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THE EFFECT OF DRAGON FRUIT ON INCREASING HEMOGLOBIN LEVELS IN ADOLESCENT WOMEN: LITERATURE REVIEW

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ABSTRACT

Background : Adolescent girls have a high risk of experiencing anemia, this is caused by loss of iron during menstruation. Adolescent girls have a higher risk of developing anemia than adolescent boys because adolescent girls experience menstruation every month and there is a desire to eat less so that the body lacks important nutrients such as iron. Pharmacological therapy for anemia by administering Fe supplements. However, administering drugs and supplements causes side effects so that people look for alternative treatments other than pharmacological therapy. One alternative to overcome anemia is by consuming dragon fruit.
Objective : To analyze in a literature review the effect of dragon fruit on increasing hemoglobin levels in adolescent girls.
Method : This research uses a systematic literature review method. Journal search via PUBMED, Google Scholar, Semantic Scholar and Science Direct databases. The journal used was 10 articles.
Results : Based on a review of 10 articles, it can be concluded that dragon fruit has been proven to have an effect on increasing hemoglobin levels in young women.

Keywords : Teenage girl, Anemia, Dragon Fruit

INTRODUCTION

The world prevalence of anemia in adolescents ranges from 40-88%. According to the World Health Organization (WHO), the incidence of anemia in adolescent girls in developing countries is around 53.7% of all adolescent girls (WHO, 2018). The results of the 2013 Indonesian National Health Survey show that the prevalence of anemia in children aged 1-4 years, 5-14 years, and 15-24 years is 28.1%, 26.4%, and 18.4%, respectively. There was an increase in prevalence compared to the previous survey conducted in 2007, namely 27.7%, 9.4% and 6.9% respectively in children aged 1-4 years, 5-14 years and 15-24 years. In particular, the prevalence of anemia in school-age children and adolescents has almost tripled. According to the 2013 Riskedas results data, 37.1% of young women experienced anemia, which increased to 48.9% in the 2018 Riskesdas, with the proportion of anemia in the 15-24 year and 25-34 year age groups (Kemenkes, 2021). The National Health Survey also shows that the prevalence of anemia in suburban areas is higher than in urban areas (Nasruddin et al., 2021).

Adolescent girls have a high risk of experiencing anemia, this is caused by loss of iron during menstruation. Adolescent girls have a higher risk of developing anemia than adolescent boys because adolescent girls experience menstruation every month and there is a desire to eat less so that the body lacks important nutrients such as iron. If the food consumed has good value, then

the nutritional status will also be good, conversely if the food consumed lacks nutritional value, it will cause malnutrition and can cause anemia. (Nasruddin et al., 2021).
Pharmacological therapy for anemia by administering Fe supplements. However, administering drugs and supplements causes side effects so that people look for alternative treatments other than pharmacological therapy. One alternative to overcome anemia is by consuming dragon fruit juice. Dragon fruit is classified as a super food because it is rich in nutrients and oxidants. Stated that dragon fruit contains carotene, calcium, Vitamins B1, B2, B3 and Vitamin C (Tandon), iron which is useful for the formation of hemoglobin. Another study showed that teenagers who consumed 200 grams/day for 7 consecutive days of dragon fruit obtained an increase in hemoglobin of 3,009, where initially before being given it was 12,982 to 15,991, it was concluded that dragon fruit could have an effect on hemoglobin levels. (Ratna et al., 2023).

Based on the background above, the author is interested in conducting a literature review from various sources regarding the effect of dragon fruit on increasing hemoglobin levels in adolescent girls. This literature review was carried out by conducting a literature search on several journal websites to find out what research had been conducted on the effect of dragon fruit on increasing hemoglobin levels in young women.

