# The Effect of Educational Videos on Balanced Nutrition and Chronic Energy Deficiency on the Level of Women Reproductive Age Knowledge

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## Article Info ABSTRACT

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Fatasya Ayu Febrina Kusuma Husada University Surakarta Email: febrinafatasyaayu@gmail.com Background: Chronic Energy Deficiency (CED) is a condition of malnutrition that occurs when the food intake consumed does not meet the body's needs and lasts for a long period of time (chronic). Handling the problem of CED requires a holistic approach, one of which is by using educational video-based health education to increase public awareness of the importance of balanced nutrition and meeting sufficient energy needs. This study aims to determine the effect of educational videos on balanced nutrition and Chronic Energy Deficiency (CED) on the level of knowledge of Women of Reproductive Age (WRA) in Bonangan Hamlet, Baturan Village, Colomadu District. **Methods:** This study uses a quantitative approach with one group pre-test and post-test design. The study population was 56 respondents of women of reproductive age, with a sample of 42 respondents Bonangan Village, Colomadu District taken using simple random sampling. The research instrument was a questionnaire on WRA knowledge.Data analysis was carried out using the Mann-Whitney test.

**Results**: The results of the Mann-Whitney test showed the influence of Education with videos about balanced nutrition to prevent Chronic Energy Deficiency (CED) on the knowledge of Women of Reproductive Age (WRA) in Bonangan Village, Colomadu District with a p value of  $0.000 \le 0.005$ .

Conclusion: Videos about Balanced Nutrition can be an alternative to increase the knowledge of Women of Reproductive Age (WRA) on how to prevent the occurrence of Chronic Energy Deficiency (CED).

**Keywords:** Education, Balanced Nutrition, Chronic Energy Deficiency (CED), Women of Reproductive Age (WRA)

#### INTRODUCTION

Women of Repoductive Age (WRA) are women who are still in the reproductive stage (from the first menstruation to the end of menstruation), which are approximately 15 to 49 years old, with unmarried, married, or widowed status, who still have the potential to have children (Oktari, 2021). In 2020, the number of WRA worldwide reached around 1.2 billion people,

which is equivalent to 18% of the total global population with the incidence of Chronic Energy Deficiency (CED) as many as 1,000 people (Faizaturrahmi & Aprianti, 2023).

Women of Repoductive Age (WRA) who suffer from CED before the birth of a child can increase the risk of contractions, or infections (Aprilianti & Syah R. Purba, 2018). It can also affect daily life, for example through reduced

productivity at work or reduced body compensation, which can increase the risk of infection or disease. (Fauziah & Ashari, 2024)

Chronic Energy Deficiency (CED) is a malnutrition condition that occurs when the intake of food consumed does not meet the body's needs and lasts for a long period of time (chronic) (Dawis et al., 2023). Data from the 2023 Indonesian Health Survey shows that 24.7% of 20-24 years old, 25-29 years old 13.4%, 30-34 years old as many as 9.0% of non-pregnant women in Indonesia experience Chronic Energy Deficiency (CED), while 20-24 years old as much as 26.9%, 25-29 years old as much as 16.6%, 30-34 years old as many as 10.3% of pregnant women experience Chronic Energy Deficiency (CED). prevalence of Chronic Energy Deficiency (CED) according to data from the 2023 Indonesian Health survey report, in Women of Repoductive Age (WRA) who are not pregnant in Central Java is 22.5%. The high incidence of Chronic Energy Deficiency (CED) indicates the need for improvement or mitigation efforts in order to reduce the prevalence of CEDs incidents (Bunker & Pandey, 2021).

Nutrition in Indonesia is generally still dominated by malnutrition problems, one of which is CED (Sari et al., 2024). CED in women can have an impact on nutritional status in the next life cycle period, which is referred to as intergenerational impact (Putri & Helmyati, 2024). One of the most important factors in assessing health is assessing nutritional status before pregnancy (Novitasari et al., 2019). The factors that affect the incidence of Chronic Energy Deficiency (CED) can be divided into two categories, namely direct causes and indirect causes (Anggraini, 2021). Direct causes include energy consumption levels, protein consumption, the presence of infectious diseases, and menarche age (Mahmudah et al., 2022). Meanwhile, indirect factors include knowledge about preconception nutrition and physical activity levels (Arfivanti et al., 2020) The impact of chronic energy deficiency (CED) can have serious effects, including causing anemia, increasing the risk of maternal death during childbirth, as well as giving birth to babies with low birth weight (BBLR), premature delivery, birth defects, and even infant mortality (Nurul Aini, Whayu Dwi A., 2024).

