



THE EFFECT OF GIVING BLACK GLUTINOUS BARTAPE SNACKS (*ORIZA SATIVA GLUTINOSA*) ON THE INTENSITY LEVELS OF MENSTRUAL PAIN IN TEENAGE GIRL

Saur Sariaty Pasaribu ¹⁾, Yulinda ²⁾

^{1,2} Departement of Midwifery Poltekkes Ministry Health Bandung.

*Email : yatisilaen@gmail.com

ABSTRACT

Abstract

Background: *Dysmenorrhoe is a situation in which a woman who wills or is experiencing menstruation feels pain. This cramps-like pain is felt in the lower abdomen, usually starting 24 hours before menstruation begins and lasts until the first 12 hours of menstruation, after which all the discomfort has disappeared. The cause is an imbalance of the hormone progesterone in the blood. Various treatment efforts have been made to alleviate these pain symptoms both pharmacologically and non-pharmacologically. Non-pharmacological treatments include giving warm compresses, massages, efflurage, distractions, physical exercise, and adequate rest or consuming foods that contain anthocyanins and flavonoids, one of which is the administration of Black Glutinous Tape.*

Methods : *The research method used is quasi-experimental research design with one group pretest-posttest. without control. The sample is 35 female teenage girls (ages 10-19 years) as many as 35 respondents, with a purposive sampling technique. Data analysis consisted of univariate analysis with (mean and standard deviation) and bivariate analysis using the Chi Square test.*

Result : *showed there was a decrease in the intensity of menstrual pain in female adolescents showed a decrease from pre-test 4.54 to 3.06 post test. Statistical tests using the Wilcoxon sign rank test obtained a probability value of 0.000, smaller than alpha 0.05.*

Conclusion : *Giving black sticky rice tape to Teenage girls who reduce dysmenorrhea as a snack can reduce fatigue as a non- pharmacological alternative.*

Keyword : *Dysmenorrhea, Teenage girl, Granting Black Glutinous Tape Snack*

BACKGROUND

Menstruation is bleeding in a manner periodic accompanied endometrial shedding after cycle hormone - induced ovulation _ reproduction and begins at 14 days after ovulation⁽¹⁾. Cycle time menstruation somebody often very

accompanied annoyance and inconvenience physique like cramps, the so -called pain with *dysmenorrhea*. *Dysmenorrhoe* is very painful menstruation without exists pelvic abnormalities. The incidence rate in Indonesia reaches 55% in women age productive experience painful during menstruation, and in some people

who experience symptom painful heavy will bother activity .

Nearly 50 % of women worldwide experience *dysmenorrhoe* , while in Indonesia itself number it happened around 55% by age reproductive , with incidence by age woman youth (adolescents) as much as 16.8 – 81%⁽²⁾. States incident *dysmenorrhea* light on teenagers as much as 18%, while 62% and *dysmenorrhoe* weight 20% ⁽³⁾.

Out of 100 women aged 15-30 years 71 % experience it *dysmenorrhea* , with disturbance activity as much as 59.2% experienced decline productivity work , 5.6% do not can enter Work or school ⁽⁴⁾. Meanwhile according to the opinion of Woo and Mc. ⁽⁵⁾ states that 40 - 90% of women who experience *dysmenorrhea* which one from three mercy woman the No present work and school for 1-3 days . Incidence rate *dysmenorrhea* that occurred in adolescence in West Java as much as 59.9% with degrees severe , impactful pain to absence from school 1 – 3 days ⁽⁶⁾, p the bother activities and activities learn , which in the end bother to performance learn . The research results of CE show that incident *dysmenorrhea* as much as 97.5% ⁽⁷⁾

Various effort maintenance Already done For relieve symptom painful This Good in a manner pharmacological and non-pharmacological . Non- pharmacological treatment among them is give compress warm , *massage*, *efflurage* , distraction , exercise physical , and get enough rest nor consume material containing food _ anthocyanin and flavonoids, one of them is gift Sticky tape black . Sticky tape black is one _ containing food _ anthocyanin with content sticky tape anthocyanins black 3.48 mg/100g, while the total phenol of sticky tape black namely 73.38 mg/100gr. Activity sticky tape antioxidant black namely 70.2% ⁽⁸⁾. Ethanol levels of sticky tape black namely 1.14, the total sugar content of sticky tape black 18.31% as well pH level of glutinous tape black namely 3.83 and total glutinous tape acid black namely 0.91%. Tapes made from sticky rice black own activity more antioxidants _ high , in comparison with sticky rice white , because of the total components phenolics , flavonoids and anthocyanins rice sticky rice black own content component more phytochemicals _ tall compared to rice sticky rice white ⁽⁹⁾ . Flavonoids are substance that can hinder cyclooxygenase production , so can used

For relieve pain ⁽¹⁰⁾ . Study mention Wrong One contains flavonoids _ lower intensity pain ⁽¹¹⁾ .

