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THE ADMINISTRATION OF DAYAK ONION INFUSION EFFECTIVELY REDUCES PRIMARY DYSMENORRHEA

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ABSTRACT

Dysmenorrhea, or menstrual pain, is a common gynecological complaint among women. Dayak onion, which has traditionally been used as a remedy, has not yet been seen for its effectiveness in reducing primary dysmenorrhea in adolescent girls. The aim is to determine the effect of giving Dayak onion infusion on primary dysmenorrhea in adolescents. The type of research used is quasi-experimental with a design of One Group Pre-Test - Post-Test Design Without Control Group. The population is all adolescent girls in the Sumberseras Muncar Banyuwangi health center area in 2023, totaling 371 people, with a sample of 16 people. Sampling technique using simple random sampling. Data analysis using paired sample t-test. Characteristics of respondents aged 16 years (56.3%), menarche age 12 years (43.8%), and menstruation duration 7 days (50%). The level of primary dysmenorrhea before giving Dayak onion infusion, most of the respondents experienced severe menstrual pain with a total of 9 people (56.3%). The level of primary dysmenorrhea after giving Dayak onion infusion, most of the respondents experienced mild menstrual pain with a total of 12 people (75%). There was an effect of giving Dayak onion infusion on primary dysmenorrhea in adolescent girls (p-value: 0.000 <α: 0.05). There is an effect of giving Dayak onion infusion on primary dysmenorrhea in adolescent girls.

Keywords

Dayak Onion Infusion, Primary Dysmenorrhea, Adolescent Girls

INTRODUCTION

Teenagers according to the Indonesian Ministry of Health are unmarried females and males aged 15 to 26 years, while according to the World Health Organization (WHO), adolescence itself is considered a transitional period from childhood to adulthood, with the age range of adolescence being 12 to 24 years old. The adolescent phase marks the transition between childhood and adulthood, during which biological, cognitive, and psychological changes occur. One biological change experienced during puberty is the onset of menstruation in adolescent girls (Dewi, 2019).

Menstruation, or period, is the shedding of the endometrium. The endometrial lining is prepared to receive embryo implantation, and if implantation does not occur, this lining sheds. This bleeding occurs periodically as a process of

shedding the uterine lining that happens every month in women. Many women experience problems or discomfort during menstruation. Menstrual disorders can include irregular menstrual cycles, abnormal menstrual flow, amenorrhea, and dysmenorrhea (Nursafa, 2019).

Dysmenorrhea, or menstrual pain, is a common gynecological complaint among women. Dysmenorrhea is a symptom and not a disease. The pain typically involves cramping in the lower abdomen that may radiate to the back. The cause of dysmenorrhea is prostaglandin F2 alpha. Increased prostaglandins following a decrease in progesterone lead to increased myometrial tone and excessive uterine contractions. Myometrial contractions reduce blood flow, resulting in ischemia of the myometrium, which causes pain (Anurogo, 2017).

The severity of dysmenorrhea pain can be classified into three levels: mild, moderate, and severe. Mild pain means a person experiences some pain at times, the pain is intermittent, and the person can still perform daily activities. Moderate pain means a person starts to feel increasingly strong pain, the pain radiates to the lower back, and the person can still perform activities but with some difficulty. Severe pain means a person starts to feel intense pain, requiring them to rest for several days, unable to perform daily activities, possibly accompanied by nausea, vomiting, lower back pain, and headaches (Widjanarko, 2016).

According to the WHO in 2017, the prevalence of dysmenorrhea worldwide is significant, with over 50% of women in every country experiencing dysmenorrhea. In Sweden, about 72% of women are estimated to experience dysmenorrhea, while in the United States, nearly 90% of women experience it, with 10-15% experiencing severe dysmenorrhea that prevents them from performing any activities. In Africa, 85.4% of adolescent girls experience primary dysmenorrhea (Lail, 2019).

Based on data from Indonesia in 2020, the prevalence of dysmenorrhea is 64.25%, consisting of 54.89% primary dysmenorrhea and 9.36% secondary dysmenorrhea (Widyanthi, 2021).

Primary dysmenorrhea refers to pain during menstruation experienced by fertile women and is not associated with reproductive organ abnormalities. Primary dysmenorrhea is characterized by pain starting 1-2 days before menstruation and diminishing after marriage and pregnancy. If left untreated, it can disrupt daily activities and comfort, forcing individuals to stop working or attending school (Nursafa, 2019).

Management efforts for adolescents experiencing primary dysmenorrhea include both non-pharmacological and pharmacological approaches. Pharmacological management usually involves the use of prostaglandin inhibitor drugs such as NSAIDs (Non-Steroidal Anti-inflammatory Drugs) and analgesics. Non-pharmacological approaches include warm compresses, music therapy, massage therapy, regular exercise, and the consumption of traditional herbal remedies (Sukarni, 2018).

