EFFECT OF SELECTED NATURE CURE TECHNIQUES IN SPASMODIC DYSMENORRHOEA

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Abstract: Spasmodic dysmenorrhoea is defined as the cramping pain in the lower abdomen occurring just before or during menstruation, in the absence of other diseases. It is a common cause of absenteeism and reduced quality of life in women. The study was an attempt to evaluate the effect of nature cure techniques namely hot hip bath and abdominal mud pack in spasmodic dysmenorrhoea.

It was a pre- and post-interventional study with sample size 24. Pain in dysmenorrhoea was assessed by visual analogue scale and the associated symptoms vomiting, back ache, head ache and fatigue were assessed by verbal descriptor scale for each symptom. patients were given hot hip bath and mud pack on lower abdomen for 7 consecutive days just prior to their periods. Duration of the study was 3 months and follow up was done after 1 month.

The study proved that the selected nature cure techniques are highly effective in the management of pain and associated symptoms of spasmodic dysmenorrhoea.

Keywords: Nature cure techniques, Hot hip bath, Abdominal mud pack, Spasmodic dysmenorrhoea.

Introduction

Dysmenorrhoea literally means painful menstruation. But a more realistic and practical definition includes cases of painful menstruation of sufficient magnitude so as to incapacitate day-to-day activities.[1]

Dysmenorrhoea is commonly categorised into two types; primary and secondary. Primary dysmenorrhoea or spasmodic dysmenorrhoea is defined as cramping pain in the lower abdomen occurring just before or during menstruation, in the absence of other diseases such as endometriosis. Initial presentation of primary dysmenorrhoea typically occurs in adolescence. It is a common cause of absenteeism and reduced quality of life in women. The problem is often under diagnosed and undertreated.[2]

The prevalence of dysmenorrhoea is difficult to determine because of different definitions of the condition, the estimates varying from 45% to 95%.[3] The true prevalence of primary dysmenorrhoea is not yet clearly established in India. Some studies have found dysmenorrhoea to be a common problem in India with prevalence of 87.7%.[4]

In adolescents the prevalence of primary dysmenorrhoea varies between 16% and 93%, with severe pain perceived in 2% to 29% of girls. Several studies suggest that severe menstrual pain is associated with absenteeism from school or work and limitation of other daily activities.[5]

Although numerous researches have been conducted on management of dysmenorrhoea, an effective treatment without any side effects is not yet available. The commonly used antispasmodic and analgesic drugs can cause many problems in young women. Unfortunately, some girls even abuse these medications (non-therapeutic high doses) for quick pain relief.

Naturopathy is a drugless non-invasive rational and evidence-based system of medicine imparting treatments with natural elements based on the Theory of vitality, theory of toxemia, theory of self-healing capacity of the body and the principles of healthy living.[6] Nature cure believes that the human body owes its existence to Nature's five elements- Earth, Water, fire, Air and Ether- the composite representation of all forces of Nature. The treatment is also based on these five great elements which have immense healing properties. Hydrotherapy or water therapy is the use of water to relieve discomfort and promote physical well-being. The hip bath is one of the most useful forms of hydrotherapy. Hot hip bath helps to relieve painful menstruation and pain in the pelvic organs. Mud is one of the five elements of nature having impact on the body during normal health as well as in sickness.

Objective of the study was to evaluate the effect of hot hip bath and abdominal mud pack and dietary modifications in spasmodic dysmenorrhoea and its associated symptoms.

MATERIALS AND METHODS

It was a pre- and post-interventional study with a sample size of 24. The study setting was outpatient Department of Swasthavritha, Panchakarma Hospital, Poojappura, Govt. Ayurveda College, Thiruvananthapuram. Study population was females of age group 15 to 20years, in the catchment area of Panchakarma Hospital, Poojappura having spasmodic dysmenorrhoea.

Inclusion criteria

Females of age group 15 to 20 years who are diagnosed as having spasmodic dysmenorrhoea.

Exclusion criteria

Patients with abnormal uterine bleeding like:

Menorrhagia

Polymenorrhoea

Metrorrhagia

Dysfunctional uterine bleeding

Patients with other known systemic diseases.

Purposive sampling technique was adopted after satisfying inclusion exclusion criteria.

Study duration

Intervention: 3 months

Follow up: 1 month after treatment.