Research results previously show that has There is product processed from sticky tape black namely Black Ketan Tape Snack Bar . Black Glutinous Tape Snack Bar weighing 30 grams contains 60.49 grams of kcal , 13.16 kcal of protein and 7.86 kcal as well as produced 81.51 kcal total energy , 15.12 grams of which originate from Carbohydrates , 3.29 grams of origin of Protein, and produced 0.87 grams of origin from Fat ⁽⁸⁾.

Research results showing that in 100 gr Black Glutinous Tape Snack Bar there are 111.528 mg/100gr of anthocyanins . Adequacy anthocyanin ie 100 mg / day , For distraction , distribution distribution Eat a day i.e. 10% of sufficiency , so adequacy anthocyanin in 1 interlude which is 10 mg. Then with consuming 1 Cut the sticky tape snack bar black rice black (100 gr) able sufficient adequacy anthocyanin as much as 334.5% in 1 interlude ⁽⁸⁾.

Research results showing that rate fiber can _ namely 6.31%. percent (%) referred to is percent (%) weight / weight . Conversion done with change % units to grams (gr) for convenience know fulfilling amount _ need humans per day , that is with principle 1% weight / weight = 1 gr / 100 gr, then 6.31% is equated with 5.8 % wt / wt , then changed unit to 6.31 gr / 100gr. Based on conversion the got that in 100 gr of material / product there are 6.31 grams of fiber . Adequacy fiber ie 25 gr / day . For distraction , distribution distribution Eat a day i.e. 10% of sufficiency , so adequacy fiber in 1 interlude which is 2.5 mg. Then with consuming 2 portion of sticky tape muffins black rice black (100 gr) able sufficient adequacy fiber as much as 252% in 1 interlude ⁽⁸⁾.

METHOD

Study This done with design study *quasi experiment* . With use design study *one group pretest- posttest* . Draft quasi- experimental research *with one group pretest- posttest* is research that doesn't There is group comparison (control). The sampling technique used in this research *purposive sampling* . Calculation results formula on obtained amount sample (n) 35 people.

Study will done at school Middle School in ward Pasirkaliki Bandung in 2019

Data used is primary data. Primary data collected direct from respondent through charging questionnaire after given explanation and respondents give agreement with sign sheet approval. Preliminary data collected is identity experienced respondents *dysmenorrhea* with use biodata sheet , next respondent will given a black sticky tape snack bar in accordance procedures by researchers. Researcher every day will give 1 piece of Black Glutinous Tape Snack Bar for 30 days in food as distraction . Consume the sticky tape bar snack black given every day and way consume supervised by the teacher for avoid respondent forget consume it. Researcher observe change intensity pain at the moment menstruation next .

Study This using instruments such as sheet observations and sheets interview . measuring tool for the dependent variable / variable not free intensity painful primary menstruation used is scale pain 1-10. Observation sheet containing about criteria painful somebody based on scale used _ that is scale pain 1-10. Whereas sheet interview containing around primary *dysmenorrhea* experienced by respondents covers location pain, pain felt, when painful begins, pain going on how long, whether painful happen every menstruation and factors what influences happening enhancement pain. **Visual Analog Scale (VAS)** For measure scale painful is numbers 0-10 (12). **Scale 0** , no pain , **Scale 1** , very mild pain, **Scale 2**, pain light. There is a sensation like pinched, however No so pain, **Scale 3**, pain Already start feels, however Still Can tolerated, **Scale 4**, pain Enough bothersome (e.g. pain Sick teeth), **Scale 5**, pain truly disturbing and not Can hushed up in long time, **Scale 6**, pain Already until stage bother senses, especially sense vision, **Scale 7**, pain Already make you not Can do activity, **scale 8** , pain cause you don't Can think clear, even happen change behavior, **Scale 9**, pain leaving you screaming and wanting method whatever For cure pain, **Scale 10**, pain was in the most severe stage and could cause you don't wake up self.

The bivariable analysis chosen to test the hypothesis is by testing *chi square* to test influence provision of Black Glutinous Tape Snack Bars to intensity painful menstruation on teenager girls.

