

**"A CLINICAL STUDY ON THE ROLE OF HOMOEOPATHY IN  
MANAGING ANXIETY DISORDERS IN SCHOOL GOING CHILDREN OF  
KANNIYAKUMARI DISTRICT"**

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IN

**PAEDIATRICS**

By

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SUBMITTED TO

**THE TAMILNADU Dr. M.G.R. MEDICAL UNIVERSITY, CHENNAI**

2019

**ENDORSEMENT BY THE HEAD OF THE DEPARTMENT AND  
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This is to certify that the Dissertation entitled "**A CLINICAL STUDY ON THE ROLE OF HOMOEOPATHY IN MANAGING ANXIETY DISORDERS IN SCHOOL GOING CHILDREN OF KANNIYAKUMARI DISTRICT**" is a bonafide work carried out by **Dr. VINEETHA SREEKUMAR**, a student of M.D.(Hom.) in **DEPARTMENT OF PAEDIATRICS** in the SARADA KRISHNA HOMOEOPATHIC MEDICAL COLLEGE under the supervision and guidance of **Dr. C. K. MOHAN M.D.(Hom.)**, Professor, Department of Paediatrics in partial fulfillment of the Regulations for the award of the Degree of **DOCTOR OF MEDICINE (HOMOEOPATHY)** in **PAEDIATRICS**. This work confirms to the standards prescribed by THE TAMILNADU DR. M.G.R. MEDICAL UNIVERSITY, CHENNAI.

This has not been submitted in full or part for the award of any degree or diploma from any University.

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## **DECLARATION**

I, **Dr. VINEETHA SREEKUMAR** do hereby declare that this Dissertation entitled "**A CLINICAL STUDY ON THE ROLE OF HOMOEOPATHY IN MANAGING ANXIETY DISORDERS IN SCHOOL GOING CHILDREN OF KANNIYAKUMARI DISTRICT**" is a bonafide work carried out by me under the direct supervision and guidance of **Dr. C. K. MOHAN M.D.(Hom.)** Professor, Dept. of Paediatrics, in partial fulfillment of the Regulations for the award of degree of **DOCTOR OF MEDICINE (HOMOEOPATHY)** in **PAEDIATRICS** of The Tamil Nadu Dr. M.G.R Medical University, Chennai. This has not been submitted in full or part for the award of any degree or diploma from any University.

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## **ABSTRACT**

### **AIM:**

The primary aim is to study the effectiveness of Homoeopathic medicines in managing anxiety disorders in school going children of Kanyakumari district. This is also aimed at determining the type of anxiety disorder prevalent in school going children and also the probable causes for it.

### **MATERIALS AND METHODS:**

The study was conducted in a systematic way so as to achieve the aims and objectives of the study. A sample of 30 cases were selected after proper screening from OPD and rural centers of Sarada Krishna Homoeopathic Medical College and also from different School Health Programs conducted in and around Kanyakumari district. The school going children were screened for anxiety disorders using Screen for child anxiety related emotional disorders (SCARED) tool. Cases identified with anxiety disorders were screened and selected as per the inclusion and exclusion criteria. Data collected were recorded in the pre-structured SKHMC standardized case record. Cases were processed according to the Homoeopathic principles followed by case analysis; evaluation and the totality were constructed. Prescriptions were done with due reference to Repertory, Materia Medica and Organon of Medicine. Potency selection and repetition were done according to the demand of each case. Improvement of each case was assessed using the Screen for child anxiety related emotional disorders (SCARED) tool during the follow up after 3 to 6 months. Over all general well being of the patient were also assessed. Pre and

post treatment analysis was done. Observations were recorded, before treatment scores were compared with after treatment scores and paired 't' test was done to study the effectiveness of Homoeopathic medicines in managing anxiety disorders in school going children of Kanyakumari district.

## **RESULT:**

After the assessment of study, majority of patients belonged to age groups of 6 – 8 years (40%) and 9 – 11 years (20%). Out of the total 30 patients, half were males (50%) and the others were females. The majority of the children belonged to average (46.66%) and above average (43.33%) socio-economic status.

In the study, 60% of patients have natal risk factors, 40% have antenatal risk factors, and 20% have stimulating environmental factors and 23.33% patients have developmental delay as probable risk factors. Out of the 40% of antenatal risk factors, 33% of patients have antenatal maternal emotional causes as risk factor. The co – morbidity of anxiety disorders were with attention deficit hyperactivity disorder, epilepsy, intellectual disability, learning disability, attention deficit disorder, oppositional defiant disorder, nocturnal enuresis and cerebral palsy.

According to the scoring done using SCARED tool, majority of patients belonging to 26 – 30 score (30%) and 16 – 20 score (26.66%) have higher possibility to have anxiety disorders in school going children.

The most common type of anxiety disorders in children was found to be social anxiety disorder (83.33%) and separation anxiety disorder (76.66%). There was overlapping of different type of anxiety in the same patients. According to scoring of

individual type of anxiety disorder, 56.66% of them were under 0 – 4 score in panic disorder, 66.66% of them were under 0 -4 score in generalized anxiety disorder, 43.44% of them were under 5 – 8 score in separation anxiety disorder, 46.66% of them were under 9 – 12 score in social anxiety disorder and even though majority of them doesn't had significant school avoidance, 23.33% had score 2.

Homoeopathic medicines seen to be more effective were Calcarea carbonica, Calcarea phosphoric, Phosphorous, Silicea, Natrum muriaticum etc. 9 patients (30%) showed marked improvement, 10 patients (33.33%) showed moderate improvement and 11 patients (36.66%) showed mild improvement.

## **CONCLUSION**

Therefore, Homoeopathy is effective in managing anxiety disorders of Kanyakumari district in school going children of Kanyakumari district based on the comparison of before and after treatment in the scores of anxiety disorders.

**Key words: Anxiety disorders, school going children, Homoeopathy**

**DEDICATED  
TO MY  
BELOVED PARENTS**



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## LIST OF ABBREVIATIONS

SL.NO	ABBREVIATIONS	EXPANSION
1.	%	Percentage
2.	D	Dose
3.	Dr	Doctor
4.	F	Female
5.	M	Male
6.	H/O	History of
7.	No.	Number
8.	OPD	Outpatient department
9.	SL	Saccharum Lactis
10.	yrs	Years
11.	C/O	Care of
12.	eg.	Example
13.	&	And
14.	/	Or
15.	Kg	Kilogram
16.	$\Sigma$	Sum
17.	LD	Learning disability
18.	ID	Intellectual disability
19.	ADD	Attention deficit disorder
20.	ADHD	Attention deficit hyperactivity disorder

21.	ODD	Oppositional defiant disorder
22.	SL. No	Serial Number
23.	SCARED	Screening for anxiety related emotional disorders
24.	PTSD	Post traumatic stress disorder
25.	DSM	Diagnostic and statistical manual
26.	ICD	International classification of diseases
27.	NE	Nor epinephrine
28.	PFC	Pre frontal cortex
29.	MRI	Magnetic resonance imaging
30.	HPA	Hypothalamo – pituitary axis
31.	CNS	Central nervous system
32.	SAD	Separation anxiety disorder
33.	GAD	Generalized anxiety disorder
34.	OCD	Obsessive compulsive disorder
35.	CBT	Cognitive behavioural therapy
36.	SIGN	Scottish intercollegiate guidelines network
37.	OFT	Open field trial
38.	VLPFC	Ventro lateral pre frontal cortex
39.	NSAIDS	Non steroidal anti inflammatory drugs
40.	GABA	Gamma amino butyric acid

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## 1.0 INTRODUCTION

Anxiety is a feeling of threat experienced in anticipation of an undesirable event which may be unknown or specified. <sup>[1]</sup> It is a mind- body reaction that occurs instantaneously, and its effects are felt physiologically, behaviorally and psychologically all at the same time. <sup>[2]</sup> The experience of anxiety is unique for each person.

Anxiety is made up of the following:

- Physiological symptoms: sweaty palms, ‘butterflies’ in the stomach
- Behavioral signs: such as avoidance
- Cognitive components: like “I am going to fail and everyone will laugh at me”<sup>[3]</sup>

Anxiety is a normal phenomenon. But when it becomes disabling, causing distress and impairs overall functioning, it is considered as anxiety disorder. <sup>[4]</sup> Anxiety disorders can significantly interfere with academic, social and emotional and family functioning. <sup>[5]</sup>

The onset of any anxiety disorder is seen in childhood. In different studies world wide of impairing childhood anxiety disorder, 5% to 13% of children younger than 18yrs have an anxiety disorder. <sup>[5]</sup> Different types of anxiety disorders have different age of onset. <sup>[6]</sup> The types of anxiety disorders are separation anxiety disorder, social or specific anxiety disorder, generalized anxiety disorder and panic disorder. Selective mutism, post traumatic stress disorder and obsessive compulsive disorder are also part of anxiety disorders. In children and adolescents, there is inter - anxiety co morbidity with significant association between virtually all specific anxiety disorders, including specific phobia subtypes. Anxiety disorders are seen associated with other disorders like conduct

disorder, attention deficit hyperactivity disorder, antisocial personality disorder and learning disabilities.

Homoeopathy is a system of medicine where the patient is treated as a whole. The so- called *mental and emotional diseases are nothing more than the corporeal diseases in which the symptoms of derangement of the mind and disposition peculiar to each of the individual are increased.* <sup>[7]</sup> In order to have a cure Homoeopathically, the changes in the mind and disposition is to be considered along with any exciting or maintaining causes. Most of the physicians prescribe based on single symptom or with favorite remedy. These methods can provide results only to some extent. So prescribing based on individualization and according to basic Homoeopathic principles can be more effective and curative.

### **1.1. BACKGROUND AND NEED OF THE STUDY**

- Childhood anxiety disorders are the most common type of psychiatric problem in children which can cause severe impairment and excessive distress. These are usually not assessed, diagnosed and treated properly. Childhood anxiety disorders if not treated, can follow a chronic and fluctuating course into adulthood. <sup>[5]</sup>
- In different studies world wide of impairing childhood anxiety disorder, 5% to 13% of children younger than 18yrs have an anxiety disorder. <sup>[5]</sup>
- High prevalence of anxiety disorders among school children were found, which is about 22% according to analysis done with SCARED tool in 400 higher secondary students from two schools in Tamil Nadu <sup>[8]</sup>.

- Even though the prevalence rate of anxiety disorders is increasing among children, these are usually either not identified or properly treated.
- Studies have suggested that onset of the first or any anxiety disorder is clearly in childhood. The differences in age of onset provide an important indicator for separating different types of anxiety disorders. <sup>[5]</sup>
- Children experience anxiety just as adults which can begin at a very early age. This is said to be mainly due to the pressures that come from outside sources such as family, friends, or school. <sup>[9]</sup> But the exact causes are unclear.
- When left untreated, anxiety symptoms persist and are associated with significant impairment in functioning, poor quality of life, and a huge economic burden. Anxiety disorders are of particular importance in the context of recent and ongoing world conflicts, as environmental factors can have a strong impact on anxiety disorder development. <sup>[10]</sup>
- In this competitive world examination fear in students is highly increasing. The thought and the pressure to perform well in exams have heightened the fear and anxiety and even panic attacks. <sup>[11]</sup>
- Researchers have demonstrated that anxiety seems to predict sudden cardiac death. Phobic and panic- like anxiety is a strong predictor. <sup>[12]</sup> And so this need to be identified at the earliest and treated properly.
- One of every four Indians affected by anxiety disorder, 10 % is depressed. <sup>[13]</sup> This can affect the productive value of the nation in various aspects like social, economic etc.

- Worry is perhaps one of the most characteristic features of anxiety. Whereas worry in adults has been a focus of much attention and clinical concern, worry in children has not received parallel attention. Given the paucity of research on childhood worry, the current state of knowledge should be considered formative and incomplete. <sup>[14]</sup>
- No much study was done for determining the effectiveness of Homoeopathic medicines in managing anxiety disorders in children.
- Also other schools of medicine do not found to have a much curative treatment for childhood anxiety disorder. Instead anti depressants are given which can significantly affect the child's activity making them physically and mentally dull in later life. But Homoeopathic treatment is based on the susceptibility and individualization of the patient where the individual person is treated as a whole and not the disease alone.

## **2.0 AIMS AND OBJECTIVES**

- To determine the effectiveness of Homoeopathic medicines in managing anxiety disorders in school going children of Kanyakumari district.
- To determine the probable causes for anxiety disorders in school going children of Kanyakumari district.
- To describe the type of anxiety disorders prevalent in school going children of Kanyakumari district.
- To describe the Homoeopathic remedies for managing anxiety disorders in school going children of Kanyakumari district.



### 3.0. REVIEW OF LITERATURE

*Child psychiatry* is a branch of medicine concerned with the study and treatment of mental, emotional and behavioral disorders of childhood. Emotional maladjustments of children frequently are characterized by anxiety reactions. They may include habit disorders like nail biting, bed wetting, thumb sucking and temper tantrums. Psychiatric treatment requires determining any genetic, constitutional, or physical factors that contribute to the disturbance. Not only the child but also the physical and emotional environment of the child can contribute to this. <sup>[15]</sup>

- ❖ **Thinking** – is a mental activity in its cognitive aspect or mental activity with regard to psychological objects. It is a pattern of behavior in which we make use of internal representations (symbols, signs etc) of the things and events for the solution of some specific purposeful problem. <sup>[16]</sup>
- ❖ **Emotion** – is a stirred up state of feeling that is the way it appears to the individual himself. It is a disturbed muscular and glandular activity that is the way it appears to an external observer.
- ❖ **Behavior** – is an organism's external reactions to its internal and external environments. <sup>[17]</sup>

*Emotional disorder* is a mental disorder in which one's emotions are disturbed to a great extent. This disorder is not due to any abnormalities in the brain development or function. It is a psychological condition in which thoughts and emotions are not in a proper state. Emotional disorders in children include:

- ✓ Conduct disorders
- ✓ Affective disorders

- ✓ Anxiety disorders
- ✓ Personality disorders
- ✓ Attention deficit hyperactivity disorder
- ✓ Oppositional defiant disorder <sup>[17]</sup>

### 3.1. PHYSIOLOGY OF EMOTIONS

Physiological reactions and changes associated with emotions have their roots in the body chemistry. They are controlled by *endocrine gland*, *autonomic nervous system* and the *brain*.

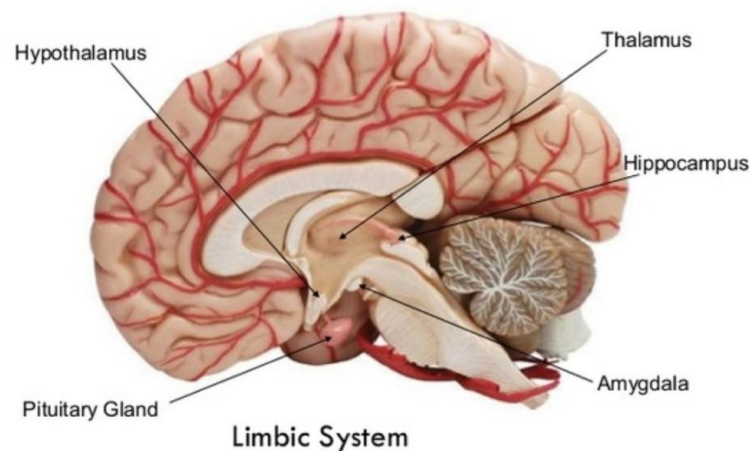
The *endocrine glands* affect the emotional behavior of an individual by the under secretion or over secretion of the respective hormones. With the under activity or over activity of these glands caused by the deficiency or excess of the hormones secreted, it affects the entire personality make up of an individual.

The **autonomic nervous system** plays an important role in controlling and regulating the emotional behavior. In fear and anger situations, the *sympathetic* division stimulates the adrenal glands to secrete the hormones adrenaline and nor adrenaline resulting in the increase of blood pressure and sugar level of the body, cause enlargement of pupils, slowing of salivary glands and contraction of digestive muscles. The parasympathetic system activates itself for the rescue operation and thus helps the organism to return to its normal state of behavior.

The divisions of the autonomic nervous system have centers in the hypothalamus. It coordinates the activities of the internal organs associated with the emotional behaviour. <sup>[16]</sup>

### 3.2. FUNCTIONAL ANATOMY

- ***The limbic system:*** it is the area of the brain implicated in emotion and memory. Its structures include hypothalamus, thalamus, amygdala and hippocampus. The *hippocampus* integrates emotional experience with cognition. The processes of the limbic system control our physical and emotional responses to environmental stimuli.
- ***Amygdala:*** It plays a decisive role in the emotional evaluation and recognition of situations and analysis of potential threats. It is also involved in mood and anxiety disorders.
- ***Hippocampus:*** It is involved in the emotional processing. Individuals with PTSD show marked reductions in volume in parts of hippocampus.



**Figure No.1. The functional anatomy of human brain involved in emotions**

### 3.3. ANXIETY DISORDERS

#### 3.3.1. DEFINITION:

*Anxiety* is defined as “a state of intense agitation, foreboding, tension, and dread, occurring from a real or perceived threat of impending danger”.<sup>[18]</sup> It is an indirect expression of emotional feeling; known as “uneasiness of mind” or “troubled state of mind”.<sup>[29]</sup> Moreover it is a state of mental discomfort, helplessness, uneasiness, distress, unrest and restlessness.<sup>[20]</sup>

The word anxiety is derived from the Latin “anxietas” which means ‘to choke, throttle, trouble, and upset’.<sup>[3]</sup>

According to *the Diagnostic and statistical manual of mental disorders- fourth edition (DSM-IV) and ICD-10 classification of mental and behavioural disorders*, “only when anxiety causes clinically significant distress or impairment in social, occupational or personal functioning can it be considered to be a disorder”.<sup>[21]</sup>

Fear differs from anxiety but is used interchangeably often. ***Fear*** is something external, specific, and definable. Fear is a feeling of threat in the actual presence of a particular person, situation or object, and is different from anxiety.<sup>[1]</sup> But ***anxiety***, on the other hand, is non specific; there is no real bodily danger.

### 3.3.2 RISK FACTORS <sup>[6]</sup>

#### **Demographic Variables**

- Sex - Females are about twice as likely as males to develop each of the anxiety disorders
- Education - higher rates of anxiety disorders are seen among subjects with lower education when compared to subjects with a higher education.
- Financial situation – there is an associations found between low household income or unsatisfactory financial situations and anxiety disorders

#### **Temperament and Personality**

- Children with temperamental behavioral inhibition have a tendency to display fear and withdrawal in unfamiliar situations. Such children are shy with strangers and fearful in unfamiliar situations.

#### **Environmental Factors**

- Parenting style - Parental overprotection, parental rejection and authoritarianism in parents were significantly associated with increased rate of anxiety disorders in children.
- Childhood adversities - Adverse experiences in childhood like loss of parents, parental divorce, physical and sexual abuse has found associations with almost all mental disorders, including anxiety disorders.
- Life events - It has been suggested that experience of events of threat tend to precede anxiety disorders.

- Individuals who experience *puberty* earlier than their peers are more likely to experience symptomatology compared to peers who develop “on time” or later, particularly among girls. <sup>[22]</sup>
- *Relationship stress* (no proper relationship functioning of parents and children) is an important vulnerability factor to consider when working with adolescents, particularly for girls and is one of the robust predictor of the development of anxiety disorders. <sup>[22]</sup>
- Pregnancy is considered as the golden period in women’s life. There are physical as well as mental challenges faced by them during that period. Nearly 20% of women suffer from mental health disorders during gestation which causes significant morbidity for mother as well as child worldwide. 5.12% were having anxiety and 6.69% were having anxiety and depression. Social factors like occupation of husband, domestic violence, support of husband, addiction of alcohol in husband were found to be statistically significant with mental morbidity in pregnant women. <sup>[23]</sup>

**Cognitive factors:**

- Cognitive vulnerabilities include ways the individual thinks about themselves and about their world. Specific cognitive vulnerabilities include biases in attention (how one views the world and reacts to threat), interpretation of events, and memory processes.
- *Anxiety sensitivity* represents a fear of consequences of experiencing anxiety, such as fear of panic symptoms, mental incapacitation, and others noticing one’s anxiety. Another cognitive factor in the development of anxiety disorders is anxiety sensitivity.

