The Consumption Of Raw Material (Linum Usitatissium) On Menstrualation In Adolescent Manual In Smpn 2 Langsa

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Abstract: Menstrualation is a natural cycle that occurs in a woman's body. This cycle will generally appear every 4 weeks, starting from the first day of menstrualation from the first day until the next menstrual period arrives. Menstrualation usually lasts for five to seven days after the generation of the corpus luteum, along with the early part of the follicular phase of ovarium. The average is that out at mestruation is 35-50 ml without blood clot. Phytoestrogens are a group of chemicals found in plants that can work as an estrogen hormone. Phytoestrogens work as estrogens that can affect the production and breakdown of the hormone estrogen in the body, and also the levels carried in the bloodstream. Phytoestrogens play a role in stabilizing the function of hormornal that is by inhibiting excessive estrogen activity and also can substitute estrogen when the levels in the body low. The purpose of this study was to determine the effect of flax seed consumption (Linum usitatisimum) Against Mestruation on Young Women in SMPN 2 Langsa. The design of this study was quasi experiment, with the design of Randomized Doublle Blinde Controlles Trial. This study was conducted in SMP Negeri 2 Langsa, the sample in this study amounted to 75 people with the technique of sampling Systematic Random Sampling. Data analysis using paired t-test. This study showed that there was no effect of menstrual cycle, duration of menstrualation, menstrual volumes and HB levels before and after treatment between pretest and posttest groups with P values = 0.414, 0.480, 0.180 and 0.157. Based on bivariate analysis obtained Wilcoxon Signed Rank Test results so that the decision of hypothesis is rejected H1 or meaning there is no significant difference of treatment between pretest and posttest groups. It is advisable for students to try to think positively, be more relaxed and do not overload themselves with heavy thoughts, thus not affecting the menstrual cycle..

Index Terms: Menstrualation, consumption, raw, material, adolescent, Langsa.

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1. INTRODUCTION
A dolescence is a period of transition characterized by physical and psychological changes, a period of maturation of the human reproductive organs [1]. Reproductive health is a complete physical, mental, and social well-being not only free from disease and disability in all aspects related to the system reproduction, function and process [2]. Puberty students are not only responsible for academic achievement, but also have a responsibility to ensure the maintenance of reproductive functional functions including menstruation, arthritis and sexuality [3]. Menstruation is a natural cycle that occurs in the female body. This cycle will generally appear every 4 weeks, starting from the first day of menstruation from the first day until the next menstrual period arrives. Menstruation usually lasts for five to seven days after the generation of the corpus luteum, along with the early part of the follicular phase of ovurium. The mean is that out at menstrualation is 35-50 ml without blood clot [4]. The key to menstrual cycles depens on esterogen changes, then all the conditions that inhibit estrogen levels, then all the conditions that inhibit estrogen levels, then all the conditions that inhibit estrogen production by itself will affect the normal reproductive cycle [5]. Menstrual abnormalities usually occur due to imbalance of hormones that regulate menstruation, but can also be caused by other medical conditions [6]. Emilda, Mildwife, Polythechnic of Medical, Mangsa, Ministry of Health, Jl. Islamic Center Village of pb. beuramoe langsa district, barat kota langsa, 24412, aceh province, tel: (0641) 424307 no. hp: 085328071546, email: melinda_emilda@yahoo.com. Several studies, suggesting that prevalence in the female population aged 18-15 years experiencing disruption with menstruation and also from the results of student research more often indicate menstrual variations are problematic, such as irregular menstruation. research conducted in a number of countries including orher developing countries, revealed that menstrual disorders are a problem that women face, especially in their teen [7]. According to [8], his study found

