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The Effectiveness of Cebra (Lecture, Brainstorming) and Cebook (Lecture, Booklet) Method to Increasing the Knowledge and Attitude Towards Genitalia Hygiene in Female Adolescent Aged 15-18 Years Old

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***Abstract*---*This study analyzed the effectiveness of health education methods about genital hygiene in female adolescent. This research used quasy-experiment pre-post-test control group design. A total of 60 girls aged 15-18 years were choosen using total-sampling technique. Respodents were divided into 2 groups that were given different intervention. Data analyzing used Wilcoxon Signed-Rank Test and Mann-Whitney U-Test with $\propto = 0.05$. The results showed significant increase in the knowledge and attitudes of both group after given Cebra and Cebook intervention ($p = 0.000$). There was no difference in knowledge ($p = 0.054$) and attitude ($p = 0.067$) between the two groups.*

Keywords*---*genitalia hygiene, booklets, brainstorming, lecture, reproduction health

I. Introduction

Reproductive health care is the main focus of health care providers[1]. The habit of doing genital hygiene in the less correct way might result in problems in the female organs[2]. That is due to female adolescent lack knowledge on how to maintain and care for genital hygiene[2,3]. Knowledge is a predictor of attitude in adolescents to do genital hygiene especially during menstruation[4]. Women tend to use commercial or homemade products to clean genital organs[5]. Various types of products used by women will be in contact with the genital mucosa[6]. Use of products such as feminine hygiene spray, wet tissue, douching, and cleansing soap have an impact on allergic reactions to the disruption of microorganisms that normally are in the genitalia[7].

The low knowledge or awareness of genital hygiene becomes one of the causes of cervical cancer in addition to underage wedding, multiparity, and low socioeconomic status[8]. Other than that, bad genital hygiene also trigger HPV infections in the cervix and urinary tract infections that may turn into cancer[9,10,11]. HPV infection in the cervix may develop into cancer if it is not well-treated and prevented with the proper genital hygiene [9]. Around 570.000 cases of cancer per year occur in women in the world[12,13]. The highest number is cervical cancer due to HPV virus with 530.000 cases per year[12,13]. In addition, HPV can cause vaginal cancer[14]

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The high number of cases required maintenance and treatments forgenitalia. One effort is to increase knowledge and attitudes such as providing education that is easily understood[15]. Improved health knowledge can be obtained from health education and support to develop the confidence to implement it[16]. The brainstorming method has a role in improving awareness and attitude towards genital hygiene[17]. This method generates opinions about a certain topic as well[18]. On the other hand, learning methods that revolve around the use booklet are considered to be able to increase one's knowledge[19,20]. Although the impact cannot be considered big, the use of booklet can be considered pivotal[21]. Therefore, this study aims to analyze the differences between the Cebra method (Lecture and brainstorming) and Cebook (Lecture and booklet) in increasing knowledge and attitudes towards genital hygiene of female adolescent.

II. METHOD

Research Design and Sample Selection

This research was conducted at one of the High Schools in Lumajang, East Java in July 2017. The sample selected was female adolescent aged 15-18 years. A total of 60 students were divided into 2 groups, namely 30 respondents in the treatment group and 30 others in the control group. Samples were selected using total sampling as a non-probability technique. This research used quasi-experimental design applied with pre and post-test control group.

Research Variables

The variables analyzed were the use of the Cebra method (Lecture and brainstorming), the Cebook method (Lecture and booklet) as an independent variable. While the dependent variable are knowledge and attitudes towards genital hygiene in young women. The knowledge parameters that areresearchedinclude: definition of genital hygiene, purpose of genital hygiene, influencing factors towards genital hygiene, various kinds of genital hygiene, how to do genital care, and the positive impact of doing genital hygiene. The respondents' attitudes were analyzed from statements representing the level of attitudes of young women towards genital hygiene and how to do it correctly.

Research Stages

At the first meeting, respondents filled in an informed consent form and pre-test. Next, the researcher gave an intervention in the form of a lecture on genital hygiene. The lecture method is given 2 times in 2 weeks with a duration of 60 minutes each. At the second meeting, the treatment group received an intervention through a 60-minutes brainstorming to explore respondents' ideas and thoughts about genital hygiene. The treatment respondents formed 3 small groups consisting of 10 people, each accompanied by 1 facilitator and 1 note taker. In addition, the control group gets one booklet which contains the material of genital hygiene. Respondents were given 60 minutes to understand the contents of the booklet and given the opportunity to ask questions if there is material that was not understood. The material used was adopted from the concept of personal hygiene proposed by Mubarak, Indrawati, and Susanto[22,23]; and Sallika[23]. After all interventions were given, the two groups of respondents filled out thepost-test within 2 days after the intervention was given.