METHODS

The design used in this research is a literature review or literature study. Literature review is a search and research of the literature by reading and reviewing various journals related to the research topic to produce an article relating to a particular topic or issue. In this KIAB report, literature study identification has been carried out using the following steps:

1. Creation of a framework as a basis for determining inclusion criteria.
2. Literature searches use keywords and Boolean operators (AND, OR, AND) to specify and expand the search, making it easier to determine which articles to use. The keywords used in searching articles are Dragon Fruit (Pitaya, Hylocereus polyrhizus, Dragon Fruit), Anemia (Iron deficiency) and Adolescent Girls (Adolescence, Teenage Girl).
3. Enter these keywords into the search engine on the PubMed, Google Scholar, Semantic Scholar and Science Direct databases by setting the filters on the page such as Full Text, 5 years, Human filtering. By setting the filters on the page such as custom filtering range 2019 to 2024 and select trials.
4. Record database findings.
5. The selection of literature used meets the inclusion and exclusion criteria.
6. Save the database page to the Mandeley bibliography storage engine. In Mandeley the data has been input into a folder.
7. The stored data is filtered according to the framework. Inappropriate articles are removed from the “relevant” folder.
8. Record the findings on the number of articles
9. Carry out literature mapping.
10. Read and describe the conclusions of each article

Tabel 1
Framework

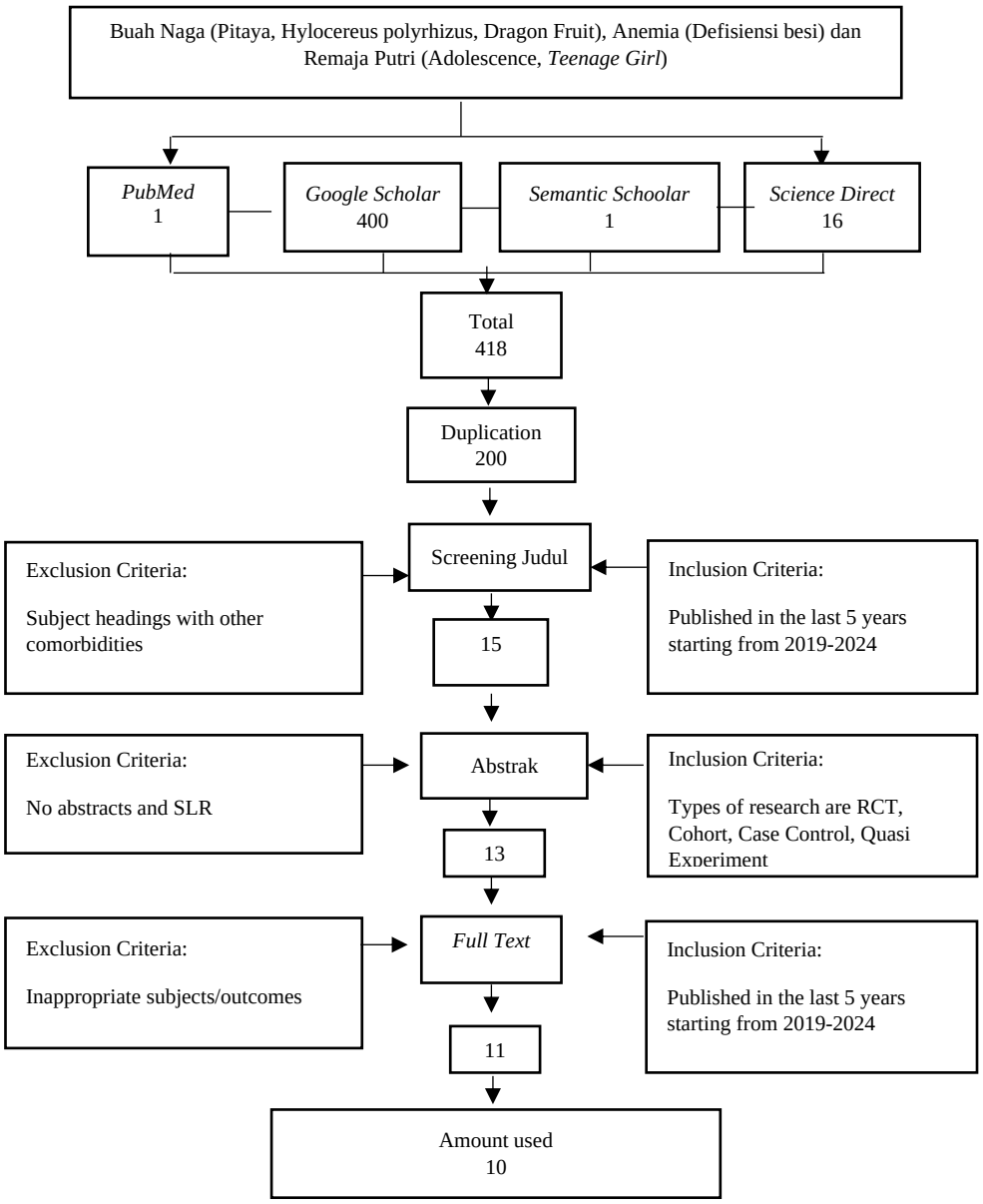
Element	Inklusi	Eksklusi
Population	Anemic Teenage Girls	Adolescent girls with serious comorbidities who need special care