RESULTS

Intensity of Menstrual Pain in Adolescent Girls in the Working Area of the Pasirkaliki Public Health Center, Bandung City.

Table 1. Average Menstrual Pain Intensity

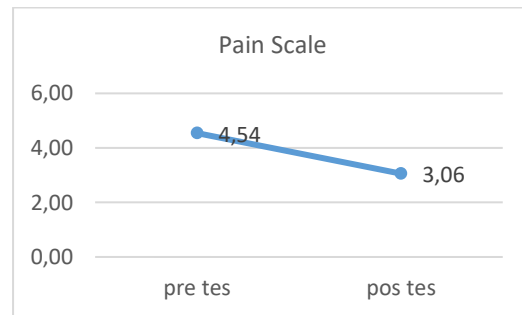


table above give picture, that intensity painful menstruation in adolescents daughter show decline from pre test 4.54 to post test 3.06.

Effect of giving black sticky tape snack bars on the intensity of menstrual pain in Teenage girl in the working area of the Puskesmas Pasirkaliki City of Bandung.

Analysis Influence provision of sticky tape snack bars black to Menstrual Pain Intensity

Table 2.

Analysis Influence provision of sticky tape snack bars black to Intensity of Menstrual Pain in Adolescents Daughter

Variable	N	Mean Ranking	Sum of Ranks	p-value
posttest - prettest	26 ^a	14.31	372.00	0.000
Negative Ranks	1 ^b	6.00	6.00	
Positive Ranks	8 ^c			
Ties	35			
Total	35			

table above _ explain that , found as many as 26 people experienced decline intensity painful menstruation, 1 person experienced enhancement intensity pain and as many as 8 people did not experience change intensity painful her period . Statistical test using the Wilcoxon sign rank test was obtained mark probability 0.000, over small from alpha 0.05. The test results show that There is difference intensity painful before and after provision of sticky tape snack bars black In Teenagers Princess In The Working Area

Public health center Pasirkaliki City of Bandung.

Based on from results Statistical test using the Wilcoxon sign rank test was obtained mark probability 0.000, over small from alpha 0.05. The test results show that There is difference intensity painful before and after provision of sticky tape snack bars black In Teenagers Princess In The Working Area Public health center Pasirkaliki City of Bandung. this _ show that There is influence in a manner meaning intensity painful period after given a sticky bar snack black for 30 days on group intervention. because inside 100 grams of sticky rice snack bars black contain useful antiionins and flavonoids as an anti- inflammatory, accordingly with results study Wiesere in 2007 Anthocyanins and flavonoids have benefit as an anti-inflammatory so that hinder or reduce happening inflammation or even hinder uterine contractions. As analgesic will hinder Excessive prostaglandin release through network uterine epithelium and will Hinder uterine contractions so will reduce happening dysmenorrhea ⁽¹³⁾. Anti-inflammatory push release of prostaglandins and leukotrienes in the endometrium resulting in contraction strong so that pain is known as _ dysmenorrhea or painful menstruation⁽¹⁴⁾ .

Research Results dr. Marianti 2016 Flanoid _ in body man function as antioxidants so very good For prevention cancer . The benefits of flavonoids include : For protect structure cell , increase the effectiveness of vitamin C, anti-inflammatory , preventing porous bones and such antibiotics ⁽¹⁵⁾ .

Research results showing that in 100 gr Black Glutinous Tape Snack Bar there are 111.528 mg/100gr of anthocyanins . Adequacy anthocyanin ie 100 mg / day , For distraction , distribution distribution Eat a day i.e. 10% of sufficiency , so adequacy anthocyanin in 1 interlude which is 10 mg. Then with consuming 1 Cut the sticky tape snack bar black rice black (100 gr) able sufficient adequacy anthocyanin as much as 334.5% in 1 interlude ⁽⁸⁾ .

Research results showing that rate fiber can _ namely 6.31%. percent (%) referred to is percent (%) weight / weight . Conversion done with change % units to grams (gr) for convenience know fulfilling amount _ need humans per day , that is with principle 1% weight / weight = 1 gr / 100 gr, then 6.31% is equated with 5.8 % wt / wt ,

then changed unit to 6.31 gr / 100gr. Based on conversion the got that in 100 gr of material / product there are 6.31 grams of fiber . Adequacy fiber ie 25 gr / day . For distraction , distribution distribution Eat a day i.e. 10% of sufficiency , so adequacy fiber in 1 interlude which is 2.5 mg. Then with consuming 2 portion of sticky tape muffins black rice black (100 gr) able sufficient adequacy fiber as much as 252% in 1 interlude ⁽⁸⁾ .