Clinical trial

The patients eligible for the study were selected as per inclusion exclusion criteria. A detailed case taking was done using the prepared clinical report form. Dysmenorrhoea i.e., pain was assessed by visual analogue scale and the associated symptoms viz vomiting, low back ache, head ache and fatigue were assessed by verbal descriptor scale for each symptom. After collecting the basal data of the patients in the study group, they were asked to come back 7 days before the expected date of menstruation. A diet counselling was given to the patients before starting the treatment. They were asked to adopt these dietary modifications during the entire treatment and follow up period. From 7 days before the expected date of next menstruation, they were given nature cure treatments hot hip bath for 10 minutes and mud pack on lower abdomen for 30 minutes for 7 consecutive days or till the onset of periods whichever is earlier. The same procedure was repeated for three consecutive months. The pain and associated symptoms were assessed during each menstruation. The follow up was done 1 month after the course of treatment.

Procedure of hot hip bath

The hip bath tub was filled with water of temperature up to its half portion. An immersion water heater was used to increase the temperature of water. A mercury thermometer was used measure the temperature of water. The patient was made to wear a towel only in the lower part of the body. Before entering the tub, the patient was given one glass of neutral water to drink to avoid the risk of dehydration during the hot hip bath. The patient was made to sit in the tub keeping the legs outside. The knee was made to be kept in semi flexed position. The water level was adjusted by adding appropriate amount water so that it covers the hips and reaches up to the navel when the patient sits in it. A cold compress was placed on the patient's head to maintain the normal temperature of the head. During the process of bath, the temperature was gradually increased to 45^0 C. The temperature of the water was monitored using the thermometer and it was maintained by replacing the water in the tub with water of appropriate temperature. Hip bath was done for 10 minutes. A cold shower was made on hip soon after the hot hip bath.

After the hot hip bath, the patient was made to lie supine on a coach to take rest. During this time, abdominal mud pack was also done.

Procedure of mud pack

The processed mud was soaked in boiled and cooled water and made into a paste of butter like consistency. The mud paste was then spread on a strip of cloth and the pack was made. The dimension of the pack was 20cm length×15cm breadth × 1cm thickness. The abdominal part of the patient lying supine on the coach was exposed. The mud pack was kept on the abdomen below the umbilicus up to pubic symphysis. The pack was kept for 30 minutes. After 30 minutes the pack was removed and the abdominal area was wiped and cleaned using cotton.

These procedures were repeated on 7days before menstruation for 3 months. The symptoms were assessed during menstruation every month during the treatment (2 times), after treatment and after follow up period.

Table 1:Suggested dietary modifications

FOOD ITEMS TO BE USED	FOOD ITEMS TO BE AVOIDED
Puttu+ sprouted green gram curry	Meat
Wheat upma	Fish
Idiyappam+ vegetable curry	Egg
Whole wheat chapati+ vegetable curry	White flour products
Rice+ aviyal+ vegetable thoran	Sugar Rich cakes
Vegetable salad	Pastry
sprouted sesame seeds	Sweets
Carrot juice	Refined cereals
Beatroot juice	Rich, heavy or greased foods
Cooked banana flower	Tinned or preserved foods
Water made by boiling coriander in it.	Strong tea
Ginger	Coffee
Milk	Pickles
Fruits - apple, paer, grapes, papaya, orange, pineapple, watermelon, orange, banana,	Sauces
Vegetables- carrot, cabbage, cauliflower, beans, tomatoes, etc	Curd, etc

Assessment criteria

The patients selected were examined in detail both subjectively and objectively. Detailed history taking and physical examination was conducted as per designed clinical case proforma. Lab investigations like routine examination of blood and urine was conducted to exclude other systemic involvement. USG was also done to rule out any pelvic pathology.

Study tool

- Pain assessment by visual analogue scale.
- Change in associated symptoms assessed by verbal descriptor scale for each symptom.

The assessment of pain and associated symptoms using these scales was done before treatment, during treatment (two times), after treatment and after follow up.

Visual analogue scale for pain[7]

Visual analogue scale is a tool used to help a person rate the intensity of certain sensations and feelings, such as pain. The visual analogue scale for pain is a straight line with one end meaning no pain and the other end meaning the worst pain imaginable. The patient marks a point on the line that matches the amount of pain he or she feels. Here the patients were asked to make a point on a 10cm horizontal line to indicate their pain intensity, with 0 indicating "no pain" and 10 indicating "the worst possible pain". Measuring from the left end to the marked point, the pain can be quantified.