31.2% of Turkish adolescents experienced irregular menstrual patterns. The difference in the length of menstrual patterns among women is usually caused by the unbalanced estrogen, progesterone, LH and FSH hormones due to a disease, nutritional status and stress. In RISKESDAS it is stated that the percentage of 11.7% of 15-19 year old adolescents in Indonesia experience irregular menstruation and as many as 14.9% of women living in urban areas in Indonesia experience irregular menstrualation [9]. Phytoestrogens are a group of chemicals found in plants that can work as an estrogen hormone. Phytoestrogens work as estrogens that can affect the production and breakdown of the hormone estrogen in the body, and also the levels carried in the bloodstream. Phytoestrogens play a role in stabilizing homonyal function by inhibiting excessive estrogen activity and can also substitute estrogen when the levels are low in the body [10]. Natural estrogens or phytoestrogens are those found in plant products and then transferred to many foods in our diet. Researchers have identified three types of phytoestrogens, isoflavones, lignans and coumestans. When we consume this phytoestrogen product it will act in the same way that estrogen is produced naturally. Some plants that contain phytoestrogens are like nuts and seeds, pumpkin, cabbage, wheat, peterselin, semangi, turmeric [8]. Flax seed (Linum usitatissimum) is a kind of grain. Flaxseed is one of the best sources of phytoestrogen food with 379,380 mcg for every 100 grams. The content of flaxseed is omega 3, alpha linoleic acid, lignan, vitamin B1, soluble fiber, protein, copper, manganese, magnesium, zinc, selenium and phosphorus. Flaxseed has many benefits that are very good for health, one of which is menstrualation [8].

2. METHODOLOGY

2.1. Location and Type of Research
The population in this study were all students SMPN 2 Langsa Year 2017 Class X and XI 288. This type of research is quasi

experiment, with Randomized Double Blinde Controlles Trial design. The randomization technique can only be done in the intervention research compared to observational research. This research uses randomization technique that is with the disguise (blinding) in order to greater the quality of the measurement. In double-blind, researchers or respondents or respondents and data processors (statistician) do not know the status of respondents whether included in the intervention or non-intervention group. Where in this study the intervention group was given flaxseed and the non-intervention group was given cereal as a comparison. The strength of this design can minimize confounding factors that can cause bias in the results of research. With randomization technique, the researcher can allocate the research sample into two or more groups based on the criterion that has been determined by the researchers and then followed in the future. The randomization technique aims to create intergroup characteristics almost identical in the study of schoolgirl can seen in the Table 1 below.

Table 1. Research Techniques

Subyek	Pra treatment	Treatment	Pasca-treatment
K-A	0	I	O1-A
K-B	0	-	01-B
	Time1	Time 2	Time 3

Determination of the number of samples using Slovin formula, namely:
n = N / ((1 + Ne²))
Information :
N = Number of samples
N = Total population
e = Error tolerance (tolerance of error occurrence, level of significance, for social and education typically 0.1) -> (^ 2 = rank two)

Then the number of samples to 75 people. the sample is taken using Proportional Stratified Sample formula where the number of samples in each class SMP Negeri 2 Langsa Year 2017. Next sampling in each class is done by Systematic Random Sampling where each respondent is selected randomly.

2.2.Research Variable
The independent variable (independent variable) is consumption of food containing phytoestrogen (flax seed) and consumption of food containing no phytoestrogen (cereal) and dependent variable (dependent variable) that is menstrual cycle, menstrual duration, menstrual volume and Hb level.

2.3.Operational Definition

The operational definitions in this study are:
Consumption of food sources of phytoestrogens are teenagers who consume flaxseed. Food consumption does not contain phytoestrogens are teenagers who consume ordinary cereals.Menstrual cycle, measuring instrument used is a questionnaire. The measurement scale used is ordinal. The duration of menstruation, measuring instrument used is a questionnaire. The measurement scale used is ordinal. Menstrual volume, the measuring tool used is a questionnaire. The measurement scale used is ordinal. Measurement of Hb level. The measuring instrument used is Hb shahli. The

measurement scale used is ordinal.

2.4.Data Collection Techniques
Data collection techniques used are primary data obtained from the filling questionnaires filled by adolescents include menstrual cycles, menstrual volume and duration of menstruation and Hb levels.

2.5.Data Analysis
Unvariat analysis is done with descriptive statistic to see frequency distribution of each research variable and presented in table 2 of frequency distribution. Bivariate analysis in this research the analysis used is by using paired t-test.

3. RESULTS

3.1.Univariate Analysis
Menstrual Cycle of prior treatment show in Table 2 below.

