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REVIEW: AN INSIGHT ON BIOFEEDBACK AND ANXIETY CHAOS

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ABSTRACT

This Review briefs about what biofeedback is, how biofeedback works, what a patient is going to expect during a session of biofeedback, what are the different types of biofeedback, what is the application of biofeedback therapy, anxiety and management of anxiety with biofeedback.

Method: This was a review of medical as well as psychological literature.

KEYWORDS: Biofeedback, Anxiety, Biofeedback Application.

INTRODUCTION :

When signals from your own body are used to improve individual health it is known as biofeedback. There is a great application of biofeedback from different medical specialities point of view. From psychological perspective biofeedback modality is used to teach clients about how to relax.¹ It is basically controlling the internal

functions normally outside of conscious control.² During a session of biofeedback individual is connected to electrical sensors in turn the sensors are sending signals back to the body as feedback. It is genuinely training your mind so that every individual can successfully use self thoughts to control own bodily functions.³ When the signals are measured they are connected to screens and monitors so every client or patient can see the feedback in monitor which is generally in front of the client / patient. The basic idea behind biofeedback is that it is very important for every individual to know how body responds to various stressors and by being attentive how any individual can improve mental as well as overall health.⁴

WORKING PATTERN OF BIOFEEDBACK

How biofeedback works is very interesting question but scientists and experts are not still sure how it exactly works but there are many supporting scientific interventions behind that. One of the main techniques is to learn to relax and then amendment in behavior. The main focus is to promote relaxation in individual. In biofeedback we deliberately control breathing, heart rate and other involuntary functions to override



individual body's reaction.⁵ The regular reactions are changed which occurs in response to a stressful situation or any kind of stress. During practising biofeedback when responses are seen by patients on monitor which act as a kind of information to the patient also works like a reinforcement of course positive we mean to say. The ultimate goal is to reduce stress, tension and induce relaxation.

We are focusing on what a client is going to expect in a biofeedback session or how the session is going to be conducted. First of all registered professionals conduct biofeedback in different areas. As a client or a patient you can expect that there are electrodes going to be attached to your skin or placed on your skin or other relevant areas depending upon which biofeedback modality is to be intervened. The electrodes are attached to biofeedback unit further that is attached to computer monitor or some sort of screen. There are different kinds of sensors used during the application part. The expert therapist then engages the patient in different kinds of mental exercises. With consistent practise you will be able to understand what kind of activities are going to bring the relevant physical changes you want.⁶

MODALITIES IN BIOFEEDBACK & ITS APPLICATION

There are different modalities in biofeedback. The kind of the modality which is going to benefit you the best depends upon what the clinician or biofeedback expert is going to choose. Let us discuss the various methods of biofeedback: The method in which sensors are attached to scalp to monitor brain waves using an electroencephalograph. When the application is respiration based the sensors monitor breathing rates. Electromyography biofeedback in which sensors are placed over skeletal muscles to monitor muscle contractions. There are also sensors which measure change in body temperature. Then we move to sensors which are measuring galvanic skin response, how much sweat is there on individual body over certain time. Heart rate variability measures heart rate pulse respective sensors are placed to monitor signals and send feedback to monitor through biofeedback devise system. While application of biofeedback the expert also may use various relaxation programmes depending upon his area of expertise like breathing exercises, progressive muscular relaxation technique, guided imagination, meditation, behavioral techniques, cognitive techniques or any other technique relevant to experts as required.^{7, 8, 9} Application of biofeedback extends to much health related issues to name a few like: Attention deficit hyperactivity disorder, anxiety related issues, incontinence, high blood pressure, stress, irritable bowel syndrome and depression etc.^{10,11} Any person who would like to avail services of biofeedback therapy needs to check with local regulation applicable as well as on the advice of biofeedback expert who will decide whether in that particular health related issue biofeedback therapy is recommended or not.

Anxiety Disorder

Anxiety is a general term for disorders that cause feeling of fear, apprehension, nervousness and worrying. The most common types of anxiety disorders are:

Generalized anxiety disorder.

Obsessive- compulsive disorder.

Panic disorder.

Post-traumatic stress disorder.

Social anxiety disorder.

Specific phobias.¹²

Figure no. 1 drawn below illustrates different kind of anxiety disorders and shown that biofeedback can be helpful in management and treatment.