Traditional herbal remedies can include the consumption of Dayak onion infusion. Indonesia itself has a rich biodiversity of various plant species that offer many benefits. One such plant is the Dayak onion. The bulbs of the Dayak onion (Eleutherine palmifolia (L.) Merr) are known to have medicinal properties. Dayak onion is a plant native to Central Kalimantan, originating from tropical America, and empirically, its bulbs are believed to be effective in treating various ailments such as wounds, jaundice, coughs,

abdominal pain, dysentery, bloody diarrhea, inflammation of the intestinal pores, breast cancer, colon cancer, boils, and inducing vomiting (Muti'ah, 2020).

Dayak onion bulbs contain secondary metabolite compounds of the flavonoid group. Additionally, Dayak onion bulbs contain secondary metabolite compounds of the naphthoquinone group and their derivatives such as elecanacin, eleutherin, eleutherol, eleutherinol, eleutherinone, eleuthoside B, and eletherinoside A. Dayak onion bulbs also contain secondary metabolite compounds of the polyphenol group such as oxyresveratrol (Narko et al., 2017).

Previous research conducted by Prayitno (2018) showed that Dayak onion is utilized as a traditional remedy by communities. The chemical compounds contained in Dayak onion include 15 structurally known compounds of flavonoids and naphthoquinones, indicating extract activity as anti-inflammatory, antidiabetic, anticancer, antidiabetic, and antimicrobial agents. Research by Alves et al. as cited in Sirhi (2017) showed that Dayak onion has also been used to treat various ailments such as pain relief and irregular menstruation.

Dayak onion, traditionally used as a remedy, has not yet been fully explored for its effectiveness in reducing primary dysmenorrhea in adolescent girls. Adolescent girls often resort to limited interventions such as applying eucalyptus oil or balm and consuming over-the-counter pain relievers without a doctor's prescription to alleviate their primary dysmenorrhea pain. Some students even miss school due to the severity of their primary dysmenorrhea pain.

METHOD

This quantitative research employs a conclusive research design aimed at testing or proving hypotheses related to the effectiveness of Dayak onion infusion in reducing primary dysmenorrhea among adolescent girls. The population consists of all adolescent girls in the Sumberseras Muncar Banyuwangi health center area in 2023, totaling 371 individuals, with a sample size of 16 determined through random sampling with proportional random sampling method. Data collection involves both primary data through field research and secondary data through library research. The research instruments include an identity form and an NRS questionnaire for pain intensity assessment. Data processing follows four stages: Editing, Coding, Data Transfer, and Data Tabulation, while data analysis encompasses univariate analysis for descriptive purposes and bivariate analysis using paired sample t-test to determine the relationship between independent and dependent variables. The research location is the Sumberseras Muncar Banyuwangi health center, and the study is conducted in February 2024.

RESULTS

Table 1 Frequency Distribution of Respondent Characteristics at the Sumberseras Muncar Banyuwangi Health Center

Cathegory	F	(%)
Age		
15 years	4	25
16 years	9	56.3
17 years	3	18.8
Age at Menarche		
10 years	2	12.5
11 years	5	31.3
12 years	7	43.8
13 years	1	6.3
14 years	1	6.3
Menstrual Duration		
7 days	8	50
8 days	3	18.8
9 days	3	18.8

10 days	2	12.5
Total	**16**	**100**

Source: Primary Data

Based on table 1, it is known that the characteristics of the respondents, totaling 16 individuals, based on age, the majority of respondents, which is 16 years old, amounted to 9 individuals (56.3%), the age of menarche, nearly half of the respondents, which is 12 years old, amounted to 7 individuals (43.8%), and the duration of menstruation, half of the respondents, which is 7 days, amounted to 8 individuals (50%).

Table 2. The level of primary dysmenorrhea before being given Dayak onion brew in adolescent girls at the Sumberseras Muncar Banyuwangi Health Center.

Level of Primary Dysmenorrhea	F	%
Moderate	7	43.8
Severe	9	56.3
Total	**16**	**100**

Source: Primary Data

Based on table 2, it is obtained that the level of primary dysmenorrhea before being given the infusion of Bawang Dayak, the majority of respondents with a scale of severe menstrual pain amounted to 9 people (56.3%), while almost half of the respondents with a scale of moderate menstrual pain amounted to 7 people (43.8%).

Table 3 The level of primary dysmenorrhea after being given Dayak onion brew in adolescent girls at the Sumberseras Muncar Banyuwangi Health Center.