Table 2. Prior to Treatments

No	Duration of menstrual cycle prior to treatment		f	%
1	28	Days	2	2.7
2	29	Days	2	2.7
3	30	Days	68	90.7
4	31	Days	3	4

The majority of respondents before treatment with the duration of the menstrual cycle 30 days as much (90.7%) of respondents desribed into Table 3 below.

Table 3. After Treatments

No	Duration of menstrual cycle prior to treatment		f	%
1	6	Days	4	5.3
2	7	Days	65	86.7
3	8	Days	4	5.3
4	10	Days	1	1.3
5	12	Days	1	1.3

The majority of respondents after treatment with the length of the menstrual cycle 30 days as many as 68 people (90.7%) into Table 4.

Tabel 4. After Treatments

No	Duration of menstrual cycle prior to treatment		F	%
1	6	Days	2	2.7
2	7	Days	68	90.7
3	8	days	3	4
4	10	Days	1	1.3
5	12	Days	1	1.3

The majority of respondents after treatment with the length of menstrual period of 7 days as many as 68 people (90.7%) can seen in Table 5.

a. Menstrual Volume

Table 5. Before Treatments

No	Duration of menstrual cycle prior to treatment	F	%
1	3 x replace the pads	52	69.3
2	4 x replace the pads	22	29.3
3	6 x replace the pads	1	1.3

The majority of respondents before treatment with the number of menstrual volume 3 times change dressing as much as 52 respondents (69.3%).

Table 6. After Treatments

No	Duration of menstrual cycle prior to treatment	F	%
1	3 x replace the pads	49	65,3
2	4 x replace the pads	25	33.3
3	6 x replace the pads	1	1.3

The majority of respondents before treatment with the number of menstrual volume 3 times change pads as much as 49 (65.3%) showed into Table 7.

a. Hb level

Tabel 7. Before Treatments

No	Duration of menstrual cycle prior to treatment		F	%
1	11,20	gr %	1	1,3
2	11,60	gr %	1	1,3
3	11,80	gr %	1	1,3
4	12.00	gr %	47	62,7
5	12.20	gr %	11	14,7
6	12.40	gr %	5	6,7
7	12.60	gr %	5	6,7
8	12.80	gr %	2	2,7
9	13.00	gr %	2	2,7

The majority of respondents before treatment with Hb level of 12.00 counted 47 (62.7%) showed intoTable 8.

Table 8. After Treatment

No	Duration of menstrual cycle prior to treatment		F	
1	11,20	gr %	1	1,3
2	11,60	gr %	2	2,7
3	11,80	gr %	45	60
4	12.00	gr %	14	18,7
5	12.20	gr %	4	5,3
6	12.40	gr %	5	6,7
7	12.60	gr %	2	2,7
8	12.80	gr %	2	2,7
9	13.00	gr %		

Mayoritas responden sebelum perlakukan dengan banyaknya volume haid 3 kali ganti balutan sebanyak 58 (77.3%).

a. Variabel Distribusi respondens desribed into Table 9.

Tabel 9. Before Treaments

Independen Variabels	(n)	(%)
Menstrualation cycle		
a. Normal	75	100
b.Abnormal	-	-
Period of menstrualation		
a. Normal	69	92
b.Abnormal	6	8
Volume Menstrualation		
a. Normal	75	100
b.Abnormal	-	-
Hb Level		
a. Normal	72	96
b.Abnormal	3	4

The majority of menstrual volume as much as 46 respondents (76.7%) and Hb content of respondents as much as 46 respondents (76.7%) into Table 10.

Hb Normal level.

Table 10. After Treatments

Independen Variable	(n)	(%)
Menstrualation cycle		
a. Normal	75	100
b.Abnormal	-	-
Period Menstrualation		
a. Normal	70	93.3
b.Abnormal	5	6.7
Volume Menstrualation		
a. Normal	75	100
b.Abnormal	-	-
Hb Level		
a. Normal	72	96
b.Abnormal	3	4

The majority of menstrual volume as much as 46 respondents (76.7%) and Hb content of respondents as much as 46 respondents (76.7%) . The Table 11 shows Normality tests..