### **Genetic factors**

- Family genetics - children of parents with at least one anxiety disorder have a substantially increased risk of also having any of the anxiety disorders. Parental depression was also found to be associated with anxiety in the offspring. In twin studies it is estimated that genetic heritabilities across the disorders falls in the range of 30% to 40%.

### **3.3.3. PATHOPHYSIOLOGY**

#### **Neurobiology**

Dysfunctions of various neurotransmitters and receptors in the brain have been implicated in anxiety disorders. Major neurotransmitters involved in anxiety are *serotonin, norepinephrine* and *gamma-aminobutyric acid*.

- ***Serotonin*** plays a role in the regulation of mood, aggression, impulses, sleep, appetite, body temperature and pain. Any hypo- or hyper-innervations of key brain structures and/or cellular mechanisms can result in aberrant neurotransmission and may be involved in the etiology of anxiety disorders. <sup>[24]</sup>
- ***Norepinephrine*** is involved in the fight or flight response and in the regulation of sleep, mood and blood pressure. There is increased release of norepinephrine during acute stress. Stress-induced release of NE facilitates a number of anxiety-like behavioral responses.
- ***GABA*** plays a role in helping to induce relaxation and sleep, and in preventing over excitation. Neuro imaging studies have reported reductions in GABA levels and GABAA benzodiazepine receptor which are concentrated in portions of the brain

thought to be involved in anxiety, including the medial PFC, amygdala, and hippocampus, binding in patients with anxiety disorders. [25]

### **Neurobiology of paediatric anxiety disorders:**

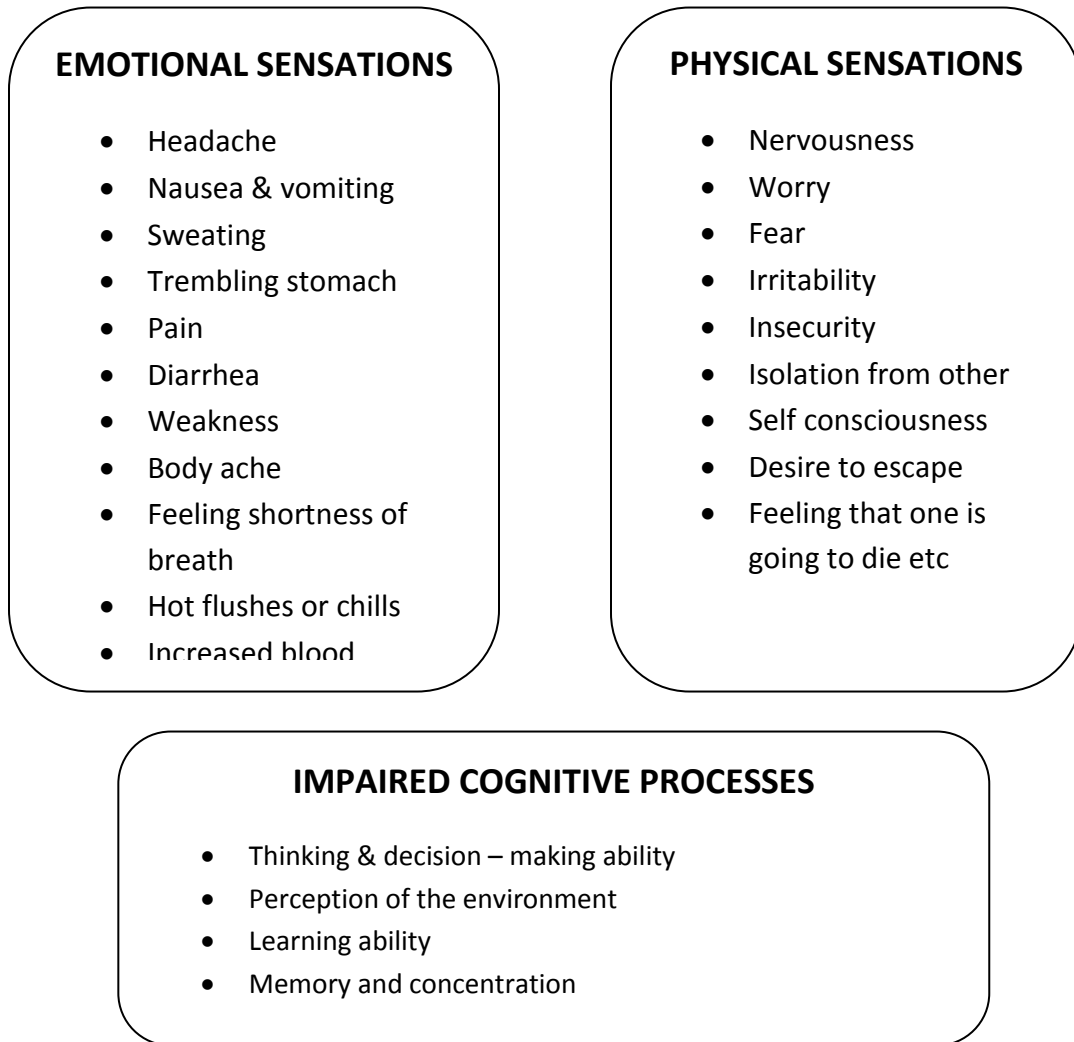
- Studies implicate dysfunction in prefrontal – amygdala based circuits, although, a myriad of both functional and structural neuro imaging studies reveal dysfunction (or abnormalities) in default mode networks and posterior structures, including the posterior cingulate, precuneus and cuneus. Pathophysiologically, the amygdala is charged with the initiation of central fear responses and is frequently “over activated” in functional MRI studies of youth with fear- based anxiety disorders.
- The ventro lateral prefrontal cortex regulates amygdala activity and plays a pivotal role in extinction in the context of fear conditioning and responds with the amygdala to emotional probes. The degree of activation of VLPFC is inversely proportional to the severity of anxiety symptoms. [26]

### **Psychobiology**

Fear-conditioning experiments in animals have demonstrated that the amygdala is involved in the neural circuit of learning to fear a previously neutral/harmless stimulus. Animal research has shown that function of the mature fear circuit, including hypothalamic-pituitary-adrenal (HPA) regulation, also reflects influences during childhood (e.g., rearing or stress). Some studies have shown amygdala hypersensitivity in some forms of anxiety among youth.



### 3.3.4. CLINICAL FEATURES <sup>[27]</sup>



**Table No. 1. Clinical features of anxiety disorders in emotional, physical and cognitive level**

The following medical diseases with anxiety-like symptoms: <sup>[10]</sup>

Cardiovascular	Angina, arrhythmias, congestive heart failure, myocardial infarction, supra ventricular tachycardia, mitral valve prolapsed
Endocrine and Metabolic	Hyperthyroidism, hypoglycemia, Addison's disease, Cushing's disease, pheochromocytoma, electrolyte abnormalities, hyperkalemia
Nervous system	CNS tumors, dementia, migraine, pain, Parkinson's disease, seizures, stroke, multiple sclerosis, vertigo
Respiratory system	Asthma, pulmonary edema, embolus, pneumonia, chronic obstructive lung disease
Gastrointestinal	Crohn's disease, ulcerative colitis, irritable bowel syndrome
Others	HIV, systemic lupus erythematosus, anemias

**Table No. 2. Medical conditions that show anxiety like symptoms**

Different classes of drugs like CNS stimulants CNS depressant withdrawal, cardiovascular drugs and other drugs like anti cholinergics, anticonvulsants, antihistamines, NSAIDS, antidepressants, anti psychotics, bronchodilators, steroids and thyroid preparations causes anxiety like symptoms.

### 3.3.5. EPIDEMIOLOGY

Affecting between 15-20% of youth, anxiety disorders are among the most prevalent psychiatric conditions in children and adolescents. A meta-analysis 13 psychiatric Indian epidemiological studies (Reddy and Chandrashekhara) with a total sample size of 33,572 subjects, the weighted prevalence rates of different anxiety disorders were 4.2% (Phobia), 5.8% (GAD) and 3.1% (Obsession).<sup>[26]</sup>

<b><u>TYPICAL FEARS FOR SPECIFIC AGES IN CHILDREN</u></b>	
<b><u>AGE</u></b>	<b><u>TYPICAL FEARS</u></b>
<b>Infancy</b>	Loss of physical support Sudden, intense, and unexpected noises Heights
<b>1–2 years old</b>	Strangers Being injured Toileting activities

<p><b>3–5 years old</b></p>	<p>Dark</p> <p>Animals (primarily dogs)</p> <p>Being alone</p> <p>Imaginary creatures</p>
<p><b>6–9 years old</b></p>	<p>Animals</p> <p>School</p> <p>Death</p> <p>Personal safety</p> <p>Lightning and thunder</p>
<p><b>9–12 years old</b></p>	<p>Tests</p> <p>Personal health</p>
<p><b>13 years and older</b></p>	<p>Personal injury</p> <p>Social interaction and personal conduct</p> <p>Economic and political catastrophes</p>

**Table No. 3. Different fears of children at specific ages**

### **3.3.6. CLASSIFICATION**

The DSM-IV (American Psychiatric Association) includes the following major categories of anxiety disorders: <sup>[28]</sup>

- Separation anxiety disorders (SAD)
- School avoidance/ school refusal
- Panic disorder
- Generalized anxiety disorder (GAD)
- Specific and social phobia
- Obsessive compulsive disorder (OCD)
- Post traumatic stress disorder (PTSD)

#### **3.3.6.1 SEPARATION ANXIETY DISORDER (SAD)**

Between eight and nine months of age, it is noticed that the child become agitated if he could not see his mother. This change in the baby's behavior is due to a cognitive developmental shift called "*object permanence*". Separation anxiety at this age is considered normal at certain childhood developmental stages. As your child grows and goes out into the world, major changes such as going to school for the first time or entering middle school can create distress for your child, making her anxious when she is away from mother and the safety of home. Feelings of anxiety around these changes are normal.

Children have to meet the expectations of adults and try to make friends with other students who are strangers. These new experiences have to be handled without the safety of parents and home. Such major changes create problems at school such as

learning disabilities or losing the support of friends which create stress and make school an unhappy place for a child. <sup>[18]</sup>

In order to diagnose a child with SAD, he must meet the following criteria:

- Experience excessive anxiety if he anticipates leaving parents or home
- Fears that a disaster or death will occur when away from parents or home
- Fears or refuses to go to school or be away from home or parents
- Is afraid to sleep alone without parents near
- Has recurring nightmares about being separated from parents or home

### **3.3.6.2. SCHOOL REFUSAL / SCHOOL AVOIDANCE**

School refusal only refers to the behavior of the child, but it is a serious emotional problem. If a child does everything he/she can to avoid going to school, they may exhibit a number of the physical symptoms like headaches, stomachaches, vomiting, or diarrhea, rapid heartbeat, chest pains, or hyperventilation, sweating, dizziness, shakiness or trembling, panic attacks.

Child may cry and beg to keep her home, have tantrums, exhibit anger, feel sad and depressed, have insomnia, and may be unable to concentrate. The child may even threaten to harm herself if she has to go to school. The child may be impossible to wake in the morning, may miss the bus to school often, be unable to stay in school if she does go, and avoid social contact with peers. Many children go to school without protesting but may remain silent, and may suffer throughout the day. School refusal usually begins when a child first enters school. <sup>[18]</sup>

### **3.3.6.3 PANIC DISORDER**

A panic attack is a sudden surge of paralyzing fear that usually strikes for no apparent reason, although attacks can occur because of specific situations.

Most panic attacks lasts for about ten minutes, and others spike and lessen every few minutes, sometimes even continue for hours.<sup>[18]</sup>

This kind of anxiety creates the “fear of the fear.” It is the fear of the symptoms, not of a person, place, or thing that causes the disorder.

Avoidance of the recurrent panic attacks may lead to another aspect of panic, debilitating agoraphobia.

There are three types of panic disorders:

- 1) *Panic disorder without agoraphobia* is recurring panic attacks, and the worry about future attacks, without avoidance of anxious situations or events.
- 2) *Panic disorder with agoraphobia* is a pervasive avoidance of places where an attack might occur.
- 3) *Agoraphobia without history of panic disorder* develops when the fear of having a panic attack is present even though an attack has never taken place or the ones that did occur were mild in nature.<sup>[18]</sup>

### **3.3.6.4. GENERALIZED ANXIETY DISORDER**

The *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision* (DSM-IV-TR; APA, 2000) diagnosis of GAD is characterized by persistent worry regarding multiple life domains, events, or activities.<sup>[29]</sup>

Diagnostic Criteria for Generalized Anxiety Disorder includes:<sup>[30]</sup>

- Excessive anxiety and worry (apprehensive expectation), occurring more days than not for at least 6 months, about a number of events or activities (such as work or school performance).
- The person finds it difficult to control the worry.
- The anxiety and worry are associated with three (or more) of the following six symptoms (with at least some symptoms present for more days than not for the past 6 months). Only one item is required in children: (1) Restlessness or feeling keyed up or on edge, (2) Being easily fatigued, (3) Difficulty concentrating or mind going blank, (4) Irritability, (5) Muscle tension, (6) Sleep disturbance (difficulty falling or staying asleep, or restless unsatisfying sleep)
- The anxiety, worry, or physical symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning. <sup>[18]</sup>

People with GAD find themselves extremely worried about daily issues, even when there may be little or no reason to worry. The constant worrying, can many times, keep patients with GAD from being able to perform everyday tasks. <sup>[31]</sup>

Children with GAD are frequently perfectionist. They show cognitive distortions in which they believe a small error to be a sign of complete failure. It is not uncommon for children with GAD to abandon or avoid activities if they perceive that their performance may fall shy of perfection. <sup>[29]</sup>



### **3.3.6.5. SPECIFIC PHOBIA AND SOCIAL PHOBIA**

The DSM-IV includes two types of phobias: Specific Phobia and Social Phobia.

#### **SPECIFIC PHOBIA**

Specific Phobia is characterized by a “marked or persistent fear of a specific object or situation”.

#### **Diagnostic Criteria for Specific Phobia:**

- Marked and persistent fear that is excessive or unreasonable, cued by the presence (or anticipation) of a specific object or situation is the defining characteristic
- One must experience anxiety almost every time the feared stimuli are confronted
- One must be avoiding the feared object, or endure exposure to it with intense anxiety
- Must experience significant distress or impairment in functioning because of the fear/avoidance
- Must have had the fear for more than 6 months <sup>[32]</sup>

#### **Subtypes of specific phobia:**

- Animal type (e.g., fear of spiders, dogs)
- Natural environment type (e.g., fear of lightning/thunder, water)
- Blood-injection-injury type (e.g., fear of injections, having blood drawn)
- Situational type (e.g., fear of flying, driving)
- Other type (e.g., fear of choking, vomiting)

## **SOCIAL PHOBIA**

### **Diagnostic Criteria for Social Phobia:**

- A marked and persistent fear of one or more social or performance situations in which the person is exposed to unfamiliar people or to possible scrutiny by others is the defining characteristic
- The individual fears he or she will act in a way (or show anxiety symptoms) that will be humiliating or embarrassing
- One must experience anxiety almost every time the feared social or performance situations are faced
- May try to avoid the feared situations, or endure exposure with severe anxiety
- Must experience significant distress or impairment in functioning because of the fear
- Must have had the fear for more than 6 months
- Not due to organic factors like medical problems, substance use

### **3.3.6.6. OBSESSIVE COMPULSIVE DISORDER (OCD)**

*Obsessions:* persistent ideas, thoughts, impulses, or images that are experienced as inappropriate or intrusive and that cause anxiety and distress. The content of the obsession is often perceived as alien and not under the person's control.

*Compulsions:* repetitive behaviours or mental acts that are carried out to reduce or prevent anxiety or distress and are perceived to prevent a dreaded event or situation.

The diagnostic criteria of OCD include:

- Obsessional symptoms or compulsive acts or both must be present on most days for at least 2 successive weeks and be a source of distress or interference with activities.
- Either obsessions or compulsions (or both) are present on most days for a period of at least 2 weeks.
- The obsessions or compulsions cause marked distress, are time consuming (take more than 1 hour a day) or significantly interfere with the person's normal routine, occupational (or academic) functioning, or usual social activities or relationships.

### **3.3.7. COMORBIDITY:**

Individuals who meet DSM criteria for one anxiety disorder are more likely to also meet criteria for another anxiety disorder. Several studies have suggested a strong relationship between being diagnosed with an anxiety disorder and major depressive disorder. Anxiety also has been shown to increase risk for substance use disorders. In adolescent females anxiety disorders also are associated with increased risk for developing eating disorders.

### **3.3.8. MANAGEMENT:**

Anxiety is a normal aspect of life and of being human, and it has a positive side to it, too. Anxiety needs to be channeled for positive use. Must learn how to take control of anxiety instead of being controlled by it, and use it in a positive way. <sup>[18]</sup>

Generally, anxiety disorders are treated with medication, specific types of psychotherapy, or both. The mode of treatment choices depend on the problem and the

person's preference. Before treatment begins, a doctor must conduct a careful diagnostic evaluation to determine whether a person's symptoms are caused by an anxiety disorder or by any other physical problems. If an anxiety disorder is diagnosed, the type of disorder or the combination of disorders that are present must be identified, as well as any coexisting conditions.

Medication alone will not cure anxiety disorders, but it can keep them under control while the person receives psychotherapy. <sup>[33]</sup>

### **3.3.8.1. PSYCHOLOGICAL TREATMENTS**

Psychotherapy is almost always the *treatment of choice* except in cases where anxiety is so severe that immediate relief is necessary to restore functioning and to prevent immediate and severe consequences. This includes the following:

- ***Behavioral therapies:*** These focus on using techniques such as guided imagery, relaxation training, biofeedback (to control stress and muscle tension); progressive desensitization, flooding as means to reduce anxiety responses or eliminate specific phobias. In such techniques, the person is gradually exposed to the object or situation that is feared. At first, the exposure may be only through pictures or audiotapes. Later, if possible, the person actually confronts the feared object or situation. Often the therapist will accompany him or her to provide support and guidance.
- ***Cognitive-behavioral therapy (CBT):*** Cognitive-behavioral therapy (CBT) is very useful in treating anxiety disorders. In this therapy there are two parts. The *cognitive part* which helps people change the thinking patterns that support their

fears and the *behavioral part* that helps people change the way they react to anxiety provoking situations. In this therapy, people learn to deal with fears by modifying the ways they think and behave. A main aim of this therapy is to reduce anxiety by eliminating beliefs or behaviors that help to maintain the anxiety disorder. Research has shown that CBT is effective for several anxiety disorders, particularly panic disorder and social phobia. It has *two* components. [33]

- **Psychotherapy:** Psychotherapy centers on resolution of conflicts and stresses, as well as the developmental aspects of anxiety disorders through talk therapy. Psychotherapy involves talking with a trained mental health professional, such as a psychiatrist, psychologist, social worker, or counselor to learn how to deal with problems like anxiety disorders. [34]
- **Family therapy and parent training:** Here the focus is on the family and its dynamics. This is based on the assumption that the individuals of a family cannot improve without understanding the conflicts that are to be found within the interactions of the family members. Thus, each member is expected to contribute to the resolution of the problem. [35]

### 3.3.9. HOMOEOPATHIC PERSPECTIVE

Homoeopathic system of medicine is based on the principle of “*Similia Similibus Currentur*” which means “like cures like”. A dynamic disease is extinguished by another that is more powerful when the latter is similar to it. [36] Healing is achieved by taking a drug that proved by healthy individuals have yielded symptoms and signs

very similar to those of the patients. Homoeopathic approach is personalized, is a ‘holistic’ method of diagnosis and of prescription which is called *individualization*.<sup>[37]</sup>

In Homoeopathy, mental and emotional diseases are nothing more than corporeal diseases in which the symptoms of derangement of the mind and disposition peculiar to each of them are increased, while the corporeal symptoms decline. It is a one sided disease, i.e. a local disease in the invisible subtle organ of the mind or disposition.<sup>[7]</sup>

### **James Tyler Kent’s view:**

The real sick man is prior to the sick body. The man wills and understands. It is that which can be changed and is prior to the body. Hahnemann once said, “*There are no diseases, but sick people.*” All medicines operate upon the will and understanding first affecting man in his ability to think or to will, and ultimately upon the tissues, the functions and sensations.<sup>[38]</sup>

### **Treatment of mental and emotional diseases according to Organon of medicine by Dr. Samuel Hahnemann:<sup>[7]</sup>**

#### **➤ *Aphorism 213***

We shall never be able to cure comfortably to nature i.e. Homoeopathically, in every case of disease, along with the other symptoms, those relating to the changes in the state of the mind and disposition must be taken into totality.