Menstrual Pain Level in Primary *Dysmenorrhea* Before Given sticky tape snack bar black Pain scale menstruation in perceived primary *dysmenorrhea* respondent before given a sticky tape snack bar black on the group treatment i.e. the average on the scale pain 3-7, Research This supported with research conducted by ⁽¹⁶⁾ regarding *dysmenorrhea* with the average result of the respondents experience painful with scale pain 6. Based on results research that has done show that scale group pain _ that treatment often experienced that is, on a scale pain 6, meanwhile age experienced respondents _ painful period is 10-19 years ., so function increased prostaglandin secretion which in turn pain occurs _ when menstruation . Age *menarche* is one _ possible factor _ influence *dysmenorrhea* . teenage girl with age early *menarche* , incident *dysmenorrhea* his more high ⁽¹⁷⁾ ⁽¹⁸⁾ .

Based on results research , average age *menarche* sample is 12.7 years . Cakir et al stated that Primary *dysmenorrhea* occurs at the age of *menarche* 12-13 years ⁽¹²⁾. *dysmenorrhea* generally occurs 2-3 years after *menarche*, age the ideal *menarche* is 13-14 years ⁽¹⁹⁾ ⁽²⁰⁾. Research results This show that age normal *menarche* turns out Still experience primary *dysmenorrhea* . Research results This different with opinion Wijayakusuma stated _ that age *menarche* early can increase incident primary *dysmenorrhea* , meanwhile results study This show that age normal *menarche* still Enough many have experienced *dysmenorrhea* primer ⁽²¹⁾ .

Research results this is also different with opinion Widjanarko and Zukri et al stated that *menarche* at age more beginning is factor influential risk _ to incident primary *dysmenorrhea* ⁽²²⁾ ⁽²³⁾. Reproduction tool woman must function as should . However when *menarche* occurs at an older age beginning from normal, where tool reproduction Not yet Ready For experience change and still happen

narrowing of the neck uterus , then will pain occurs _ when menstruation . Based on location painful obtained majority respondent feel pain in the stomach part lower that is as many as 31 people or of 77.5 % . Abdominal pain part lower caused Because exists contraction as business in release wall uterus . Pain that is felt respondent majority characteristic sharp . this _ due to prostaglandins causing contraction strong myometrium ⁽²⁴⁾ ⁽²⁵⁾. Based on characteristic painful obtained majority respondent feel painful characteristic sharp that is as many as 27 people or by 67.5%. According to Smeltzer and Bare, pain I characteristic sharp like stabbed , slashed , pinched , and patterns attack clear ⁽²⁴⁾. Menstrual Pain Levels in Primary *Dysmenorrhea* After Given sticky tape snack bar blacklist on the respondent give effect reduction in perceived pain . _

Decline painful highest of 5 values and the lowest of 1 value . obtained the average result of the scale painful is 5.3. As many as 1 person who experienced decline painful with value 1, as many as 8 people who experienced painful with mark 2, as many as 16 people who experienced painful with value 3, as many as 8 people who experienced painful with value 4, as many as 2 people who experienced painful with value 5, and 8 respondents other No experience change painful during study carried out . it _ show that No happen decline painful sufficient menstruation in primary *dysmenorrhea* means during experience pain , maybe also at the moment day saturday and sunday every Sunday respondent No consuming a snack bar with various reason . A number of respondent experienced scale of 7 very significant decrease down 3-4 points due to mechanism painful primary *dysmenorrhea* that can experience decline in a manner fluctuating ⁽²⁶⁾ ⁽²⁷⁾. Primary dysmenorrhea usually _ _ happens to teenagers with emotions that are not stable , have threshold Low pain , so very little pain _ _ can feel pain . In accordance results study it also reports that *dysmenorrhea* causes 14% of teenagers often No enter school ⁽²⁸⁾ ⁽²⁹⁾.

Incidence rate *dysmenorrhea* that occurred in adolescence in West Java as much as 59.9% with degrees severe , impactful pain to absence from school 1 – 3 days the bother activities and activities learn , which in the end bother to performance learn ⁽²⁰⁾ ⁽³⁰⁾ . The research results of CE

show that incident *dysmenorrhea* as much as 97.5% ⁽³¹⁾ ⁽³²⁾.

So that provision of sticky tape snack bars black can used as alternative choice management non- pharmacological pain For lower painful menstruation in *dysmenorrhea* in adolescents women ⁽³³⁾ ⁽³⁴⁾.