Hb Normal level

Analysis of Bivariate

Table 11. Normality Tests

No	Variabls	Kolmogorov-Smirnov Z	Asymp. Sig. tailed)	Noted
1	Difference between Pre and Post Menstrual Cycles	0,511	0,000	Abnormal
2	Difference between Pre and Post Older Menstruation	0,492	0,000	Abnormal
3	Difference between Pre and Post Volume Menstruation	0,509	0,000	Abnormal
4	Difference between Pre and Post Hb	0,535	0,000	Abnormal

The normality test on each variable that is not abnormal distribution where the value <0,05. For menstrual cycle

variable significant value is 0,511, menstrual length of 0.492, menstrual volume 0.509 and for variable content of Hb with significant value is 0,535. Table 12 showed the menstrualation cycles.

Tabe 12. *Menstrualation Cycles*

No	Karaktristik (Variabel)	Std. Deviation	P value	z
1	Menstruaation cycles - Before Treatments – After Treatments	0,417 0,414	0,414	- 0,816

The result of calculation Wilcoxon Signed Rank Test, then the value of Z obtained -0.816 with p value (Asymp Sig 2 tailed) of 0.414 where the above from the critical limit of the study 0.05 so that the decision of the hypothesis is rejected H1 or meaning there is no difference Meaning Treat between before treatments and after treatments showed into Table 12.

Table 12. *Period of menstrualation*

No	Variables Characteristics	Std. Deviation	P value	z
1	Menstruaation cycles Before Treatments – After Treatments	0,746 0,487	0,480	- 0,707

The result of calculation Wilcoxon Signed Rank Test, then the value of Z obtained -0.707 with p value (Asymp Sig 2 tailed) of 0.480 where the above from the critical limit of the study 0.05 so that the decision of the hypothesis is rejected H1 or meaning there is no difference Meaning Treat between Before and after treatments desribed into Table 13.

Table 13. *Volume of Menstrualation*

No	Variable Characteristics	s	Std. Deviation	P value	z
1	Siklus Haid – Sebelum Perlakuan – Sesudah Perlakuan		 3,33 3,37	0,180	- 1,342

The result of calculation Wilcoxon Signed Rank Test, then the value of Z obtained for -1.342 with p value (Asymp Sig 2 tailed) of 0.180 where above from the critical limit of the study 0.05 so that the decision of the hypothesis is rejected H1 or meaning there is no difference Meaning Treat between pretest and posttest groups (table 14).

Table 14. *The Hb Levels*

No	Variables Charateristic	Std. Deviation	P value	z
1	Menstruaation cycles - Before Treatments – After Treatments	0,28432 0,26337	0,157	- 1,414

The result of calculation Wilcoxon Signed Rank Test, then the value of Z obtained at -1.414 with p value (Asymp Sig 2 tailed) of 0.157 where the above from the critical limit of the study 0.05 so that the decision of the hypothesis is rejected H1 or meaning there is no difference Meaning Treat between pretest and posttest groups.

4. DISCUSSIONS

4.1. Menstrualation Cycles
The result of calculation Wilcoxon Signed Rank Test, then the value of Z obtained -0.816 with p value (Asymp Sig 2 tailed) of 0.414 where the above from the critical limit of the study 0.05 so that the decision of the hypothesis is rejected H1 or meaning there is no difference Meaning Treat between pretest and posttest groups. This is not in accordance with the opinion Research conducted by Halim et al, with the title Fitoestrogen Consumption Relationships with Cycle Mestruasi on Students In SMA Negeri 1 Tinggimoncong Goa District. Where the research results obtained from 110 samples, there is a significant relationship between phytoestrogen consumption with menstrual period p = 0.036 and no relationship between phytoestrogen consumption with menstrual period and blood volume menstruation. The high-grade dietary source of fitoestrogen of schoolgirls comes from knowing tempe [11]. The researcher's assumption of menstruation or menstruation is the process of discharge of fluid containing blood through the vagina (female genitals) caused by the dissolution of the inner lining of the uterine lining. Menstrual process begins when the uterus secretes the endometrium (the mucous membrane of the uterus). The endometrium will thicken as it is triggered by the hormone estrogen. At the height of the mid-menstrual cycle, the mature ovum will come out of the ovary and descend to the fallopian tube. At this time, if there is a sperm that fertilizes the egg, then the sperm and egg will form a zygot that will become a fetus, otherwise the egg will go down and shed the wall of the uterus that contains many blood vessels. Most healthy menstrual cycles in women occur within 21-31 days, calculated from the first day of menstruation, until the first day of the next menstruation. The menstrual cycle is usually the same every month, but there are times when women experience menstruation too late. If the "coming month" backs off the regular time.

