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Experimental Study to Compare the Effectiveness of Progressive Muscle Relaxation versus Oral Intake of Ginger Powder on the Selected Symptoms of Dysmenorrhoea among the Nursing Students

Timsy[1], Paul Sutapa[2], Preety Alagh[3], Eenu[4], Manjari Rana[5]

Abstract: ***Menarche is a milestone and sign of becoming woman. A number of problems occur during menstruation and dysmenorrhoea is one such problem. Study Design and setting: True experimental research design was used for conducting study in Gian Sagar College of Nursing, Ram Nagar, Rajpura, District Patiala, Punjab. Subjects comprising of 45 Nursing students, 15 experimental group I, 15 experimental group II and 15 control group. Simple random sampling technique by lottery method was used. Results: 67% of Nursing students belonged to the age group 21-23 years. Majority of the Nursing students had 4-5 days of menses. It was found that majority of nursing students had severe level of pain during dysmenorrhoea. Conclusion: It was found that progressive muscle relaxation and oral intake of ginger powder was having same effect in relieving pain, anxiety and depression whereas oral intake of ginger powder having more effectiveness in relieving nausea and fatigue compare to progressive muscle relaxation during dysmenorrhoea among the Nursing students.***

Keywords: Progressive Muscle relaxation, ginger powder, dysmenorrhoea

1. Introduction

The term dysmenorrhoea derived from the Greek word "DYS" meaning difficulty /painful/abnormal, "MENO" meaning month and "rrhea" meaning flow. Approximately 50% of all women experience dysmenorrhoea, In India dysmenorrhoea is estimated to be present among 40-50%, in that with severe focus giving rise to work or school absenteeism in 15% and mild forms requiring no medication or occasional over the counter analgesics in about 30% .Menarche is a milestone and sign of becoming woman. A number of problems occur during menstruation and dysmenorrhoea is one such problem. Pain is the most frequent symptom which leads a person to seek medical help. Women who exercise show less severe dysmenorrhoea and greater positive effects than women who are sedentary

2. Objective

The main aim of the study was to identify the nursing students having dysmenorrhoea, assess the severity of symptoms and compare the effectiveness of progressive muscle relaxation and oral intake of ginger powder on selected symptoms of dysmenorrhoea among Nursing students of both experimental and control group

3. Methodology

The study was conducted in Gian Sagar College of Nursing, Ram Nagar, Rajpura, District Patiala, Punjab by using true experimental research design comprising of 45 Nursing students, 15 experimental group I, 15 experimental group II and 15 control group. Simple random sampling technique by lottery method was used. Ethical approval was taken from the ethical committee of the college. The reliability of tool was checked by using equivalence method (interrater method). The tool was found to be reliable and it was found to be .99. Purpose of the study was explained and verbal consent was taken from the subjects. Data was collected in the month of February 2014 pain scale and rating scale was used by interview schedule and pretest was taken for all three groups, progressive muscle relaxation was given to experimental group I,and oral intake of ginger powder was given to experimental group II whereas no intervention was given to control group respectively for three days. After that post test was taken on third day only.

4. Results

Table 1: Range, Mean, Standard deviation of pretest and posttest score for progressive muscle relaxation among Experimental group I, **N= 15**

Selected symptoms of dysmenorrhea	Range		Mean ± SD		MD
	Pretest	Post test	Pretest	Posttest	
Pain	7-10	0	8.73±1.033	0.00±0.000	8.73
Nausea	0-6	0-1	2.60±2.098	0.13±0.352	2.47
Fatigue	4.2-7	1	6.44±0.774	1.01±0.039	5.43
Anxiety	4-17	0	10.87±4.580	0.00±0.000	10.87
Depression	8-19	0	12.87±3.378	0.00±0.000	12.87

Table 1 concluded that maximum of Nursing students had anxiety and depression during dysmenorrhoea. After the PMRT interventions, it was found that the symptoms like pain, anxiety and depression reduced.

Table 2: Range, Mean, standard deviation of pretest and posttest score for oral intake of ginger powder among Experimental Group I, **N=15**

Selected symptoms of dysmenorrhea	Range		Mean ± SD		MD
	Pretest	Post test	Pretest	Post test	
Pain	7-10	0	8.60±0.986	0.00±0.000	8.60
Nausea	0-6	0	2.60±1.920	0.00±0.000	2.60
Fatigue	4.8 -7	1	6.34±0.850	1.00±0.000	5.34
Anxiety	1-18	0	12.13±5.502	0.00±0.000	12.13
Depression	6-19	0	14.47±4.941	0.00±0.000	14.47

The data presented in table 2 concluded that maximum of Nursing students had depression and anxiety during dysmenorrhoea. After the oral intake of ginger powder intervention, it was found that the symptoms like pain, nausea, anxiety and depression reduced

Table 3: Comparison of effectiveness of progressive muscle relaxation and oral intake of ginger powder between the experimental groups and control group for the symptom of Pain, **N = 45**

Groups	Test					
	Pre	Post			F test (all grs)	
	Mean±SD	Mean±SD	MD	t_{cal}	Pre	Post
Experimental gr I	8.73±1.033	0.00±0.000	8.73	5.069*		
Experimental gr II	8.60±0.986	0.00±0.000	8.60	5.246*	0.071	58.791
Control group	8.60±1.298	2.47±1.246	6.13	3.511*		
t_{tab}=2.15	df=14		*=significant			
F_{tab}=3.220	df= 42					

Table 3 Depicts the Mean±SD post test score (0.00±0.000) was less than Mean±SD pre score (8.73±1.033) of experimental group I with mean difference 8.73 which shows the effectiveness of PMRT in reducing the symptom of pain. The calculated value of t is more than the tabulated value at 0.05 level of significance.

