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## RESEARCH ARTICLE

URL of this article: <http://heanoti.com/index.php/hn/article/view/hn20418>

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### Education by Peer to Improve Knowledge About Anemia in Female Student

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#### ABSTRACT

Girls at high risk for anemia. One cause of anemia is the lack of knowledge about how to prevent anemia. Efforts to prevent anemia in adolescents can be done by their peers. This study aimed to determine the influence of counseling by peers on the knowledge of adolescent about anemia. Research carried out by using pretest-posttest without control group design. Data were collected through questionnaires. The results showed an increase in knowledge about anemia and how to prevent it. Before the activity, the proportion of girls who were knowledgeable only 58.8%, then increased to 75%. Suggested extension activities by peers can be developed in other schools, in order to prevent anemia in girls.

**Keywords:** Peers, Knowledge, Anemia

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#### INTRODUCTION

Prevalence of anemia among adolescent girls by Survey 2001 reached 57.1%. According Household health surveys in 1995 shows the rate of anemia for girls of 6.3 million people (57.1%).<sup>(1)</sup> Faridah (2006), research results found girls who suffer from anemia as much as 36.8%<sup>(2)</sup>, not unlike those found by Arumsari 2008 where adolescent girls as much as 38.3% patients with anemia<sup>(3)</sup> and Kirana (2011) who found anemia in adolescent girls as much as 36.8%.<sup>(4)</sup>

The result of Health Research (Riskesmas) in 2007 showed that the percentage of anemia in Indonesia on WUS is not pregnant ( $\geq 15$  years) in urban areas it was 19.7 persen.<sup>(5)</sup> Furthermore, the results show the percentage of anemia Riskesmas 2013 at the age of 15-44 years WUS by 35,3 percent.<sup>(6)</sup>

Adolescent girls is one of the vulnerable groups suffering from anemia. Adolescent girls are at higher risk of anemia compared to adolescent boys because of a few reasons, the first young women having menstrual periods each month, although in some studies show that no association between bleeding patterns with the incidence of anemia (Kirana, 2011). welds second is because it has the wrong eating habits, this happens because the girls want to trim to maintain the appearance that they are dieting and eating less, but a diet that is run is a diet that is not balanced with the needs of the body that can cause the body lack of substances important as iron.

Anemia in adolescents will impact on the achievement<sup>(7)</sup>, the decline in physical fitness<sup>(8)</sup>, and growth disorders so that the height and weight does not reach normal. Teenage pregnancy also gives effect to a long that is causing the death of the mother, the baby, or the risk of having a baby with low birth weight (Low Birth Weight Babies). In the cycle of human life, young women (10-19 years) is one group that is vulnerable to anemia. According to the Household Health Survey (Survey) In 2007, the prevalence of anemia among women of reproductive age (WUS) aged 15-19 reached 26.5%.<sup>(9)</sup> There are approximately 370 million women suffer from anemia due to iron deficiency

The main cause of anemia is because the low number and quality of the iron consumed, the presence of substances facilitating and inhibiting the absorption of iron in the body.<sup>(10)</sup> Besides that anemia in adolescent girls due to increased needs caused of menstruation each month. These conditions will be worse when teenagers deficient intake of energy, protein and micro-nutrients such as vitamin C, vitamin E and Zinc.<sup>(2)(3)(4)</sup>

Girls are mothers who would become pregnant. If women are anemic since adolescence the more severe condition when pregnancy.<sup>(11)</sup> Planting knowledge, awareness and experience about the importance of prevention of anemia since adolescence will be a positive influence on the situation in next cycle life, especially when it will soon become pregnant. Therefore, prevention of anemia in pregnant mother should start early, namely in the period before pregnancy, premarital period and adolescence.

Anemia prevention and treatment programs are implemented has not touched all segments prone to anemia, especially girls, especially girls and secondary school students who attended classes in Tsanawiah or boarding school. Educational institutions are less touched by the activities of health and nutrition programs, while they belong to groups vulnerable to anemia.

Therefore nutrition counseling is done on the prevention of anemia for girls conducted by their own friends (peers). Nutrition counseling is done by the students themselves, namely by forming small groups. Each group selected one to

participate in a training / counseling source. This research was expected to provide an understanding and awareness of the importance of prevention of anemia for women who start early.

**METHODS**

This study was conducted through interventions by using a pretest-posttest design with no control group. Counseling groups were established in each schools called peer groups. Each class consists of 10 students per groups. Each group was selected one person who has been trained to become a counselor to member of group. Anemia prevention training of peer group motivators was conducted for a day on August 25<sup>th</sup>, 2016 at Pesantren Puteri Darul Arqam Makassar. The number of trained motivator candidates is 15 candidates. The training was conducted with lecture and discussion. Training materials includes : understanding and determination of anemia, symptoms of anemia, causes of anemia, impact of anemia, prevention of anemia, food to prevent anemia, and how to consume Fe tablets.

After training, followed by formation of counseling groups called peer groups. The number of group was 15 consists of 10 students. Each group had a motivator who becomes a counselor to groups on anemia prevention. Counseling by peer in each group was conducted every week. Counseling carried out in groups with peer approach. Counselors in the group were trained students. Counseling conducted through face to face and brochure distribution about anemia.