#### **➤ *Aphorism 214***

The mental diseases may be cured in the same way as all other diseases, by the symptoms of the body and mind of an individual.

### **3.3.10. STUDIES RELATED TO ANXIETY DISORDERS**

#### **1. Homoeopathic treatments in psychiatry: A systematic review of randomized placebo – controlled studies <sup>[39]</sup>**

This study was done to systematically review placebo – controlled randomized trials of Homoeopathy for psychiatric conditions. 25 eligible studies were identified from a pool of 1,431 using Scottish Intercollegiate Guidelines Network (SIGN) 50 guidelines. Efficacy was found for the functional somatic syndromes, but not for anxiety or stress. One of the principal findings was that Homoeopathy had no effect over placebo in the studies of anxiety and stress reaction even though it produced mixed effects in other disorders.

#### **2. An overview of Indian research in anxiety disorders <sup>[40]</sup>**

Neurotic disorders are basically related to stress, reaction to stress and individual proneness to anxiety. Both stress and coping have a close association with socio- cultural factors. Status of anxiety disorder research from India in relation to management is lacking and research areas like family studies are not touched.

#### **3. Treatment of anxiety disorders in children, adolescents, and young adults <sup>[41]</sup>**

There are a range of treatments for anxiety disorders in children and adolescents currently available. Despite the range of available treatments, uncertainty remains regarding the most effective interventions and sequences of care. A number of evidence gaps regarding the comparative effectiveness and safety of treatments for

anxiety disorders in youth remains. More studies are needed to assess the effectiveness of other interventions.

#### **4. The effects of Homoeopathic medicines on reducing the symptoms of anxiety and depression: randomized, double blind and placebo controlled** <sup>[42]</sup>

Findings suggest that Homoeopathic therapy can be used as an effective method to treat anxiety and depression disorders. 30 patients with the mean age of 45 were selected randomly and classified into experimental and controlling groups. In this study it was discussed why some other studies have shown that Homoeopathy doesn't have significant effects on mental and emotional state. It is said that Homoeopathy has some principles like similimum remedy selection, correct dose and potency usage of Homoeopathic remedies that must be considered during intervention along with exciting and sustainable causes to omit obstacles.

#### **5. Reducing symptoms of anxiety with Homoeopathic medicines: a study using small 'N' design** <sup>[43]</sup>

The individualized Homoeopathic medicine (IHM) was found effective in reducing the symptoms of anxiety in patients. The current study established the fact that Homoeopathic medicines were very useful in psychological medicine. One of the suggestions for further research was that the study should be replicated with large 'N' design.



## **6. Homoeopathy for anxiety and anxiety disorders: a systematic review of the research** <sup>[44]</sup>

The objective was to conduct a systematic review of the clinical research evidence on Homeopathy in the treatment of anxiety and anxiety disorders. A comprehensive search demonstrates that the evidence on the benefit of homeopathy in anxiety and anxiety disorders is limited. The results say that single case reports / studies were the most frequently encountered study type and no relevant qualitative research was identified.

## **6. Anxiolytic effect of homoeopathic preparation of Pulsatilla nigricans in Swiss albino mice** <sup>[45]</sup>

24 mice were divided into 4 groups of 6 animals each, control, standard and two test groups. Pulsatilla 3X and Pulsatilla 6X solutions were given at the dose of 10ml/Kg to the test groups. The anxiolytic effects were tested on days 1, 8 and 15 using the Elevated plus Maze (EPM) and Open Field Test (OFT).

## **7. Clinical study of the effectiveness of pluralist Homoeopathy in generalized anxiety disorder** <sup>[46]</sup>

An observational study of a cohort of 220 patients treated by a pluralistic Homeopathic physician was performed. Data of this retrospective review shows that the applied homeopathic treatment may be effective in the management of patients with GAD. The scope of treatment may include both somatic manifestations of anxiety and deepest vital discomfort affecting the subject.

## **8. Study of anxiety levels in young female adolescents** <sup>[47]</sup>

In a study conducted in the department of physiology, Sri Ramachandra Medical College & Research Institute, Chennai among 50 healthy young female students using Hamilton Anxiety (HAM-A) Rating Scale, 64% students scored moderate anxiety levels and 36% students scored mild anxiety levels.

This could be due to psycho-physiological factors like stress that may lead into anxiety and also due to new environment study

## **9. Depression, anxiety at school and self esteem in children with learning disabilities**

[48]

Educational research places emphasize on the fact that pupils with learning disability may develop depressive and anxiety symptoms characterized by lower levels of self esteem. Research has identified dyscalculia or mathematical disabilities as the subtype of learning disability more frequently associated to school anxiety.

## **4.0. MATERIALS AND METHODS**

### **4.1. STUDY SETTING**

30 cases presenting with anxiety disorder obtained from school health program conducted by Sarada Krishna Homoeopathic Medical College in Kanyakumari district and also from the OPD, and rural centers of Sarada Krishna Homoeopathic Medical College.

### **4.2. SELECTION OF SAMPLES**

With a sample size of 30 of patients presenting with anxiety disorders were selected using purposive sampling technique.

### **4.3. INCLUSION CRITERIA**

- Patients of paediatric age group between 8yrs to 18yrs
- Children of both sex
- School going children

### **4.4. EXCLUSION CRITERIA**

- Patients taking medicines for any other chronic illness

### **4.5. STUDY DESIGN**

Interventional before and after treatment without control

#### **4.6. INTERVENTION**

- Case taking, selection and administration of medicine according to Homoeopathic principles.
- Pre and post test assessment using Screen for child anxiety related emotional disorders (SCARED).

The intervention will be done in 3 months to 6 months using Screen for child anxiety related emotional disorders (SCARED) accordingly.

#### **4.7. SELECTION OF TOOLS**

- Pre structured SKHMC case format
- Screen for child anxiety related emotional disorders (SCARED)
- Pre and post treatment severity assessment based on scoring criteria
- Repertory for proper selection of remedy if needed

#### **4.8. BRIEF OF PROCEDURES**

30 cases presenting with anxiety disorders and those which satisfy the inclusion criteria of the study was obtained from school health program conducted by Sarada Krishna Homoeopathic Medical College and also from OPD and rural centers of Sarada Krishna Homoeopathic Medical College and study will be carried out. Screening and pre – intervention assessment was done using Screen for child anxiety related emotional disorders (SCARED) tool. Data was obtained from the patients, bystanders, and physician’s observation and from physical examination according to standardized SKHMC case format. Medicines were prescribed according to the individualization and

totality of symptoms of the case and repertorization is done if needed. Potency selection and repetition of medicine were done according to the principles laid down in the Organon of Medicine. The improvement was monitored after 3 to 6 months of administration of medicine by recording the variations in the scoring criteria of SCARED tool. Pre and post treatment analysis was done using Screen for child anxiety related emotional disorders (SCARED). Observations were noted in tables and charts. Statistical analysis was done and results were presented.

#### **4.9. OUTCOME ASSESSMENT**

- The effectiveness of Homoeopathic treatment will be assessed based on improvement in the anxiety disorders according to variations in the scoring criteria of SCARED tool, after prescribing Homoeopathic medicines using symptom similarity of the case.
- The probable causes of anxiety disorders in school going children of Kanyakumari district
- Prevalence of the type of anxiety disorders

#### **4.10. DATA COLLECTION**

Interview technique including case taking based on the directions in Organon of Medicine in pre structured case format. Data will be obtained from the patients, bystanders, and physician's observation and from physical examination. Severity and the type of anxiety disorder in school going children assessed using SCARED tool.

#### **4.11. STATISTICAL TECHNIQUES & DATA ANALYSIS**

- Paired 't' test
- Data presentation including charts, diagrams and tables

#### **4.12. ETHICAL ISSUES IF ANY**

Ethical clearance has been obtained from Sarada Krishna Homoeopathic ethical clearance committee.

## **5.0 OBSERVATIONS AND RESULTS**

A sample of thirty cases were obtained by screening the students from the patients who attended the OPD, rural centers and also from school health programs conducted by Sarada Krishna Homoeopathic Medical College and Hospital were taken for this study. The children with the positive result in Screening for children with anxiety related emotional disorders (SCARED) tool were selected for the study. Before and after treatment scoring was done using the SCARED tool. Individualized Homoeopathic medicines were prescribed for each case and all the thirty cases were followed up for a period of 3-6 months. These cases were subjected to statistical study. The results are presented on the basis of data obtained from the study group. The following tables and charts reveal the observations and results of this study.

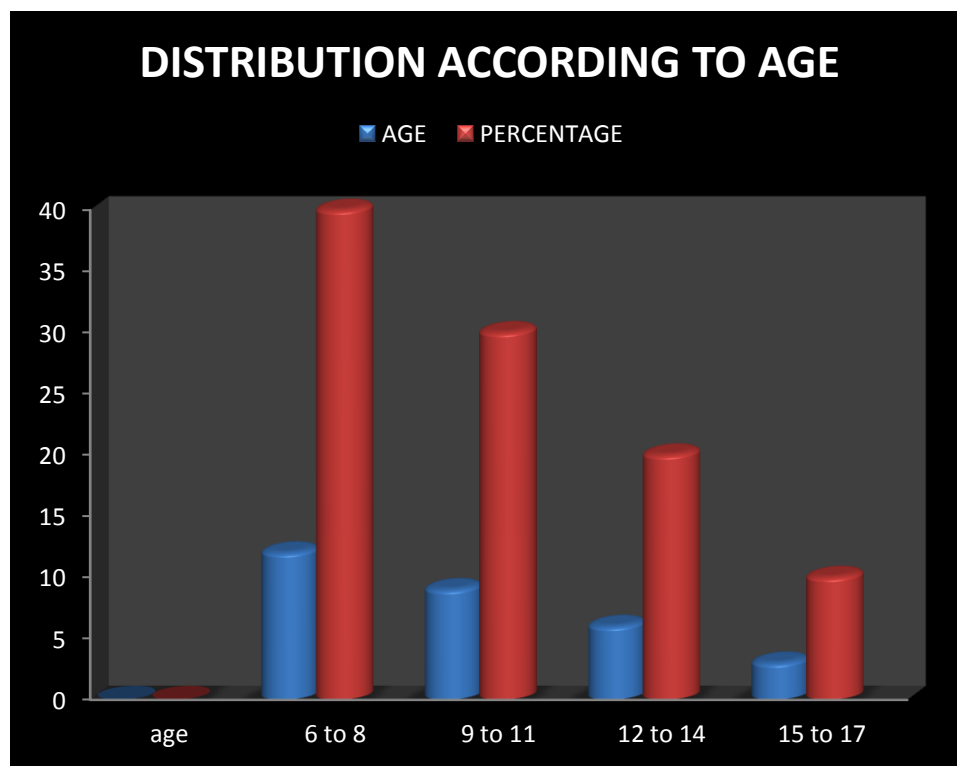
### **5.1. DISTRIBUTION OF CASES ACCORDING TO AGE**

Out of 30 cases 12 patients (40%) were of age 6 to 8 years old, 9 patients (30%) were of age 9 to 11 years old, 6 patients (20%) were of age 12 to 14 years old and 3 patients (10%) were of age 15 to 17 years old.

**TABLE NO: 4. DISTRIBUTION OF CASES ACCORDING TO AGE**

AGE	NUMBER OF PATIENTS	PERCENTAGE
6-8	12	40
9-11	9	30
12-14	6	20
15-17	3	10

**FIGURE NO: 2. DISTRIBUTION OF CASES ACCORDING TO AGE**





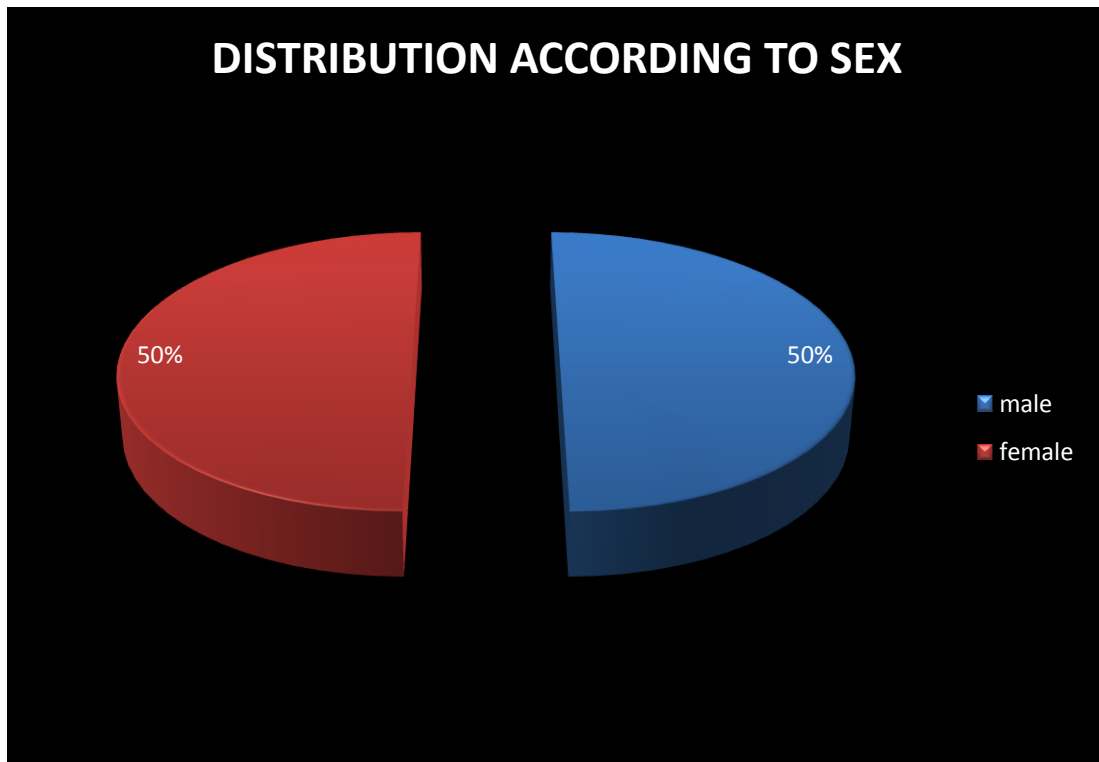
## **5.2. DISTRIBUTION OF CASES ACCORDING TO SEX**

Among 30 cases 15 patients (50%) were females and the 15 patients (50%) were males.

**TABLE NO: 5. DISTRIBUTION OF CASES ACCORDING TO SEX**

<b>SEX</b>	<b>FEMALE</b>	<b>MALE</b>	<b>TOTAL</b>
<b>NUMBER OF PATIENTS</b>	15	15	30

**FIGURE NO: 3. DISTRIBUTION OF CASES ACCORDING TO SEX**



### **5.3 DISTRIBUTION OF CASES ACCORDING TO**

#### **SOCIO -ECONOMIC STATUS**

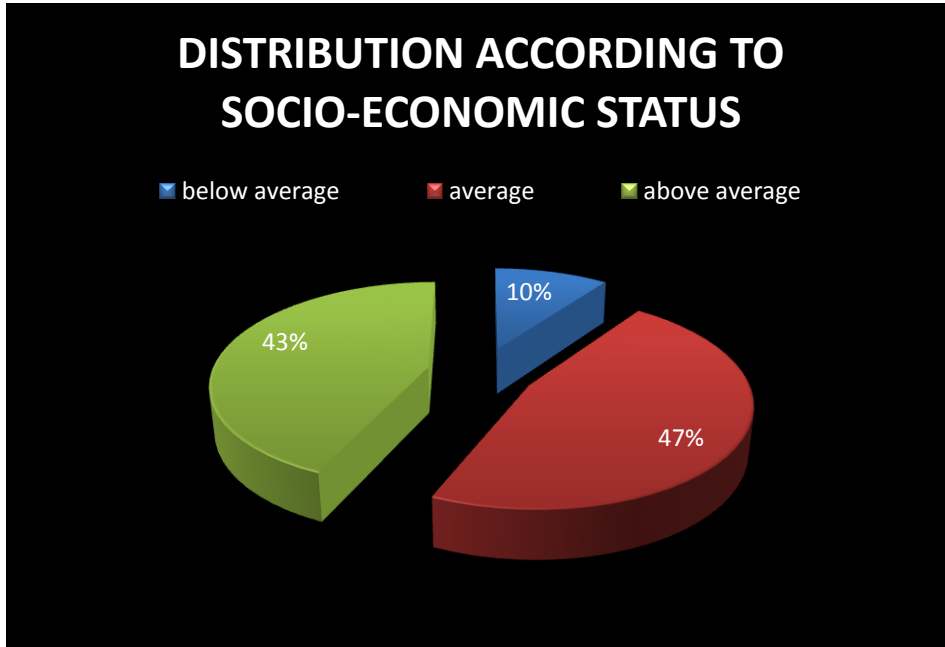
Out of 30 patients the number of patients from average socio-economic status was 14 (46.66%), from below average socio-economic status were 3 (10%) and above average socio-economic status were 13 (43.33%).

**TABLE NO: 6. DISTRIBUTION OF CASES ACCORDING TO**

#### **SOCIO – ECONOMIC STATUS**

<b>SOCIO-ECONOMIC STATUS</b>	<b>NUMBER OF PATIENTS</b>	<b>PERCENTAGE</b>
<b>BELOW AVERAGE</b>	3	10
<b>AVERAGE</b>	14	46.66
<b>ABOVE AVERAGE</b>	13	43.33

**FIGURE NO: 4. DISTRIBUTION OF CASES ACCORDING TO**  
**SOCIO – ECONOMIC STATUS**



**5.4 DISTRIBUTION OF CASES ACORDING TO PROBABLE**

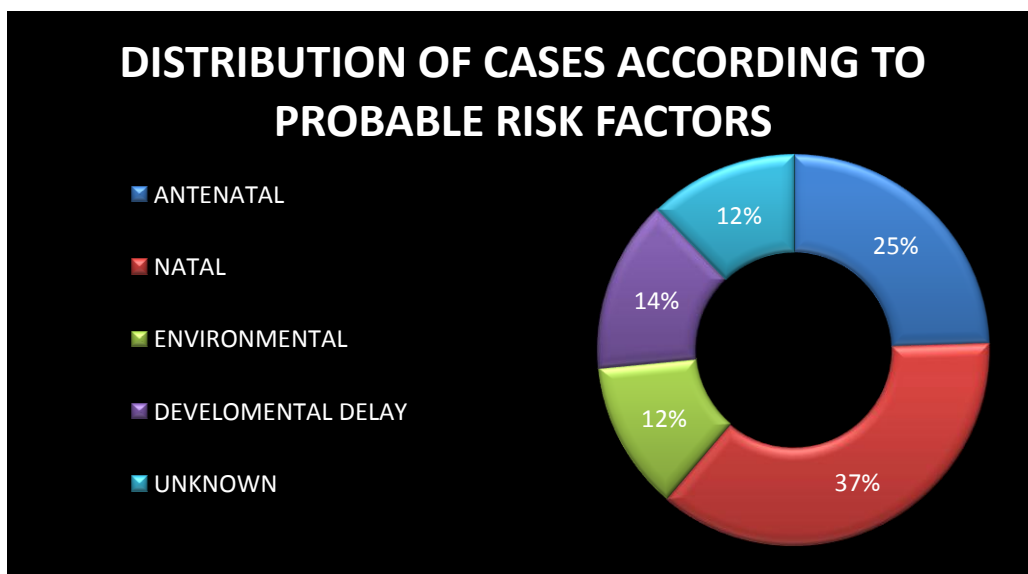
**RISK FACTORS**

Out of 30 cases 12 patients (40%) have antenatal risk factors, 18 patients (60%) have natal risk factors, 6 patients (20%) have environmental risk factors, 7 patients (23.33%) have developmental delay and 6 patients (20%) have unknown probable risk factors.