SUMMARY

Average intensity painful previous menstruation (*dysmenorrhea*) . given a sticky tape snack bar black ., Giving Snack Bar Tape Ketan Hitam influential to decline intensity painful menstruation in *dysmenorrhea* teenager daughter especially in pain scale 7 down up to 3 point , Result Statistical test using the Wilcoxon sign rank test shows that There is difference intensity painful before and after provision of sticky tape snack bars black in youth daughter .

REFERENCES

1. Wiknjastro, P., 2005. Ilmu Kebidanan. Yogyakarta: Yayasan Bina Pustaka
2. Lathe et all. 2016. Microbes and Alzheimer's Disease. Journal of Alzheimer's Disease. IOS Press Content Lybrary.
3. Ernawati, 2010. Pemasaran Industri Jasa Kesehatan. Penerbit CV Andi Offset : Yogyakarta
4. Nathan, D.M., et al. (2005) Intensive Diabetes Treatment and Cardiovascular Disease in Patients with Type 1 Diabetes. The New England Journal of Medicine, 353, 2643–2653. <http://dx.doi.org/10.1056/NEJMoa052187>
5. Eneaney, M. J. 2010. New Strategies to Treat Primary Dysmenorrhea. The Clinical Advisor. <http://proquest.umi.com/pqdw eb?index+6&did=2195246451>. diakses 4 Februari 2013.
6. Karwati (2013). The relationship between the level of knowledge of grade XI adolescent girls and anxiety with dysmenorrhoea at BatuJajar High School . Journal of Health Budi LuhurCimahi . Vol 6 No 2 Cimahi :

- College of Health Sciences Budi Luhur .
7. Jahangirifar M, Taebi M, Dolatian M. The effect of Cinnamon on primary dysmenorrhea: A randomized, double-blind clinical trial. *Complement Ther Clin Pract*. 2018 Nov;33:56-60. doi: 10.1016/j.ctcp.2018.08.001. Epub 2018 Aug 15. PMID: 30396627.
 8. Fauziyah , N, Syarief , O, Suparman, Hendriyani , H, 2017. Study efficacy Giving Snack Bar High Antioxidants And as well based on Black Glutinous Tape to Profile Blood lipids in patients Dyslipidemia . Report Study Bandung Poltekkes . 2017.
 9. A.Ridwan Siregar. (2008). *Perpustakaan Elektronik: Definisi, Karakteristik dan Penangannya*. Medan: Universitas Sumatera Utara
 10. Puspitasari , I. (2007). *Honey Healthy Secrets* . Yogyakarta: PT. Library Coverage .
 11. Gita Herayanti , - (2016) *The Effect Of Giving Honey On Reducing The Intensity Of Mental Pain (Dysmenorrhea) In Adolescent Women At Sma N 1 Sedayu, Bantul*. Strata 1 thesis, STIKES General Ahmad YaniYogyakarta .
 12. A Potter, & Perry, A. G. (2006). *Buku Ajar Fundamental Keperawatan: Konsep, Proses, Dan Praktik*, edisi 4, Volume.2. Jakarta: EGC
 13. Jain, V., Chodankar, R.R., Maybin, J.A. *et al*. Uterine bleeding: how understanding endometrial physiology underpins menstrual health. *Nat Rev Endocrinol* **18**, 290–308 (2022). <https://doi.org/10.1038/s41574-021-00629-4>
 14. Wulandari , Usage Red Ginger For Lower Intensity of Menstrual Pain in Adolescents Student Volume 17, Number 2, September 2018, ISSN 1412-3746, visikes .
 15. Pietta PG. Flavonoids as antioxidants. *J Nat Prod*. 2000 Jul;63(7):1035-42. doi: 10.1021/np9904509. PMID: 10924197.
 16. Juniar Dilfa. 2015. Epidemiology of Dysmenorrhea among female adolescents in central jakarta. *Makara journal Health*. Vol 19 No 1
 17. Annisa Ika Pratiwi . Connection Pain Intensity and Quality Life Patient Osteoarthritis in the Orthopedic Polyclinic at RSUD Dr. A. Dadi Tjokrodipo Bandar Lampung. Thesis . Faculty Medicine , University of Lampung. 2015
 18. Aswedi , et al , Joints Knee Pre and Post Total Knee Replacement at Hospital. Urip Sumoharjo, City of Bandar Lampung , 2015-2016 , 1, Malahayati University , 2018
 19. Ana Fitria,15031010 (2019) *Effect Of Blanching And Interview Ratio (Curcuma zedoaria (Berog) Rosc .) With Aquades On Flavonoids, Crude Fiber And Instant Powder Results*. Thesis thesis, Mercu University Buana Yogyakarta.
 20. Ce. Diah , Tinah (2009). Relationship of IMT Less Than 20 With Dysmenorhoe Incidence in Adolescent Girls at SMA Negris Sragen . *Journal of Midwifery* Vol 1 No 2 December 2009
 21. Cakra Kimia (Indonesian E-Journal of Applied Chemistry) ISSN 2302-7274 Volume 6, Number 2, December 2018
 22. Ernawati (2010). Relaxation Therapy for Dysmenorrhea Pain in Muhammadiyah University Students Semarang From: [Http// Journal of Unimus.Ac.Id](http://Journal of Unimus.Ac.Id) Vol 1 No 1
 23. Eko Setiawan, Flavonoid and Fiber Content of Sesbania grandiflora in Various Age of Flowers and Pod Ages Flavonoid and Dietary Fiber Contents of Sesbania grandiflora at Different of Flower and Pod Ages p-ISSN 2087-4855 e-ISSN 2614-2872 DOI: <http://dx.doi.org/10.29244/jhi.9.2.122> - 130 Accredited No: 2/E/KPT/2015
 24. Franco Rigon1, Vincenzo De Sanctis2, Sergio Bernasconi3, Luigi Bianchin4, Gianni Bona5, Mauro Bozzola6, Fabio Buzi7, Giorgio Radetti8, Luciano Tatò9, Giorgio Tonini10, Carlo De Sanctis11