Intervention	Combination giving of Dragon Fruit and Iron
Comparison	Control group (No intervention or given a different intervention to the intervention group, fruit preparations and/or Fe tablets)
Outcomes	Increased Hemoglobin levels

RESULTS

After searching for scientific articles via the Google Scholar, PubMed, Semantic Scholar and ScienceDirect channels, 10 articles were found that met the inclusion criteria and research published between 2019 and 2024, namely as follows.

Tabel 2
Prisma Flowchart



Tabel 3. Characteristics of the Articles Analyzed

No	Title	Writer	Year	Country	Objective Study	Research design	Participants /Number of Samples	Results	Conclusions for Midwifery Practice
1	Effectiveness of Green Beans and Dragon Fruit in Increasing Hemoglobin Levels and Oxygen Saturation in Adolescents	Meti Sulastri , Iis Sopiah Suryani , Lina Marlina	2021	Indonesia	To determine the effectiveness of green beans and dragon fruit in increasing hemoglobin levels and oxygen saturation in adolescents	*Quasy Exsperiment* Type *Non Randomized pre test post test*	This research consisted of 52 female students at SMK Bhakti Kencana Tasikmalaya	The green bean group had an average increase of 0.3346 gr/dl The dragon fruit group had an average increase of 0.1760 gr/dl. Thus, giving green beans is better in increasing Hb levels compared to giving dragon fruit.	Green beans contain iron, vitamin C and zinc which play a role in treating iron deficiency anemia. Dragon fruit contains iron, calcium, vitamins B1, B2, B3 and vitamin C.
2	Effectiveness of Giving Fe Tablets and Dragon Fruit Juice on Increasing Hb Levels in Young Women Who Experience Anemia in Citeras Village, Garut Regency in 2023	Decy Priyanti , Gaidha Khusnul Pangestu, Retno Sugesti	2023	Indonesia	To find out the effectiveness of giving Fe tablets and dragon fruit juice to increase HB levels in adolescent girls who have anemia	*Quasy Exsperiment* with *Pre test - Post test with control group design*	This study consisted of 40 teenagers who experienced anemia and were divided into 2 groups, namely experimental and control groups	The average Hb level in the experimental group before being given the intervention was 10.725 gr/dL after being given dragon fruit was 12.280 gr/dL. Meanwhile, in the control group before intervention it was 10.815 gr/dL and after being given Fe tablets alone it was 11.550 gr/dL.	Administration of Fe and dragon fruit juice showed an increase in hemoglobin levels in adolescents. Fe (iron) tablets are iron tablets where each tablet contains 200mg of ferrous sulfate (which is equivalent to 60mg of elemental iron) and 0.25mg of folic acid.
3	Effectiveness of Dragon Fruit and	Ratna Indah	2023	Indonesia	Analyzing the effectiveness	*Quasy Exsperiment*	This research	After 15 days intervention was given. showed that the	Dragon Fruit and Date Juice have an effect