Figure 1: Visual analogue scale for pain

No pain mild moderate severe pain as bad it could be

0 1 2 3 4 5 6 7 8 9 10

Scoring

Scoring 0 - No pain

Scoring 1-3 - Mild pain

Scoring 4-6 - Moderate pain

Scoring 7-9 - Severe pain

Scoring 10 - Pain as bad as it could be.

Verbal descriptive scale for associated symptoms

I. Vomiting

- Grade 0- Nil
- Grade 1- Mild- occasionally
- Grade 2- Moderate- 2-3 times/day
- Grade 3- Severe symptoms- >3 times/day

II. Low back ache

- Grade 0- Nil
- Grade 1- Mild- No interference with daily routine.
- Grade 2- Moderate- Interference with daily routine. Relief after medicine.
- Grade 3- Severe- Interference with routine. No relief after medicine.

III. Head ache

- Grade 0- Nil
- Grade 1- Mild- No interference with daily routine.
- Grade 2- Moderate- Interference with daily routine. Relief after medicine.
- Grade 3- Severe- Interference with routine. No relief after medicine.

IV. Fatigue

- Grade 0- Nil
- Grade 1- Mild- No interference with daily routine.
- Grade 2- Moderate- Interference with daily routine. Relief after medicine.
- Grade 3- Severe- Interference with routine. No relief after medicine.

Statistical analysis

Descriptive statistics such as frequencies and percentages are determined in the case of categorical study variables. Statistical analysis was done using repeated measures ANOVA test, Tukey Kramer multiple comparison test and Dunnet's Multiple Comparison Test. Necessary charts and diagrams were also drawn to substantiate the results.

Ethical consideration

- The nature cure techniques adopted here has got no known side effects.
- Consent of the patient was collected before starting the clinical trial.
- Consent from institutional ethical committee was obtained.

OBSERVATION

Among 24 patients, majority were 20 years old (58%). About 62% of the cases were from rural area. Majority of the cases were Hindus (92%). Majority of the participants about 92% of the sample were college students and rest of them were higher secondary school students. Unmarried women (96%) were predominant in the group. Considering the occupation, about 96% of the cases were students. Regarding the socio-economic status of the patients, 92% of them come under middle class and only 4% come under both upper and lower class. 58% of the samples were having sedentary life styles. The majority of the cases about 83% were on mixed diet and only 17% were on vegetarian diet. 46% of cases were having irregular food habits and 54% having regular food habits. 21% of the cases used junk foods. 21% of the cases were using more fried items. 37% of the cases were taking more pungent foods. 25% of the cases were having irregular appetite. 55% of the cases were having a constipated bowel and 29% were having a loose bowel. 42% of the cases were having the habit of day sleep. 83% of the cases got a deep sleep and others had disturbed sleep. The psychological status of 58% of the cases were normal whereas 36% of the cases were anxious and 8% were depressed. 46% of the cases were lean, 42% were moderate, and 12% were obese. 25% of the cases were poorly nourished.

Among the cases, 46% were of *vata kapha prakriti*, 29% were *vata pitha prakriti* and 25% were *pitha kapha prakriti*. 50% of the cases were of *avara satwa*, 38% were *madhyama* and 12% were of *pravara satwa*. 54% of the cases had a haemoglobin level of 12 to 14 g%. 46% of cases had their menarche at the age of 13 years. 100% of the cases had regular periods. 75% cases come under 25-30 days interval. 58% of the cases had duration of 5-7 days for their periods. Among the cases majority (54%) had a positive family history of dysmenorrhoea.

Observations on clinical picture

25% of the cases came under visual analogue scale 7. 50% of the cases had muscle cramps and 50% had colicky pain. 46% of the cases had their onset of pain along with menstruation. 54% of the patients had the pain of duration 1-3 hours. 54% of the cases had continuous pain and 46% had intermittent pain. 13 % of the cases experienced pain along with the onset of their first period (i.e., menarche). A majority (87%) experienced dysmenorrhoea, some years or months after their menarche. 33% of the cases had their pain in abdomen, back and thighs. Clots were absent in 54% of cases. 58% of the cases had no vomiting and 34% of the cases had mild vomiting. 58 % of the cases had grade 2 backache. 58% of the patients had no head ache and 38% had mild head ache. 63% of the cases had grade 2 fatigue and 33% had severe fatigue. 12% of the cases had mild constipation, 25% of the cases had moderate constipation and 17% had severe constipation. 8% of the cases had mild diarrhoea, 13% had moderate and 8% had severe diarrhoea. 50 % of the cases had mild nausea and 17% had moderate nausea. A rise in temperature during periods was seen in 25% of the cases. 17 % of the cases had mild giddiness and 8% had moderate giddiness. Fainting was present in only 8% of the cases.

