Oshada; Jurnal Kesehatan
https://nawalaeducation.com/index.php/O/index
Volume 2 Nomor 1, February 2025
e-ISSN : 3047-017X
DOI : https://doi.org/10.62872/81g8qz14

The Effect of Giving Carrot Juice to Reduce Dysmenorrhea in S1 Nutrition Class 2022 Students at MH Thamrin University Jakarta Year 2024

Monica Bella Putri Utami[1]✉, Sulistiani[2]

Politeknik Tiara Bunda, Indonesia[1], Mutiara Mahakam Samarinda[2]

e-mail: * monicabellaputriu97@gmail.com[1]

Input	: January 05, 2025	Revised	: January 18, 2025
Accepted	: February 05, 2025	Published	: February 28, 2025

ABSTRACT

During menstruation, there are usually several disorders that occur, one of which is Dysmenorrhea. Dysmenorrhea is a condition of pain in the lower abdomen that usually occurs before and after menstruation that occurs continuously. This occurs because of contractions in women during menstruation. For its classification itself, it is divided into 2, namely primary and secondary. Usually this condition causes women who are about to or have finished menstruating to experience discomfort or pain in the lower abdomen and sometimes spread to the waist and even to the thighs, in addition to the disorders experienced also such as stomach cramps and headaches. There are many ways to reduce dysmenorrhea, one of which is by consuming carrot juice. Unbeknownst to many people, it turns out that carrots have many benefits not only for eye health but also to reduce pain during menstruation. This is due to the content of active compounds that are effective in reducing menstrual pain such as magnesium, calcium, and vitamins E and Betacarotene.

Keywords : *Menstruation; Dysmenorrhea; Lower abdomen pain; Carrot juice*

INTRODUCTION

Menstruation is a natural occurrence that occurs in women. Menstruation is the process of regular discharge of blood from a woman's uterus as a sign that the reproductive organs are ready or functioning properly. Usually the beginning of menstruation occurs in women aged 12-16 years. Menstrual cycles occur every 21-35 days, with 10-15% of women having a 28-day cycle. The duration of menstruation usually occurs 2-8 days with a normal volume of fluid around 30cc.

Dysmenorrhea is a state of pain in the lower abdomen that usually occurs before and after menstruation that occurs continuously. This situation often occurs due to contractions in a woman's uterus during menstruation. For the classification itself is divided into two, namely primary and secondary. Usually this situation causes women who will or have finished menstruation to experience discomfort or pain in the lower abdomen and sometimes spreads to

the waist and even to the thighs. In addition, the disorders experienced are also such as stomach cramps and headaches.

Primary dysmenorrhea usually occurs in young women who have never been pregnant, and the pain usually appears on the first day of menstruation and lasts 48-72 hours. Secondary dysmenorrhea occurs due to certain medical conditions such as endometriosis or uterine fibroids and the pain can be more severe and last longer than primary dysmenorrhea.

Many ways can be done to reduce dysmenorrhea, one of which is to consume carrot juice. Unknown to many people, it turns out that carrots have a lot of benefits not only for eye health, but also to reduce pain during menstruation. This is because the content of active compounds that effectively reduce menstrual pain such as magnesium, calcium, and vitamin E and beta-carotene. Carrot juice is also known to increase blood flow and reduce inflammation, which can help reduce pain.

Based on the results of preliminary studies at the University of MH. Thamrin Jakarta, obtained results from 30 people who have menstruated there are 15 students who experience dysmenorrhea. The 15 students said that their Lecture activities became disrupted. According to the 15 female students, they have never done non-pharmacological therapy by consuming carrot juice due to lack of information about the benefits of carrot juice itself and only do warm compresses during menstrual pain. This is certainly difficult to do if you are doing Lecture activities.

The purpose of this study was to identify the effectiveness of carrot juice in reducing pain caused by dysmenorrhea in female students at the University of MH. Thamrin Jakarta. This study also aims to increase the understanding and awareness of female students on the benefits of carrot juice as a non-pharmacological therapy in reducing dysmenorrhea. In addition, this study is expected to provide a safer and more natural alternative treatment of Dysmenorrhea, as well as contribute to the scientific literature related to dysmenorrhea management. The study also wanted to examine the degree of disruption of lecture activity caused by dysmenorrhea and how carrot juice interventions can help reduce these disorders.

METODOLOGI

This type of research is a pseudo-experiment using Pretest and Posttest design with two control groups. The population in this study is a student of S1 nutrition class of 2022 MH University. Thamrin Jakarta. Sample presentation was done with Purposive Sampling which was obtained by 5 experimental groups and 15 control groups. Data collection using a numerical pain scale.

Tools

Blender, sieve and clean bottle.

Ingredients

250 Grams Of Carrots

Location and timing of work

This research was conducted at the University of MH. Thamrin Jakarta. As for the time it is done in December 2024.

Methods

This study uses a type of experimental research more specifically is a pseudo-experiment. A pseudo-experiment has an experimental group and a control group. The subjects in this study were selected according to the characteristics that have been determined by the researcher, then grouped into two groups, the experimental group and the control group

Manufacturing process

a. 250 grams of peeled carrots, wash and cut into strips
b. Then blender
c. 200 cc white water
d.Strain into a container
e. Transfer to a 250ml bottle
f. Drink 2x a day with an interval of 2 hours from the first administration.

