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Effectiveness of Aroma Therapy on Level of Anxiety among Adolescent Girls

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ABSTRACT

Anxiety occurs naturally in most people's lives at one point or another often experienced by individuals prior to a significant experience in their lives brought on by a specific situation. Anxiety is "an episodic experience of the emotion an enduring temperament or predisposition to experience the state of anxiety frequently". Every person experience anxiety and how they react to the occurrence is unique to them. Aromatherapy is the application of essential oils from aromatic plants to relax, balance, rejuvenate, restore or enhance body, mind and spirit. Among these peppermint aroma is effective for mental and physical stability. It refreshes the mind and helps in concentration.

OBJECTIVES: *The aim of the present study is to assess the effectiveness of aroma therapy on level of anxiety among adolescent girls and to associate it with the socio demographic variables.*

MATERIALS & METHODS: *Quantitative research approach with one group Pre test post test research design was adopted for the study which was conducted in Narayana College of Nursing.100 samples were selected in the study by non probability convenience sampling technique. Beck anxiety inventory scale was used to collect the data. Data was analysed by using descriptive and inferential statistics. Percentages of categorical variables were computed.*

RESULTS: *In pre test 89 (89%) adolescent girls had moderate level of anxiety and 11(11%) had severe anxiety. In post test 77 (77%) adolescent girls had very low anxiety and 23 (23%) had moderate level of anxiety. In pre test the mean is 28.2 and standard deviation is 4.004 where as in post test mean is 18.52 and standard deviation is 7.57. The calculated value of z test is 33.34 and the tabulated value is 0.4989 which is significant at level of $p < 0.05$. There is a significant association between the effectiveness of aromatherapy on level of anxiety among adolescent girls with their socio demographic variables such as medium of instruction, occupation of mother, family monthly income, religion , staying in hostel and no significant association with the socio demographic variables such as age, qualification of the student, support of education ,education of father ,occupation of father ,education of mother, type of family, area of residence ,sleeping pattern, hours spent in college.*

CONCLUSION: *Aromatherapy is effective in reducing the level of anxiety among adolescent girls.*

KEYWORDS: *Aroma Therapy, Anxiety, Adolescent Girls.*

INTRODUCTION

Anxiety is “an episodic experience of the emotion, an enduring temperament or predisposition, to experience the state of anxiety frequently”. Every person experience anxiety and how they react to the occurrence is unique to them¹.

Anxiety is associated with substantial negative effects on adolescent`s social, emotional and academic success². Specific effects include poor social and coping skills, often leading to avoidance of social interactions, loneliness, low self-esteem, perceptions of social rejection and difficulty forming friendships³. Anxiety usually leads to physiological over-arousal, often referred to as "emotionality" along with dread, worry and expectations of catastrophic failure. Excessive anxiety often contributes to impaired performance and is commonly used to refer to the anxiety and its accompanying impairment High anxiety reduces reasoning, memory and concentration. Highly anxious students score about 12 percentile points below than their low-anxiety counterparts.⁴

Aromatherapy is the application of essential oils from aromatic plants to relax, balance, rejuvenate, restore or enhance body, mind and spirit. ⁵

Peppermint oil is a specific type of oil where the aroma produced refreshes the mind and helps in concentration. During inhalation of this aroma, the receptors in the brain responds to chemicals in the essential oil⁵. Olfactory receptors are very sensitive in picking up the smell and conducting it to the olfactory center of the brain, which connects to the limbic system which is composed of amygdala, hippocampus, hypothalamus, anterior thalamus, and septum. The limbic system plays an essential role in learning and memory, along with interpretation and expression of emotional responses. In response to an essential oil, the hippocampus and amygdala analyze a smell and interpret its memory before sending the signal to the hypothalamus. It relieves depression, stress, anxiety and chronic fatigue by activating the limbic system and hormones, thus enhances emotional reaction through sense of smell.

NEED FOR THE STUDY

Anxiety is one of the most common psychological disturbances in school-aged children and adolescents worldwide.⁶ The prevalence rates range from 4.0% to 25.0%, with an average rate of 8.0%.⁷

According to National Statistics annual survey of nursing schools approximately identified that 20% adolescents had anxiety. And nursing students have been found to be more anxious than other students⁸.