RESULTS

Pain during menstruation was taken as the most important parameter for assessing the efficacy of the treatment together with the decrease in the severity of associated complaints.

Effect of treatment on pain.

Before treatment, 16% of the cases had pain of grade 9 on visual analogue scale, 21% had grade 8 pain, 25% had grade 7pain, 21% had grade 6 pain and 17% had grade 5 pain. After follow up, the pain was reduced to 50% of grade 0, 37% of grade 1 and 13% of grade 2 pain.

Table 2: Frequency and percentage distribution of cases according to effectiveness of the treatment in reducing pain on visual analogue scale

PAIN-VISUAL ANALOGUE SCALE										
	BT		DT 1		DT 2		AT		AF	
	n	%	n	%	n	%	n	%	n	%
VAS 0	0	0	0	0	1	4	4	16	12	50
VAS 1	0	0	0	0	2	8	4	17	9	37
VAS 2	0	0	1	4	3	12	5	21	3	13
VAS 3	0	0	3	13	4	17	9	38	0	0
VAS 4	0	0	2	8	4	17	1	4	0	0
VAS 5	4	17	5	21	7	29	1	4	0	0
VAS 6	5	21	5	21	3	13	0	0	0	0
VAS 7	6	25	5	21	0	0	0	0	0	0
VAS 8	5	21	2	8	0	0	0	0	0	0
VAS 9	4	16	1	4	0	0	0	0	0	0
VAS 10	0	0	0	0	0	0	0	0	0	0
TOTAL	24	100	24	100	24	100	24	100	24	100

Figure 2: Distribution of cases according to effectiveness of the treatment in reducing pain on visual analogue scale

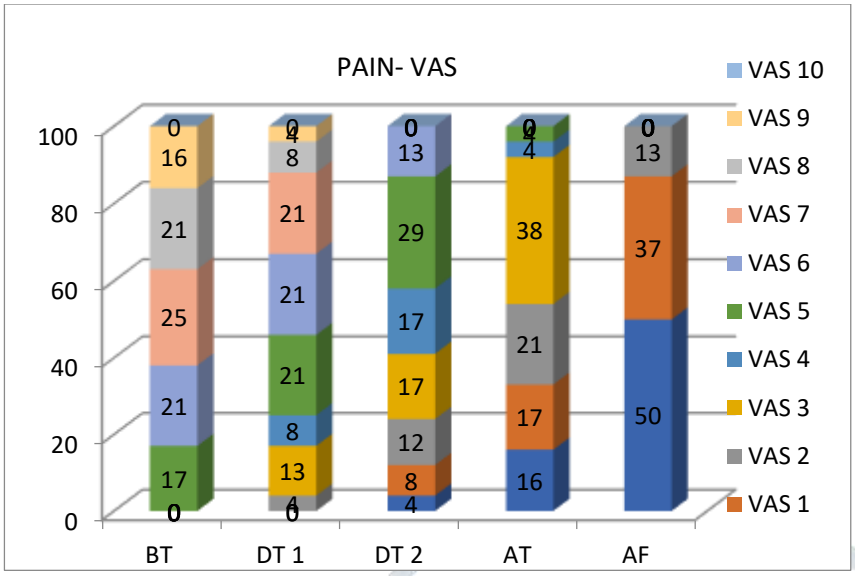


Table 3: Statistical analysis of the effect of treatment in pain on visual analogue scale

SOURCE OF VARIATION	DEGREE OF FREEDOM	SUM OF SQUARES	MEAN SQUARES	Fr Value	P Value
Treatments (between columns)	4	634.87	158.7	73.747	<0.0001
Residuals (within columns)	115	247.50	2.152		

In the assessment of effectiveness of the treatment in decrease of pain in dysmenorrhoea of the study population, decrease in pain was found to be statistically extremely significant with Fr value 73.747 and p value <0.0001 using repeated measures ANOVA test.