4.2. The Duration of Menstrualation
The result of calculation Wilcoxon Signed Rank Test, then the value of Z obtained -0.707 with p value (Asymp Sig 2 tailed) of 0.480 where the above from the critical limit of the study 0.05 so that the decision of the hypothesis is rejected H1 or meaning there is no difference Meaning Treat between pretest and posttest groups. This is in accordance with a study conducted by Astami et al, with the title Food Consumption Consuming Contains Phytoestrogen with Cycle Mestruasi on Class X Students In SMKN 4 Kendari. Data analysis used was univariate and bivariate analysis Where the research result was obtained from 136 samples, there was no significant relationship between phytoestrogen consumption with menstrual period p = 0,375 and there was no correlation between phytoestrogen consumption with menstrual cycle and menstrual blood volume with value p = 0,119 and p = 0.980.

The high-grade dietary source of fitoestrogen of female students is derived from flaxseed in flax seed powder supplement [12]. Hormonal Balance, Hormones are said to be balanced if there is good cooperation between the brain, the ovaries, the glands in the brain and the thyroid gland. If there is a hormonal imbalance, it can trigger a disturbance in the menstrual cycle. PCOS (Polycystic Ovary Syndrome), PCOS is a condition in which the hormones that play a role in producing follicles as early stages in egg production are very high. Very high hormone levels cause follicular production. During the increased, but the follicle is immature resulting in ovulation disorders. As a result, a woman with PCOS tends to have an irregular menstrual cycle. Some things that can cause hormone imbalance include fatigue, stress, lack of rest, and too much of a load of mind. Pay attention to these activities, avoid to eliminate problems that may be interfering with the mind so that it can cause stress.

4.3. Volume of Menstrualation

The result of calculation Wilcoxon Signed Rank Test, then the value of Z obtained for -1.342 with p value (Asymp Sig 2 tailed) of 0.180 where the above from the critical limit of the study 0.05 so that the decision of the hypothesis is rejected H1 or meaning there is no difference Meaning Treat between pretest and posttest groups. This is in accordance with a study conducted by Astami et al, with the title Food Consumption Consuming Contains Phytoestrogen with Cycle Mestruasi on Class X Students In SMKN 4 Kendari. Data analysis used was univariate and bivariate analysis Where the research result was obtained from 136 samples, there was no significant relationship between phytoestrogen consumption with menstrual period p = 0,375 and there was no correlation between phytoestrogen consumption with menstrual cycle and menstrual blood volume with value p = 0,119 and p = 0.980. The high-grade dietary source of fitoestrogen of female students is derived from flaxseed in flax seed powder supplement [12]. Researchers also argue that irregular menstrual conditions are commonly experienced when menarche first, which is because the hormones that control the menstruation are in process to achieve balance. These causes still fall into the normal category. By noticing some irregular menstrual causes it will be easy to know several factors that can increase fertility. An irregular or irregular menstrual cycle can occur in women because of the influence of several factors. The condition of the menstrual cycle is said to be irregular if the cycle occurs faster, slower, stops for several months or even menstruation occurs 3 times a month.