	Date Juice on Hemoglobin Levels in Adolescent Girls	Kartika Sari, Wahyu Astuti, Hajar Hidayati			after administering a combination of dragon fruit and Fe tablets as well as a combination of date juice and Fe tablets on hemoglobin levels in adolescent girls	with *Pre test - Post test control group*	consisted of 44 young women at Anjongan Theological High School	hemoglobin levels of young women before giving the combination of dragon fruit and Fe tablets had a mean value of 12.982, while the hemoglobin levels of young women after were given a mean value of 15.991. The increase in Hb levels was statistically significant.	on increasing Hb levels. Dragon fruit is a super food rich in nutrients and antioxidants.
4	Comparison of Giving Dragon Fruit and Beet Fruit to Hb Levels of Adolescent Girls at the Ar-Rahman Modern Islamic Boarding School, Tanjung Lubuk District, Oki Regency, Palembang	Ambar Yanti, Titin Eka Sugiatini	2023	Indonesia	Knowing the comparison of giving dragon fruit and beets to the Hb levels of young women	*Quasy Exsperiment* with *Pre test - Post test with control group design*	This research consisted of 24 people at the Ar-Rahman Modern Islamic Boarding School, Tanjung Lubuk sub-district, Oki Regency, Palembang	After 14 days of intervention given with dragon fruit juice and beetroot juice to young women, before giving dragon fruit the average = 10.225 gr/dl and after giving dragon fruit the average = 10,650 gr/dl. The Hb level of female teenagers before giving beetroot was an average of 10.342 gr/dl and after giving it average bit = 11.017 gr/dl.	Dragon fruit has several benefits, namely stimulating the formation of red blood cells, iron and vitamin C, which plays an important role in iron as a raw material for red blood cells, while vitamin C helps optimize the absorption of iron through the gastrointestinal tract and prevent anemia. .
5	Comparison of Dragon Fruit Juice and Guava	Ani Laila, Septi	2023	Indonesia	Knowing the comparison of dragon juice	*Quasy Exsperiment* with two	This study consisted of 20 young	The results of the analysis showed that there was an increase in hemoglobin	Dragon fruit juice has an effect on increasing Hb levels.

	Juice with Iron Tablets in Increasing Hemoglobin Levels in Adolescent Girls	Indah Permata Sari, Meizy Rahmalia, Ari Susanti			and guava juice with iron tablets in increasing hemoglobin levels in adolescent girls	group post test design	women, 10 people in the dragon fruit juice group with iron tablets and 10 people in the red guava juice group with iron tablets.	levels between before and after giving dragon fruit juice with iron tablets, namely the average value before the intervention (pretest) was 11,380 and the average value after the intervention was 11,650. It can be seen that the group given dragon fruit juice had an average difference in increase in hemoglobin levels of 0.260 (SD=0.2366) and red guava juice had an average difference in increase in hemoglobin levels of 0.630 (SD=0.3529).	Dragon fruit is a fruit that contains iron. In 100 grams of dragon fruit there is 82.5-89.4 mg water, 0.4-0.23 mg protein, 0.1-0.61 mg fat, 6.0-10 mg calcium. mg, phosphorus 16.0-36 mg, iron 0.55-0.65 mg, vitamin C 8-9 mg.
6	Dragon Fruit (Hylocereus Polyrhizus) And Beet Fruit (Beta Vulgaris) Against Increasing Hemoglobin Levels	Rohanah, Ratumas Ratih Puspita, Rafika Dora Wijaya, Rita Dwi Pratiwi, Jelika A.V	2023	Indonesia	To determine the effectiveness of giving dragon fruit and beet juice on hemoglobin levels in anemic adolescents	*Quasy Exsperiment* by design *two group pre-test and post-test design*	The sample used was 60 teenage girls aged 12-13 years at SMPN 18 Depok	Adolescent hemoglobin in the intervention group. Pretest with an average score of 10.67 (SD 0.66) and post-test 12.53 (SD 1.43). The p value shows p=0.001 so it can be concluded that Ha is accepted, so it is found that there is an effect of giving dragon fruit juice to anemic teenagers.	Giving dragon fruit and beetroot juice is effective in increasing Hb levels in early adolescents. This is possible because dragon fruit contains vitamin C, vitamin B3, vitamin B1, vitamin B2, iron, phosphorus and fiber.
7	Effects Of A Mixture Hylocereus Polyrhizus (Red	Ester Angelina Winant	2023	Indonesia	To determine the effect of giving a mixture of	*Quasy Experiment* with two intervention	This research consisted of 60 students,	There is an increase in hemoglobin. In treatment group 1, there were	Giving Dragon Fruit Juice and Moringa Leaf Flour is given in