Level of Primary Dysmenorrhea	F	%
Moderate	12	75
Severe	4	25
Total	**16**	**100**

Source: Primary Data

Based on table 3, it is obtained that the level of primary dysmenorrhea after being given the infusion of Bawang Dayak, the majority of respondents with a scale of mild menstrual pain amounted to 12 people (75%), while almost half of the respondents with a scale of moderate menstrual pain amounted to 4 people (25%).

Table 4 The effect of giving Bawang Dayak infusion on primary dysmenorrhea in adolescent girls at the Sumberseras Muncar Banyuwangi Health Center.

Measurement	Mean SD	Beda Mean	t	*p*
Pre test	6,94±1,181	4	30,984	*0,000
Post test	2,94±1,289			

Source: Paired sampel t test

Based on table 4, the mean difference between the level of primary dysmenorrhea before and after being given Dayak onion brew is 4, with a p-value of 0.000 < 0.05, indicating that H0 is rejected and H1 is accepted, meaning that there is an effect of giving Dayak onion brew on primary dysmenorrhea in adolescent girls at the Sumberseras Muncar Banyuwangi Health Center.

DISCUSSION

Based on the research findings, it is known that the level of primary dysmenorrhea before being given Dayak onion brew in adolescent girls at the Sumberseras Muncar Banyuwangi Health Center, most of the respondents experienced severe menstrual pain, with 9 individuals (56.3%), while almost half of the respondents with moderate menstrual pain numbered 7 individuals (43.8%). This research result aligns with previous studies conducted by Nursafa (2016), which showed that before intervention, both in the intervention and control groups, the majority of respondents complained of pain with a

moderate intensity. Specifically, 23 respondents (57.5%) and 18 respondents (45%) reported moderate pain. According to Icemi and Wahyu (2018), primary dysmenorrhea is characterized by pain in the genital organs. It occurs a few times after menarche and is associated with ovulation cycles. Primary dysmenorrhea is not linked to reproductive organ abnormalities and typically involves pain starting 1-2 days before menstruation, alleviating after marriage and pregnancy.

The levels of dysmenorrhea pain experienced can be classified into three categories: mild, moderate, and severe. Mild pain allows individuals to perform daily activities with some discomfort, whereas moderate pain intensifies, radiating to the lower back and abdomen, hindering regular activities. Severe pain requires individuals to rest for several days, unable to engage in daily activities, and may be accompanied by nausea, vomiting, lower back pain, and headaches (Widjanarko, 2016). The researcher assumed that the level of primary dysmenorrhea before being given Dayak onion brew in adolescent girls at the Sumberseras Muncar Banyuwangi Health Center was moderate to severe. This is because, at a moderate pain level, respondents could still respond objectively by grimacing, indicating the location of pain, describing it, and following instructions well, while at a severe pain level, respondents might not always follow instructions but still respond to actions, indicate the location of pain, unable to describe it, and unable to lie down with an extended posture and distraction.

After administering Dayak onion brew in adolescent girls at the Sumberseras Muncar Banyuwangi Health Center, it was found that most of the respondents experienced mild menstrual pain, with 12 individuals (75%), while almost half of the respondents with moderate menstrual pain numbered 4 individuals (25%). This outcome is in line with a previous study conducted by Nursafa (2016), which indicated that after intervention, the average menstrual pain scale decreased in the intervention group. Primary dysmenorrhea itself refers to menstrual pain experienced by fertile women and is not associated with reproductive organ abnormalities. It typically involves pain starting 1-2 days before menstruation, which decreases after marriage and pregnancy. If left untreated, it can disrupt daily activities, leading individuals to stop working or attending school (Nursafa, 2019).

Various non-pharmacological and pharmacological treatments can be used to manage primary dysmenorrhea in adolescent girls. Non-pharmacological treatments such as the consumption of traditional herbal remedies, including Dayak onion brew, can be employed. Dayak onion, a plant indigenous to Central Kalimantan, has been empirically proven to have various medicinal properties, including wound healing, jaundice treatment, cough relief, stomach ache relief, dysentery treatment, bloody diarrhea treatment, inflammation treatment, breast cancer treatment, colon cancer treatment, boils treatment, and emetic stimulation (Muti'ah, 2020). The bulbs of Dayak onion contain secondary metabolites belonging to the flavonoid group, as well as naphthoquinone compounds and their derivatives, such as lecanacin, eleutherin, eleutherol, eleutherinol, eleutherinon, eleuthoside B, and eleutherinoside A. Additionally, Dayak onion bulbs contain polyphenolic secondary metabolites such as oxyresveratrol (Narko et al., 2017).