In India the statistical survey of school of nursing, identified that 35% of adolescent had anxiety among them 13.2% were boys and 22% were girls⁹.

In Andhrapradesh prevalence of anxiety among adolescents is estimated to be 38 (14%). The lifetime prevalence of anxiety is approximately 5%. In Nellore, school health association survey (2010) identified that 32.9% young adolescents had anxiety¹⁰.

OBJECTIVES

- 1) To determine the level of anxiety among adolescent girls.
- 2) To evaluate the effectiveness of aromatherapy on level of anxiety among adolescent girls.
- 3) To associate the effectiveness of aromatherapy on level of anxiety among adolescent girls with their selected socio demographic variables.

HYPOTHESES

Null hypotheses:

H₀₁: There is no statistically significant difference on the level of anxiety among adolescent girls after aromatherapy

H₀₂: There is no statistically significant association between effectiveness of aromatherapy on level of anxiety among adolescent girls with their socio demographic variables.

Research hypotheses:

H₁- There is a statistically significant difference on the level of anxiety among adolescent girls after aromatherapy .

H₂:-There is a statistically significant association between effectiveness of aroma therapy on level of anxiety among adolescent girls with their socio demographic variables.

MATERIALS AND METHODS

Quantitative approach- one group Pretest Post test design was adopted to conduct the study.100 adolescent girls studying in Narayana College of Nursing was selected by Non probability convenience sampling technique to participate in the study. Adolescent girls who had moderate and severe anxiety and those were willing to participate were included in the study. Adolescent girls who have history of hyper sensitivity, asthma, mental illness, nasal polyps and use of any anxiolytic, herbal drugs were excluded from the study.

DESCRIPTION OF THE TOOL

The tool has 2 parts. Part :I deals with socio demographic variables such as age, qualification of the student, medium of instruction, support of education, education of father ,occupation of father ,education of mother ,occupation of mother ,family monthly income, type of family ,staying in hostel ,area of residence ,sleeping pattern ,hours spent in college. Part: II consists of Beck anxiety inventory scale which has 21items. The scoring key is 0= not at all, 1=mild, 2=moderate,

3=severe. Score is interpreted as 0-21: low anxiety, 22-42: moderate anxiety, 43-63: severe anxiety.

DATA COLLECTION PROCEDURE

After obtaining formal permission from institutional Ethics committee, Principal, Narayana College of Nursing, the data collection was carried out in hostel of Narayana College of Nursing, Nellore. The nature and purpose of the study was explained. Informed consent was obtained from the adolescent girl and confidentiality of shared information was assured. Pre test was conducted by using Beck anxiety inventory scale and it took 15 minutes to collect the data from each adolescent girl. Aromatherapy was given by adding 3 drops of peppermint oil to 500 ml of hot water in bowl and adolescent girl was asked to inhale the vapour for 2-5 minutes. Aromatherapy was given twice a day i.e in morning between 6-6.30am and in evening between 6-6.30pm for 21 days. On 28th day post test was conducted by using Beck anxiety inventory scale.

DATA ANALYSIS

The data was analyzed by using descriptive statistics (mean and standard deviation) and inferential statistics (Z-test, chi square).

RESULTS

Table1: Frequency and percentage distribution of level of anxiety among adolescent girls.

S.No	Level of anxiety	Frequency (F)	Percentage (%)
1.	Moderate	89	89
2.	Severe	11	11