**TABLE NO:7. DISTRIBUTION OF CASES ACCORDING TO PROBABLE RISK FACTORS**

<b>Probable Risk Factors</b>	<b>Antenatal Causes</b>	<b>Natal Causes</b>	<b>Environmental ( At Home &amp; School)</b>	<b>Developmental Delay</b>	<b>Unknown Causes</b>
<b>Number Of Patients</b>	12	18	6	7	6
<b>Percentage</b>	40	60	20	23.33	20

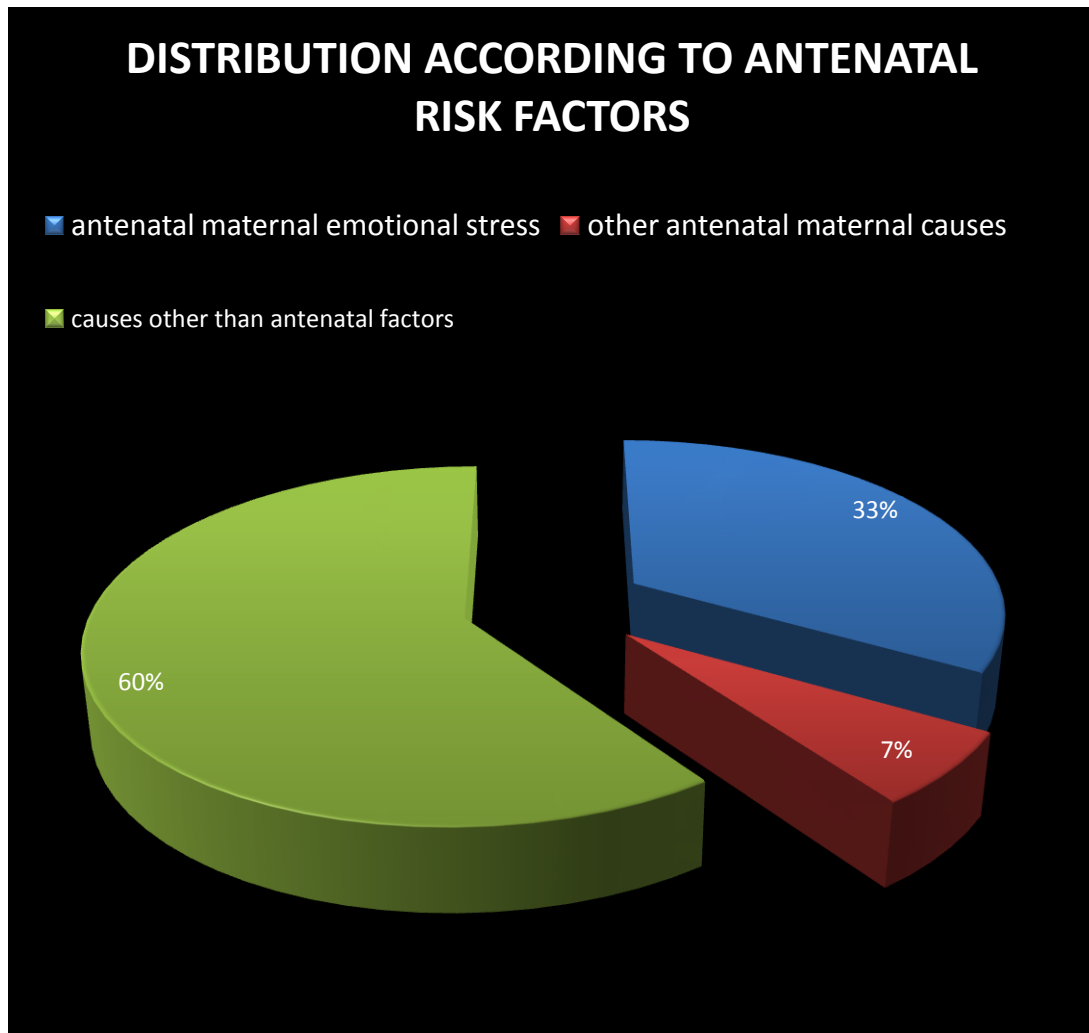
**FIGURE NO: 5. DISTRIBUTION OF CASES ACCORDING TO PROBABLE RISK FACTORS**



#### **5.4 DISTRIBUTION OF CASES ACORDING TO ANTENATAL RISK FACTORS**

Out of 30 cases 12 patients (40%) have antenatal risk factors. Out of the 12 patients 10 of them had antenatal maternal emotional stress as risk factor.

**FIGURE No: 6. DISTRIBUTION OF CASES ACORDING TO ANTENATAL RISK FACTORS**



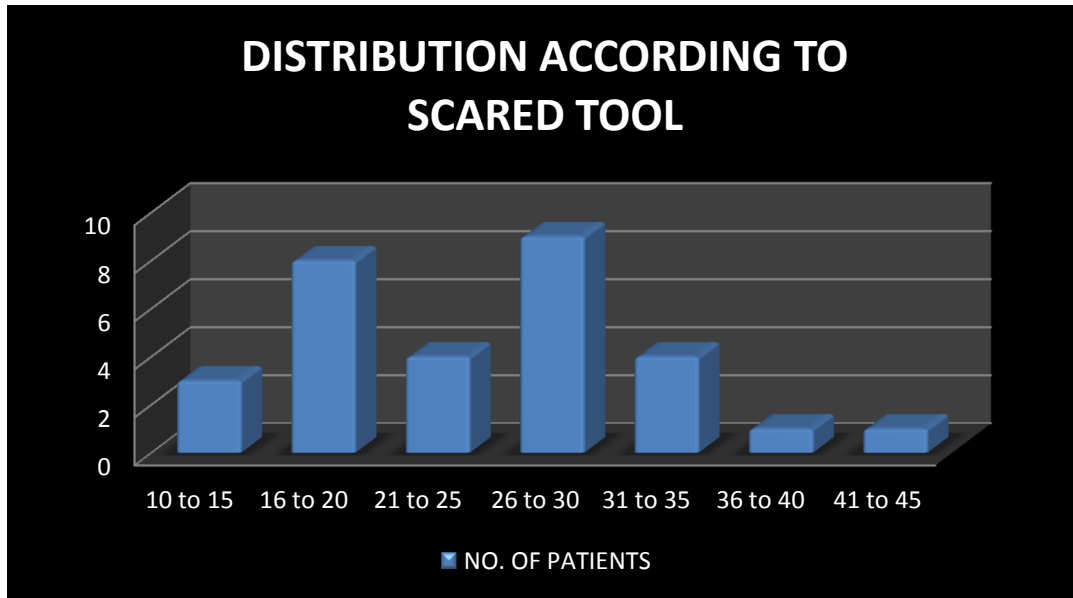
**5.5 DISTRIBUTION OF CASES ACCORDING TO SCREENING WITH CHILDREN WITH ANXIETY RELATED EMOTIONAL DISORDERS (SCARED) TOOL**

Out of 30 patients 3 patients (10%) had the score range from 10 -15 , 8 patients (26.66%) had the score between 16 -20, 4 patients (13.33%) had the score range from 21 – 25, 9 patients (30%) had score 26 – 30, 4 patients (13.33%) had score 31 -35, 1 patient (3.33%) had score between 36 – 40 and 1 patient (3.33%) had score between 41 – 45.

**TABLE NO: 8. DISTRIBUTION OF CASES ACCORDING TO SCREENING WITH SCARED TOOL**

<b>Score</b>	<b>10-15</b>	<b>16-20</b>	<b>21-25</b>	<b>26-30</b>	<b>31-35</b>	<b>36-40</b>	<b>41-45</b>
<b>No. Of Patients</b>	3	8	4	9	4	1	1
<b>Percentage</b>	10	26.66	13.33	30	13.33	3.33	3.33

**FIGURE NO: 7. DISTRIBUTION OF CASES ACCORDING TO SCREENING WITH SCARED TOOL**



**5.6 DISTRIBUTION OF CASES ACCORDING TO TYPE OF ANXIETY DISORDER**

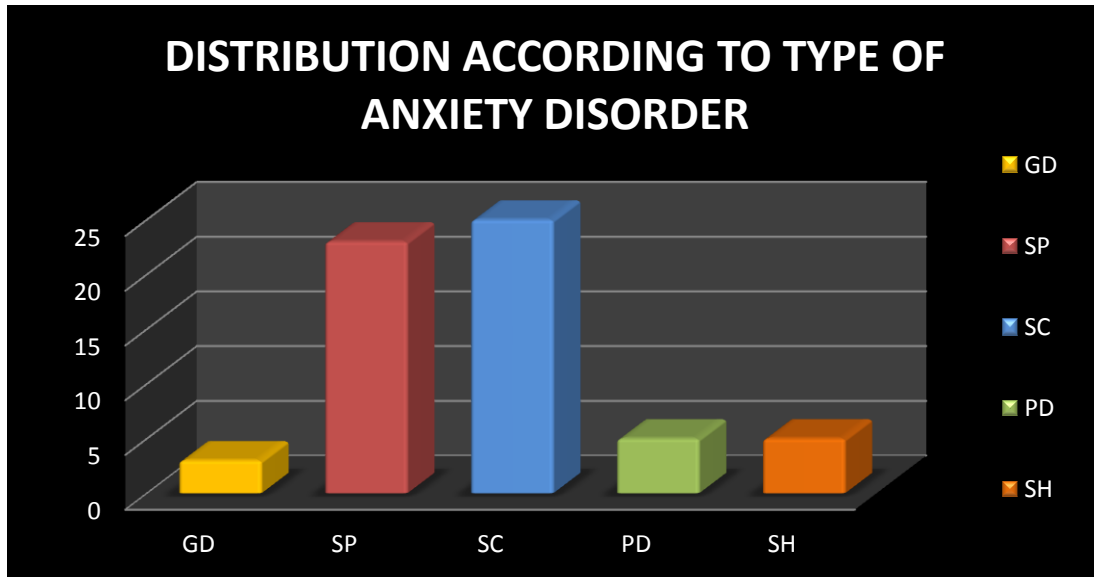
Out of 30 cases 25 patients (83.33%) had social anxiety, 23 patients (76.66%) had separation anxiety, 5 patients (16.66%) had panic disorder, 5 patients (16.66%) presented with significant school avoidance and 3 patients (10%) had generalized anxiety disorder.

**TABLE NO: 9. DISTRIBUTION OF CASES ACCORDING TO TYPE OF ANXIETY DISORDER**

<b>TYPE OF ANXIETY DISORDER</b>	<b>NUMBER OF PATIENTS</b>	<b>PERCENTAGE</b>
<b>Generalized Anxiety Disorder (GD)</b>	3	10
<b>Separation Anxiety Disorder (SP)</b>	23	76.66
<b>Social Anxiety Disorder (SC)</b>	25	83.33
<b>Panic Disorder (PD)</b>	5	16.66
<b>Significant School Avoidance (SH)</b>	5	16.66



**FIGURE NO: 8. DISTRIBUTION OF CASES ACCORDING TO TYPE OF ANXIETY DISORDER**



**5.7 DISTRIBUTION OF CASES ACCORDING TO SCORING OF INDIVIDUAL TYPE OF ANXIETY AS IN SCARED ASSESSMENT TOOL**

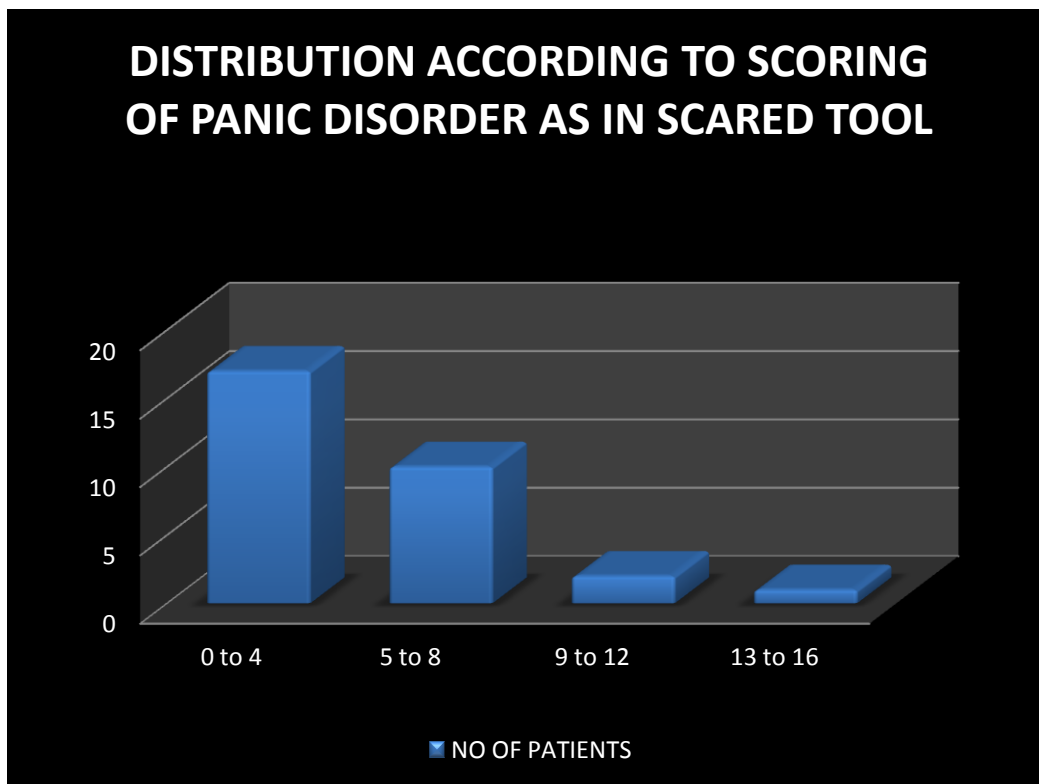
**5.7.1 DISTRIBUTION OF CASES ACCORDING TO SCORING OF PANIC DISORDER AS IN SCARED ASSESSMENT TOOL**

Out of 30 cases 17 patients (56.66%) were assessed as between the scores 0-4, 10 patients (33.33%) were between the score 5-8, 2 patients (6.66) were between 9 -12 and 1 patient (3.33%) was between the score 13-16.

**TABLE NO: 10. DISTRIBUTION OF CASES ACCORDING TO SCORING OF PANIC DISORDER AS IN SCARED ASSESSMENT TOOL**

Score	0-4	5-8	9-12	13-16
Number of patients	17	10	2	1
Percentage	56.66	33.33	6.66	3.33

**FIGURE NO: 9. DISTRIBUTION OF CASES ACCORDING SCORING OF PANIC DISORDER AS IN SCARED ASSESSMENT TOOL**



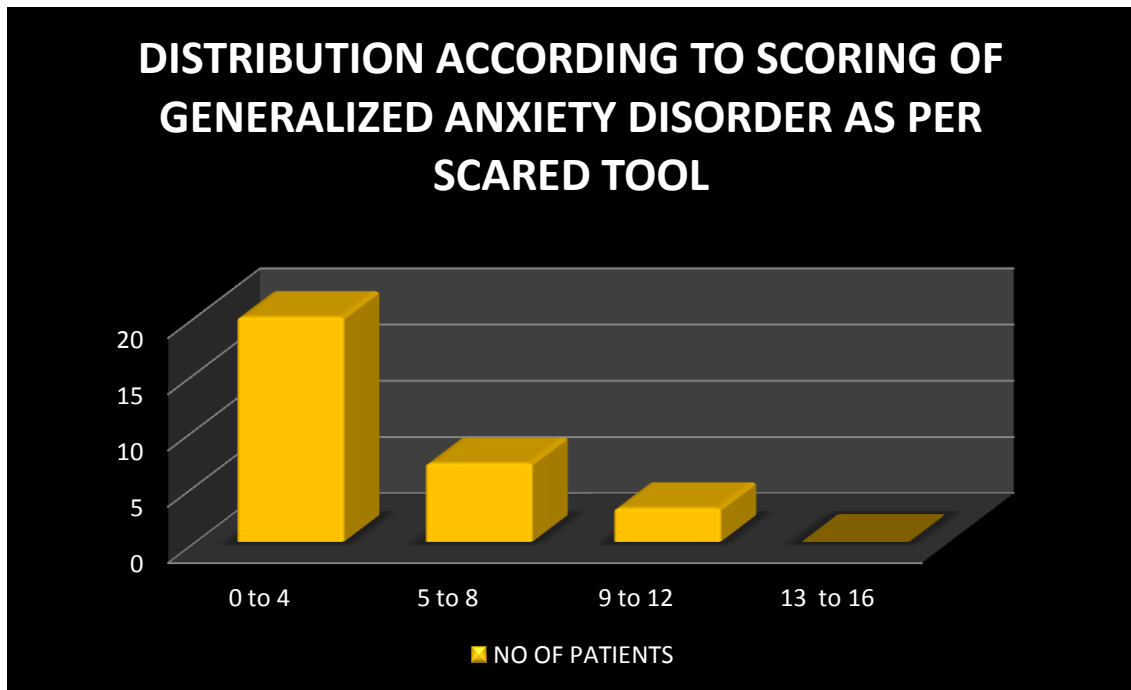
**5.7.2 DISTRIBUTION OF CASES ACCORDING TO SCORING OF GENERALIZED ANXIETY DISORDER AS IN SCARED ASSESSMENT TOOL**

Out of 30 cases 20 patients (66.66%) were assessed as between the scores 0- 4, 7 patients (23.33%) were between the score 5-8, 3 patients (10%) were between 9 -12 and 0 patients between 13-16 score.

**TABLE NO: 11. DISTRIBUTION OF CASES ACCORDING TO SCORING OF GENERALIZED ANXIETY DISORDER AS IN SCARED ASSESSMENT TOOL**

<b>Score</b>	<b>0-4</b>	<b>5-8</b>	<b>9-12</b>	<b>13-16</b>
<b>Number of patients</b>	20	7	3	0
<b>Percentage</b>	66.66	23.33	10	0

**FIGURE NO: 10. DISTRIBUTION OF CASES ACCORDING SCORING OF GENERALIZED ANXIETY DISORDER AS IN SCARED ASSESSMENT TOOL**



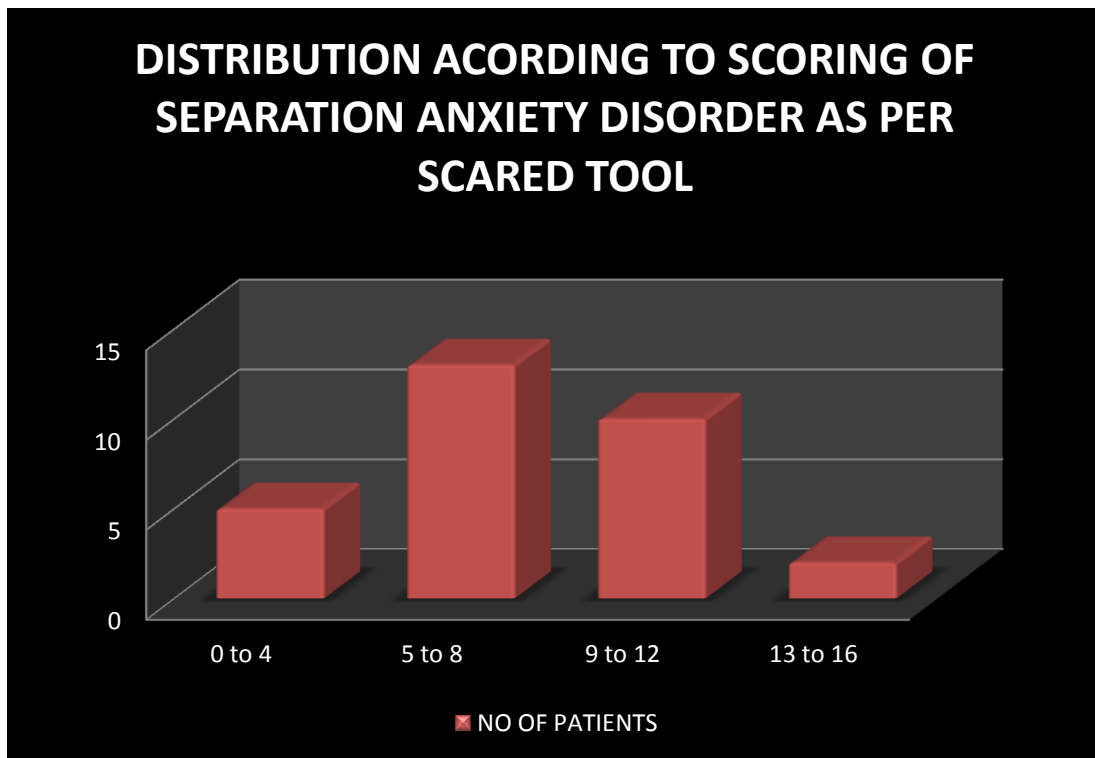
**5.7.3 DISTRIBUTION ACCORDING TO SCORING OF SEPARATION ANXIETY DISORDER AS IN SCARED ASSESSMENT TOOL**

Out of 30 cases 5 patients (16.66%) were assessed as between the scores 0- 4, 13 patients (43.33%) were between the score 5-8, 10 patients (33.33%) were between 9 -12 and 2 patients (6.66%) between 13-16 score.