	Dragon Fruit) Juice And Moringa Leaf Powder Towards Hemoglobin Level In Adolescent Girls Pengaruh	i Ritonga , Tonny Cortis Maigoda			Hylocereus polyrhizus fruit juice and Moringa leaf powder on hemoglobin levels in adolescent girls	groups and one control group	especially young women, at SMA Negeri 3 Bengkulu City	the average increase in hemoglobin levels was 2.2 g/dl, where is the previous average hemoglobin the level was 13.3 g/dl, and after being given a a mixture of Hylocereus polyrhizus juice and Moringa leaf powder for 14 days increased to 15.5 grams/dl. Likewise in the given group intervention 2 (Hylocereus polyrhizus juice), there is an increase in hemoglobin levels 1.1 g/dl, while hemoglobin levels are average before intervention was given it was 13.1 g/dl and after 14 days given red dragon fruit juice, there was an increase in Hb levels to 14.2 g/dl.	the form of 100 grams of Hylocereus polyrhizus juice and 4.2 grams of Moringa leaves powder/flour with the addition of 100 ml of water for 14 days. Meanwhile for the second intervention, Red dragon fruit juice is given as much as 100 g along with Add 100 ml of water, and for the negative The control group was given 50 grams of plain jelly, showing an increase in Hb levels in young women. Giving dragon fruit juice and Moringa leaf powder can be an alternative to increasing Hb.
8	The Effect Of Giving Combination Boiled Chicken Egg And Red	Ummi Khuzaimah , Riski Sulistia	2023	North Africa	Knowing the effect of the combination of stew consumption	*Quasy Experiment* with a non-equivalent	This study consisted of 32 women (18 – 22 years) were	The results report changes in hemoglobin levels in the control group, hemoglobin	Giving dragon fruit and chicken eggs showed an increase in Hb levels in young

	Dragon Fruit (Hylocereus Polyrhizus) To Increase Hemoglobin Levels In Women During Menstruation	rini , Hifdzur Rashif Rija'i , Rinda Alfiani			chicken eggs and dragon fruit to increase hemoglobin levels in women during menstruation	control group design	randomized into 2 groups, namely the control group and the intervention group, each consisting of 16 people.	the levels decreased in almost all respondents on average a decrease of 1.4 g/dL, from 10.72 g/dL to 9.28 g/dL. Meanwhile, in the intervention group there was an increase to all respondents after receiving boiled chicken eggs and dragon fruit intervention, with an average increase hemoglobin level 4.4 g/dL, from 9.12 g/dL to 13.51 g/dL	women, red dragon fruit (365 g per day) and boiled chicken eggs (± 36 grams per day) at a distance of 15 minutes at dinner for 5 consecutive days. Dragon fruit is a fruit that contains important nutrients, including precursors required for erythropoiesis, such as iron (Fe), vitamins C, E, B12, thiamine, and riboflavin.
9	The Effect of The Combination of Dragon Fruit Juice and Anemia Exercises (BuNga SaNemi) in Teenager Girls With Anemia: Case Study	Novi Vebianti, Endang Triyanto, Lita Heni Kusumawardani	2023	Indonesia	Evaluating the effect of dragon fruit juice exercise and anemia (BuNga SaNemi) in adolescent girls with anemia.	*Quasy Experiment pretest-posttest* no control group design	This research consisted of 2 young female respondents	Client hemoglobin results A and P after being given dragon fruit juice and anemia training for 7 days. Results of hemoglobin examination on both clients increasing and stable. Hemoglobin before intervention was given to client A Hb was 11.4gr/dl while client P had Hb of 11.3gr/dl. After the intervention is given,	Consuming dragon fruit juice and exercise have a significant effect on increasing Hb levels by giving 500 grams of dragon fruit juice a week. The content in dragon fruit is very good for the digestive and circulatory systems. Dragon fruit also provides an impressive response to reduce emotional stress and