Handling the problem of CED requires a holistic approach, involving improving diet, providing nutritional supplements, and health education to increase public awareness about the importance of balanced nutrition and meeting

sufficient energy needs (Putri & Helmyati, 2024). In facing this challenge, nutrition education is one of the strategic approaches (Ariwati et al., 2024). Research shows that video-based education methods are effective in increasing people's knowledge about nutrition (Rahayu et al., 2022). Knowledge about nutrition has a significant effect on the nutritional status of individuals (Prabandari et al., 2023). Previous studies have shown that educational videos significantly increase the knowledge and food intake of adolescent girls who experience CEDs. In addition, other research revealed that animated videos are superior to conventional presentations in increasing knowledge and attitudes towards CED prevention (Nanda Mentari et al., 2022). Previous studies have also shown that there is a relationship between knowledge and the risk of Chronic Energy Deficiency (CED) (Mustafa et al., 2022). In line with the previous research with the title "The Influence of Nutrition Education Videos on the Knowledge and Attitudes of Applying Balanced Nutrition in Women of Reproductive Age " states that the provision of interventions in the form of audiovisual media with short film videos can increase knowledge about balanced nutrition in Women of Reproductive Age (WRA) (Fadhilah & Noerfitri, 2023).

Based on a preliminary study conducted in Bonangan Village, there were 56 Women of Reproductive Age (WRA. Based on data obtained from village cadres from 56 WRA, there are 8 (21%) Women of Reproductive Age (WRA) who experience Chronic Energy Deficiency (CED) with a long-term measurement of <23.5 cm. The results of interviews conducted on 3 Women of Repoductive Age (WRA) aged 32 years, 20 years, and 28 years in Bonangan village, it is known that all WRA (3 WRA) do not know about the importance of balanced nutrition in maintaining body health, especially to prevent Chronic Energy Deficiency (CED), have never

received information about Chronic Energy Deficiency (CED), and also do not know how to determine balanced nutrition in daily food. Therefore, the researcher is interested in conducting research on the influence of educational videos on balanced nutrition to prevent Chronic Energy Deficiency (CED) on Women of Repoductive Age (WRA) in Bonangan Hamlet, Baturan Village, Colomadu District.

#### **METHOD**

This research provides an analytical approach with a one group pre test and post test design approach, which is one group of experiments is given treatment by researchers by being given education on Balanced Nutrition and Chronic Energy Deficiency (CED). The inclusion criteria in this study are Women of Reproductive Age (WRA) from the age of 15-35 years and willing to be respondents. The exclusion criteria in this study are WRA who experience difficulties or communication disorders and respondents who experience severe diseases with complications. The campaign will be held in May 2025 in Bonangan Hamlet, Baturan Village, Colomadu District, by involving Women of Reproductive Age aged 15-35 as a child. A sample of 42 people was selected using the probability random sampling method. The instrument used in this research is the WRA Knowledge of Balanced Nutrition and CED which was composed of 25 questions that focused on 4 aspects, namely the definition of CED, the causes of CED, the impact of CED, and the prevention of CED. The instrument has been tested for validity using the Pearson Moment Product by the researcher with a value of r > r table value of 0.304. So that 25 questions or questionnaires are declared valid. The research instrument was a questionnaire of WRA knowledge about balanced nutrition and CED, and educational videos. The knowledge questionnaire consisted of 25 questions that had been tested for validity and rehabilitation with a Cronbach alpha value of 0.950, which means that 25 questions were declared reliable. Furthermore, this study has obtained ethical permission from the Health Research Ethics Committee of Dr. Moewardi Regional Hospital Surakarta with document number 1.029/V/HREC/2025.