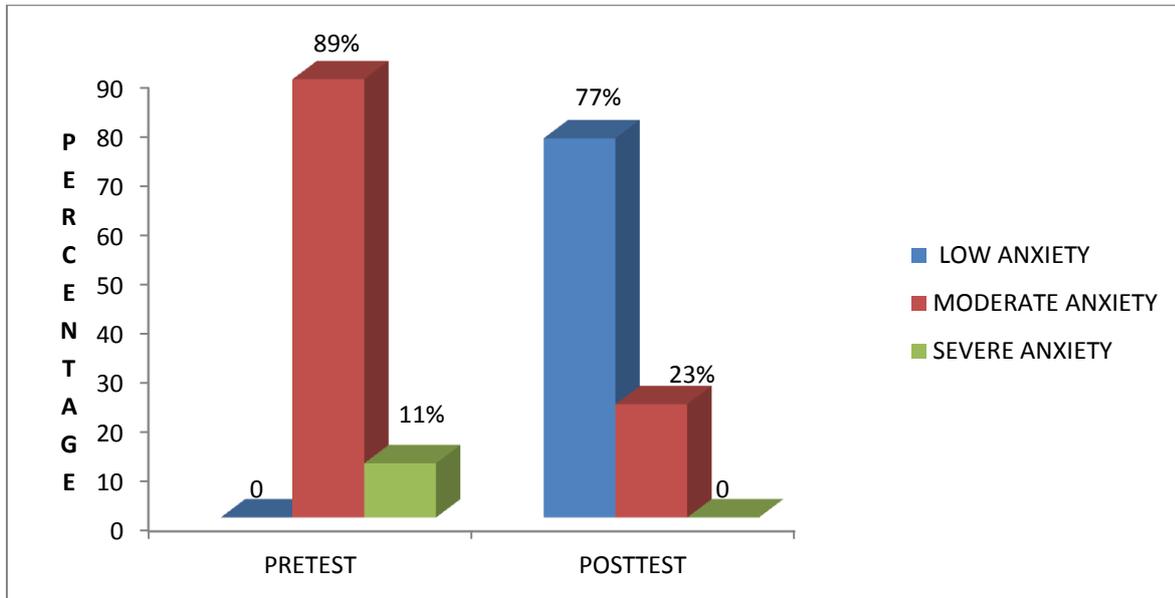


Fig 1: Percentage distribution of effectiveness of aroma therapy on level of anxiety among adolescent girls

TABLE: 2 Mean and standard deviation of effectiveness of aroma therapy on level of anxiety among adolescent girls (N=100)

S. No	Test	Mean	Standard deviation	Z-test
1.	Pre test	28.2	4.004	C=33.34 T=0.4989 S*
2.	Post test	18.52	7.57	

S*=Significant at $p < 0.05$

Table: 3: Association between the effectiveness of aroma therapy on level of anxiety among adolescent girls with selected socio demographic variables. (N=100)

S.NO	Socio demographic variables	Very low anxiety		Moderate level of anxiety		X ²
		f	%	f	%	
1.	Age in years					CV=0.47 TV = 3.84 df-1 NS P= 0.05
	a.18 years	65	65	18	18	
	b.19 year	12	12	5	5	
2	Qualification of the student					CV = 1.25 TV = 3.84 df-1 NS P= 0.05
	a. Intermediate	74	74	21	21	
	b. Vocational group	3	3	2	2	
3	Medium of Instruction					CV =10.8 TV= 5.99 df-2 S* P= 0.05
	a. Telugu	15	15	4	4	
	b.Malayalam	23	23	10	10	
	c.English	39	39	9	9	

4	Support of education					CV = 4.06 TV= 3.84 df-1 NS P= 0.05
	a. Parents	75	75	20	20	
	b. Gaurdian	2	2	3	3	
5	Education of father					CV = 6.05 TV =11.1 df-5 NS P= 0.05
	a. Illiterate	11	11	2	2	
	b. Primary school	17	17	2	2	
	c. High school	32	32	12	12	
	d. Secondary school	12	12	4	4	
	e. Graduate	5	5	2	2	
f. Post graduate	-	-	1	1		
6	Occupation of father					CV = 4.20 TV = 9.49 df-4 NS P= 0.05
	a. Unemployed	6	6	2	2	
	b. Collie	36	36	12	12	
	c. Business	19	19	3	3	
	d. Private employee	11	11	2	2	
e. Government employee	5	5	4	4		
7	Education of mother					CV = 6.07 TV = 9.49 df-4 NS P= 0.05
	a. Illiterate	17	17	2	2	
	b. Primary school	9	9	4	4	
	c. High school	27	27	13	13	
	d. Secondary school	16	16	4	4	
e. Graduate	8	8	-	-		
8	Occupation of mother					CV=36.19 TV=9.49 df-4 S* P= 0.05
	a. Unemployed	52	52	17	17	
	b. Collie	16	16	2	2	
	c. Business	1	1	1	1	
	d. Private employee	7	7	2	2	
e. Government employee	1	1	1	1		
9	Family monthly income					CV =19.82 TV = 9.49 df-4 S* P= 0.05
	a. Rs<1500	18	18	5	5	
	b. Rs1501-4000	19	19	7	7	
	c. Rs4001-6500	14	14	5	5	
	d. Rs6501-9000	11	11	2	2	
e. Rs>9001	15	15	4	4		
10	Type of family					CV=5.67 TV=5.99 df-2 NS P= 0.05
	a. Nuclear family	66	66	19	19	
	b. Joint family	9	9	4	4	
c. Extended family	2	2	-	-		
11	Religion					CV=25.12 TV=3.84 df-1 S* P= 0.05
	a. Hindu	36	36	11	11	
b. Christian	41	41	12	12		
12	Staying in hostel					CV=15.72 TV=5.99 df-2 S* P= 0.05
	a. 1 st time	55	55	20	20	
	b. 2 nd time	18	18	2	2	
c. Many times	4	4	1	1		
13	Area of residence					CV=2.81 TV=5.99 df-2
	a. Urban	32	32	14	14	
b. Rural	44	44	9	9		