								the increase occurred in client A by 12.6gr/dl and client P by 13.8gr/dl.	neutralizes toxins in the blood
10	A Comparative Study Of Red Dragon Fruit Juice With Red Guava Juice On Hemoglobin Levels In Adolescents	Santi Damayanti, Endang Lestiawati & Ni Wayan Diah Novi Anggreni	2021	Indonesia	Know the difference in effectiveness giving red guava juice and red dragon fruit juice on hemoglobin (Hb) levels in young children woman.	*Quasy Experimental* dengan *pre-test dan post-test* without control.	This research consisted of 36 divided respondents into 2 groups of 18 respondents each.	Average value of hemoglobin level before the intervention, red guava juice was 13.18 gr /dL. The average value of hemoglobin levels after red guava juice intervention was 14.71 gr/dL the average value of hemoglobin levels before red dragon fruit juice intervention was 13.13 gr/dL The average value of hemoglobin levels after red dragon fruit juice intervention was 15.46 gr/dL	Dragon fruit juice and guava juice both contain iron which can increase Hb levels in the blood. However, dragon fruit juice is slightly superior to guava juice, because every 100 grams of dragon fruit contains 83.0 g calories of water as a food ingredient contains complete nutrition that the body needs.

DISCUSSION

Based on analysis from a literature review with a discussion of the effect of dragon fruit on increasing hemoglobin levels in adolescent girls. The author chose 10 (ten) journals consisting of 1 international journal and 9 national journals. These ten journals have in common that the results of their research show a significant relationship between the interventions given and increasing hemoglobin levels in conditions of anemia.. From research conducted by (Meti et al., 2021) for 1 day with 100 grams of dragon fruit, the results showed that after being given the intervention in the green bean group and the dragon fruit group there was a difference in Hb levels before and after treatment, the green bean group had an average increase of 0.3346 gr/dl while in the dragon fruit group had an average increase of 0.1760 gr/dl. Thus, giving green beans is better in increasing Hb levels compared to giving dragon fruit.

On research (Decy et al., 2023) which was carried out on teenage girls who were divided into 2 groups and were given intervention for 14 days. The average Hb level in the experimental group before being given the intervention was 10,725 gr/dL after being given dragon fruit was 12,280 gr/dL. Meanwhile, in the control group before intervention it was 10.815 gr/dL and after being given Fe tablets alone it was 11.550 gr/dL. The results of the paired test p-value were 0.000 and the independent t test showed a p-value of 0.000 < 0.05. The increase in Hb levels was statistically significant.

In research (Ratna et al., 2023) Regarding the Effectiveness of Dragon Fruit and Date Juice on Hemoglobin Levels in Adolescent Girls. After 15 days, 200 grams/day of dragon fruit intervention was given. showed that the hemoglobin levels of young women before giving the combination of dragon fruit and Fe tablets had a mean value of 12.982, while the hemoglobin levels of young women after were given a mean value of 15.991. The increase in Hb levels was statistically significant.