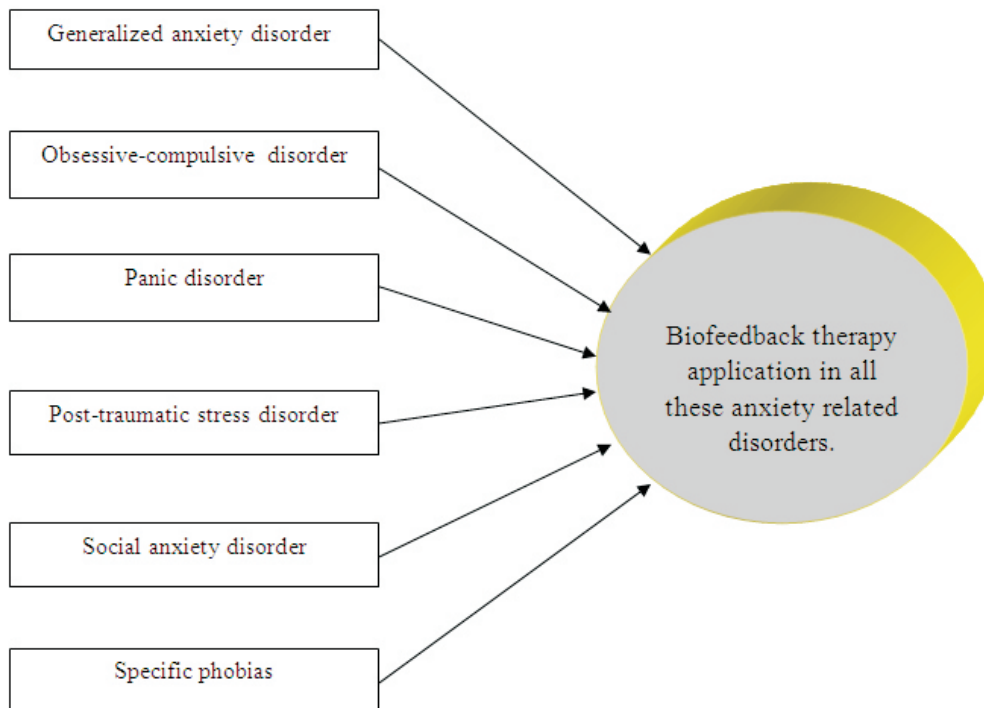


Figure no. 1: Different kinds of Anxiety Disorders and Biofeedback Application

Basically speaking anxiety is a feeling of a kind of panic. Sometimes the feeling of anxiety comes after a situation that it manages in itself without causing any symptomatic behavior in the individual and sometimes a sustained feeling of anxiety can cause symptomatic behavior in the individual that can affect the everyday work life as well as personal life of that individual. General symptoms include feeling scared, nervousness and panic all the time. There can be difficulty in sleeping, concentration problem, gastrointestinal symptoms like cramps, diarrhoea can be present, individual may feel palpitations in heart, dry mouth, mood irritability can be one of the symptom during feeling of anxiety or in anxious mood.¹³

Generalized anxiety disorder is a kind of chronic disorder characterized by long lasting and excessive worry about different events. The fear level is generally not idealistic. In Panic disorder there is a kind of sudden attack of anxiety that may lead to shakiness, confusion or breathing difficulty generally for short period of time. Avoidance of any situation and unreasonable fear is phobia. When you are over anxious about any particular thing actually that thing may not be dangerous or troublesome but it can make some people really nervous is basically classified as phobia. For example some people may have phobia from heights, phobia from water etc. When there is a fear of being embarrassed without reasonable reason or being negatively accepted by people like stage fear, it is a condition of social phobia. Generally patients with this kind of phobia avoid social gatherings. Any thought or action that is recurring and stressful followed by non realistic compulsions like cleaning hands many times in a day is a condition of obsession compulsion disorder. Any behavioral changes which may have occurred in any individual because of trauma in the past like a person revived after a crash is to be classified as post traumatic stress situation. Any individual exhibiting high level of anxiety may be unreasonable and observable response upon separation from a particular place or individual which provides him feeling of protection is to be characterized as separation anxiety disorder.^{14,15}

DISCUSSION AND CONCLUSION

As we have discussed till now that biofeedback helps every individual to get in touch with emotions and feeling through technological interventions. Modern science is also accepting the power of mind. In power of mind no treatment is intervened but it is believed that it is going to be cured alone that feeling has great curative

effect. The application of modern technology to access biological functions and address that symptomatology with right treatments protocols .The application of biofeedback is considered to be righteous in anxiety related situation while giving explanation in the same paragraph.¹⁶

The application of biofeedback teaches us relaxation skills ,how to manage any attack which has happened because of anxiety, the pattern detection of any particular situation or response which is going to trigger anxiety .Reduction of all precipitating factors that are leading to anxiety and finally to have absolute command on stress response. Further the application of biofeedback makes every individual how to maintain a calm state by having a control on the brains activity.¹⁷ The adjunctive use of biofeedback is reasonably well documented for psychological disorders of anxiety .Both patient as well as biofeedback expert are well benefitted from display of physiological responses as these are helping cues in recognition of defence mechanisms or resistances if there are of any kind .The same therapeutic intervention also referred to as applied psycho physiological feedback .¹⁸ Biofeedback Programme also encourages the patients with some biofeedback practitioners to do homework with each session where you are expected to chart symptoms and carry out self regulation .Most controlled randomized biofeedback clinical trials have found that biofeedback helps in reduction of anxiety as much as other well-liked relaxation procedures. The achieved results are comparable as both tend to improve upon trouble in attention, cognition and physiological arousal .¹⁹ There is a reference from report undertaken to update previous summing up on authentication on clinical effectiveness and safety of neurofeedback and biofeedback that they may have a potential for treatment of post-traumatic stress disorder, generalized anxiety disorder or depression²⁰

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