Table 4: Comparison of effectiveness of progressive muscle relaxation and oral intake of ginger powder between the experimental groups and control group for the symptom of Nausea, **N= 45**

Groups	Test					
	Pre	Post			F test (all grs)	
	Mean±SD	Mean±SD	MD	t_{cal}	Pre	Post
Experimental gr I	2.60±2.098	0.13±0.352	2.47	5.069*		
Experimental gr II	2.60±1.920	0.00±0.000	2.60	5.246*	0.048	20.600
Control group	2.40±2.131	0.73±0.458	1.67	3.511*		
t_{tab}=2.15	df=14		*=significant			
F_{tab}=3.220	df= 42					

Table 4 depicts the Mean±SD post test score (0.13±0.352) was less than Mean±SD pre test score (2.60±2.098) of experimental group I with mean difference 2.47 which shows the effectiveness of PMRT in reducing the symptom of nausea.

Table 5: Comparison of effectiveness of progressive muscle relaxation and oral intake of ginger powder between the experimental groups and control group for the symptom of fatigue, **N= 45**

Group	Test					
	Pre	Post			F test (all grs)	
	Mean±SD	Mean±SD	MD	t_{cal}	Pre	Post
Experimental gr I	6.44±20.774	1.01±0.039	5.43	26.733*		
Experimental gr II	6.34±0.850	1.00±0.000	5.34	24.341*	0.108	49.046
Control group	6.47±0.753	1.50±0.272	4.96	27.821*		
t_{tab}=2.15	df=14		*=significant			
F_{tab}=3.220	df= 42					

Table 5 depicts the Mean±SD post test score (1.01±0.039) was less than Mean±SD pre score (6.44±20.774) of experimental group I with mean difference 5.43 which shows the effectiveness of PMRT in reducing the symptom of fatigue.

Table 6: Comparison of effectiveness of progressive muscle relaxation and oral intake of ginger powder between the experimental groups and control group for the symptom of anxiety

Group	Test				F test (all grs)	
	Pre Mean±SD	Post Mean±SD	MD	t_{cal}	Pre	Post
Experimental gr I	10.87±4.580	0.00±0.000	10.87	9.189*		
Experimental gr II	12.13±5.502	0.00±0.000	12.13	8.542*	0.681	34.226
Control group	10.87±4.580	0.00±0.000	8.27	9.503*		
t_{tab}=2.15	df=14	*=significant				
F_{tab}= 3.220	df= 42					

Table 6 depicts the Mean±SD post test score (0.00±0.000) was less than Mean±SD pre test score (10.87±4.580) of experimental group I with mean difference 10.87 which shows the effectiveness of PMRT in reducing the symptom of anxiety.

Table 7: Comparison of effectiveness of progressive muscle relaxation and oral intake of ginger powder between the experimental groups and control group for the symptom of depression, **N= 45**

Group	*Test*				*F test (all grs)*	
	Pre Mean±SD	*Post Mean±SD*	*MD*	t_{cal}	*Pre*	*Post*
Experimental gr I	12.87±3.378	0.00±0.000	12.87	14.753*		
Experimental gr II	14.47±4.941	0.00±0.000	14.47	11.341*	1.129	38.37
Control group	14.87±2.973	3.13±1.959	11.73	31.611*		
t_{tab}=2.15	df=14	*=significant				
F_{tab}=3.220	df= 42					

Table 7 depicts the Mean±SD post test score (0.00±0.000) was less than Mean±SD pre test score (12.87±3.378) of experimental group I with mean difference 12.87 which shows the effectiveness of PMRT in reducing the symptom of depression. The calculated value of t is more than the tabulated value at 0.05 level of significance.

5. Discussion

Finding from the present study support the use of progressive muscle relaxation and oral intake of ginger powder during dysmenorrhoea . These findings are consistent with the study conducted by **Gupta R et al** a quasi experimental study to assess the effectiveness of active exercises and dietary ginger versus active exercises on severity of primary dysmenorrhoea in adolescents girls. Non probability sampling technique was used to select the samples.79 participants were divided into two groups, 45 samples were in group I and 34 samples were in group II. Combination of intervention i.e. ginger powder and active exercises were given to group I and only active exercises were taught to group II. The result showed that combination of intervention i.e. active exercises and dietary ginger if used for long term basis is more effective than the active exercises alone. Hence, it was evident that both the interventions were effective in reducing the selected symptoms of dysmenorrhoea.

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