Table 4: Significance of the effect of treatment in reducing pain on visual analogue scale

Comparison	Mean Difference	q Value	Significance	P Value
BT Vs DT 1	1.583	5.287	**	<0.01
BT Vs DT 2	3.417	11.410	***	<0.001
BT Vs AT	5.000	16.697	***	<0.001
BT Vs AF	6.417	21.428	***	<0.001
DT1 Vs DT 2	1.833	6.122	***	<0.001
DT 1 Vs AT	3.417	11.410	***	<0.001

DT 1 Vs AF	4.833	16.140	***	<0.001
DT 2 Vs AT	1.583	5.287	**	<0.01
DT 2 Vs AF	3.000	10.018	***	<0.001
AT Vs AF	1.417	4.731	**	<0.01

- ***P value <0.001: highly significant.
- **P value <0.01: moderately significant.
- *P value < 0.05: mildly significant.
- ns P value >0.05: not significant.

On multiple comparison using Tukey Kramer multiple comparison test, before treatment vs during treatment 1st month, before treatment vs after treatment, before treatment vs after follow up, during treatment 1st month vs during treatment 2nd month, during treatment 1st month vs after treatment, during treatment vs after follow up and during treatment 2nd month vs after follow up were found to be highly significant (p value <0.001). Before treatment vs during treatment 1st month, during treatment 2nd month vs after treatment and after treatment vs after follow up were found to be moderately significant (p value<0.01).

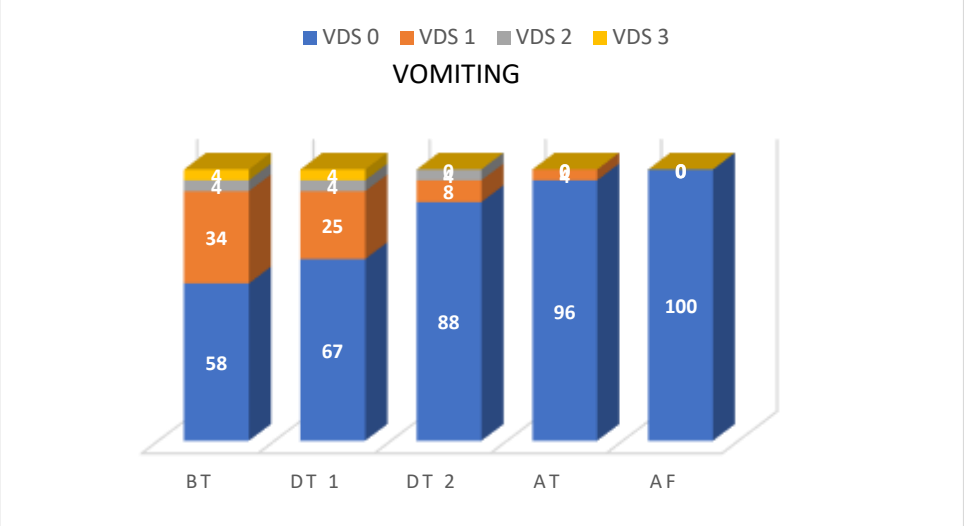
Effect of treatment on vomiting

In the assessment of effectiveness of the intervention in vomiting in dysmenorrhoea of the study population, decrease in pain was seen to be statistically significant with Fr value 32.463 and p value <0.0001.

Table 5: Statistical analysis of the effect of treatment in vomiting on verbal descriptive scale

Vomiting-VDS	Mean	S.D	Fr. Value	P Value
BT	0.542	0.779	32.463	<0.0001
DT 1	0.458	0.779		
DT 2	0.167	0.482		
AT	0.042	0.204		
AF	0	0.000		

Figure 3: Distribution of cases according to effectiveness of the treatment in reducing vomiting on verbal descriptive scale



