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Effectiveness of Leg Massage on Physiological Lower Leg Edema Among Antenatal Mothers Admitted at Nmch Sasaram Bihar

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Abstract

background: pregnancy is presumed to be a major contributory factor in the increased incidence of varicose veins in women, which in turn lead to venous insufficiency and leg edema. Edema occurs when body fluids increase to nurture both mother and her baby and accumulate in the tissues as a result of increased blood flow and pressure of the growing uterus on the pelvic veins and the vena cava. In recent years, there has been an increased acceptance of the use of complementary therapies within the healthcare system. Leg massage is an example of an intervention that can be used for specific conditions such as leg and foot edema as it moves extravascular fluid without disturbing intravascular fluid

Aim: the aim of the study was to assess the effectiveness of leg massage in reduction of degree of physiological lower leg edema among antenatal mothers.

Keyword: leg massage on physiological lower leg edema among antenatal mothers

Introduction

Pregnancy brings a new meaning to the concept of beauty. It is a period of immense joy coupled with excitement. The feeling of carrying a little soul within is magnificent. It can be a single soul or more than that. [1] pregnancy and childbirth are joyful life events in the life of a woman. Pregnancy is a unique, exciting and often joyous time in women's life, as it highlights the women's amazing creative and nurturing powers while providing a bridge to the future. Pregnancy is carrying fetus or embryo in the womb of the mother. It begins at fertilization and end at the delivery of the fetus. Pregnancy lasts for 40 weeks. Physiological lower leg edema is common in third trimester of pregnancy. During pregnancy, body produces approximately 50% more blood and body fluids to meet the needs of the developing baby. Swelling is normal in pregnancy that is caused by this additional blood and fluid. Normal swelling is also called as edema during pregnancy. Women may suffer from various discomforts. [2] pregnancy is presumed to be a major contributory factor in the increased incidence of varicose veins in women, which in turn lead to venous insufficiency and leg edema

Statement of the problem

Effectiveness of leg massage on physiological lower leg edema among antenatal mothers admitted at nmch sasaram bihar".

Objectives

1. To assess and compare the pre-test level of physiological lower leg edema among antenatal mothers between the study group and control group.
2. To assess and compare the post-test level of physiological lower leg edema among all antenatal mothers between the study group and control group.
3. To determine the effectiveness of leg massage on physiological lower leg edema among antenatal mothers in the study group.
4. To associate the pre-test and post-test level of physiological lower leg edema among the antenatal mothers with their demographic and obstetric variables in the study group and control group.

Research hypothesis

H1: there is a significant difference in the pre-test level of physiological lower leg edema among the antenatal mother between the study group and the control group.

H2: there is a significant difference in the post-test level of physiological lower leg edema among the antenatal mothers between the study group and control group.

H3: there is a significant difference between the pre-test and post-test level of physiological lower leg edema among antenatal mothers in study group.

H4: there is a significant association of the pre-test, post-test level of physiological lower leg edema among antenatal mothers with their demographic and obstetrics variables in study group and in control group.

Need of the study

Ayden.,2022 physiological lower leg edema is found in about 80% of all pregnancies, occurring in late pregnancy. It occurs as a result of the pressure of the gravid uterus, which impedes venous return; prostaglandin- induced vascular relaxation; and reduced plasma colloid osmotic pressure**.** Dependent physiological lower leg edema (water retention in the interstitial space of the lower limbs) is a frequent and unpleasant accompaniment to pregnancy, causing discomfort, a feeling of heaviness, night cramps and painful paresthesia.

Research methodology

This chapter deals with the methodology adopted for the research study. The research methodology is a phase of the study deals with the research design, setting, variables, population, sample, sample size, sampling technique and criteria for sample collection, tools and techniques for the data collection, content validity of the tool, pilot study and plan for data analysis. In order to solve the research problem in a systematic and orderly way, a plan is required. This phase of the study deals with the pattern to do so.

Research approach

A research approach is an applied form of research that involves findings of how a specific program, practice, procedure or policy is working well.

A quantitative research approach was adopted to assess the effectiveness of leg massage on physiological lower leg edema among antenatal mothers admitted at nmch sasaram bihar.

Research design

It refers to the overall plan for obtaining answer for the research questions and testing the research hypot-

hesis. (polit: hungler, 2012)
The design used for the study was quasi experimental pretest post-test control group research design.

Research setting
A setting is the physical location in which data collection takes place in the study. (polit& hungler, 2012). The study will be conducted in narayan medical college and hospital at jamuhar rostas district. The narayan medical college and hospital consists of 1160 beds where there are 30 beds in antenatal wards. Every day around 20 mothers are appropriately admitted in the antenatal ward. Every month 600 antenatal mothers are admitted in the antenatal ward. The statistics for month of november 2024 was 450 deliveries. So, the study was thought to be ideal for conduction of the study.