Research Instrument

The knowledge parameter was measured using a questionnaire genital hygiene which has been modified[24]. The knowledge questionnaire used a Guttman nominal scale.

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The assessment results are categorized into three: good (76-100%); sufficient (56-75%); less (<55%)[25].

Attitude parameter was measured using likert scale with a checklist of observed question[26] and questionnaire[24]. The questionnaire contains questions about the perception of an object and feelings of pleasure or displeasure. The knowledge and attitude questionnaires are declared valid and reliable which are then used for pre-test and post-test.

The collected data is then analyzed using the Wilcoxon Signed Rank Test andMann Whitney U Test with a significance level $\propto = 0.05$. This study has passed the research ethics test at the Faculty of Nursing, Universitas Airlangga with test number 454-KEPK.

III. Result

Demographic data of respondents

All respondents in this study were female adolescent with an average age of 16 years. The 43% of the respondents who were given Cebra intervention (Lecture and brainstorming) were 16 years old. Among the respondents aged 15 and 18 years old, there are three youngest respondents. In groups with Cebook intervention (Lecture and booklet), the oldest respondents (from 16-18 years old) are 33.3% and the lowest age of 15 years are 10% (**see table 1**).

Female Adolescent's Knowledge after Cebra and Cebook Interventions

The respondents' knowledge in the treatment and control groups after pre-test can be considered sufficient (53.3%). Respondents in the treatment group experienced an increase as can be seen in the post-test where as much as 76.7% is included in the good category, while in the control group the increase was 80%. In the treatment and the control group, there were no respondents who were included in the less category. Differences in the way Cebra and Cebook provide knowledge on genital hygiene in female adolescent can be seen from the test results of Wilcoxon Rank Test between the current knowledge after the intervention through pre-test and post-test with p = 0,000 (p <0.05). This value indicates that there is a significant effect of the Cebra and Cebook method on the knowledge of genital hygiene. Test results of Mann Whitney U Test after the post test reveals the level of knowledge in the treatment and control groups as p = 0.065 (p> 0.05).> This shows that there is no significant difference in the knowledge of female adolescent on genital hygiene between the treatment group and the control group. Based on **table 2**, the average value of the post-test knowledge shows that the Cebra group (82) has a smaller value compared to Cebook (86). The standard deviation value in the Cebra group was 8.056 while in the Cebook was 9.277.

Female Adolescent's Knowledge after Cebra and Cebook Interventions

The attitude of the respondents in the treatment group and the control group as seen in the pre-test shows that majority of them had sufficient attitudes towards genital hygiene (treatment group scored 83.3%; control group scored 76.7%). As seen in the post-test, there was an increase in the attitude of both groups in which 27 respondents (90%) increased from the sufficient category into the good category. The control group had an increase in attitude, in which 26 respondents (86.7%) were included in the good category. Differences in the way Cebra and Cebook provide knowledge on genital hygiene in female adolescent can be seen from the test results of the Wilcoxon Rank Test between the current knowledge after the intervention through pre-test and post-test with p = 0.000 (p <0.05). The test results of Mann Whitney U Test on the attitude of both groups as seen in the post-test obtained the value of p = 0.067 (p> 0.05). This value indicates that there is no significant difference in the attitudes of female adolescent in genital

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hygiene between the treatment group and the control group. Average value of the post-test shows that the attitude of the Cebra method group (88.40) is greater than the Cebook group (84.87) (**table 3**).

IV. Discussion

Providing education as an intervention in promoting health increases the knowledge towards genital hygiene, especially menstrual health,effectively[1]. The results showed that health research provided through the Cebra and Cebook intervention towards groups could have a significant influence on improving the knowledge and attitudes towards genital hygiene.

The level of knowledge of female adolescent in both groups increased from sufficient to good. This increase was shown by 23 respondents from the Cebra group who showed improved knowledge, where previously only 1 person was included in the good category. As many as 24 respondents in the Cebook group were considered to have good knowledge, whereas previously only 3 respondents were in the good category. The results showed that the Cebra and Cebook method could assist in providing information and were well received by respondents. Knowledge is influenced by several predisposing factors such as educational status, attitudes, values, and beliefs[27]. Strategies to provide health education interventions can significantly change awareness and behavior towards genital hygiene[28].

Health education with booklet as a media shows higher average values on knowledge variables compared to brainstorming. This is caused by the use of sensory devices in the learning process. The combination of hearing and sight (35-55%) can increase knowledge compared to just hearing (13%)[29,30]. Booklet as a media has infographicsthat are interesting and easy to understand because they are equipped with graphic images.