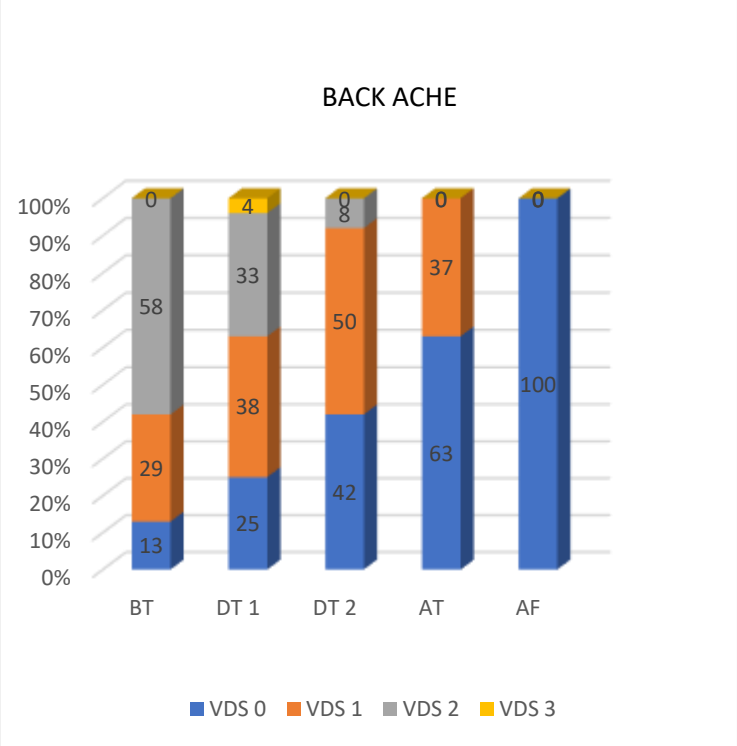
Effect of treatment on back ache

In the assessment of effectiveness of the intervention in back ache in dysmenorrhoea of the study population, decrease in pain was seen to be statistically significant with Fr value 65.495 and p value <0.0001.

Table 6: Statistical analysis of the effect of treatment in back ache on verbal descriptive scale

Back ache-VDS	Mean	S.D	Fr. Value	P Value
BT	1.458	0.721	65.495	<0.0001
DT 1	1.167	0.868		
DT 2	0.667	0.637		
AT	0.375	0.495		
AF	0	0.000		

Figure 6: Distribution of cases according to effectiveness of the treatment in reducing back ache on verbal descriptive scale



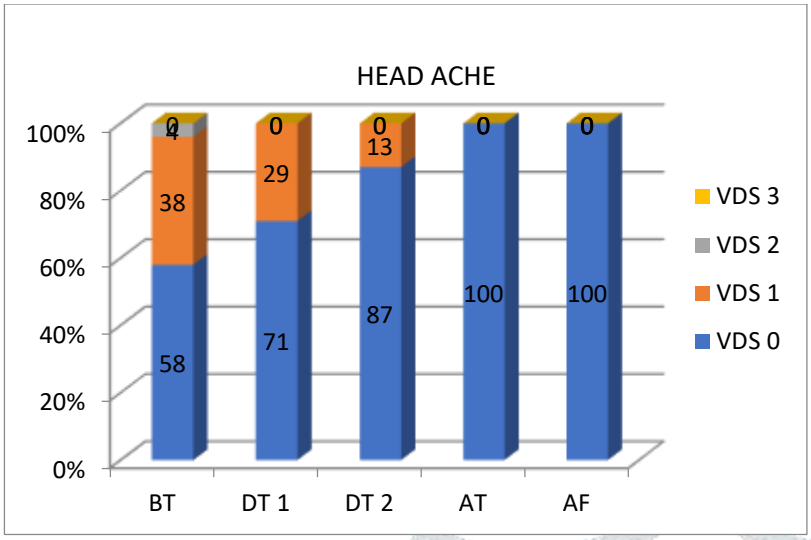
Effect of treatment on head ache

In the assessment of effectiveness of the intervention in head ache in dysmenorrhoea of the study population, decrease in pain was seen to be statistically significant with Fr value 27.784 and p value <0.0001.

Table 7: Statistical analysis of the effect of treatment in headache on verbal descriptive scale

Head ache-VDS	Mean	S.D	Fr. Value	P Value
BT	0.458	0.588	27.784	<0.0001
DT 1	0.292	0.464		
DT 2	0.125	0.338		
AT	0	0.000		
AF	0	0.000		

Figure 5: Distribution of cases according to effectiveness of the treatment in reducing head ache on verbal descriptive scale