The researcher assumed that there was an effect of administering Dayak onion brew on primary dysmenorrhea in adolescent girls at the Sumberseras Muncar Banyuwangi Health Center. This is because Dayak onion contains chemical compounds

such as flavonoids, alkaloids, steroids, and terpenoids, which can act as analgesics to reduce pain (Rusmiati et al., 2017). Moreover, various studies have shown that Dayak onion has naphthoquinone compounds and their derivatives such as leuthernone, eleutherine, and eleutherol, which have antibacterial, antifungal, antivirus, and antiparasitic effects (Saptowalyono, 2017). Therefore, it can be inferred that the administration of Dayak onion brew may have an analgesic effect, resulting in a reduction in pain experienced by adolescent girls at the Sumberseras Muncar Banyuwangi Health Center.

CONCLUSIONS

Based on the research on the effect of giving boiled water of Dayak onion on the level of primary dysmenorrhea in adolescent girls at the Sumberseras Muncar Banyuwangi Health Center, it was found that before the intervention, most of the students experienced menstrual pain with moderate to severe levels, but after being given boiled water of Dayak onion, the majority of students reported a lighter level of pain. This finding is consistent with previous studies indicating that boiled water of Dayak onion has the potential to reduce the intensity of menstrual pain. Thus, it can be concluded that the provision of boiled water of Dayak onion can be beneficial in reducing menstrual pain in adolescent girls at the Sumberseras Muncar Banyuwangi Health Center.

REFERENCES

Anurogo. (2017). Cara Jitu Mengatasi Nyeri Haid. Yogyakarta: Penerbit Andi.

Dewi, Ni Luh Yuning Junianan. (2019). Derajat Disminorea Dengan Upaya Penanganan Pada Remaja Putri. Jurnal Gema Keperawatan Vol 12 No. 2.

Nursafa, Agnes. (2019). Penurunan Skala Nyeri Haid Pada Remaja Putri Dengan Senam Dysmenorhe. Jurnal Universitas Pembangunan Nasional Veteran Jakarta.

Widjanarko, Bambang. (2016). Dismenore Tinjauan Terapi pada Dismenore Primer. Majalah Kedokteran Damianus.

Lail, Nurul Husnul. (2019). Prevalensi Dysmenorrhea dan Karakteristiknya Pada Remaja Putri Di Denpasar. Jurnal Medika Udayana Vol 8 No. 11.

Widyanthi, Ni Made. (2021). Gambaran penanganan dismenorea secara non farmakologi pada remaja kelas X di SMA Dwijendra Denpasar. Jurnal Inovasi Penelitian.

Nursalam. (2018). Metodologi Penelitian Ilmu Keperawatan: Pendekatan Praktis. Edisi 4. Jakarta: Salemba Medika.

Sukarni, K, Icemi & WahyuP. (2018). Buku Ajar KeperwatanMaternitas.Yogjakarta: Nuha Medika.

Muti'ah, Roihatul. (2020). Kajian Efek Ekstrak Umbi Bawang Dayak (Eleutherine palmifolia (L.) Merr) sebagai Antikanker. J. Islamic Pharm Vol 5 No. 2.

Prayitno, Budi. (2018). Optimasi Potensi Bawang Dayak (Eleutherine Sp.) Sebagai Bahan Obat Alternatif. Jurnal Pendidikan Hayati.

Sirhi, Sirilus. (2017). Optik Bagi Budidaya dan Ekstrak Bawang Dayak Sebagai Obat Alternatif. Jurnal Akses Pengabdian Indonesia Vol. 2 No. 2.

Sugiyono. (2020). Metode Penelitian Kuantitatif, Kualitatif dan R&D. Bandung. Alfabeta.

Notoatmodjo, S. (2017). Promosi Kesehatan dan Ilmu Perilaku. PT Rineka Cipta. Jakarta.

Notoadmodjo, S. (2017). Metodologi Penelitian Kesehatan. PT Rineka

Cipta. Jakarta.
Hastono. (2016). Analisis Data Pada Bidang Kesehatan. Jakarta: PT Raja Grafindo Persada.
Arikunto, S. (2018). Prosedur Penelitian: Suatu Pendekatan Praktik. Jakarta: Rineka Cipta.
Setyawan, Annaas Budi. (2019). Seduhan bawang dayak (Eleutherine americana Merr) menurunkan tekanan darah sistolik dan diastolik pada pasien hipertensi. Riset Informasi Kesehatan, Vol. 8, No. 2.
Warsiti. (2018). Uji Aktivitas Antibakteri Ekstrak Etanol Bawang Dayak (Eleutherine palmifolia (L.) Merr) terhadap Bakteri Staphylococcus aureus. Pharmacon: Jurnal Farmasi Indonesia. Vol 15, No 2.