**TABLE NO: 12. DISTRIBUTION OF CASES ACCORDING TO SCORING OF SEPARATION ANXIETY DISORDER AS IN SCARED ASSESSMENT TOOL**

Score	0-4	5-8	9-12	13-16
Number of patients	5	13	10	2
Percentage	16.66	43.33	33.33	6.66

**FIGURE NO: 11. DISTRIBUTION OF CASES ACCORDING TO SCORING OF SEPARATION ANXIETY DISORDER AS IN SCARED ASSESSMENT TOOL**



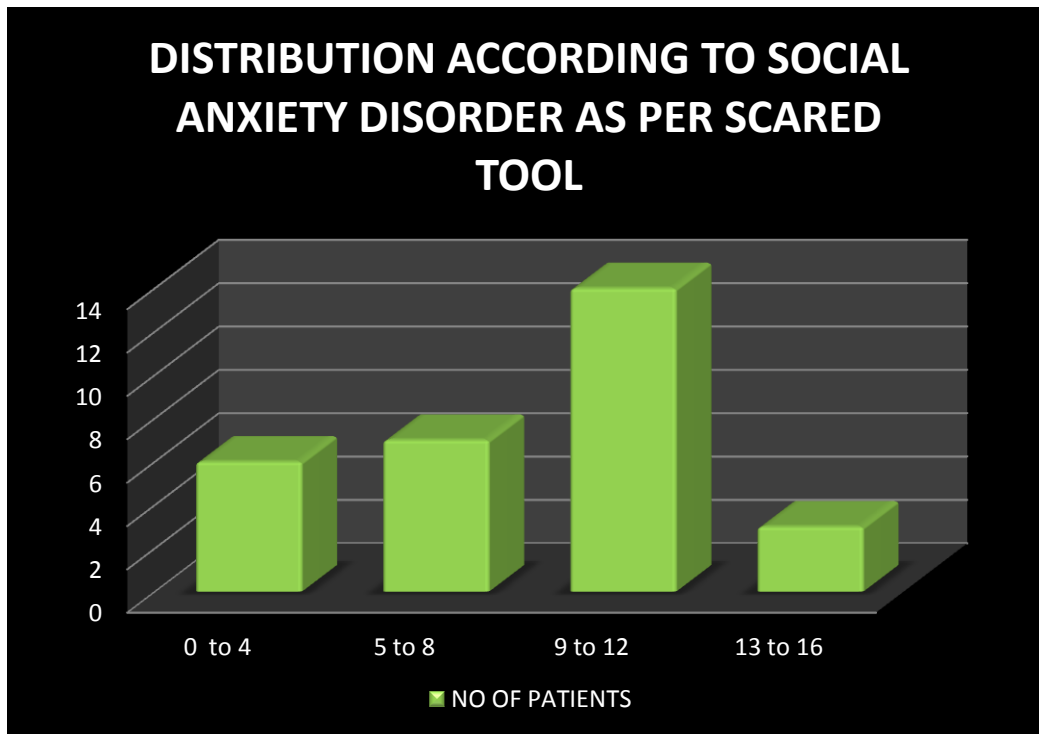
**5.7.4 DISTRIBUTION ACCORDING TO SCORING OF SOCIAL ANXIETY DISORDER AS IN SCARED ASSESSMENT TOOL**

Out of 30 cases 6 patients (20%) were assessed as between the scores 0- 4, 7 patients (23.33%) were between the score 5-8, 14 patients (46.66%) were between 9 -12 and 3 patients (10%) between 13-16 score.

**TABLE NO: 13. DISTRIBUTION OF CASES ACCORDING TO SCORING OF SOCIAL ANXIETY DISORDER AS IN SCARED ASSESSMENT TOOL**

<b>Score</b>	<b>0-4</b>	<b>5-8</b>	<b>9-12</b>	<b>13-16</b>
<b>Number of patients</b>	6	7	14	3
<b>Percentage</b>	20	23.33	46.66	10

**FIGURE NO: 12. DISTRIBUTION OF CASES ACCORDING TO SCORING OF SOCIAL ANXIETY DISORDER AS IN SCARED ASSESSMENT TOOL**



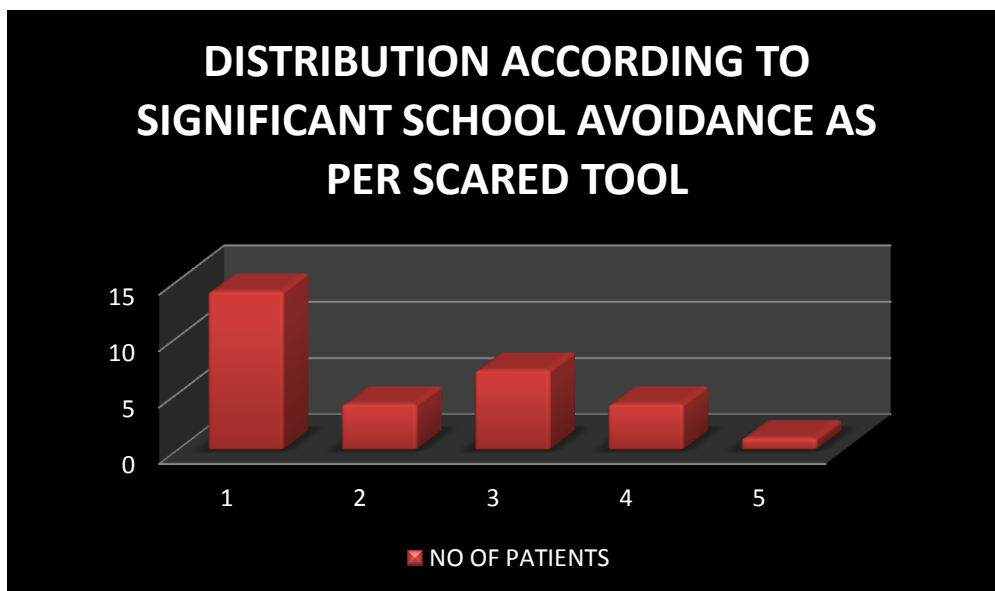
**5.7.5 DISTRIBUTION ACCORDING TO SCORING OF SIGNIFICANT SCHOOL AVOIDANCE AS IN SCARED ASSESSMENT TOOL**

Out of 30 cases 14 patients (46.66%) had 0 score, 4 patients (13.33%) had score as 1, 7 patients (23.33%) had score 2, 4 patients (13.33%) had score 3 and 1 patient (3.33%) had score 4.

**TABLE NO: 14. DISTRIBUTION OF CASES ACCORDING TO SCORING OF SIGNIFICANT SCHOOL AVOIDANCE AS IN SCARED ASSESSMENT TOOL**

Score	0	1	2	3	4
Number of patients	14	4	7	4	1
Percentage	46.66	13.33	23.33	13.33	3.33

**FIGURE NO: 13. DISTRIBUTION OF CASES ACCORDING TO SCORING OF SIGNIFICANT SCHOOL AVOIDANCE AS IN SCARED ASSESSMENT TOOL**





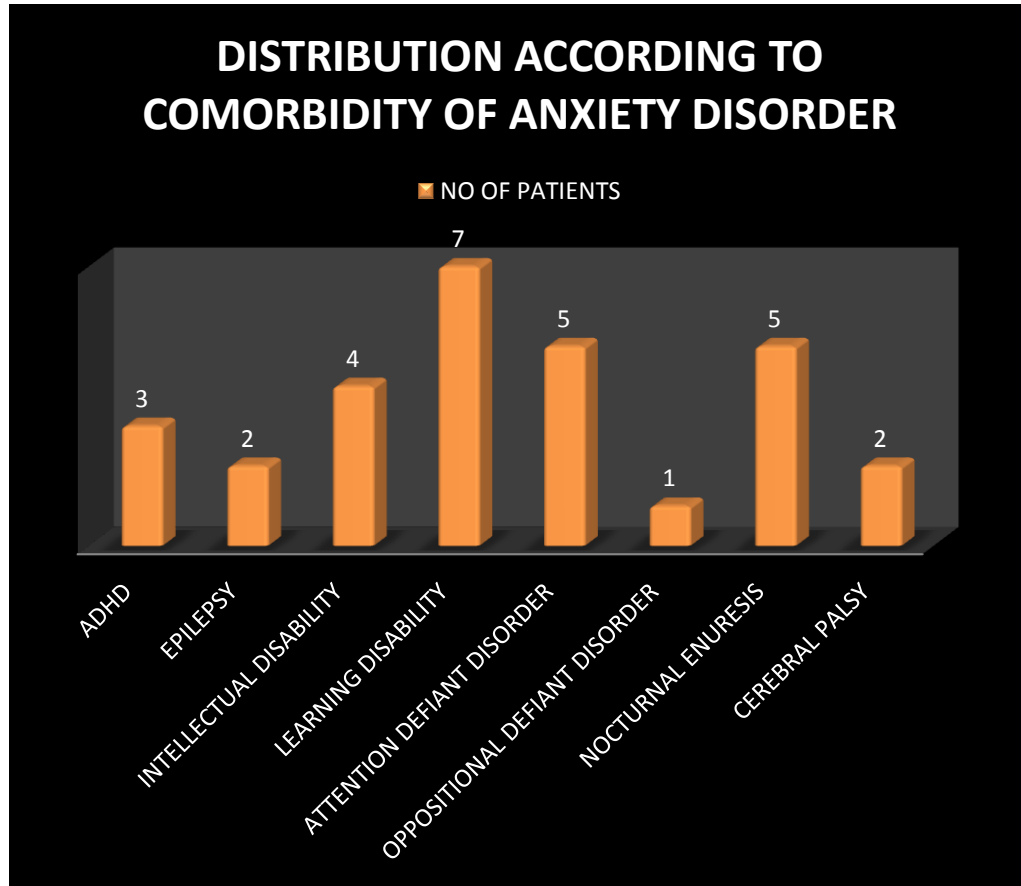
**5.8. DISTRIBUTION OF CASES ACCORDING TO COMORBIDITY OF ANXIETY DISORDERS IN CHILDREN**

Out of 30 patients, 3 patients (10%) had attention deficit hyperactivity disorder (ADHD), 2 patients (6.66%) had epilepsy, 4 patients (13.33%) had intellectual disability, 7 patients (23.33%) had learning disability, 5 patients (16.66%) had attention deficit disorder, 1 patient (3.33%) had oppositional defiant disorder, 5 patients (16.66%) had nocturnal enuresis and 2 patients (6.66%) had cerebral palsy.

**TABLE NO: 15. DISTRIBUTION OF CASES ACCORDING TO COMORBIDITY OF ANXIETY DISORDERS IN CHILDREN**

<b>Comorbidity</b>	<b>Number Of Patients</b>	<b>Percentage</b>
ADHD	3	10
Epilepsy	2	6.66
Intellectual Disability	4	13.33
Learning Disability	7	23.33
Attention Deficit Disorder	5	16.66
Oppositional Defiant Disorder	1	3.33
Nocturnal Enuresis	5	16.66
Cerebral Palsy	2	6.66

**FIGURE NO: 14. DISTRIBUTION OF CASES ACCORDING TO CO MORBIDITY OF ANXIETY DISORDERS IN CHILDREN**



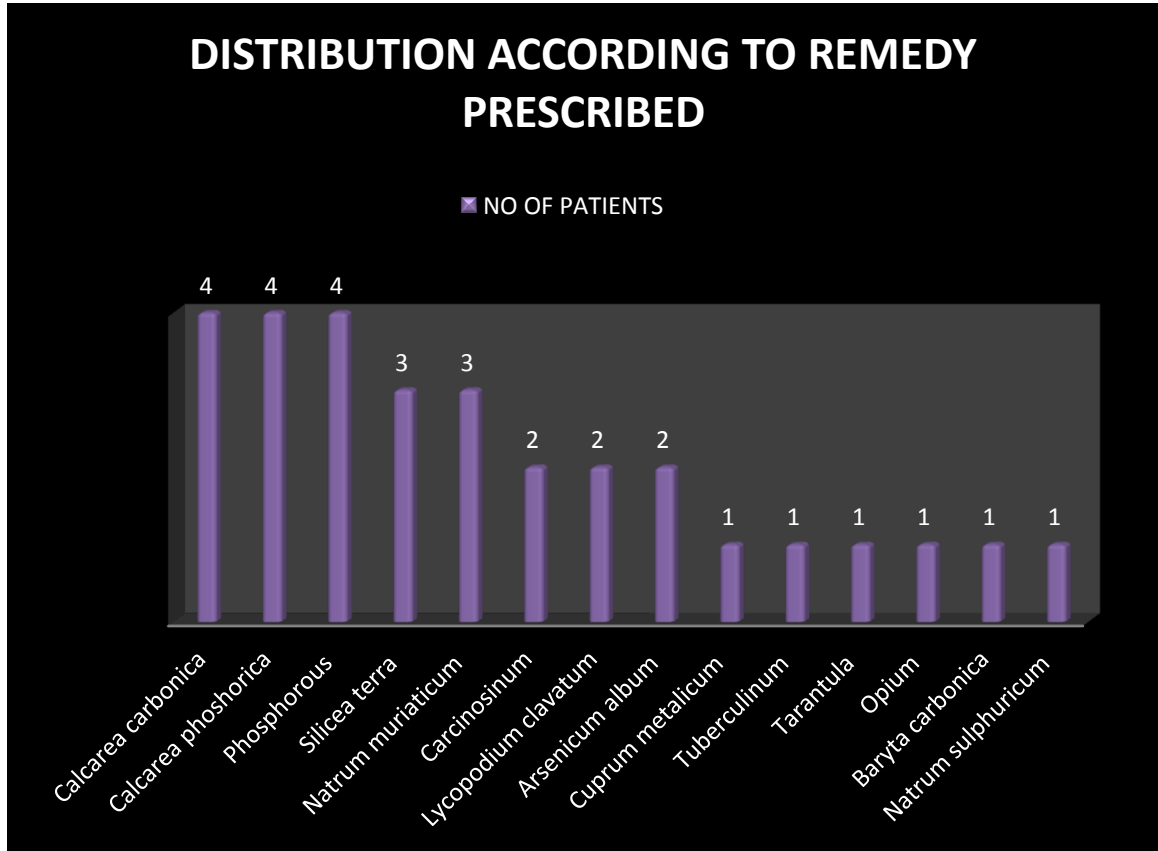
**5.9. DISTRIBUTION OF CASES ACCORDING TO THE REMEDY PRESCRIBED**

Out of 30 cases 2 patients were given *Lycopodium clavatum*, 2 patients with *Carcinosinum*, 4 patients were given *Calcarea Carbonica*, 1 patient with *Cuprum metallicum*, 1 patient with *Tuberculinum*, 3 patients with *Silicea terra*, 4 patients with *Calcarea phosphorica*, 3 patients with *Natrum muriaticum*, 4 patients with *Phosphorous*, 1 patient with *Tarentula*, 2 patients with *Arsenicum album*, 1 patient with *Opium*, 1 patients with *Baryta carbonica* and 1 patient was given *Natrum sulphuricum*.

**TABLE NO: 16. DISTRIBUTION OF CASES ACCORDING TO THE REMEDY  
PRESCRIBED**

<b>REMEDY PRESCRIBED</b>	<b>NUMBER OF PATIENTS</b>	<b>PERCENTAGE</b>
Calcarea carbonica	4	13.33
Calcarea phoshorica	4	13.33
Phosphorous	4	13.33
Silicea terra	3	10
Natrum muriaticum	3	10
Carcinosinum	2	6.66
Lycopodium clavatum	2	6.66
Arsenicum album	2	6.66
Cuprum metallicum	1	3.33
Tuberculinum	1	3.33
Tarantula	1	3.33
Opium	1	3.33
Baryta carbonica	1	3.33
Natrum sulphuricum	1	3.33

**FIGURE NO: 15. DISTRIBUTION OF CASES ACCORDING TO THE REMEDY PRESCRIBED**



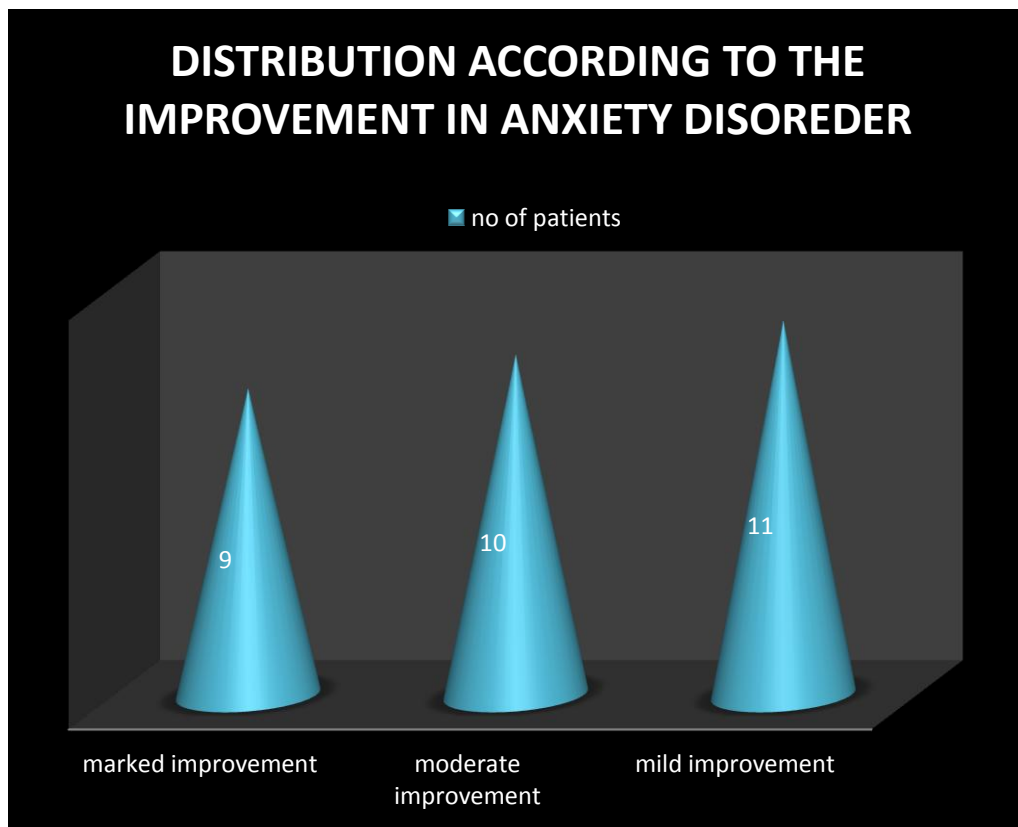
**5.9. DISTRIBUTION OF CASES ACCORDING TO THE IMPROVEMENT IN THE ANXIETY DISORDER**

Out of 30 cases, 9 patients (30%) had marked improvement, 10 patients (33.33%) had moderate improvement and 11 patients (36.66%) had mild improvement.