#### RESULTS

1.1 Characteristics of Respondents
 Table 1. Frequency Distribution of
 Respondent Characteristics by Age,
 Marital Status, Education, and
 Occupation (n=42)

Characteristics	Frequency (f)	Percentage (%)
Age		
26-35 Years	25	59.5
15-25 Years	17	40.5
Total	42	100.0
Marital Status		
Kawin	29	69.0
Unmarried	13	31.0
Total	42	100.0
Education		
Bachelor/D3	18	42.9
High	21	50.0
School/Vocational		
School		
SMP	3	7.1
Total	42	100.0
Work		
PNS	5	11.9
Private	14	33.3
Self employed	5	11.9
IRT	6	14.3
Student/Student	12	28.6
Total	42	100.0

Source: Primary Data, 2025

Based on table 1. above, it shows that the majority of respondents in the study were aged 26-35 years old (59.5%), the marital status of the majority respondents had marital status as many as 29 people (69.0%), while, the education of the majority respondents was educated in high school/vocational school as many as 21 people (50.0%) and the majority worked as private employees as many as 14 people (33.3%).

Table 2. Frequency Distribution of Respondents' WRA Knowledge Level Before Giving and After Given Balanced Nutrition Education Video and CEDs (n=42)

Level Knowledge	Frequency (f)	Percentage (%)
Before		
Good	-	-
Enough	20	47.6
Less	22	52.4
Total	42	100.0
After		
Good	39	92.9
Enough	3	7.1
Less	-	-
Total	42	100.0

Source: Primary Data, 2025

Based on table 2. above, it shows that the level of knowledge of WRA respondents in the study before being given a balanced nutrition education video and the majority of CEDs were less than 22 people (52.4%), while after being given a balanced nutrition education video and the majority of CEDs were good as many as 39 people (92.9%).

3.2 Normality Test
Table 3. Data Normality Test

Group	p-value	Conclusion
Pretest	0,017	Abnormal
Posttest	0,008	Abnormal

Source: Primary Data, 2025

Based on table 3. significance values of 0.017 and 0.008 were obtained  $\leq$  meaning that the data was not normally distributed. Because the data is not normally distributed, the bivariate test used is *the Mann-Whitney Test*.

Table 4. The effect of educational videos on balanced nutrition and Chronic Energy Deficiency (CED) on the level of knowledge of Women of Repoductive Age (WRA) in Bonangan Hamlet, Baturan Village, Colomadu District.

Research variables	Mean (SD)	Median (MM)	p-value
The level of knowledge of fertile women (WRA) before being given video education	21.05 (2,083)	21.00 (18-40)	0.000
Fertile women's knowledge level (WRA) after being given video education	52.67 (5.986)	52.00 (25-64)	

Source: Primary Data, 2025

After a statistical test was carried out using the Mann-Whitney test on the level of knowledge before and after being given a balanced nutrition education video and CED, a significant value of p was obtained with a value of  $0.000 \le 0.005$ , which means that Ho was rejected and Ha was accepted or there was an influence of video education on balanced nutrition to prevent Chronic Energy Deficiency (CED) on the knowledge of Women of Repoductive Age (WRA) in Bonangan Village, Colomadu District.

#### DISCUSSION

The characteristics of the respondents in this study include several aspects including age, marital status, education and occupation, which can provide an overview of the background of respondents who participated in the research and its relevance to balanced nutrition knowledge and CED at WRA Bonangan Hamlet, Baturan Village, Colomadu District.

Characteristics of respondents based on age, it can be concluded that the majority of respondents in the study were 25 years old (59.5%), and the rest were 15-25 years old (40.5%), this is in line with BKKBN (2024) that Women of Reproductive Age (WRA) are women in the age range of 15-49 years. The data obtained showed that the majority of

respondents in the study were mostly Women of Reproductive Age (WRA) who were in the group of early to middle adulthood. According to previous studies, respondents in the age group of 26-35 years are in the marriage phase and are starting or are undergoing the role of a mother, so health awareness of the importance of balanced nutrition and family welfare will tend to increase (Fadhilah & Noerfitri, 2023). At this age, the experience and need for health information, especially regarding nutrition and the prevention of Chronic Energy Deficiency (CED), tend to be higher. Respondents in this group are usually already through the pregnancy phase or are planning a pregnancy, so understanding of balanced nutrition becomes more relevant and needed in daily life. This shows that early adulthood is the phase when a person has matured in receiving information about balanced nutrition.