RESULT AND DISCUSSION

Univariate Analysis

Table 1 Frequency Of Dysmenorrhea

Degree Of Dysmenorrhea	Total (N)	(%)
No Pain	0	0%
Mild Pain	18	60%
Moderate Pain	11	36,7%
Severe Pain	1	3,3%
Total	30	100%

Source : Research Data Processed in 2025

Based on table 1 shows that female students who experienced dysmenorrhea with mild pain were 18 people (60%), then female students who experienced dysmenorrhea with moderate pain were 11 people (36.7%), and female students who experienced dysmenorrhea with severe pain were 1 person (3.3%).

Bivariate Analysis

Table 2. Comparison of the effect of carrot juice administration in the Experimental Group and control group to reduce dysmenorrhea

	Groups	N	Mean	P_value
Post Test Tingkat Dismenore	Experimental Group	15	9,47	0,001
	Control Group	15	21,53	

Source : Research Data Processed in 2025

From Table 2. get the results of research using statistical tests Mann Whitney Test which shows that p_value (0.001). This means that the p_value is <0.05, so Ho is rejected and it can be concluded that there is an effect of giving carrot juice to reduce dysmenorrhea in S1 nutrition students class 2022 at MH University. Thamrin Jakarta in 2024.

In the results of Table 1 frequency of dysmenorrhea rate of univariate analysis shows that students who experience dysmonorrhea most is mild pain as many as 18 students (60%) then followed by moderate pain as many as 11 students (36.7%), and severe pain as many as 1 student (3.3%). Results in Table 4.1. in accordance with the theory according to (Vera et al., 2024) which explains that the most effective measurement of pain is the body's physiological response to pain itself where the assessment of pain intensity can be done using several scales, one of which is a numerical scale. This numerical scale itself is one of the effective ways to assess the intensity of pain, one of which is dysmenorrhea. Assessment on this scale itself is a scale of 0 No Pain, a scale of 1-3 mild pain, a scale of 4-6 moderate pain, and a scale of 7-10 severe pain. In addition, these results are also in accordance with the theory (Yasinta et al., 2024), which explains that pain during menstruation will always occur, especially at the beginning of menstruation and have varying pain intensity. There are three stages of pain, namely mild pain with a pain scale of 1-3, moderate pain with a pain scale of 4-6, and severe pain with a pain scale of 7-10. In addition, the level of dysmenorrhea itself has an influence on each level, namely, mild dysmenorrhea is defined as pain without affecting daily activities such as lectures, then moderate dysmenorrhea sometimes affects daily activities so that it requires analgesic treatment, and severe dysmenorrhea where the symptoms experienced can be more than just abdominal pain but there are complaints of nausea and even fainting.

On the results of Table 2. where the post test in the experimental group and control group using Mann Whitney statistical test showed that there is an effect on the administration of carrot juice to reduce dysmenorrhea where p_value showed results of 0.001 which means <0.05 then thus Ho rejected. This result is in accordance with the theory according to which there are 2 hypothesis symbols, namely Ho (null hypothesis) and Ha (alternative hypothesis) which are always written in pairs. If one hypothesis is rejected, another hypothesis is accepted, so that a firm decision can be made, namely if Ho is rejected, Ha must be accepted, where if Ha is accepted, there is an influence on the research carried out. In addition, the results of the post-test administration of carrot juice performed also have an effect on reducing dysmenorrhea by decreasing the level of pain from before Administration and after administration where this is in accordance with the theory in which it is explained that carrots are rich in nutrients, one of which is iron which serves to replace blood lost during menstruation, and the content of beta carotene which has an analgesic effect. The content of vitamin E and beta carotene in carrots can inhibit prostaglandins, which are hormones that affect dysmenorrhea or menstrual pain. In addition, carrots can also minimize pain during dysmenorrhea because of its fiber content that helps detoxify the body and facilitate blood flow so as to minimize pain during dysmenorrhea. The content of vitamin E in carrots can also prevent menstrual disorders such as dysmenorrhea this is in accordance with the theory. Carrots can be used as an alternative to reduce dysmenorrhea because it is easy, practical, and has a relatively safe effect if consumed long-term this is

appropriate according to the theory of alternative actions that can be done one of which is the manufacture and administration of carrot juice, by consuming 1 glass of carrot juice and given 2 times a day with an interval of 2 hours from the first administration this is in accordance with the theory (Natalia & Fitriani, 2021)

CONCLUSION

Based on the results of research on the effect of giving carrot juice to reduce dysmenorrhea, which was carried out on S1 nutrition students of the 2022 batch at MH University. Thamrin Jakarta in 2024 as many as 30 respondents, it was concluded that female students with mild pain were the most dominating students with a percentage of 60%. In addition, the results of a study conducted with the Mann Whitney Test statistical test showed that the p_value (0.001) where the result was <0.05, so Ho was rejected and it could be concluded that there was an effect of giving carrot juice to S1 nutrition students of the 2022 batch at MH University. Thamrin Jakarta in 2024.

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