (flying phobia) is handled by demonstrating the case of an airway mishap to the suffering patient. Another example can be asking a patient of animal phobia to re-examine and evaluate the feared animal and acknowledge the harms caused by that animal.

3.2.3 Hypnotherapy:

Hypnotherapy is the appropriate use of lenitive methodologies and techniques to activate a "trance" or a modified attitude of sensibility or alertness which accelerates the patient's perceptivity to advise to confront different modifications in emotion, notion, apprehension or voluntary control over motor behaviour. Hypnotherapy provides temporary cure to the patient but after some years its effect may fade away.

Results have shown that the application of hypnotherapy in treating dental phobia resulted in uncertain conclusions [1]. It was found that hypnotherapy had ambiguous effectiveness in one survey and no efficacy in the other. Hypnotherapy did not provide any variation in outcome from pre- to post-study dental anxiety or the dentists' rating of behaviour through a dental exam.

3.3 Medications: [31]

The following treatments use medication for the treatment of phobias.

3.3.1 Beta blockers:

Beta blockers are used to reduce abnormal heart pulses and to protect the heart from heart attack. Beta blockers can improve the physical symptoms of nervousness/unease that may be associated with a phobia.

Subject may feel side effects including an upset stomach, fatigue, insomnia, and cold fingers.

3.3.2 Antidepressants:

Serotonin reuptake inhibitors (SSRIs) are mostly authorized for patients suffering from phobias. These medicines alter serotonin levels in the brain which can improve a person's mood.

SSRIs may show some side effects initially like nausea, sleeping problems, and headaches.

If the SSRI does not show improvement, the medical expert may suggest a monoamine oxidase inhibitor (MAOI). Individuals on an MAOI may be instructed to avoid certain types of food like food with high amount of tyramine, cured meats. MAOI may show side effects in the beginning which include dizziness, an upset stomach, restlessness, headaches, and insomnia. Clomipramine, or Anafranil are a tricyclic antidepressant (TAC) which are also found useful in improving the symptoms of phobia.

Subject may feel side effects like sleepiness, blurred vision, constipation, urination difficulties, irregular heartbeat, dry mouth, and tremors.

3.3.3 Tranquilizers:

Benzodiazepines are a type of tranquilizers that might be of help to a phobic patient. Benzodiazepines help in improving the symptoms of anxiety. People who previously had alcohol dependence should never be given sedatives.

4. CONCLUSION

Phobia is very common in humans, every human-being possesses some kind of phobia. Negligible level of phobia serves a beneficial and adaptive purpose but High-level phobia is harmful to humans and can be the reason of various diseases like high blood pressure, unconsciousness, heart attack, high stress levels etc. The biological, psychological, human nature and social factors also contribute to the evolution and persistence of phobia. The research has investigated these biological, social, and psychological factors that contribute to Phobia. The various types of phobias, theories, and associated treatments are studied in this paper. It is found that the fast advancing technology is being efficiently used in treating the different types of phobias. However, these techniques fail to cure completely like astraphobia, mysophobia etc. Each therapy has its own advantages and disadvantages. The type of treatment to be adopted solely depends on the type and nature of phobia. Moreover, a combination of treatments is to be applied for higher success rates and long-lasting effects. It is observed that exposure therapy is more effective and long lasting for the treatment of phobia than non-exposure therapy.

A list of references is provided for additional understanding of the types and treatments discussed. It is hoped that the detail discussion will contribute to the advancements in this field which will in turn benefit to the society at large.

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