Meanwhile, the age range of 15-25 years generally consists of women who are in the late adolescence to early adulthood phase. At that age, education about balanced nutrition and CEDs is important to be provided, as a preventive effort. Adolescents need to live a healthy and responsible preconception life including physical, psychological, and social preparation to get married and become parents in adulthood. Sufficient knowledge about nutrition and health is needed to prepare for conception. Education during preconception period is one way that can be done to maintain the nutritional status and health of mothers and children (Marbun, 2022). According to previous research, several risk factors that cause CEDs include the amount and quality of food intake, nutritional knowledge level, physical activity, and family socioeconomic conditions (Nanda Mentari et al., 2022). If these conditions are not treated immediately, then adolescent girls are at risk of giving birth to children with stunting conditions in the future. Therefore, providing nutrition education to WRA is very important to increase their understanding of balanced nutrition and efforts to prevent nutritional problems. The knowledge they gain at a young age can form healthy living habits and nutritional readiness in the future so that they can prevent CEDs from an early age. It can be concluded that the respondents in this study have great potential to receive balanced nutrition education interventions and the prevention of Chronic Energy Deficiency (CED).

According to previous studies, video media is one of the media that can increase knowledge with a score from 5.4% to 9.1% (Fadhilah & Noerfitri, 2023). Educational videos as an extension medium are the right method to reach these two age groups. For young people, engaging approaches and narratives will help increase interest and understanding, while in adulthood, applicable and contextual video content will help strengthen motivation to apply information in real life. Thus, the age analysis of respondents not only provides a demographic picture, but also provides an important basis for compiling educational materials that are effective and according to the needs of the target.

The characteristics of respondents with marital status were obtained as a result that the majority of respondents were married status as many as 29 people (69.0%), while 13 respondents (30.1%) were unmarried. This Women shows that most of the Reproductive Age (WRA) in the research area, namely Bonangan Hamlet, have entered the phase of married life. So this is an important point, considering that marital status affects the needs and awareness and concern for balanced nutritional information as well as the prevention of Chronic Energy Deficiency (CED) conditions for pregnancy and the role of housewives. According to previous studies, married women generally already have responsibilities in family nutrition management and may have or will have a pregnancy (Nanda Mentari et al., 2022). This condition is the basis for the importance increasing nutritional of knowledge in the married WRA group so that they are able to maintain their own nutritional status and support optimal growth and development for children and families.

WRA who are married have generally started preparing or undergoing pregnancy, so good nutritional knowledge is needed to prevent the risk of CED and other pregnancy complications. Married women also tend to be more active in household decision-making, including in food selection and processing, so their role as agents of change in the family is crucial.

Meanwhile, 31.0% of respondents were unmarried WRA. According to previous studies, even though they have not yet undergone the role of wife or mother, the age group of 15-25 is still important to be given balanced nutrition education (Sulymbona, 2024). Nutrition knowledge from a young age plays a major role in the prevention of longterm nutritional problems, including CEDs, anemia, and the risk of stunting in the next generation. So that the knowledge they gain at a young age can form healthy living habits and nutritional readiness in the future so that they can prevent CEDs from an early age. Providing nutrition education to unmarried respondents is very important as a form of preventive intervention. The education provided at this age will help them in preparing for reproductive health understanding the importance of balanced nutrition before pregnancy. Early knowledge allows them to adopt a healthy lifestyle and be ready to face pregnancy with optimal nutritional conditions.

The characteristics of respondents based on education were obtained from the results that the majority of respondents had a high school/vocational education as many as 21 people (50.0%) while the rest had a bachelor's/D3 education as many as 18 people (42.9) and 3 people had a junior high school education (7%). From the data obtained, as many as 50% of respondents had a high school/vocational education education, which showed that the majority of respondents had a secondary background in and higher education, so they had literacy skills and understood good information. High school education is classified as education with a higher level than elementary and junior high schools.