Based on research (Ambar & Titin, 2023) Regarding the comparison of giving dragon fruit and beetroot to adolescent Hb levels, it shows that after 14 days of intervention given dragon fruit juice and beetroot juice to young women, 200 grams/day, before giving dragon fruit the average = 10.225 gr/dl and after giving dragon fruit average = 10,650 gr/dl. The Hb level of female teenagers before giving beets was on average = 10.342 gr/dl and after giving beets the average = 11.017 gr/dl. And there is an effect of giving dragon fruit juice on increasing hemoglobin levels in adolescent girls.

The results of research conducted by (Ani & dkk, 2023) for 7 days with 350 ml of dragon fruit juice, the results showed that there was an increase in hemoglobin levels between before and after giving dragon fruit juice with iron tablets, namely the average value before the intervention (pretest) was 11,380 and the average value after the intervention was 11,650. It can be seen that the group given dragon fruit juice had an average difference in increase in hemoglobin levels of 0.260 (SD=0.2366) and red guava juice had an average difference in increase in hemoglobin levels of 0.630 (SD=0.3529). The results of statistical tests using T-independent with a confidence level of 95% showed that the significance value of giving dragon fruit juice and red

guava juice with iron tablets on the increase in hemoglobin levels of anemic adolescent girls was p=0.013 with α=0.05. So there is a difference in effectiveness between giving dragon fruit juice and red guava juice with iron tablets on the hemoglobin levels of anemic teenage girls at the Ummahatul Mukminin Islamic Boarding School, Pekanbaru City.

From the research conducted (Rohanah et al., 2023) The results of adolescent hemoglobin in the intervention group were obtained. Pretest with an average score of 10.67 (SD 0.66) and post-test 12.53 (SD 1.43). The p value shows p=0.001 so it can be concluded that Ha is accepted, so it is found that there is an effect of giving dragon fruit juice to anemic teenagers. The same results were shown in the control group (administering beetroot juice). The pre-test score showed 10.73 (SD 0.78) and post-test 12.03 (SD 0.56). The p value shows p=0.001 so it can be concluded that there is an effect of giving beetroot juice to anemic teenagers at 200 ml/day for 6 days.

On research (Ester & Tonny,2023) Regarding the Effect of a Mixture of Hylocereus Polyrhizus Juice (Red Dragon Fruit) and Moringa Leaf Flour on Hemoglobin Levels in Adolescent Girls who were given for 14 days with 100 ml dragon fruit juice, there was an increase in hemoglobin. In treatment group 1, there was an average increase in hemoglobin levels of 2.2 g/dl, where the previous average hemoglobin level was 13.3 g/dl, and after being given a mixture of Hylocereus polyrhizus juice and Moringa leaf powder for 14 days it increased to 15.5 grams/dl. Likewise, in the group given intervention 2 (Hylocereus polyrhizus juice), there was an increase in hemoglobin levels of 1.1 g/dl, while the average hemoglobin level before being given the intervention was 13.1 g/dl and after 14 days of being given red dragon fruit juice. there was an increase in Hb levels to 14.2 g/dl.

Based on research conducted by (Ummi et al., 2023) The results obtained reported changes in hemoglobin levels in the control group, hemoglobin levels decreased in almost all respondents with an average decrease of 1.4 g/dL, from 10.72 g/dL to 9.28 g/dL. Meanwhile, in the intervention group, there was an increase in all respondents after receiving boiled chicken eggs and dragon fruit intervention, with an average increase in hemoglobin levels of 4.4 g/dL, from 9.12 g/dL to 13.51 g/dL. This was seen there was an increase in hemoglobin levels in young women, given for 5 days with 36 grams/day of eggs and 365 grams/day of dragon fruit.

In research (Novi & Heni, 2023) which was carried out for 7 days by giving 500 grams of dragon fruit. Client hemoglobin results A and P after being given dragon fruit juice and anemia training for 7 days. The results of the hemoglobin examination in both clients increased and were stable. Hemoglobin before the intervention was given to client A had an Hb of 11.4gr/dl while client P had an Hb of 11.3gr/dl. After the intervention was given, the increase occurred in client A by 12.6gr/dl and client P by 13.8gr/dl.