The samples were girls in particular who were studying in Junior High School and High School of Darul Arqam Boarding School Biringkanaya Makassar. Samples were selected by purposive sampling, that is a female students who lived at boarding school with a minimum education level of second grade in Madrasah Tsanawiyah (junior high school).

Data collected were knowledge of female students’s about anemia. The collected data was the female student’s knowledge about anemia. The data collection was done by filling a questionnaire distributed to all female students. The questionnaire was made in the form of closed questions about anemia and its prevention. The collected were analyzed descriptively.

**RESULTS**

Table 1. Knowledge of Nutrition Teen Daughter of Anemia Prior Research

| Knowledge                    | Know |      | Do not know |      |
|------------------------------|------|------|-------------|------|
|                              | n    | %    | n           | %    |
| a. Heard the term anemia     | 107  | 93.9 | 7           | 6.1  |
| b. Definition of anemia      | 94   | 82.5 | 20          | 17.5 |
| c. Signs of anemia           | 98   | 86.0 | 16          | 14.0 |
| d. causes anemia             | 57   | 50.0 | 57          | 50.0 |
| e. Impact of anemia          | 92   | 80.7 | 22          | 19.3 |
| f. How to prevent anemia     | 71   | 62.3 | 43          | 37.7 |
| g. sources of iron vegetable | 73   | 64.0 | 41          | 36.0 |
| h. sources of iron in animal | 81   | 71.1 | 32          | 28.1 |
| i. Tablet-added blood        | 61   | 53.5 | 53          | 46.5 |
| j. How to drink iron tablet  | 10   | 8.8  | 104         | 91.2 |

Table 2 shows the knowledge of female student about anemia. Student’s knowledge about anemia was good, except knowledge about Fe tablet and how to consume Fe tablet was poor.

Table 2. Miss Teen Nutrition Knowledge Level Before Activity Extensionby Peers

| Knowledge level | n  | %    |
|-----------------|----|------|
| Good            | 67 | 58.8 |
| Poor            | 47 | 41.2 |
| Total           | 71 | 100  |

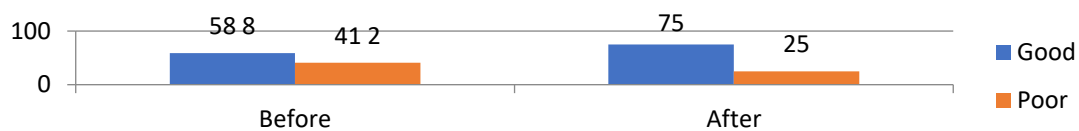


Figure 1 The state of Nutritional Sciences Teenage Daughter between Before and After Illumination by Peer

Knowledge of female student of anemia in Pondok Pesantren Puteri Darul Arqam Makassar had beed increased after implementation. Before counseling through peers, knowledge of female students about anemia was poor (41.2%) and decreases to 25% after implementation.

**DISCUSSION**

Guidance on preventing anemia by peers conducted over four weeks. Extension materials including the understanding of anemia, causes and effects of anemia for girls, as well as ways of prevention and treatment of anemia. Knowledge girls in boarding school Darul Arqam before it are mostly still quite low. Only 58.8% were classified as having a good knowledge. Low knowledge of girls is one of the risk factors of anemia in girls. Having conducted

outreach activities by peers, a change in the level of knowledge about the prevention of anemia girls. Proportion of girl student having a low knowledge level decreased from 41.2% before to 25% activity after activity. Outreach activities undertaken by their peers for four weeks can reduce the number of students who are knowledgeable lower by 16.2%.

Extension activities by peers is able to increase the knowledge of girls (female students). The same thing has been reported by Aisha (2010) in which the educational activities by peer group can increase WUS knowledge about the prevention of anemia in the city of Semarang.<sup>(12)</sup> The results of these activities in line with the results Chairani (2006) reported no difference adolescent knowledge on prevention of drug abuse after attending self-help groups than ever before.<sup>(13)</sup> The same thing was also reported in the study Ernawati (2000), where the knowledge which pregnant women about the prevention of anemia in pregnant women increased significantly after the extension.<sup>(14)</sup>

The results of these activities indicate that the empowerment of students as an educator in the prevention of anemia for his friends, has the ability that needs to be exploited in changes adolescent behavior, especially in the prevention of nutritional problems. The peer group is a means to help change someone's behavior, because in the peer group of individuals get support information, so that intervention in the activities of peer groups can help members of a peer in the prevention of iron deficiency anemia, especially in the teenage residents of boarding. This is supported by Hitchcock, et al. (1999) that the peer and social environment has a strong impact on teenagers to diet, nutrition science education and more.<sup>(15)</sup> Likewise disclosed Pender (2002) that the processes that occur within a peer group-oriented activity and cognitive behavior.<sup>(16)</sup>

### CONCLUSIONS

Peer group has an important role in providing information about how to prevent anemia in adolescents. Education on the prevention of anemia by peers can improve knowledge female students in Pondok Pesantren Darul Arqam Puteri Makassar. Counseling by peers need to proceed developed in boarding schools and other public schools.

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