Variable under study
Independent variable leg massage dependent variable
Physiological lower leg edema among the antenatal mothers.
Demographic variable
Age of the mother, education of the mothers, occupation of the mother, occupation of the husband, family income, type of work, religion, socio economic status, dietary pattern, type of family
Population
Population is characterized by the entire set of individuals having some common characteristics. It encompasses target and accessible population.
Target population
Target population of the study comprised of all antenatal mothers with leg edema at narayan medical college and hospital jamuhar, rohtas.
Accessible population
Accessible population of the study comprised all of antenatal mothers with leg edema in the antenatal ward at nmch.
Sample
The sample consists of antenatal mothers in the antenatal ward at nmch, jamuhar and who fulfils the inclusion criteria.
Sampling technique
The purpose of using a sampling technique is to increase representativeness and to decrease bias and sampling error. In this study purposive sampling technique was used to select the samples.
Sample size
The sample size was determined using power analysis according to the previous study on bio organic coconut oil on physiological lower leg edema. The sample size estimated was 60 using the cochran's formula so 30 mothers in study and 30 mothers in control group.

Resulta and discussion
Results: no significant difference in pretest edema scores between groups ($p > 0.05$), ensuring baseline comparability. Significant reduction in post-test edema scores in the study group compared to the control group was observed at which should a ($p = 0.001$). Within the study group, the mean edema score dropped from 3.35 to 2.38, a statistically significant difference at $p< 0.05$ level. Demographic variables such as

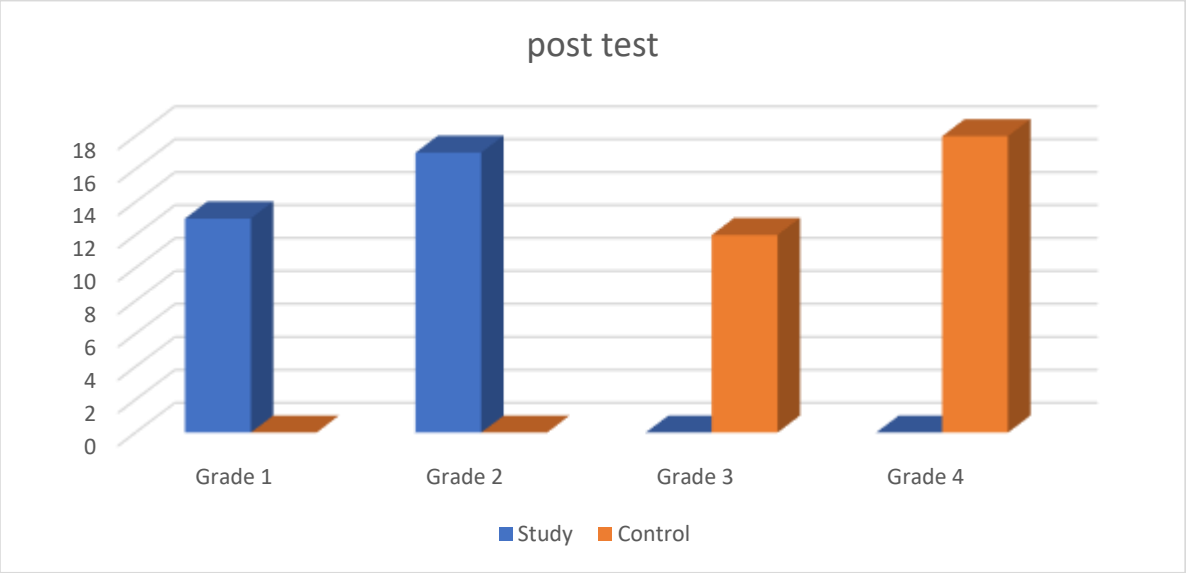
education, occupation, income, dietary pattern, and religion showed significant association with edema levels at p< 0.05 level demographical variable.

Section b: compare the pre-test level of physiological lower leg edema among antenatal mothers between the study group and control group.

H1: compare pretest level of physiological lower leg edema between groups

	Group	N	Mean	Std. Deviation	T	Df	P value
Pretest	Experimental group	30	3.33	.479	-.266	58	.791
	Control group	30	3.37	.490			
In 95% confidence interval p value >.05 indicate non-significant.							

The pretest comparison between study group and control group didn't show any significance in physiological lower leg enema which confirms the both groups were similar before the intervention. The experimental group had a mean score of 3.33 (sd = 0.479), while the control group had a mean score of 3.37 (sd = 0.490). An independent t-test showed no statistically significant difference between the groups, t(58) = -0.266, p = 0.791, indicating that both groups were comparable before the intervention. Hence the p value is more than 0.05 at the 95% confidence level the null hypothesis is accepted and research hypothesis is rejected.