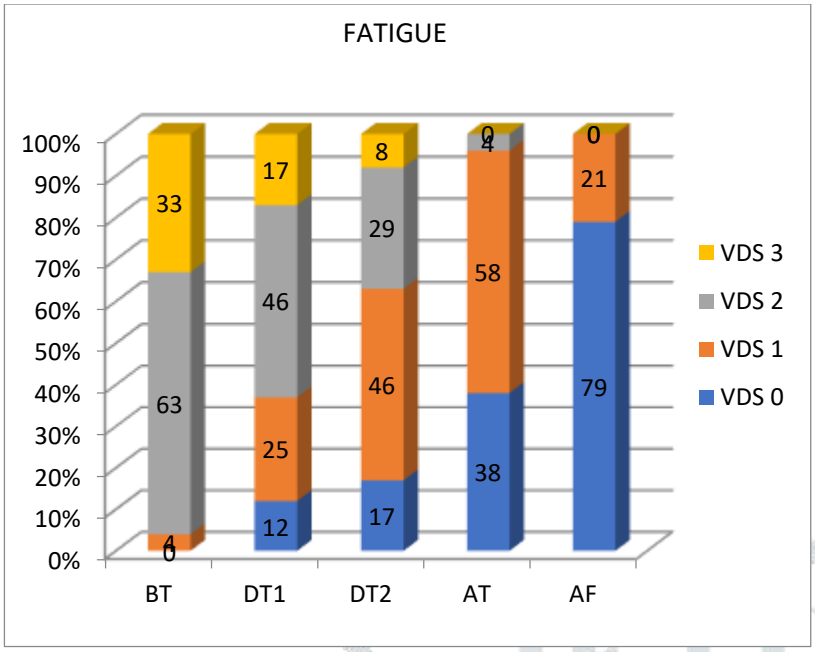
Effect of treatment on fatigue

In the assessment of effectiveness of the intervention in fatigue in dysmenorrhoea of the study population, decrease in pain was seen to be statistically significant with Fr value 76.776 and p value <0.0001.

Table 8: Statistical analysis of the effect of treatment in fatigue on verbal descriptive scale

Fatigue -VDS	Mean	S.D	Fr. Value	P Value
BT	2.25	0.532	76.776	<0.0001
DT 1	1.667	0.917		
DT 2	1.292	0.859		
AT	0.667	0.565		
AF	0.208	0.415		

Figure 6: Distribution of cases according to effectiveness of the treatment in reducing fatigue on verbal descriptive scale



DISCUSSION ON THE PROBABLE MODE OF ACTION OF THE TREATMENT

Probable mode of action of hot hip bath on dysmenorrhoea:

Water exerts beneficial effects on the human system. It equalises circulation, boosts muscular tone and aids digestion and nutrition. It also tones up the activity of perspiratory glands and in the process eliminates the damaged cells and toxic matter from the system.

Water is used at different temperatures in different conditions. Cold baths are done at 10^0C to 18^0 C, neutral at 32 ^{0}C to 36^0 C and hot baths at 40^0 C to 45^0 C. Above 45^0 C, water loses its therapeutic value and is destructive.

The effects of heat applied to the skin differ somewhat according to the intensity and the mode of application, but they may, in general be stated to be as follows:

1. Dilatation of the capillary vessels
2. Increase of cutaneous secretion and respiration
3. Decrease of tactile sensibility

When hot water is applied on the skin, due to the above reasons, the toxic materials from the body get expelled.

The effect of hot water on circulation is that it improves the circulation. Hot hip bath helps in the improvement of circulation in the pelvic region including the two uterine arteries and ovarian arteries. This may aid in the proper nourishment and functioning of the uterus. The ischemia of the uterine muscles during

menstruation is thought to be the major reason behind dysmenorrhoea. The improvement in circulation lessens the chance of ischemia of the uterine muscles.

Hot water relaxes the muscles and lessens muscular irritability. The effect of hot applications in lessening muscular irritability is often utilised therapeutically in the treatment of diseases resulting from muscular contraction, for the relief of vaginismus and in cases of contraction of the anal muscles[8]. The main aetiology of dysmenorrhoea is the increased uterine contractions produced by prostaglandins. The hot hip bath on the previous 7 days of menstruation may relax the uterine muscles considerably which may cause reduction in pain. Prostaglandins can cause smooth muscle contractions elsewhere in the body which results in nausea, vomiting and diarrhoea. Hot hip bath to an extend can relax all the pelvic and abdominal organs which results in the reduction of these associated symptoms as well. Cervical stenosis or narrowing is also thought to be a main reason behind dysmenorrhoea. Hot hip bath relaxes the cervix considerably and it allows an easy flow of menstrual blood towards outside.

Along with body, hot hip bath is also having a soothing effect on the mind. Psychological factors also play a role in the pathogenesis of pain in dysmenorrhoea. Hot hip bath relaxes the mind along with body. It also gives a good sleep.

Probable mode of action of mud therapy on dysmenorrhoea:

Mud has a unique capacity to retain moisture and coolness for longer periods than cold packs or compresses. When it maintains the coolness for a longer duration, the blood vessels under it get constricted. But the body tries to maintain the normal temperature of the body and for that purpose, the circulation in that area gets increased by drawing the blood from inner part to the surface. This helps in the promotion of proper circulation in the internal organs especially uterus.