4.4. Hb Levels

The result of calculation Wilcoxon Signed Rank Test, then the value of Z obtained at -1.414 with p value (Asymp Sig 2 tailed) of 0.157 where the above from the critical limit of the study 0.05 so that the decision of the hypothesis is rejected H1 or meaning there is no difference Meaning Treat between pretest and posttest groups. Researcher assumptions that the dominant factors that influence the cause of the lack of Hb (anemia) are bleeding during menstruation and unfulfilled nutritional intake. Female hormonal changes can be triggered by weight gain. Diet and exercise may be recommended by a doctor if obesity is a late menstrual factor. If someone is too thin, the chances of irregular menstrual cycles even stalled altogether. This condition is called amenorrhea. The menstrual cycle in each woman is different. If the average menstrual cycle is 28 days, that does not mean the same amount applies to other women. Sometimes an error counts the menstrual cycle, then assumes it is late for menstruation. In addition, sometimes menstrual cycles come up irregularly with little day's gap from the previous one. Diet A person who usually eats a lot then suddenly limits food intake (diet), usually affect the menstrual cycle. To get regular menstrual cycles, you should set a good and regular diet by eating healthy and nutritious foods. In addition, avoid stress, In addition to diet, lifestyle should also be considered. Try to always have enough sleep and rest time. Try not to make him too tired in working. If something suspicious occurs with your menstrual period or cycle, you should immediately contact a specialist for early treatment.

Conclusion

Based on the results of analysis and discussion of research results, can be taken some conclusions Influence of Ramie (Linum Usitatisimum) Consumption on Mestruasi on Young Women in SMP Negeri 2 Langsa Year 2017, can be drawn conclusion as follows:
1. Based on bivariate analysis obtained Wilcoxon Signed Rank Test results, then the value of Z obtained -0.816 with p value (Asymp Sig 2 tailed) of 0.414 where the above from the critical limit of the study 0.05 so that the decision of the hypothesis is rejected H1 or which means there is no meaningful difference Treat between pretest and posttest groups.
2. Based on bivariate analysis obtained by Wilcoxon Signed Rank Test results, then the value of Z obtained -0.707 with p value (Asymp Sig 2 tailed) of 0.480 where above from the critical limit of the study 0.05 so that the decision of the hypothesis is rejected H1 or meaningless there is no significant difference Treat between pretest and posttest groups.
3. Based on bivariate analysis, the result of calculation Wilcoxon Signed Rank Test, then the value of Z obtained at -1.342 with p value (Asymp Sig 2 tailed) of 0.180 where above from the critical limit of the study 0.05 so that the decision of the hypothesis is rejected H1 or meaningless there is no significant difference Treat between pretest and posttest groups.
4. Based on bivariate analysis obtained by Wilcoxon Signed Rank Test results, then the value of Z obtained -1.414 with p value (Asymp Sig 2 tailed) of 0.157 where the above from the critical limit of the study 0.05 so that the decision of the hypothesis is rejected H1 or meaningless there is no significant difference Treat between pretest and posttest groups.

5. SUGGESTIONS

Based on the analysis and discussion of research results, it is recommended to:
1. To the student is expected to try to think positive, more relaxed and do not overburden with heavy thoughts, so as not to affect the menstrual cycle.
2. Lakulan Improve diet, try to apply a balanced diet with healthy nutrition and the last Do exercise regularly to make the metabolism becomes more fluent.
3. Overcoming the changing menstrual cycle, there are several things that can be done, including; Maintain ideal weight, adequate rest, avoid stress and Apply a healthy lifestyle.

4. Irregular menstrual cycles can cause a particular concern for a woman, therefore need to know the factors that can be anticipated in the right way. Although in general the menstrual cycle is fluid does not require medical treatment.

5. If the menstrual period experienced also accompanied by other symptoms such as too much blood volume, menstrual periods more than 8 days, until severe menstrual pain complaints should immediately consult a doctor or midwife to get medical treatment.

6. For the sake of perfection of this research, it is necessary to conduct further research in order to get the study of more specific variables related to factors apasaja that can berpegaruhi cycle Mestruasi In Young Women in addition to eating with high Fitoestrogen content.

Limitations of Research

Limitations of this study were This study only examines the Menstrual Cycle (menstruation), Food consumption with high levels of phytoestrogens to mestruasi (cycle, duration, volume and HB) in young women is still not proven in affecting the menstrual cycle, there are still several other efforts related to cyclical menstruation of women who have not been studied such as: cabbage leaf compress and others. Therefore, to optimize the results of the research, such measurement techniques can also be used.

6. REFFERENCES

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