Section c: compare the post-test level of physiological lower leg edema among all antenatal mothers between the study group and control group.

H2: compare post-test level of physiological lower leg edema between groups

	Group	N	Mean	Std. Deviation	T	Df	P Value
Post-test	Experimental	30	1.40	.498	-15.41	58	.001
	Control	30	3.37	.490			

Comparison of post-test sleep quality between experimental and control groups

A comparison was made between the post-test scores of the experimental and control groups to assess the impact of the intervention. Both groups consisted of 30 participants.

The experimental group had a mean post-test score of 1.40 (sd = 0.498).

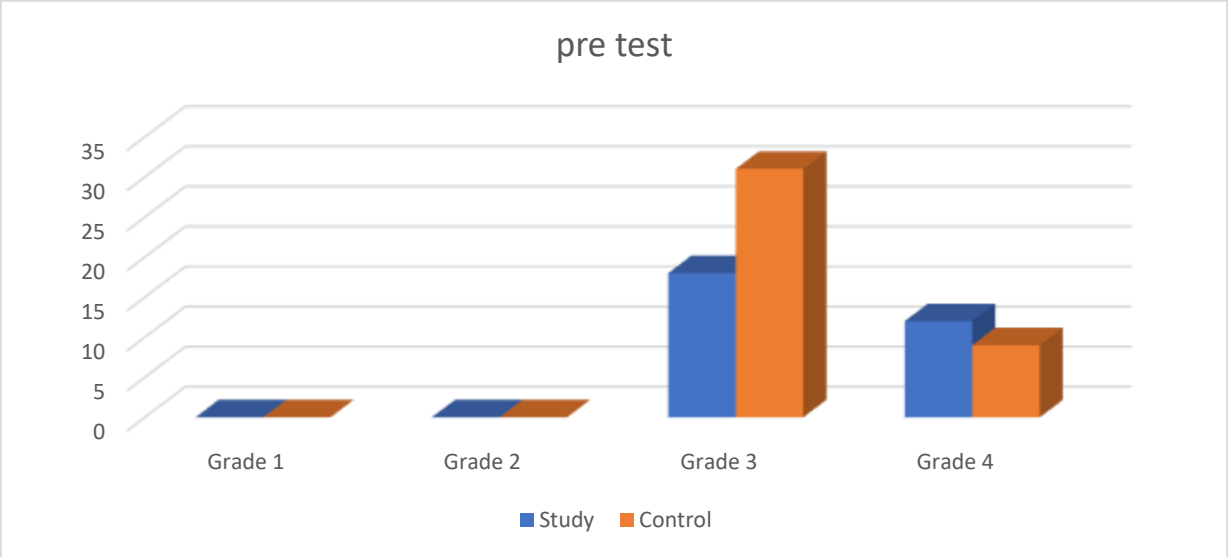
The control group had a mean post-test score of 3.37 (sd = 0.490).

An independent samples t-test was conducted to determine whether the difference in post-test scores was statistically significant.

The t-value was -15.41 with 58 degrees of freedom.

The p-value was 0.001, which is less than 0.05, indicating a highly significant difference between the groups.

The significant difference in post-test scores (p = 0.001) suggests that the intervention had a strong effect, with the experimental group showing substantially lower scores compared to the control group. This indicates a positive impact of the intervention on participants' performance.



Section d: effectiveness of leg massage on physiological lower leg edema among antenatal mothers in the study group.

H3: compare pretest vs post-test in experimental group

Paired samples statistics					**Paired sample test**			
	Mean	Mean difference	N	Std. Deviation	T	Df	P value	Correlation
Pretest	3.35	0.97	30	.481	6.354	29	0.001	.062
Post-test	2.38		30	1.106				

Explanation:

A paired samples t-test was conducted to evaluate the effect of an intervention by comparing the pretest and post-test scores within the same group (n = 30 participants).

The mean pretest score was 3.35 (sd = 0.481).

The mean post-test score was 2.38 (sd = 1.106).

The mean difference between the scores was 0.97, indicating improvement.

Statistical results:
T (29) = 6.354
P = 0.001 (which is highly significant, as $p < 0.05$)
Correlation = 0.062, suggesting a weak relationship between pretest and post-test scores.
The significant decrease in mean scores from pretest to post-test ($p = 0.001$) demonstrates that the intervention had a statistically significant effect on the group. Despite a low correlation, the t-value confirms meaningful improvement, proving the intervention was effective in enhancing the participants' performance.

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