It has the power to absorb morbid matter. The cold moisture in the mud packs relaxes the pores of the skin, draws the blood into the surface, relieves inner congestion and pain, and promotes heat radiation and elimination of morbid matter[9].

As the abdomen is the seat of most of most diseases, mud pack applied to this part of the body can cure many disorders including all forms of indigestion affecting the stomach and bowels. It is most effective in decreasing the external heat and breaking of the morbid matter.

Mud therapy helps in improvement of mental health. Mud pack reduces the tension of muscles and soothens the over stimulated nerves. Application of mud or mud pack affords immediate relief from localized pain. It also soothens and relaxes the entire body. Mud therapy relieves body pain and general fatigue.

Probable mode of action of diet on dysmenorrhoea:

Dietary changes are an integral part of a primary dysmenorrhea treatment plan. A therapeutic diet should focus on decreasing the production of PGF2-alpha and PGE2 to reduce spasmodic pain, while increasing

nutrients to promote functional change in the pelvis. Arachidonic acid (AA) is the precursor to PGF2-alpha and PGE2. Avoiding food high in AA, including egg yolks, red meat, and poultry decreases the production of these prostaglandins and reduces uterine contractions. Saturated fats also stimulate the PGE2 series. Research has shown that when females consume a low-fat vegetarian diet, their pain intensity and duration decrease. Foods that promote antispasmodic prostaglandins, PGE1 and PGE3, also effectively decrease menstrual cramps. A diet rich in nuts and seeds including pumpkin, flax, sunflower, and sesame increase these prostaglandins as well.[10]

Identifying aggravating foods and eliminating them from the diet may also help reduce symptoms. Foods that promote gas and bloating in sensitive individuals, such as dairy and salt, may further aggravate menstrual pain. A diet rich in fruits, vegetables, and whole grains will emphasize essential nutrients and fibre to optimize uterine function. Fibre intake has shown to be inversely proportional to menstrual pain. Many vegetables are high in nutrients essential for optimal muscle function, such as magnesium, calcium, and potassium. In addition, fruits are rich in natural anti-inflammatory substances like bioflavonoids and vitamin C. These nutrients decrease overall inflammation and support circulation to areas of muscle tension to reduce menstrual pain. Lifestyle factors also play a role in primary dysmenorrhoea. Smoking, sedentary lifestyle, and stress are associated with increased symptoms.

An effective treatment approach to primary dysmenorrhoea should reduce pain and address the causative factors. This requires a thorough review of diet and lifestyle habits that may be increasing inflammation in the body. While conventional medicine can halt the production of inflammatory prostaglandins through NSAID use, correcting imbalance through naturopathic approaches can create a sustainable solution to primary dysmenorrhoea.

SUMMARY

From evaluating the data related to the response to treatment, it can be inferred that the naturopathic modalities hot hip bath and mud pack are very effective in reducing the signs and symptoms of spasmodic dysmenorrhoea namely lower abdominal pain, vomiting, low back ache, head ache and fatigue.

Statistical analysis of the data collected after the follow up revealed that the effect of treatment was persisting even after the follow up period. Thus, it is evident that selected naturopathic techniques namely hot hip bath and abdominal mud pack are very effective in the management of spasmodic dysmenorrhoea. The study highlights the importance of nature cure treatment in the present day. The treatment modalities used nowadays are very expensive and harmful to health in long run due to their side effects. Nature cure treatments are having no side effects and they are cheap and effective. So, in the case of spasmodic dysmenorrhoea, adolescent girls should be encouraged to use hot hip bath and mud pack because these treatment modalities are very simple and cheap and they can even do it at their home. Hence this study strongly supports the principles of naturopathy which takes us to the abundance of nature and thereby to health.

CONCLUSION.

Nature cure is a constructive method of treatment which aims at removing the basic cause of disease through the rational use of elements freely available in nature. It is not only a system of healing, but also a way of life, in tune with the internal vital forces or natural elements comprising the human body. It is a complete revolution in the art and science of living.

The naturopathic modalities adopted here are better, cost effective and has got a long-standing effect on curing the disease. So, from this study it can be concluded that the naturopathic techniques hot hip bath, abdominal mud pack and dietary modifications altogether are found to be very effective in the management of spasmodic dysmenorrhoea.

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