Collaborative health education using methods and media will provide a good stimulus in the learning process, increase interest and facilitate understanding of the information conveyed. Changes in behavior can be produced by giving a stimulus with attention. Individuals who have experienced the learning process will experience behavioral changes in aspects of knowledge, attitude, and actions (psychomotor).

The increase in knowledge was also accompanied by a change in attitude after the administration of Cebra and Cebook interventions. Attitude is a closed response to a particular stimulus or object that involves individual opinions and emotions[31]. Both of these factors support the change in attitude that was originally considered to be less into good. Besides knowledge, attitudes are also influenced by thoughts, beliefs, and emotions[31]. Stimulus received by individuals will generate interest and trigger the development of interest in assessing the good or bad of the stimulus. In addition, parents have a role in sharing information about personal hygiene[3]. Health programs on television, programs held by health professionals in schools, teachers, and parents have a major influence on the delivery of relevant knowledge around the proper genital hygiene [1,32]. The brainstorming method is able to bring up ideas and information from a group[33]. This method is used to define problems or consider possible solutions to it in order to effectively develop a positive attitude. The brainstorming method involve all respondents to propose related opinions on genital hygiene without any party who disagrees. Respondents have experience and knowledge gained previously from the lecture method. Next, the brainstorming method assists respondents in getting new information and strengthening their understanding. The final result achieved is the increased awareness of female adolescent towards their attitudes on genital hygiene, in which it increased from less to the good category.

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Cebra and Cebook methods do not have a significant difference in the level of effectiveness. However, the use of the Cebook method gives a better value of knowledge compared to Cebra. That is because the application of health education by the Cebook method is given on an ongoing basis, such as lecturing for two meetings and the respondents were given a booklet afterwards. The booklet gives female adolescent who participated easier access to information in case they forgot or did not take notes of the lecture. Meanwhile, the Cebra method is better able to improve attitudes toward genital hygiene compared to the Cebook method. Female adolescent receives information in the learning process that is continued by the process of resolving the problems presented. The brainstorming method makes it easy for respondents to ask questions in the process of solving problems. The duration used for this method is around 30-60 minutes[34]. This method is also considered capable of increasing a more positive attitude[33].

However, this research has obstacles as some respondents feel ashamed to ask questions or opinions, making it difficult for researchers to conduct discussions. Thus, researchers minimized barriers by asking questions to respondents who are less active. In addition, the provision of interventions in the same location can trigger a bias in the results of the study.

V. Conclusion

Health education using the Cebra method (Lectures and brainstorming) and the Cebook method (Lecture and booklet) was able to improve the knowledge and attitudes of young women towards genital hygiene. The Cebra method is considered to be more capable of improving the attitudes of female adolescent in doing genital hygiene. On the other hand, the Cebook method is more effective in increasing the knowledge of female adolescent about genital hygiene. Health education using the Cebra and Cebook methods can be applied as a solution to overcome reproductive health problems and increasing the knowledge and attitudes towards personal hygiene of genitalia in adolescent.

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Table 1:Demographic data of respondents

Demographic Data of Respondents		**Cebra**		**Cebook**	
		n	**%**	**n**	**%**
Age	15 years old	3	10	3	10
	16 years old	13	43	10	33.3
	17 years old	11	37	7	23.3
	18 years old	3	10	10	33.3
	Total	30	100	30	100

Table 2:Level of Knowledge Before and After Intervention

Knowledge Category	**Group**							
	Cebra				**Cebook**			
	Pre-test		**Post-test**		**Pre-test**		**Post-test**	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**

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Less	13	43.3	0	0	11	36.7	0	0
Sufficient	16	53.3	7	23.3	16	53.3	6	20
Good	1	3	23	76.7	3	10	24	80
Total	30	100	30	100	30	100	30	100
Average	82				86			
Deviation Standard	8.056				9.277			
Wilcoxon Test	p=0.000				p=0.000			
Mann Whitney pre-post test			p=0.065					

Table 3:Level of Knowledge Before and After Intervention

Knowledge Category	**Group**							
	Cebra				**Cebook**			
	Pre-test		**Post-test**		**Pre-test**		**Post-test**	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Less	4	13.3	0	0	7	23.3	0	0
Sufficient	25	83.3	3	10	23	76.7	4	13.3
Good	1	3	27	90	0	0	26	86.7
Total	30	100	30	100	30	100	30	100
Average	88.40				84.87			
Deviation Standard	7.956				7.718			
Wilcoxon Test	p=0.000				p=0.000			
Mann Whitney pre-post test			p=0.067					

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