**TABLE NO: 17. DISTRIBUTION OF CASES ACCORDING TO THE IMPROVEMENT IN THE ANXIETY DISORDER**

	<b>Mild Improvement</b>	<b>Moderate Improvement</b>	<b>Marked Improvement</b>
<b>Number of patients</b>	11	10	9
<b>Percentage</b>	30	33.33	36.66

**FIGURE NO: 16. DISTRIBUTION OF CASES ACCORDING TO THE IMPROVEMENT IN THE ANXIETY DISORDER**



## 5.1. STATISTICAL ANALYSIS

SL. No.	X	Y	d = x-y	d - $\bar{d}$	(d - $\bar{d}$ ) <sup>2</sup>
1	22	12	10	1.7	2.87
2	16	9	7	-1.3	1.69
3	28	18	10	1.7	2.87
4	20	7	13	4.7	22.09
5	41	22	19	10.7	114.49
6	15	9	6	-2.3	5.29
7	13	9	4	-4.3	18.49
8	21	13	8	-0.3	0.09
9	16	13	3	-5.3	28.09
10	20	14	6	-2.3	5.29
11	28	13	15	6.7	44.89
12	27	18	9	0.7	0.49
13	31	24	7	-1.3	1.69
14	32	18	14	5.7	32.49
15	18	12	6	-2.3	5.29
16	20	11	9	0.7	0.49
17	29	20	9	0.7	0.49
18	19	8	11	2.7	7.29
19	32	23	9	0.7	0.49
20	14	11	3	-5.3	28.09
21	27	21	6	-2.3	5.29
22	24	15	9	0.7	0.49
23	29	16	13	4.7	22.09
24	29	17	12	3.7	13.69
25	30	16	14	5.7	32.49
26	23	20	3	-5.3	28.09
27	30	26	4	-4.3	18.49
28	19	16	3	-5.3	28.09
29	38	33	5	-3.3	10.89
30	33	29	4	-4.3	18.49

X = Score before treatment

Y= Score after treatment

D = Mean difference

**A. Question to be answered:**

Is there any difference between the scores taken before and after the Homoeopathic treatment?

**B. Null Hypothesis:**

There is no difference between the scores taken before and after the Homoeopathic treatment.

$$\sum d = 251$$

$$\bar{d} = 251/30 = 8.366$$

$$\sum d - \bar{d} = 101$$

$$\sum (d - \bar{d})^2 = 501.06$$

**C. Standard error of the mean differences:**

The mean of the differences,  $\bar{d} = \sum d/n = 251/30 = 8.36$

The estimate of population standard deviation is given by,

$$\begin{aligned} SD &= \sqrt{\sum (d_1 - \bar{d}_1)^2 / n - 1} \\ &= \sqrt{501.06/29} = \\ &= \sqrt{17.22} = 4.149 \end{aligned}$$

The estimate of standard error of mean, Standard error (S.E)

$$= S.D/\sqrt{n} = 4.149/\sqrt{30} = 0.757531495$$

**D. The test statistics is Paired t:**

$$\text{Critical ratio, } t = \frac{\bar{d}}{S.D/\sqrt{n}}$$

$$= 8.366 / 0.757531495$$

$$= 11.043$$

**t-Test: Paired Two Sample for Means**

	<i>Variable</i>	<i>Variable</i>
	<i>1</i>	<i>2</i>
<b>Mean</b>	24.8	16.43333
<b>Variance</b>	51.68276	40.59885
<b>Observations</b>	30	30
<b>Pearson Correlation</b>	0.818731	
<b>Hypothesized Mean</b>		
<b>Difference</b>	0	
<b>df</b>	29	
<b>t Stat</b>	11.02574	
<b>P(T&lt;=t) one-tail</b>	3.44E-12	
<b>t Critical one-tail</b>	1.699127	
<b>P(T&lt;=t) two-tail</b>	6.88E-12	
<b>t Critical two-tail</b>	2.04523	



### **E. Interpretation of results:**

#### **Comparison with the tabled value:**

On comparing the score before and after treatment the means were 24.8 and 16.43333 and the variances were 51.68276 and 40.59885 respectively. The data showed a positive correlation of 0. Since the calculated value is greater than the tabled value at 5% and 1% the null hypothesis is rejected at 95% significance and hypothesis that Homoeopathy is effective in treating anxiety disorders in children.

#### **Inference:**

This study provides an evidence to show that there is significant improvement in anxiety disorders in children with Homoeopathy.

## 6.0 DISCUSSION

The study was conducted in a systematic way so as to achieve the aims and objectives of the study. A sample of 30 cases were selected after proper screening from OPD and rural centers of Sarada Krishna Homoeopathic Medical College and also from different School Health Programs conducted in and around Kanyakumari district. The school going children were screened for anxiety disorders using Screen for child anxiety related emotional disorders (SCARED) tool. Cases identified with anxiety disorders were screening and selected as per the inclusion and exclusion criteria. Data collected were recorded in the pre-structured SKHMC standardized case record. Cases were processed according to the Homoeopathic principles followed by case analysis; evaluation and the totality were constructed. Prescriptions were done with due reference to Repertory, Materia Medica and Organon of Medicine. Potency selection and repetition were done according to the demand of each case. Improvement of each case was assessed using the Screen for child anxiety related emotional disorders (SCARED) tool during the follow up after 3 to 6 months. Over all general well being of the patient were also assessed. Pre and post treatment analysis was done. Observations were recorded, before treatment scores were compared with after treatment scores and paired 't' test was done to study the effectiveness of Homoeopathic medicines in managing anxiety disorders in school going children of Kanyakumari district. Based on the analysis from 30 cases of anxiety disorders, following observations are made with the comparison of available literature.

## **AGE & SEX:**

In my study, out of 30 cases 12 patients (40%) were of age 6 to 8 years old, 9 patients (30%) were of age 9 to 11 years old, 6 patients (20%) were of age 12 to 14 years old and 3 patients (10%) were of age 15 to 17 years old.

Children of 6 – 9 years have more school anxiety. In this study commonly affected age group was 6 to 8 years. Anxiety disorders can significantly interfere with academic, social, emotional and family functioning. Therefore early identification of such children is important.<sup>[5]</sup>

There was no gender difference in my study. Among the 30 cases 15 patients (50%) were females and the 15 patients (50%) were males.

## **SOCIO – ECONOMIC STATUS:**

Out of 30 patients, majority of patients were from average socio – economic status (46.66%) and above average socio-economic status (43.33%).

Low SES in childhood is a significant risk factor for mental disorders. Higher parental education was associated with generalized anxiety disorders.<sup>[49]</sup>

## **PROBABLE RISK FACTORS:**

Out of 30 cases 12 patients (40%) have antenatal risk factors, 18 patients (60%) have natal risk factors, 6 patients (20%) have environmental risk factors, 7 patients (23.33%) have developmental delay and 6 patients (20%) have unknown probable risk

factors. Out of 30 cases 12 patients (40%) have antenatal risk factors. Out of the 12 patients 10 of them had antenatal maternal emotional stress as risk factor.

Environmental risk factors like parenting style, childhood adversities, relationship stress etc are found to be associated with anxiety disorders.<sup>[23]</sup> Nearly 20% of women suffer from mental health disorders during gestation. 5.12% were having anxiety and 6.69% were having anxiety and depression.<sup>[22]</sup> In my study, 60% of cases have natal risk factors and 40% have antenatal risk factors and 20% have developmental delay as risk factor than environmental causes which is 23.33%. Also antenatal maternal stress is found to be another important antenatal risk factor where further research if required.

## **CHILDREN WITH ANXIETY RELATED EMOTIONAL DISORDERS**

### **(SCARED) TOOL:**

Out of 30 patients 3 patients (10%) had the score range from 10 -15, 8 patients (26.66%) had the score between 16 -20, 4 patients (13.33%) had the score range from 21 – 25, 9 patients (30%) had score 26 – 30, 4 patients (13.33%) had score 31 -35, 1 patient (3.33%) had score between 36 – 40 and 1 patient (3.33%) had score between 41 – 45.

Screen for child anxiety related and emotional disorders (SCARED) is an instrument used to screen childhood anxiety disorders and in monitoring progress through treatment. In addition, it assesses symptoms related to school phobias. The tool consists of 41 items and 5 factors that parallel the DSM –IV classification of anxiety disorders.<sup>[18]</sup>

In my study, many patients had specific social phobias. But these couldn't be assessed using SCARED tool which were generally considered as social phobia.

### **PREVALENCE OF TYPE OF ANXIETY DISORDER:**

Out of 30 cases 25 patients (83.33%) had social anxiety, 23 patients (76.66%) had separation anxiety, 5 patients (16.66%) had panic disorder, 5 patients (16.66%) presented with significant school avoidance and 3 patients (10%) had generalized anxiety disorder.

In my study, the most commonly identified type of anxiety disorder was social anxiety which includes specific social phobias also and separation anxiety disorder. An inter anxiety co morbidity is seen in most of the cases.

### **COMORBIDITY:**

Majority of the cases have learning disability, attention deficit disorder and nocturnal enuresis. Other co existing conditions were attention deficit hyperactivity disorder, epilepsy, intellectual disability, oppositional defiant disorder and cerebral palsy.

Inter anxiety type co morbidity is also found in most of the cases.

In most of the cases these co morbid conditions can be a causative or risk factor of anxiety disorder. Therefore managing anxiety disorders can also improve the co morbid conditions simultaneously.

### **REMEDY:**

Out of 30 cases 2 patients were given *Lycopodium clavatum*, 2 patients with *Carcinosinum*, 4 patients were given *Calcarea Carbonica*, 1 patient with *Cuprum metallicum*, 1 patient with *Tuberculinum*, 3 patients with *Silicea terra*, 4 patients with *Calcarea phosphorica*, 3 patients with *Natrum muriaticum*, 4 patients with *Phosphorous*, 1

patient with Tarentula, 2 patients with Arsenicum album, 1 patient with Opium, 1 patients with Baryta carbonica and 1 patient was given Natrum sulphuricum.

According to the remedy analysis, individualized Homoeopathic medicines are effective in managing anxiety disorders in children. Among these medicines, Calcarea Carbonica, Calcarea phosphorica and Phosphorus are the mostly used remedies.

### **IMPROVEMENT CRITERIA:**

The improvement was assessed after duration of 3 - 6months after Homoeopathic treatment using individualized Homoeopathic medicines.

Out of 30 cases, 9 patients (30%) had marked improvement, 10 patients (33.33%) had moderate improvement and 11 patients (36.66%) had mild improvement.

## **6.1. LIMITATIONS**

- Number of samples used in this study is very small. Therefore, generalization of the result and inferences of the study need to be done cautiously.
- Selections of cases were difficult since many of the cases were irregular for reporting, some of them even dropped out and the patients after relieving from complaint mostly will not follow up.
- There was no control group since the sample size was small.
- Many cases showed specific social phobias which are common in children but this specific type of anxiety disorder couldn't be identified with the screening tool used.

## **6.2. RECOMMENDATIONS**

- Bigger sample size with extended time of research would provide better results.
- It will be always scientific if control (placebo) group would have been kept simultaneously to verify the effectiveness of treatment.
- Majority of cases showed natal and antenatal risk factors. Therefore more research is needed to verify the cause effect relationship.

## 7.0 CONCLUSION

There were a total number of 30 cases taken up at random for the study. Conclusions were made after a statistical analysis of patients with anxiety disorders. A sample of thirty cases selected after screening students from different school health programs and patients who visited the OPD and rural centers of Sarada Krishna homoeopathic medical college and hospital were selected as per the inclusion criteria.

The following conclusions were drawn from the study as follows:

- Majority of patients belong to age groups 6 – 8 years (40%) and 9 – 11 years (30%).
- There is no sex difference according to the study prevalence of anxiety disorders in children.
- Out of 30 patients the number of patients from average socio-economic status was 14 (46.66%), from below average socio-economic status were 3 (10%) and above average socio-economic status were 13 (43.33%).
- In the study the probable risk factors identified were antenatal, natal, environmental and developmental delay as risk factors. 12 patients (40%) have antenatal risk factors, 18 patients (60%) have natal risk factors, 6 patients (20%) have environmental risk factors, 7 patients (23.33%) have developmental delay and 6 patients (20%) have unknown probable risk factors. Out of 30 cases 12 patients (40%) have antenatal risk factors. Out of the 12 patients 10 of them had antenatal maternal emotional stress as risk factor.



- Majority of the patients had score 26 – 30 and 16 -20 with percentage 30% and 26.66% respectively.
- The type of anxiety disorder more prevalent in the study was social anxiety and separation anxiety disorder with percentage 83.33% and 76.66% respectively.
- Out of the patients identified with panic disorder, majority of the patients (33.33%) were assessed between the score 5-8. Out of the patients identified with generalized anxiety disorder, 7 patients (23.33%) were between the score 5-8. Out of the patients identified with separation anxiety disorder, 13 patients (43.33%) were between the score 5-8. Out of the patients identified with social anxiety disorder, 14 patients (46.66%) were between 9 -12. Out of the patients identified with significant school avoidance, 7 patients (23.33%) had score 2.
- The most common co morbidity identified in the study was learning disability (23.33), attention deficit disorder (16.66%) and nocturnal enuresis (16.66%).
- Individualized Homoeopathic medicines were given but the mostly used remedies were Calcarea carbonica, Calcarea phosphorica and Phosphorus.
- The concept of disease in Homoeopathy is of prime importance in the Homoeopathic system. It stresses the importance of individuality of a person as a whole.
- Results of the study suggest that individualistic approach of Homoeopathy found effective in the management of anxiety disorders in school going children.

## **8.0. SUMMARY**

A sample of 30 cases from the school health programs, patients visiting the OPD and rural centers of Sarada Krishna Homoeopathic Medical College and Hospital were selected randomly as per the inclusion criteria. The samples were selected after screening the children using screening for anxiety and related emotional disorders (SCARED) tool. The prescriptions were based on the individual totality of each patient. The cases were followed up and post assessment is done after 3 – 6 months of prescription. Proper statistical analysis was done. On the basis of pre and post treatment scores, it was found that Homoeopathic medicines are effective in managing anxiety disorders in school going children.

## 9.0. BIBLIOGRAPHY

- 1) M Denise Goodman, Kleigman, Stanton, St.Geme, Shor, Behrman. Nelson textbook of paediatrics 18<sup>th</sup> edition, Page No: 117-120, Elsevier New Delhi
- 2) Diane Peters Mayer. Overcoming school anxiety. Chapter 1, Page No: 4. New York: AMACOM publications; American management association
- 3) Chaudhary Jaydeep. - Behavioral problems in children and Adolescents. Jaypee Brothers Medical Publications (P) Ltd, New Delhi; Chapter: 4; Page No: 50
- 4) Murray, Kendler, Mc Guffin, Wessely, Castle. Essential psychiatry 4<sup>th</sup> edition, Page No: 147. Cambridge university press
- 5) <http://www.ncbi.nlm.gov/pmc/articles/PMC1071700/western> journal of medicine
- 6) Kadja Beesdo, Susanne Knappe, S Pine Daniel. Anxiety and anxiety disorders in children and adolescent: developmental issues and implications for DSM-V. Psychiatr Clin North Am. 2009 Sep; 32(3); 483-524
- 7) Samuel, H 2004, Organon of Medicine, 6<sup>th</sup> edition, B. Jain Publishers. New Delhi
- 8) P Kumar, M Suganya, Heber Anandan, B Sathyamurthi, K Jayachandran. Indian journal of applied research. Generalized anxiety disorders among higher secondary school children. Volume 6, issue 6, June 2016.
- 9) Nidhi Luthra, Homoeopathy for all. Get the stress out of children. Volume 8. No.7 (50). July 15 2007, Page No: 38 - 44
- 10) Soodan Shivani, Arya Ashwani. Understanding the pathophysiology and management of the anxiety disorders. International Journal of Pharmacy and Pharmaceutical research. Human Journals. October 2015; Volume 4, Issue:3

- 11) Rajive Sood, Homoeopathy for all. Dealing with examination stress; Volume 5  
No2 (50) Feb15 2004; Page No: 43- 45
- 12) m.timesofindia.com. Oct
- 13) Tracy L Morris, John S March, Anxiety disorders in children and adolescents.  
Guilford publications. 2<sup>nd</sup> edition, Chapter 6, Page No:  
146
- 14) <https://www.britanica.com>
- 15) Mangal S K. General psychology. Thinking, reasoning and problem- solving.  
Sterling Publishers Private Limited; Chapter: 9, Page No. 125
- 16) [http://study.com>academy>behavior: definition & explanation – chapter 1.  
Lesson 9 – Tiffany Frye](http://study.com>academy>behavior: definition & explanation – chapter 1. Lesson 9 – Tiffany Frye)
- 17) <http://www.trivedieffect.com>overly-emotional-disorders-in children>
- 18) Diane Peters Mayer. Overcoming school anxiety. AMACON. American  
Management Association. Chapter: 6, Page No: 22, 23, 24, 25, 27, 44, 45, 46, 204
- 19) P. S Sinha. Psychic disorders and Homoeopathy. B Jain Publishers P Ltd
- 20) Ashis Majundar. Homoeopathy for all. Anxiety neurosis- a modern disease of  
civilisation and its Homoeopathic remedy; Volume 9; No.2 (98); Feb 2008, Page  
No: 56 - 57
- 21) The ICD-10 Classification of Mental and Behavioural Disorders: Clinical  
Descriptions and Diagnostic Guidelines. 1992. Geneva. World Health  
Organization. Page No: 134 142
- 22) [https://www.researchgate.net/publication/236851377/ De Mond M Grant/ anxiety  
in adolescence/Chapter- May 2013,Page No: 509, 510](https://www.researchgate.net/publication/236851377/ De Mond M Grant/ anxiety in adolescence/Chapter- May 2013,Page No: 509, 510)

- 23) S Keerti Jogdand, N Pravin Yerpude; A cross sectional study on social factors responsible for mental morbidity among pregnant women. *Innovative Journal of mental and health science* 5. 4 July- August (2015). Page No: 159-161
- 24) Ressler KJ, Nemeroff CB. Role of serotonergic and noradrenergic systems in the pathophysiology of depression and anxiety disorders. *Depression and Anxiety* 2000; Chapter: 12; Page No: 2-19
- 25) Feldman S and Weidenfeld J. Involvement of endogenous glutamate in the stimulatory effect of norepinephrine and serotonin on the hypothalamo-pituitary-adrenocortical axis *Neuroendocrinology* 2004; 79(1): Page No: 43 - 53
- 26) Trivedi J K, Gupta Kumar Pawan. *Indian Journal of Psychiatry*. An overview of Indian research in anxiety disorders. Wolters KLIWER – Medknow Publications; 2010 Jan; 52 (Suppl1): S210 –S218
- 27) Ashwani Arya et al. *Ijppr. Human*, 2015; Volume 4 (3); Page No: 251-278
- 28) American Psychiatric Association. *Diagnostic and statistical manual for the assessment of mental disorders*. 4th ed. Washington, DC: American Psychiatric Association, 1994
- 29) Morris L. Tracy, March S. John. *Anxiety Disorders in Children and Adolescence*. The Guilford Press. New York London; Chapter 6; Page No: 147 - 148
- 30) Elizabeth DuPont Spencer, Robert L. DuPont, Caroline M. DuPont. *The Anxiety Cure for Kids*. John Wiley & Sons Publications. Canada; Chapter: Appendix; Page No: 203 – 211
- 31) <http://www.theravive.com>>therapedia

- 32) Larina Kase, Deborah Roth Ledley. Anxiety Disorders. John Wiley & Sons Publications; Chapter: 1; Page No: 7
- 33) National Institute of Mental Health (NIMH). Treatment of Anxiety Disorders; 2009
- 34) Barlow, DH. Clinical handbook of psychological disorders. New York, NY: Guilford.2001; 3
- 35) Feldman S and Weidenfeld J. Involvement of endogenous glutamate in the stimulatory effect of norepinephrine and serotonin on the hypothalamo – pituitary - adrenocortical axis Neuroendocrinology 2004; 79(1): Page No: 43-53
- 36) Kleijnen J, Knipschild, P & TerRiet, G. 1991, ‘Clinical Trials Of Homoeopathy’, BMJ, Volume 302, Page No: 316- 323
- 37) [www.theothersong.com/clinic/Homoeopathic treatment of Anxiety disorders in Children](http://www.theothersong.com/clinic/Homoeopathic%20treatment%20of%20Anxiety%20disorders%20in%20Children)
- 38) Kent Tyler James. Lectures on Homoeopathic Philosophy. EHRHART & KARL, 143 North Wabash Avenue, Chicago, Illinois, 1919; Lecture: I,II; Page No: 21,29,30
- 39) J Clin Psychiatry. June 2011; Chapter: 6; Page No:6
- 40) <http://www.indianjpsychiatry.org>; March 29, 2018, IP:112.134.105
- 41) [www.pcori.org](http://www.pcori.org)
- 42) Bagherian et al., J Homeop Ayurv Med 2014, Volume:3; Issue:4
- 43) <https://www.researchgate.net/publication/319643675>
- 44) Pilkington K, et al. Homeopathy.2006 Jul; 95(3); Page No:151-62

- 45) Lakshmipathy R Prabhu. Homeopathy. Anxiolytic effect of homoeopathic preparation of Pulsatilla nigricans in Swiss albino mice; Volume 101, Issue 3, July 2012, Page No: 171 – 174
- 46) Gelabert RZ (2017) Clinical study of the effectiveness of pluralist Homoeopathy in generalized anxiety disorder, *Altern Integr Med* 2017, 6(4): 250
- 47) M Bagavad, S Geetha, Roopa , A S Subhashini, S Janani. Study of anxiety levels in young female dolescents. *International journal of Basic medical science-* December 2012, volume: 3, issue: 5 - [www.ijbms.com](http://www.ijbms.com)
- 48) Marianna Alesi. depression, anxiety at school and self esteem in children with learning disabilities. *Journal of psychological abnormalities*. July 20, 2014 - [www.esciencecentral.org](http://www.esciencecentral.org)
- 49) Ochi M, et al. *BMC Public Health*. 2014. Association of socioeconomic status in childhood with major depression and generalized anxiety disorder: results from the World Mental Health Japan survey 2002- 2006. Apr 14; 14: 359

## Appendix - I

*"Case records are our valuable asset"*

**SARADA KRISHNA**

**HOMOEOPATHIC MEDICAL COLLEGE & HOSPITAL**

*KULASEKHARAM, KANYAKUMARI DIST, TAMIL NADU- 629161*

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### CHRONIC CASE RECORD

O.P. No: .....Unit..... Date: .....