This grouping not only follows the order of the level of education administratively, but also the level of material complexity, breadth of insight, and cognitive abilities produced by each level. According to previous studies, respondents with higher education generally had a good level of knowledge in receiving health information related to increased awareness of the importance of balanced nutrition and prevention of CEDs. The level of education also determines whether or not a person is easy to absorb and understand the knowledge they have acquired (Fadhilah & Noerfitri, 2023). The group of respondents with high school/vocational education as many as 21 people (50.0%) had sufficient skills to understand basic educational materials, especially those presented in visual form such as videos. However, they may not be fully familiar with scientific concepts in the field of nutrition. Meanwhile, in the Bachelor/D3 group, as many as 18 people (42.9) had a better understanding of health and nutrition information. They tend to be more critical, reflective, and able to evaluate the information received. In the group of respondents with a junior high school education, it is necessary to simplify educational materials, use of straightforward language, and visual explanations to ensure that educational messages can still be received well. The distribution of respondents' education shows that educational interventions through video media have great potential to be implemented. According to previous studies, educational videos allow the use of audio-visual elements that clarify information. various and can reach educational backgrounds in a more inclusive manner (Nanda Mentari et al., 2022)

The characteristics of respondents regarding work were obtained from the fact that the majority of respondents in the study worked as private employees as many as 14 people (33.3%), IRT as many as 6 people (14.3%), civil servants as many as 5 people (11.9%), and self-employed as many as 5 people (11.9%). According to previous studies, the diversity of jobs in respondents shows differences in the level of busyness and potential access to health information

(Fadhilah & Noerfitri. 2023). Work background can affect respondents' level of awareness and behavior towards nutrition and health. Those who work in the formal sector tend to have better access to information. while those who do not work formally (IRT or self-employed) actually have greater control it comes to managing family consumption. Therefore, the selection of educational media such as video is an effective strategy because it is able to reach various work backgrounds in an inclusive, flexible, and attractive manner.

Based on the level of knowledge before being given a balanced nutrition education video intervention and Chronic Energy Deficiency (CED), it shows that the level of knowledge of the WRA respondents in the study before being given a balanced nutrition education video and the majority of CEDs are less than 22 people (52.4%) while, after being given a balanced nutrition education video and the majority of CEDs are good as many as 39 people (92.9%). Before the intervention was given, the majority of respondents had a low level of knowledge, namely 22 people (52.4%), while 20 people (47.6%) were in the sufficient category. None of the respondents had a good level of knowledge. The results showed a very significant change in the level of knowledge of respondents after being given an intervention in the form of educational videos. Before the intervention, the majority of respondents had relatively low knowledge, while after the intervention, the majority of respondents had reached a good level of knowledge. This shows that in general, WRA's initial knowledge related to balanced nutrition and CEDs is still limited. This low level of knowledge can be caused by various factors such as lack of access to health information, lack of nutrition education programs in the community, and low individual awareness of the importance of meeting nutritional needs, especially for WRA. If this is not addressed immediately, it can have several impacts. According to previous studies, the impact that can be caused by the condition of mothers who experience CED both before and during pregnancy is low nutritional status or it can be said that low BMI, and tends to be able to give birth to BBLR babies, premature birth, and even the possibility of the baby dying (Marbun, 2022). The way to prevent malnutrition in Women of Reproductive Age is to provide education about balanced nutrition and prevention of CED in Women of Reproductive Age. So that they can form healthy living habits and nutritional readiness in the future to prevent CEDs from an early age.

Based on the level of knowledge of Women of Reproductive Age in Bonangan hamlet, Baturan Village, Colomadu District, after being given an intervention in the form of an educational video, there was a very significant increase. A total of 39 people (92.9%) achieved a good level of knowledge, and the remaining 3 people (7.1%) were at a sufficient level of knowledge. There are no more respondents who are classified as underclassified. These results indicate that educational videos play a very effective role in increasing respondents' understanding of balanced nutrition materials and CEDs in WRA Bonangan Hamlet, Baturan Village, Colomadu District. Based on table 4.3, a significance value of 0.017 for the pretest and 0.008 for the posttest was obtained. According previous studies. that providing interventions in the form of audiovisual media with videos can increase knowledge about implementation (Fadhilah & Noerfitri, 2023). Counseling on balanced nutrition guidelines for Women of Reproductive Age (WRA) is expected to be more optimal if it uses audiovisual media, which is a medium that conveys information through a combination of sound and moving images. This type of media has the advantage of being able to present more concrete visualizations, as well as helping to improve the audience's memory and understanding because of its attractive and memorable appearance. The use of audiovisual media in education has been to be effective in increasing knowledge. According to previous studies, regarding the influence of nutrition education using video media on changes in

the knowledge of adolescent girls in preventing CEDs (Waryana et al., 2019). The study stated that there was an effect of education using video media knowledge of young women with a p-value of 0.00. This can happen because the video media provided can stimulate the senses of perception and hearing so that it can provide clearer understanding knowledge. or According to previous studies, also showed changes in the increase in knowledge and food intake of respondents before and after being given nutrition education using video media in groups of adolescent girls (Nanda Mentari et al., 2022). Using the Wilcoxon Signed Test resulted in a p-value of 0.00<0.05 so that there was a difference in the knowledge of young women before and after being given nutrition education using video media. The results of the knowledge data analysis showed that there were 42 respondents who experienced an increase in knowledge scores before and after nutrition education using video media.