	c. Slum	1	1	-	-	NS P= 0.05
14	Sleeping pattern					CV=1.16
	a.< 5 hours	11	11	2	2	TV=5.99
	b.6-8 hours	64	64	21	21	df-2
	c.>8 hours	2	2	-	-	NS P= 0.05
15	Hours spent in college					CV=0.70
	a.6 hours	15	15	6	6	TV=5.99
	b.7 hours	47	47	11	11	df-2
	c.8 hours	15	15	6	6	NS P= 0.05

*P< 0.05 level of significance C: calculated value NS: Non Significant t: tabulated value df: (r-1) (c-1)

DISCUSSION

Findings related to level of anxiety among adolescent girls:-

The results reveals that the level of anxiety among 100 adolescent girls were 89 (89%) had moderate anxiety and 11(11%) had severe anxiety which is consistent with the study findings of Richard D, et al (2008) which assessed the anxiety level of nursing students with students in other colleges. Among 298 samples the study revealed that 30% of nursing students had high level of anxiety and only 16% of other college students had anxiety.¹¹

Findings related to the effectiveness of aromatherapy on level of anxiety among adolescent girls:

The results reveals that among 100 adolescent girls, during pre test 89 (89%) had moderate anxiety and 11(11%) had severe anxiety. In post test 77 (77%) had low anxiety and 23(23%) had moderate anxiety which is similar with the study findings of Park MK1, Lee ES (2004) which determined the effect of peppermint aroma inhalation on stress responses (physical symptoms, levels of anxiety, perceived stresses) among 77 junior nursing students .The results revealed that by administering aroma inhalation to nursing students, their physical symptoms decreased, their anxiety scores were low, and their perceived stress scores were low, showing that aroma inhalation could be a very effective stress management method .This study shows that there

is significant effectiveness of aroma therapy on level of anxiety among adolescent girls at $p<0.05$. Hence null hypothesis (H_{01}) is rejected and research hypothesis (H_1) is accepted¹².

Findings related to association of effectiveness of aromatherapy on level of anxiety among adolescent girls with their selected socio demographic variables.

The results reveals that there is a significant association between the effectiveness of aromatherapy on level of anxiety among adolescent girls with their selected socio demographic variables such as medium of instruction, occupation of mother, family monthly income, religion , staying in hostel and has no significant association with their selected socio demographic variables like age, qualification of the student, support of education ,education of father ,occupation of father ,education of mother, type of family, area of residence ,sleeping pattern, hours spent in college. Which is consistent with the study findings of Seo, Ji-Yeong (2009) found that religion had a significant association with the effectiveness of aroma therapy on anxiety with the demographic variables at $p<1.000$. The null hypothesis (H_{02}) is rejected and research hypothesis (H_2) is accepted.¹³

RECOMMENDATIONS FOR FURTHER RESEARCH

- A similar study can be replicated on large sample size, in different settings with different population as longitudinal study.
- A similar study can be done by using experimental and control group.

CONCLUSION

The study concluded that aromatherapy is effective in reducing the level of anxiety among the adolescent girls. It can be practised easily, less time consuming and cost effective.

LIMITATIONS

The study is limited to

- 6 weeks of data collection period
- A sample size of 100 only.
- Adolescent girls in Narayana College of Nursing, Nellore.

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