- and Egle Perissinotto^{12*} Menstrual pattern and menstrual disorders among adolescents: an update of the Italian data American College of Nurse-Midwives. 2005. Perineal massage in pregnancy, Vol 50. Feb 2005 Rigon et al. Italian Journal of Pediatrics 2012, 38:38.
<http://www.ijponline.net/content/38/1/38>
25. Hasanah, L, 2012., *Black Glutinous Tape (Oryza sativa glutinosa)* Department Of Agricultural Industrial Technology Faculty Of Agricultural Technology Brawijaya University .
 26. Hockenberry, MJ, & Wilson, D. (2006). Nursing care for infants and children. (8th ed.). St. louis: Mosby Elsevier.
 27. Jayakumari , S., Prabhu, K., Johnson, WMS., Kalaiselvi , VS, 2016. Menstrual Cycle Patterns in Adolescents Girls, in Relation to BMI, Food Habits and the Same in their Parents. int. J. Pharm. sci. Rev. Res., 37(2), March – April 2016; Article No. 06, Pages: 37-39 ISSN 0976 – 044X
 28. Mochamad Ma'roef , 2015, Influence Giving Extract Fruit Sour Java (tamarindus indica) against decline contraction uterine smooth muscle is separated guinea pig female (cavia porcellus), Saintika medicine , journal knowledge health and medicine family , vol. 11 no. December 2 , 2015.
 29. Prawirohardjo , S. (2008). Knowledge midwifery . Jakarta: Yayasan Bina Pustaka Sarwono Prawirohardjo .
 30. Rigon , F., Sanctis , VD., Bernasconi , S., Bianchin , L., Bona, G., Bozzola , M., Buzi , F., Radetti , G., Tatò , L., Tonini , G., Perissinotto , E., 2012. Menstrual pattern and menstrual disorders among adolescents: an update of the Italian data.. Italian Journal of Pediatrics 2012, 38:38
 31. [Tria Wijayanti](#) . Effect Antioxidants in Oryza sativa glutinosa Extract Sticky tape black
 32. The American College of Obgyns. Menstruation in Girls as a Vital Sign. Opinion Committee. Number 651.December 2015.
 33. Yulinda , Purwaningsih , D., Marlina , C., The effect of yoga practice on vital signs and levels worry Cycle Menstruation Teenager Princess . 2015. ISSN 2354-7642 (Print), ISSN 2503-1856 (Online). Indonesian Journal of Nurses and Midwifery. Indonesian Journal Of Nursing And Midwifery. 2017. JNKI, Vol. 5, No. 1, 2017 , 20-26
 34. (yulinda , sariaty.p , widiawati i , influence provision of sticky tape black (oriza sativa glutinosa) against pattern menstruation and adolescent hemoglobin levels daughter in Pasteur village , 2018, Bandung Poltekkes