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Name: .....

Age: Years Sex: ..... Religion: Christian Occupation: .....

Address: .....

.....

Phone No (Land): ..... (Mobile): .....

Sl.No.	Dt. of Admn.	Dt. of Disch	Dt. of Review	I.P. No.	Ward	Bed No.	Remarks
1							
2							
3							
4							
5							

#### FINAL DIAGNOSIS:

Homoeopathic	
Disease	

<b>RESULT:</b>	Cured	Relieved	Referred	Otherwise	Expired
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---

**1. INITIAL PRESENTATION OF ILLNESS**

---

PATIENT'S NARRATION (in the very  
expressions used by him / she) &  
PHYSICIAN'S INTERROGATION

---

PHYSICIAN'S OBSERVATION

---

---

**2.PRESENTING COMPLAINTS**

LOCATION & DURATION	SENSATION & PATHOLOGY	MODALITIES	ACCOMPANIMENTS

---

### **3. HISTORY OF PRESENTING ILLNESS & TREATMENT**

---

---

### **4. HISTORY OF PAST ILLNESS & TREATMENT ADOPTED**

---

---

### **5. HISTORY OF FAMILY**

---

---

### **6. PERSONAL HISTORY:**

---

Place of birth: Religion: Education:

Birth: Birth weight: kg

Immunisation: done

Habit

---

**7. LIFE SPACE INVESTIGATION:**

---

---

**8. PSYCHIC FEATURES:**

---

---

**9. PHYSICAL FEATURES:**

---

A. APPEARANCE

B.REGIONAL

C.GENERALS

D.PHYSICAL EXAMINATION

i) **General**

Jaundice:	Anaemia: no pallor	Oedema:	
Cyanosis:	Clubbing:	Lymphadenopathy:	
Skin colour:	Discolouration:	Skin eruption: nil	
Height:	Weight:	B.M.I:	
Pulse rate:	Resp.rate:	Temp:	B.P:

ii) **Systemic**

1. Respiratory System:
2. Cardio Vascular System:
3. Gastro Intestinal System:
4. Urogenital System:
5. Musculo-skeletal System:

6. Central Nervous System:

7. Skin:

8. Endocrine:

9. Eye/ENT:

---

**10. MENSTRUAL HISTORY:**

---

---

**11. OBSTETRICAL HISTORY:**

---

**12. LABORATORY FINDINGS:**

---

**13. ANALYSIS & DIAGNOSIS OF DISEASE:**

---

- A. Provisional Diagnosis: Learning Disability
- B. Differential Diagnosis:
- C. Final Diagnosis (Disease)

**14. DIAGNOSIS OF THE PATIENT**

---

- A. Analysis:
- B. Evaluation of Symptoms/Totality of Symptoms:
- C. Miasmatic Expressions:

D. Repertorial Totality:

E. Final Diagnosis (Homoeopathic):

---

## 15. MANAGEMENT & TREATMENT

---

**A. Plan of Treatment:**

**B. General/Surgical/Accessory:**

**C. Restrictions (Diet, Regimen etc):**

Disease	Medicinal

**D. Medicinal: First Prescription:**

**BASIS OF SELECTION**

i) Medicine: R<sub>x</sub>



ii) Potency:

iii) Dose:

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**16. PROGRESS & FOLLOW UP**

---

DATE	SYMPTOM CHANGES	INFERENCE	PRESCRIPTION
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**APPENDIX – II**

**SCREEN FOR CHILD ANXIETY RELATED EMOTIONAL DISORDERS**

**(SCARED)**

	<b>0</b> Not true or hardly ever true	<b>1</b> Somewhat true or sometimes true	<b>2</b> Very true or often true
<b>1. When I feel frightened, it is hard to breath</b>			
<b>2.I get headache when I am at school</b>			
<b>3.I don't like to be with people I don't know well</b>			
<b>4.I get scared if I stay away from home</b>			
<b>5.I worry about other people liking me</b>			
<b>6.When I get frightened, I feel like passing out</b>			
<b>7.I am nervous</b>			
<b>8.I follow my mother or father wherever I go</b>			
<b>9.People tell me that I am nervous</b>			
<b>10.I feel nervous with people I don't know</b>			

<b>11.I get stomachaches at school</b>			
<b>12.When I get frightened I feel like I am going crazy</b>			
<b>13.I worry about sleeping alone</b>			
<b>14.I worry about being as good as other kids</b>			
<b>15.When I get frightened, I feel like things are not real</b>			
<b>16.I have nightmares about something bad happening to parents</b>			
<b>17.I worry about going to school</b>			
<b>18.When I get frightened, my heart beats fast</b>			
<b>19.I get shaky</b>			
<b>20.I have nightmares of something bad happening to me</b>			
<b>21.I worry about things working about me</b>			

<b>22. When I get frightened, I sweat a lot</b>			
<b>23. I am a worrier</b>			
<b>24. I really get frightened for no reason at all</b>			
<b>25. I am afraid to be alone at home</b>			
<b>26. It is hard for me to talk with people I don't know well</b>			
<b>27. When I get frightened I feel like choking</b>			
<b>28. People tell me that I worry too much</b>			
<b>29. I don't like to be away from family</b>			
<b>30. I am afraid of having anxiety (or panic) attacks</b>			
<b>31. I worry that something bad might happen to my parents</b>			
<b>32. I feel shy with people I don't know well</b>			
<b>33. I worry about what is going to happen in future</b>			
<b>34. When I get frightened I feel like throwing up</b>			

<b>35.I worry about how well I do things</b>			
<b>36.I am scared to go to school</b>			
<b>37.I worry about things that have already happened</b>			
<b>38.When I get frightened, I feel dizzy</b>			
<b>39.I feel nervous when I am with other children or adults and I have to do something while they watch</b>  me(for example: read aloud, speak, play a game, play a sport)			
<b>40.I feel nervous when I go to parties, dances, or any place where there will be people that I don't know well</b>			
<b>41.I am shy</b>			

**SCORING:**

A total score of  $\geq 25$  may indicate the presence of an **Anxiety Disorder**. Scores higher than 30 are more specific. **TOTAL =**

A score of **7** for items 1, 6, 9, 12, 15, 18, 19, 22, 24, 27, 30, 34, 38 may indicate **Panic Disorder** or **Significant Somatic Symptoms**. **PN =**

A score of **9** for items 5, 7, 14, 21, 23, 28, 33, 35, 37 may indicate **Generalized Anxiety Disorder**. **GD =**

A score of **5** for items 4, 8, 13, 16, 20, 25, 29, 31 may indicate **Separation Anxiety SOC**. **SP =**

A score of **8** for items 3, 10, 26, 32, 39, 40, 41 may indicate **Social Anxiety Disorder**. **SC =**

A score of **3** for items 2, 11, 17, 36 may indicate **Significant School Avoidance**. **SH =**

**APPENDIX III**  
**CONSENT FORM (A)**

**INFORMATION FOR PARTICIPANTS OF THE STUDY**

1. **Title of the project:** A clinical study on the role of Homoeopathy in managing anxiety disorders in school going children of kanyakumari district
  
2. **Name of the investigator/guide :**  

Dr. C. K. Mohan  
Principal & Professor,  
Department of Paediatrics,  
Sarada Krishna Homoeopathic Medical College,  
Kulasekharam
  
3. **Purpose of this project/ study:** To study the Effectiveness of Homoeopathic Medicines in managing anxiety disorders in school going children of Kanyakumari district.
  
4. **Procedure/methods of the study:** 30 cases of school going children of Kanyakumari presenting with anxiety disorders are collected after proper screening from school health programs conducted by Sarada Krishna Homoeopathic Medical College and Hospital and also from OPD and rural centres of Sarada Krishna Homoeopathic Medical College Hospital. For each case pre and post assessment will be done using the “screen for child anxiety related emotional disorders”. Medicines will be prescribed according to the

individualization and totality of symptoms of the case. The patients will be monitored before and after administration of medicine. The improvement will be monitored after 3 to 6 months of administration of medicine and assessed on one year observation.

5. **Expected duration of the subject participation :** 3 to 6 months with follow up
6. **The benefits to be expected from the research to the participant or to others and the post trial responsibilities of the investigator:** The participant who takes part in this study are contributing towards the management of school going children who are suffering with anxiety disorders, a treatment which they can attain by without any adverse effect. Through this study the participant get best quality Homoeopathic treatment for their complaints.
7. **Any risks expected from the study to the participant:** For the treatment best selected Homoeopathic medicines will be given. So there will not be any adverse effect or risk because of the study.
8. **Maintenance of confidentiality of records:** I will not disclose identity of the research participants at any time, during or after the study period or during publication. Securely store data documents in locked locations and Encrypt identifiable computerized data. All information revealed by you will be kept as strictly confidential.
9. **Freedom to withdraw from the study at any time during the study period without the loss of benefits that the participant would otherwise be**



**entitled:** Your participation in the study is voluntary and you are free to refuse treatment or withdraw from the study at any time if you are not satisfied.

**10. Possible current and future uses of the biological material and of the data to be generated from the research and if the material is likely to be used**

**for secondary purposes or would be shared with others, this should be**

**mentioned:** Future uses of the biological material and of the data to be generated from the research and if the material is likely to be used for secondary purposes or will be shared with others only with your consent.

**11. Address and telephone number of the investigator and co-investigator/guide :**

Investigator: Dr.Vineetha Sreekumar, P.G. Scholar,

Department of Paediatrics,

Sarada Krishna homoeopathic medical college and hospital,

Kulasekharam,

Mobile no: 9400430198

Guide: Dr.C.K.Mohan

Principal & Professor

Department of Paediatrics,

Sarada Krishna Homoeopathic Medical College,

Kulasekharam, Mobile no: 9443379448

**12. Signature of investigator:**

**CONSENT FORM (B)**

**Participant consent form**

**Informed Consent form to participate in a clinical trial**

**Study Title:** A clinical study on the role of Homoeopathy in managing anxiety disorders in school going children of Kanyakumari

**Study Number:**

**Subject's Initials:**

**Date of birth/Age:**

**Subject's Name:**

Please initial

Box (Subject)

- i.** I confirm that I have read and understood the information sheet dated July 2017 for the above study and have had the opportunity to ask question. [ ]
- ii.** I understood that my participation in the study is voluntary and that I am free to withdraw at any time' without giving any reason. Without my medical care or legal rights being affected. [ ]
- iii.** I understand that the sponsor of the clinical trial, others working on the sponsor's behalf the Ethics Committee and the regulatory authorities will not need my permission to look at my health records both in respect of the current study and any further research that may be conducted in relation to it, even if I withdraw from the trial. I agree to this access. However, I understand that my identity will not be revealed in any information released to third parties or published. [ ]
- iv.** I agree not to restrict the use of any data or result that arise from this study Provided such a use only for scientific purpose(s) [ ]
- v.** I agree to take part in the above study. [ ]

Signature (or Thumb impression of the subject/legally acceptable

Representative: \_\_\_\_\_

Date \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_

Signatory's Name: \_\_\_\_\_

Signature of the Investigator: \_\_\_\_\_

Study Investigator's Name: Dr. Vineetha Sreekumar

Signature of the Witness \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

Signature of the Witness \_\_\_\_\_ Date \_\_\_\_/\_\_\_\_/\_\_\_\_

## APPENDIX - IV

*“Case records are our valuable asset”*

**SARADA KRISHNA**

**HOMOEOPATHIC MEDICAL COLLEGE & HOSPITAL**

*KULASEKHARAM, KANYAKUMARI DIST, TAMIL NADU- 629161*

---

### CHRONIC CASE RECORD

O.P. No: 3554/17      Unit: Learning disability      Date: 26/5/2018

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#### 1. PERSONAL DATA

Name: Master. K. Tharun

Age: 8Years    Sex: M/C

Religion: Hind    Occupation: Student (1<sup>st</sup> Standard)

Name of father: Mr. Kumaresan

Address: Kaithakuzhi, Thiruvithancode

Phone No (Land): ..... (Mobile): 9791289343

**FINAL DIAGNOSIS:** Anxiety disorder, Moderate ID, ADD

Homoeopathic	Chronic miasmatic disease – psora
Disease	Anxiety disorder, Moderate ID, ADD

<b>RESULT:</b>	Cured	Relieved	Referred	Otherwise	Expired
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<b>2. INITIAL PRESENTATION OF ILLNESS</b>		
<b>PATIENT'S NARRATION</b>	<b>PHYSICIAN'S INTERROGATION</b>	<b>PHYSICIAN'S OBSERVATION</b>
<p>The patient's father that he is not interested in studies. He only speaks words and does not say in complete sentences.</p>	<p>What is your complaint?</p> <p>I'm not interested in studies. His mother explained that he speaks only words and not in sentences.</p> <p>Since how long have you been suffering this complaint?</p> <p>It has been since 2-3 years.</p> <p>Have you gone for any consultation?</p> <p>He had counselling before but haven't taken any medication.</p>	<p>Shy +</p> <p>Steady gait</p>

### **3. PRESENTING COMPLAINTS**

The patient is not interested in studies. Will not talk in sentences and can only speak in words. Will not talk fluently. Will not talk to strangers. Does not answer to others when questioned.

### **4. HISTORY OF PRESENTING ILLNESS**

The complaint started since 3yrs before. He has not taken any medication for these complaints. But has gone for counselling.

### **5.HISTORY OF PAST ILLNESS**

Nothing relevant

### **6. HISTORY OF FAMILY**

Nothing relevant

### **7. PERSONAL HISTORY:**

#### **A. LIFE SITUATION:**

Place of birth: Kaithakuzhi    Religion: Hindu    Education: 1<sup>st</sup> Standard

Economic status: average    Social status: average

Nutritional status: average    Family status: nuclear

#### **B. HABITS & HOBBIES:**

Non vegetarian

Sleep – good

#### **C. DOMESTIC RELATIONS**

Good

## **7. LIFE SPACE INVESTIGATION:**

### Prenatal history:

During pregnancy at 2<sup>nd</sup> month, his mother was mentally stressed. She had seen one of his sister burned in front of her. She was depressed for some days. At 4<sup>th</sup> month of pregnancy, she had a mild electric shock.

### Post natal history:

The delivery was normal. There was no complication after delivery.

### Developmental history:

Birth cry – normal

All milestones were attained at proper age.

### Childhood:

He was very active child before 2yrs. He studied LKG two tomes as he was weak in studies. Before he use to go alone at night to other house but now is having fear of darkness. He also has fear of fire, water etc.

## **9. GENERAL SYMPTOMS:**

### **A. Physical**

Appetite: normal

stool: regular

Thirst: normal

urine: normal

Sleep: good

sweat: all over the body

Reaction to:

Desire: cold bathing, cold season, cold food & drinks, sweets++

Aversion: fish

Thermal: towards hot

## **B. Mental general**

Fear of fire works

Fear of bathing in rivers and ponds

Fear of darkness

## **10. PHYSICAL EXAMINATION**

### **A. GENERAL EXAMINATION**

- Conscious
- General appearance: thin
- General built & nutrition: good
- Height: 119cm , weight: 19.4 Kg
- anaemia: nil, jaundice: nil, cyanosis: nil, clubbing: nil, oedema: nil
- skin: normal
- lymphadenopathy: nil
- pulse: 73/min
- respiratory rate: 18/min

### **B. Systemic**

**14. Respiratory System:**

NAD

**15. Cardio Vascular System:**

**16. NAD**

**17. Gastro Intestinal System:**

NAD



**18. Urogenital System:**  
NAD

**19. Musculo-skeletal System:**  
NAD

**20. Central Nervous System:**

Appearance and behaviour – normal

Memory- good, speech – normal

Orientation of time, place, person – normal

All superficial and deep reflex – normal

All motor and sensory reflex – normal

**21. Skin:**  
NAD

**22. Endocrine:**  
NAD

**23. Eye/ENT:**  
NAD

**C. REGIONALS:**

Tongue- clean & moist

Skin- dryness, blackish discolouration on fingers

**Pre assessment of anxiety disorder using SCARED tool on 16/6/2018:**

**Screen for Child Anxiety Related Disorders (SCARED)**  
**CHILD Version—Page 1 of 2 (to be filled out by the CHILD)**

Developed by Boris Birmaher, M.D., Suneeta Khetarpal, M.D., Marlane Cully, M.Ed., David Brent, M.D., and Sandra McKenzie, Ph.D.,  
 Western Psychiatric Institute and Clinic, University of Pittsburgh (October, 1995). E-mail: birmaherb@upmc.edu

See: Birmaher, B., Brent, D. A., Chiappetta, L., Bridge, J., Monga, S., & Baugher, M. (1999). Psychometric properties of the Screen for Child  
 Anxiety Related Emotional Disorders (SCARED): a replication study. *Journal of the American Academy of Child and Adolescent Psychiatry*, 38(10),  
 1230-6.

Name: Master K Tharun Date: 16/6/18  
(3554/17)

**Directions:**  
 Below is a list of sentences that describe how people feel. Read each phrase and decide if it is "Not True or Hardly Ever True" or  
 "Somewhat True or Sometimes True" or "Very True or Often True" for you. Then, for each sentence, fill in one circle that  
 corresponds to the response that seems to describe you for the last 3 months.