In this study, after being given educational intervention in the form of videos, there was a very significant increase, 39 respondents (92.9%) reached a good level of knowledge, 3 respondents (7.1%) were in the sufficient category, and no respondents had less knowledge, this change reflects that educational videos are a very effective medium in increasing public understanding of nutrition issues and CEDs.

According to previous studies, Knowledge is the result of knowing about objects and occurs after sensing through the five senses, namely the senses of hearing, sight, smell, taste and touch (Nanda Mentari et al., 2022). A person's knowledge can be obtained from the educational process. Video is an audio-visual medium that can present information and explain a process clearly, explain a concept that is quite complicated, teach skills, shorten or slow down time. Videos can stimulate the respondents' sense of sight and hearing so that the information provided is easier to capture and absorb by respondents.

The change in respondents' knowledge after being given counseling using

video media proves that video media has a good influence on conveying information. Videos allow for the presentation of information in a more visual, contextual, and easy-to-understand manner by respondents from various educational and occupational backgrounds. According to previous studies, audiovisual media such as videos can help a person capture the meaning of information or a message more deeply so that one can remember what is conveyed in the video (Fadhilah & Noerfitri, 2023).

Based on the analysis of the influence of balanced nutrition education videos and Chronic Energy Deficiency (CED) after providing a good influence in conveying information. Videos allow for the presentation of information in a more visual, contextual, and easy-to-understand manner respondents from various educational and occupational backgrounds. According to previous studies, audiovisual media such as videos can help a person capture the meaning of an information or message more deeply so that a person can remember what is conveyed in the video, the respondent's vision and hearing, so that the information provided is easier to capture and absorb by the respondent (Fadhilah & Noerfitri, 2023). The change in respondents' knowledge after being given counseling using video media proves that video media has a good influence on conveying information. Video is one of the media that can increase knowledge with a score from 5.4% to 9.1%. According to previous studies, audiovisual media such as videos can help a person capture the meaning of information or messages (Nanda Mentari et al., 2022). According to previous studies, regarding the influence of nutrition education using video media on changes in the knowledge of adolescent girls in preventing CEDs (Waryana et al., 2019). The study stated that there was an effect of education using video media on the knowledge of young women with a p-value of 0.00. This can happen because the video media provided can stimulate the senses of perception and hearing so that it can provide clearer understanding or knowledge. According to previous studies, also showed changes in the increase in

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knowledge and food intake of respondents before and after being given nutrition education using video media in groups of adolescent girls (Nanda Mentari et al., 2022). Using the Wilcoxon Signed Test resulted in a p-value of 0.00<0.05 so that there was a difference in the knowledge of young women before and after being given nutrition education using video media.

Increasing WRA knowledge in this study is important to prevent the occurrence of CEDs, which have an impact on maternal and fetal health in the long term. Women of Reproductive Age who have sufficient knowledge about balanced nutrition will be better able to manage their diet, recognize their nutritional needs, and prevent pregnancy complications due to lack of macro and micronutrients. Thus, educational videos have proven to be an effective alternative educational media in public health promotion programs, especially in increasing awareness and knowledge about balanced nutrition and prevention of CED among Women of Reproductive Age. Thus, it can be concluded that video media is an effective and efficient educational alternative in improving nutrition and health literacy, especially in efforts to prevent CEDs in WRA in the Bonangan Hamlet area, Baturan Village, Colomadu District. So in this study, it was proven that there was an influence of educational videos on balanced nutrition and Chronic Energy Deficiency (CED) on Women Reproductive Age in Bonangan Hamlet, Baturan Village, Colomadu District.

#### **CONCLUSION**

Health workers can utilize the Video on Balanced Nutrition as an alternative to increase the knowledge of Women of Reproductive Age (WRA) on how to prevent Chronic Energy Deficiency (CED).

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