The results of research conducted by (Santi et al, 2021) which was carried out for 7 days with 250 ml of dragon fruit juice. The average hemoglobin level before the red guava juice intervention was 13.18 gr / dL. The average value of hemoglobin levels

after the red guava juice intervention was 14.71 gr/dL. The average value of hemoglobin levels before the red dragon fruit juice intervention was 13.13 gr/dL. The average value of hemoglobin levels after the dragon fruit juice intervention. red was 15.46 gr/dL, there was no significant difference in the effectiveness of hemoglobin levels after intervention in the red guava and red dragon juice groups.

Anemia causes a reduction in the number of red blood cells or the amount of hemoglobin in red blood cells, so that the blood cannot carry oxygen in the amount needed by the body. Anemia is generally characterized by low levels of hemo globin below normal values so that the fulfillment of the body's physiological needs is reduced (Sayogo, 2019.) This causes a decrease in the blood's ability to carry and bind oxygen because around 98% of the total oxygen is transported by the blood via hemoglobin. Symptoms that arise due to anemia are known as "5" (weak, tired, lethargic, tired, and inattentive) and can be accompanied by headaches, dizzy eyes, easy drowsiness, and difficulty concentrating. (Briawan, 2020).

Factors that cause anemia include low intake of iron and other nutrients such as vitamins A, C, folic acid, riboflavin and vitamin B12. Apart from that, the occurrence of chronic bleeding in the digestive tract caused by worm infestation, damage to red blood cells caused by malaria, a history of pregnancy and childbirth and due to menstruation, apart from that it is also influenced by socio-economic, educational and nutritional status (Argana, 2021). The impacts that occur if teenagers experience anemia include delayed physical growth, behavioral and emotional disorders. This can affect the growth process and development of brain cells so that it can cause decreased body endurance, easy weakness and hunger, disturbed learning concentration, decreased learning achievement and can result in low work productivity. (Sayogo, 2019.)

Prevention of anemia during adolescence can be done by increasing the amount of iron consumed from natural sources, especially animal source foods that are easily absorbed such as liver, meat and fish. It is also necessary to increase consumption of foods that contain lots of vitamins C and A (fruit and vegetables) to help absorb iron and help the process of forming Hb. Various efforts can be made to prevent and treat anemia both pharmacologically and non-pharmacologically. Pharmacological efforts can take the form of Fe tablet supplementation. Often consuming Fe causes side effects such as nausea, vomiting, diarrhea and dizziness. These effects make Fe tablets less attractive to the public. Meanwhile, non-pharmacological therapy can be used to increase Hb levels in anemia sufferers. Another alternative way to prevent and treat anemia non-pharmacologically is consuming dragon fruit (Astawan, 2021).

CONCLUSION

Based on the analysis and discussion in the literature review conducted : There is an effect of dragon fruit consumption on increasing hemoglobin levels in anemic adolescent girls; There are many processed dragon fruit products that can be consumed by young women as a source of iron, such as direct dragon fruit and dragon fruit juice to increase hemoglobin levels; The correct way to serve dragon fruit to increase

hemoglobin levels in anemic young women is served in the form of juice (100 ml, 250 ml, 350 ml, 500 ml) and served directly in the form of fruit (200 grams and 365 grams); The data above shows that when serving dragon fruit juice, the highest increase in Hb was found at 2.5 gr/dl, where 500 grams of dragon juice was given for 7 days and when serving dragon fruit directly, the highest increase in Hb was found at 4. 4 gr/dl with 365 gr/dl of dragon fruit for 5 days. So it can be concluded that a good increase in Hb is by consuming dragon fruit directly.

SUGGESTION

based on a journal review of suggestions for future researchers can increase insight and knowledge regarding various interventions carried out in the realm of midwifery to increase knowledge that is beneficial for anemic adolescent girls. For Educational Institutions can become reference material and a reading source in educational institutions so that it can broaden students' insight.

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