	0 Not True or Hardly Ever True	1 Somewhat True or Sometimes True	2 Very True or Often True	
1. When I feel frightened, it is hard to breathe	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	PN
2. I get headaches when I am at school.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	SH
3. I don't like to be with people I don't know well.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	SC
4. I get scared if I sleep away from home.	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	SP
5. I worry about other people liking me.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	GD
6. When I get frightened, I feel like passing out.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	PN
7. I am nervous.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	GD
8. I follow my mother or father wherever they go.	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	SP
9. People tell me that I look nervous.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	PN
10. I feel nervous with people I don't know well.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	SC
11. I get stomachaches at school.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	SH
12. When I get frightened, I feel like I am going crazy.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	PN
13. I worry about sleeping alone.	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	SP
14. I worry about being as good as other kids.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	GD
15. When I get frightened, I feel like things are not real.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	PN
16. I have nightmares about something bad happening to my parents.	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	SP
17. I worry about going to school.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	SH
18. When I get frightened, my heart beats fast.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	PN
19. I get shaky.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	PN
20. I have nightmares about something bad happening to me.	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	SP

CS Scared Child  
 Cambridge

**Screen for Child Anxiety Related Disorders (SCARED)**  
CHILD Version—Page 2 of 2 (to be filled out by the CHILD)

	0 Not True or Hardly Ever True	1 Somewhat True or Sometimes True	2 Very True or Often True	
21. I worry about things working out for me.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	GD
22. When I get frightened, I sweat a lot.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	PN
23. I am a worrier.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	GD
24. I get really frightened for no reason at all.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	PN
25. I am afraid to be alone in the house.	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	SP
26. It is hard for me to talk with people I don't know well.	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	SC
27. When I get frightened, I feel like I am choking.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	PN
28. People tell me that I worry too much.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	GD
29. I don't like to be away from my family.	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	SP
30. I am afraid of having anxiety (or panic) attacks.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	PN
31. I worry that something bad might happen to my parents.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	SP
32. I feel shy with people I don't know well.	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	SC
33. I worry about what is going to happen in the future.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	GD
34. When I get frightened, I feel like throwing up.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	PN
35. I worry about how well I do things.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	GD
36. I am scared to go to school.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	SH
37. I worry about things that have already happened.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	GD
38. When I get frightened, I feel dizzy.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	PN
39. I feel nervous when I am with other children or adults and I have to do something while they watch me (for example: read aloud, speak, play a game, play a sport).	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	SC
40. I feel nervous when I am going to parties, dances, or any place where there will be people that I don't know well.	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	SC
41. I am shy.	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	SC

**SCORING:**

A total score of  $\geq 25$  may indicate the presence of an **Anxiety Disorder**. Scores higher than 30 are more specific. **TOTAL = 20**

A score of 7 for items 1, 6, 9, 12, 15, 18, 19, 22, 24, 27, 30, 34, 38 may indicate **Panic Disorder** or **Significant Somatic Symptoms**. **PN = 0**

A score of 9 for items 5, 7, 14, 21, 23, 28, 33, 35, 37 may indicate **Generalized Anxiety Disorder**. **GD = 0**

A score of 5 for items 4, 8, 13, 16, 20, 25, 29, 31 may indicate **Separation Anxiety SOC**. **SP = 10**

A score of 8 for items 3, 10, 26, 32, 39, 40, 41 may indicate **Social Anxiety Disorder**. **SC = 8**

A score of 3 for items 2, 11, 17, 36 may indicate **Significant School Avoidance**. **SH = 0**

*For children ages 8 to 11, it is recommended that the clinician explain all questions, or have the child answer the questionnaire sitting with an adult in case they have any questions.*

**12.LABORATORY FINDINGS:**

Nil

**13.DIAGNOSIS:**

- D. Provisional Diagnosis: anxiety disorder, attention deficit disorder, moderate intellectual disability
- E. Differential Diagnosis: learning disability, autism spectrum disorder
- F. Final Diagnosis (Disease): anxiety disorder

**14. DATA PROCESSING:**

**A. ANALYSIS OF CASE**

<b>COMMON SYMPTOMS</b>	<b>UNCOMMON SYMPTOMS</b>
Not interested in studies	Cannot talk fluently
Use single words only to talk	Desire- cold food & drinks,
Desire – company	sweets+, cold bathing
Desire – fanning	Aversion – fish
	Fear of bathing in rivers & ponds,
	fear of fireworks, fear of darkness+,
	fear of strangers +

B. Evaluation of Symptoms/Totality of Symptoms:

Fear of darkness

Fear of strangers, shy

Fear of fire

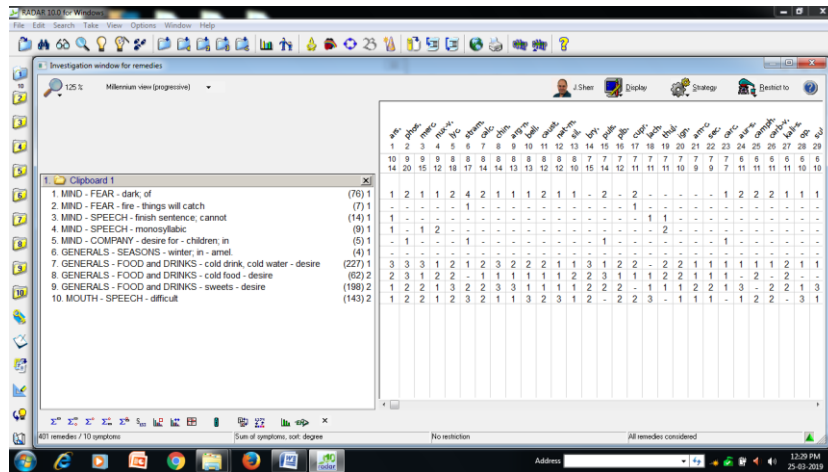
Speaks only single words; cannot speak full sentences

Desire – cold food & drinks

Desire – company

C. Miasmatic Expressions: psora

D. Repertorial Totality:



15. SELECTION OF POTENCY AND DOSE:

Potency: according to the susceptibility of the patient

Dose: according to the Homoeopathic principles

16. PRESCRIPTION:

Rx

1. NATRUM MURIATICUM 200/2 D (HS/M)

## 17. GENERAL MANAGEMENT:

Advice for speech therapy

## 18. PROGRESS & FOLLOW UP

DATE	SYMPTOM CHANGES	INFERENCE	PRESCRIPTION
16/6/18	Difficulty in making sentences persist Fear of water bodies persist Do not talk to strangers Not interested in studies		Rx SL -QDS B PILLS (3 x QDS) B DISC (1 x QDS)
14/7/18	Speech slightly better than before Fear of water persist Shyness persist especially to strangers Talks only single words Speech therapy: Tongue movement up and down difficult		Rx NATRUM MURIATICUM 200/1D (HS)

4/8/18	Speech – improved than before Not interested in studies		Rx SAC LAC 1D B PILLS (3 x QDS) B DISC (1 x QDS)
6/10/18	Saying more words now Speech improved than before Aversion to study fear persist		Rx NATRUM MURIATICUM 200/1D (HS)
24/11/18	Fear of strangers better than before but persist Shyness slightly better Not much interested in studies		Rx SAC LAC 1D B PILLS (3 x QDS) B DISC (1 x QDS)

15/12/18	<p>Speech better than before</p> <p>Speech therapy: Clarity of speech improved</p> <p>Improvement in movement of tongue</p>		<p>Rx</p> <p>NATRUM MURIATICUM</p> <p>200/1D (HS)</p>
13/1/19	<p>Lazy to study</p> <p>Now speech improved with clarity</p> <p>Fear and shyness towards strangers better than before</p>		<p>Rx</p> <p>SAC LAC 1D</p> <p>B PILLS (3 x QDS)</p> <p>B DISC (1 x QDS)</p>



**Post assessment of anxiety disorder using SCARED tool on 24/11/2018:**

**Screen for Child Anxiety Related Disorders (SCARED)**  
**CHILD Version—Page 1 of 2 (to be filled out by the CHILD)**

Developed by Boris Birmaher, M.D., Suneeta Khetarpal, M.D., Marlane Cully, M.Ed., David Brent, M.D., and Sandra McKenzie, Ph.D., Western Psychiatric Institute and Clinic, University of Pittsburgh (October, 1995). E-mail: birmaherb@upmc.edu

See: Birmaher, B., Brent, D. A., Chiappetta, L., Bridge, J., Monga, S., & Baugher, M. (1999). Psychometric properties of the Screen for Child Anxiety Related Emotional Disorders (SCARED): a replication study. *Journal of the American Academy of Child and Adolescent Psychiatry*, 38(10), 1230-6.

Name: Master K. Phauw Date: 24/11/18  
 (3554/17)

**Directions:**

Below is a list of sentences that describe how people feel. Read each phrase and decide if it is "Not True or Hardly Ever True" or "Somewhat True or Sometimes True" or "Very True or Often True" for you. Then, for each sentence, fill in one circle that corresponds to the response that seems to describe you for the last 3 months.

	0 Not True or Hardly Ever True	1 Somewhat True or Sometimes True	2 Very True or Often True	
1. When I feel frightened, it is hard to breathe	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	PN
2. I get headaches when I am at school.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	SH
3. I don't like to be with people I don't know well.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	SC
4. I get scared if I sleep away from home.	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	SP
5. I worry about other people liking me.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	GD
6. When I get frightened, I feel like passing out.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	PN
7. I am nervous.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	GD
8. I follow my mother or father wherever they go.	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	SP
9. People tell me that I look nervous.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	PN
10. I feel nervous with people I don't know well.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	SC
11. I get stomachaches at school.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	SH
12. When I get frightened, I feel like I am going crazy.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	PN
13. I worry about sleeping alone.	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	SP
14. I worry about being as good as other kids.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	GD
15. When I get frightened, I feel like things are not real.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	PN
16. I have nightmares about something bad happening to my parents.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	SP
17. I worry about going to school.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	SH
18. When I get frightened, my heart beats fast.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	PN
19. I get shaky.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	PN
20. I have nightmares about something bad happening to me.	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	SP



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CamScanner

**Screen for Child Anxiety Related Disorders (SCARED)**  
CHILD Version—Page 2 of 2 (to be filled out by the CHILD)

	0 Not True or Hardly Ever True	1 Somewhat True or Sometimes True	2 Very True or Often True	
21. I worry about things working out for me.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	GD
22. When I get frightened, I sweat a lot.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	PN
23. I am a worrier.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	GD
24. I get really frightened for no reason at all.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	PN
25. I am afraid to be alone in the house.	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	SP
26. It is hard for me to talk with people I don't know well.	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	SC
27. When I get frightened, I feel like I am choking.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	PN
28. People tell me that I worry too much.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	GD
29. I don't like to be away from my family.	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	SP
30. I am afraid of having anxiety (or panic) attacks.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	PN
31. I worry that something bad might happen to my parents.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	SP
32. I feel shy with people I don't know well.	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	SC
33. I worry about what is going to happen in the future.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	GD
34. When I get frightened, I feel like throwing up.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	PN
35. I worry about how well I do things.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	GD
36. I am scared to go to school.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	SH
37. I worry about things that have already happened.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	GD
38. When I get frightened, I feel dizzy.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	PN
39. I feel nervous when I am with other children or adults and I have to do something while they watch me (for example: read aloud, speak, play a game, play a sport).	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	SC
40. I feel nervous when I am going to parties, dances, or any place where there will be people that I don't know well.	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	SC
41. I am shy.	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	SC

**SCORING:**

A total score of  $\geq 25$  may indicate the presence of an **Anxiety Disorder**. Scores higher than 30 are more specific. **TOTAL = 14**

A score of 7 for items 1, 6, 9, 12, 15, 18, 19, 22, 24, 27, 30, 34, 38 may indicate **Panic Disorder or Significant Somatic Symptoms**. **PN = 0**

A score of 9 for items 5, 7, 14, 21, 23, 28, 33, 35, 37 may indicate **Generalized Anxiety Disorder**. **GD = 0**

A score of 5 for items 4, 8, 13, 16, 20, 25, 29, 31 may indicate **Separation Anxiety SOC**. **SP = 7**

A score of 8 for items 3, 10, 26, 32, 39, 40, 41 may indicate **Social Anxiety Disorder**. **SC = 7**

A score of 3 for items 2, 11, 17, 36 may indicate **Significant School Avoidance**. **SH = 0**

*For children ages 8 to 11, it is recommended that the clinician explain all questions, or have the child answer the questionnaire sitting with an adult in case they have any questions.*

*The SCARED is available at no cost at [www.wpic.pitt.edu/research\\_under\\_tools\\_and\\_assessments](http://www.wpic.pitt.edu/research_under_tools_and_assessments), or at [www.pediatric\\_bipolar.pitt.edu/instruments](http://www.pediatric_bipolar.pitt.edu/instruments).*

**APPENDIX V**  
**MASTER CHART**

SI. NO	OP. NO	AGE /SEX	S.E.S	RISK FACTORS		PAST HISTORY	FAMILY HISTORY	TOTAL SCORE (SCARED)		COMORBIDITY	TYPE OF ANXIETY DISORDER	SCORING OF INDIVIDUAL TYPE OF ANXIETY AS IN SCARED ASSESSMENT TOOL										REMEDY	REMARKS
								PRE	POST			PRE					POST						
												P N	G D	S P	S C	S H	P N	G D	S P	S C	S H		
1.	9160/16	11/M	Average	--	Had forceps mode of delivery	R/A of tonsillitis & sinusitis, Mild seizure at 3 <sup>rd</sup> month	GrMr, GrFr (paternal) – DM, HTN	22	12	ADHD	Generalized, Separation	5	9	6	3	2	2	4	3	3	0	Lycopodium	Marked improvement
2.	6064/16	7/M	Above Average	Consanguinous marriage	Caesarian delivery Birth weight- 4kg	Tongue tie – surgically corrected  Adenoid hypertrophy	Mr-squint	16	9	ADHD  Epilepsy	Separation anxiety	0	3	6	7	0	0	2	2	5	0	Carcinosinum	Moderate improvement

3.	7845/16	12/F	Above average	Mother had disputes with husband's family & felt sad and use to weep. They are live separately	Forceps Delivery	At 2 ¼ yrs of age – FEBRI LE SEIZURE	GrMr(maternal)-epilepsy, Fr- DM	28	18	Moderate ID	Separation, social (selective mutism)	5	2	7	14	0	3	1	4	10	0	Calcarea carbonica	Marked improvement
4.	6208/17	10/M	Above average	Unwanted pregnancy - mother had tried to abort the child	Delayed labor & was breech presentation Change of school twice	--	Fr- HTN	20	7	Learning disability, ADHD	Separation, Social	0	1	7	12	0	0	0	6	1	0	Calcarea carbonica	Marked improvement
5.	2948/18	12/F	Average	Mother was tensed since her father suffered from cancer & died next day of delivery	Caesarian delivery delayed milestones	Since 2yrs-epilepsy	GrFr(maternal)-cancer, Fr- insanity	41	22	Epilepsy, moderate intellectual disability	Panic, separation, social	13	4	9	13	1	1	2	4	5	0	Cuprum met	Marked improvement
6.	4765/18 Lijo	6/M	Above average	--	Caesarian delivery due to non progression of labour	2yrs-pneumonia, h/o primary complex,	GrMr, Mr – asthma	15	9	--	Separation, social	0	1	6	8	0	0	0	3	6	0	Tuberculinum	Mild improvement

7.	12732/16	6/M	Average	--	Delayed speech	Head injury - at 2yrs	Hypotension - Fr	13	9	ADD	Social anxiety (Selective mutism)	1	0	2	8	2	1	0	1	5	2	Silicea	Mild improvement
8.	1281/18	17/M	Below average	Consanguinous marriage, mother had fallen down at 5 <sup>th</sup> month of pregnancy	Birth cry was absent Mother and father left the patient few months after his delivery	Convulsions - at 15yrs of age	DM, HTN-GrFr (paternal)	21	13	Severe IDD	Social and separation anxiety	0	3	8	9	0	1	2	4	6	0	Calcarea carbonica	Moderate improvement
9.	716/17	6/F	Average	At 8 <sup>th</sup> month of pregnancy, brother met with an accident and was anxious about that	After birth of younger brother	--	--	16	13		Social anxiety (Selective mutism)	2	1	1	0	0	1	1	0	1	0	Calcarea phosphorica	Mild improvement
10.	3554/17	6/M	Average	At 2 <sup>nd</sup> month of pregnancy, mother saw one of her sister burnt in front of hip	--	--	--	20	14	MODERATE IDD, ADD	Social and separation anxiety	0	0	1	8	0	0	0	7	7	0	Natrum muriaticum	Moderate improvement
11.	6432/17	16/M	Average	--	Neonatal jaundice	H/o asthma in childhood	H/o asthma, GFr- (paternal)	28	13	?ADD	Social anxiety	5	4	5	1	0	3	2	2	6	0	Carcinosinum	Marked improvement

12.	1319/ 12	11/F	Above average	--	--	Childhood – measles	Fr- HTN	27	18	--	Separation, social anxiety	6	2	7	1	0	5	2	2	9	0	Phosphorus	Moderate improvement	
13.	11010 /12	10/F	Average	--	--	H/O of primary complex	--	31	24	LD Dyslexia	Separation, social anxiety	3	6	1	0	1	3	5	7	9	0	Calcarea carbonica	Moderate improvement	
14.	3417/ 10	8/F	Average	At 1month of pregnancy , patient's father went abroad & returned back only after when the patient was 1 yr of age	Birth cry – absent Had respiratory distress at time of delivery	At 7yrs – typhoid fever	Asthma – Fr, DM-GrMr(external)	32	18	--	Separation, social, panic anxiety	9	7	1	3	1	2	1	7	8	0	Silicea	Marked improvement	
15	1087/ 18	12/ M	Above average	--	LSCS mode of delivery, milestones delayed	Childhood – dermatitis; 5yrs-measles; 10yrs - chick enpox	Fr – DM; Mr-rheumatism; Sr-tonsillitis	18	12	ODD	Separation anxiety, school avoidance	0	0	1	1	5	3	0	0	6	5	1	Tarentula	Mild improvement

16	5248/ 14	10/ M	Above Average	Mother had problems with mother in law, couldn't share her emotions, wept most of the time	LBW & premature (wt – 1.8kg)	At 1 yr-measles	GrFr (maternal)-DM,HTN, GrMr-rheumatism	20	11	Nocturnal enuresis	Separation & social anxiety	0	4	8	8	0	0	3	3	5	0	Phosphorus	Moderate improvement
17	13375 /16	13/F	Above average	--	Changed school, birth of younger brother at 9 yrs of age	5yrs – typhoid	GMr(maternal)-HTN,	29	20	ADD/LD	GAD, panic & social anxiety	9	10	4	3	0	7	8	3	2	0	Phosphorus	Mild improvement
18	1517/ 18	7/F	Below average	--	Milestones delayed, not breastfed	--	GFr(maternal)-asthma	19	8	--	Social anxiety	6	1	0	1	0	4	1	0	3	0	Calcarea phosphorica	Mild improvement
19	6358/ 16	6/M	Average		Milestones delayed; LSCS	H/O surgery for volvulus	--	32	23	Cerebral palsy	Separation & social anxiety	2	6	1	1	2	2	3	8	8	2	Phosphorus	Moderate improvement
20	6305/ 18	6/M	Above average	Husband went abroad & the mother felt lonely during pregnancy	LSCS	2yrs-pneumonia; 5yrs-surgery for squint in right eye	Mr, Fr-asthma, Mr – dermatitis	14	11	Nocturnal enuresis	Separation anxiety, school avoidance	0	0	1	0	2	0	0	7	0	2	Calcarea phosphorica	Mild improvement
21	6301/ 18	9/F	Average	--	LSCS	--	GFr, Gmr(maternal)-DM,HTN	27	21	LD	Separation & social anxiety	4	7	6	1	0	4	6	4	7	0	Natrum muriaticum	Moderate improvement
22	4198/ 13	13/F	Above average	Mother was anxious about future of the	LBW, forceps delivery & induced labour, delayed birth cry	--	Gmr(maternal)-asthma	24	15	LD	Social & panic anxiety	8	4	2	1	1	4	1	2	7	1	Arsenicum album	Moderate improvement





25	5070/18	6/M	Average	At 7 <sup>th</sup> month of pregnancy , mother got afraid of hearing the news of death of 2 babies in the nearby hospital	Neonatal jaundice Afraid of teacher at school as she beat and scolded him one day	R/A of abscess, at 1yr-measles	Mr-asthma	30	16	Nocturnal enuresis, LD	Separation & social anxiety, school avoidance	4	3	11	9	3	2	0	6	6	2	Lycopodium	Marked improvement
26	11781/09	9/F	Average	--	--		Mr-thyroid, DM-GMr(maternal)& GFr(paternal), HTN-GMr(maternal)& GFr(paternal)	23	20	ADD	Separation, social anxiety	0	3	9	9	2	0	3	8	7	2	Baryta carbonica	Mild improvement
27	4318/18	17/M	Below average	--	Neonatal jaundice	Had done surgery for hypospadias at 12yrs of age	--	30	26	CP	Separation, social anxiety, school avoidance , panic disorder	8	2	8	9	3	7	2	6	8	3	Natrum sulph	Moderate improvement
28	6534/18	6/F	Average	--	--	3yrs-pneumonia	Mr-asthma, GMr(maternal)-DM	19	16	--	Social anxiety (Selective mutism)	1	2	4	10	2	1	2	4	8	1	Calcarea phosphorica	Mild improvement

29	7339/ 18	6/F	Above average	--	Delayed milestones (talking)	Child hood - measles	GMr(ma ternal)- HTN	38	33	LD	Separatio n & social anxiety, school avoidance	4	8	1 2	1 2	3	4	7	1 0	1 1	3	Natrum muriaticum	Mild improvement
30	6491/ 17	11/F	Above average	--	--	2 attacks of typhoid; measles- child hood	Fr- asthma, Sr- eczema, GMr(ma ternal)- DM, HTN,rhe umatism	33	29	--	Separatio n & social anxiety, GAD	5	9	7	8	4	4	8	7	7	3	Silicea	Mild improvement