



Application of Storytelling Methods in Optimizing Fruit and Vegetable Consumption in Preschool Children

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Abstract

Background: Adequate nutrition is one of the critical factors in the development process of pre-school age children. Regular consumption of fruit and vegetables can optimize nutrient intake so that growth and development run optimally. Unfortunately, consumption of fruits and vegetables in pre-school children is still low. This is due to a lack of knowledge about the types, benefits, and importance of fruits and vegetables.

Objective: This study aims to prove the application of the storytelling method in optimizing the knowledge and consumption of fruits and vegetables in pre-school children in the city of Semarang.

Methods: The design of this study used Experimental Quasy with pretest-posttest control group design. This research was conducted from September to November 2017 with a total sample of 120 respondents.

Conclusion: The results showed that the application of storytelling affected increasing the knowledge and practice of eating fruits and vegetables at the age of pre-school children in Semarang (p -value<0.05). Based on this, the application of storytelling can be used as an alternative method in conducting health education so that pre-school age children can consume fruits and vegetables.

Keywords: Children's booklet, storytelling, fruit, and vegetable consumption.

Background

The pre-school age period is a period of rapid growth. These developments include emotional, cognitive and psychosocial development. For the growth process to run optimally, nutrition is needed *adequate* (Kania,2006). Some critical elements required by the child for the growth process include iodine, calcium, phosphorus,

magnesium, iron, fluorine, vitamins A, B12, C and D. These elements are found in many fruits and vegetables (Suyitno, 2008).

At the age of pre-school children, consumption of fruits and vegetables is still low. This is often the main problem that causes not optimal growth and development (Persada, 2011). Based on research conducted by Rohimah (2015), mentioned that the

amount of vegetable consumption in pre-school children is still below the minimum recommended standard of balanced nutrition guidelines in 2013. This lack of vegetable consumption is because children never get a variety of different vegetables, parents pay less attention to the types of processed vegetables that are varied so that when children get a vegetable menu, new children tend to refuse.

According to the Indonesian Ministry of Health, the proportion of consumption of vegetables and fruits recommended by WHO for healthy living is 400 grams/day which consists of 250 grams of vegetables and 150 grams of fruit. According to the national vegetable consumption survey from 2007 to 2013, it was found that the average vegetable consumption of 46 kcal/day was 38 kcal/day (Bestari GS, 2014).

In Indonesia, the recommended consumption of vegetables and fruits is 300-400 grams per person/day for toddlers and school-age children (RI Ministry of Health, 2013). An estimated 80% of children in this world do not like vegetables, even though vegetables are a significant contributor to vitamin nutrition, minerals, and fiber for a balanced diet in children and adults (Lubis, 2012).

The impact of low consumption of vegetables and fruits in pre-school children is that nutrition is not optimal. Nutritional deficiencies due to low consumption of vegetables will affect growth that is not optimal (Hikmah, 2016). For this reason, efforts are needed so that pre-school age children can consume vegetables and fruits according to standards.

Children are also easily attracted to a story. Not only that, children tend to follow the characters they want. This condition can be used as a way to change the mindset of pre-school age children to the consumption of vegetables and fruit. The form of stimulation that can be given is *storytelling* by using interesting media namely picture books and dolls.

The provision of visual and verbal stimulation in children is stimulation that is readily accepted by children in absorbing information (Hikmah,

2016). By using illustrated storybook media and children's dolls, it will be easier to receive messages that will be accepted. Based on this, it is expected that pre-school age children have a new outlook on the consumption of vegetables and fruit. The statistical test used is *the T-Test* and *Mann Whitney Test*.

Methods

This study used *Quasy Experiment* with a *pretest-posttest nonequivalent control group design*. This research was conducted in September-November 2018 in the kindergarten of Semarang City. The total sample of 120 respondents consisted of 2 groups, namely the intervention group as many as 60 respondents given *storytelling* using booklet media, and the control group as many as 60 respondents were given traditional health education. The material provided regarding the knowledge and practice of consuming vegetables and fruits. The independent variable in this study is *storytelling*, while the dependent variable is the consumption of fruit and vegetables.

Results and Discussion

Based on the results of the study, it was shown that before being given treatment most of the respondents had knowledge of the types of fruit, but did not yet have awareness about the benefits of fruit. This happened because the respondents had never received knowledge about the benefits of fruit. Learning activities in schools only teach about the kinds of fruit. After being given treatment in each group, respondents' knowledge of the types and benefits of fruit has increased. The increase occurs mainly in the treatment groups.

Table 1 Overview of knowledge about types and benefits of fruit before and after treatment

| Education Level | Treatment | | | | Control | | | |
|----------------------|----------------------|------|------|-----|----------------------|------|------|------|
| | Pre | | Post | | Pre | | Post | |
| | n | % | n | % | n | % | n | % |
| Type of Fruit | | | | | | | | |
| Known | 45 | 75 | 60 | 100 | 50 | 83.3 | 51.8 | 85 |
| Unknown | 15 | 25 | 0 | 0 | 10 | 16.7 | 9 | 15 |
| Total | 60 | 100 | 60 | 100 | 60 | 100 | 60 | 100 |
| <i>T-test</i> | <i>p=Value 0.000</i> | | | | <i>p=Value 0.005</i> | | | |
| Fruit Benefit | | | | | | | | |
| Known | 1 | 1.7 | 6 | 10 | 20 | 33.3 | 32 | 53.3 |
| Unknown | 59 | 98.3 | 54 | 90 | 40 | 66.7 | 28 | 46.7 |
| Total | 60 | 100 | 60 | 100 | 60 | 100 | 60 | 100 |
| <i>T-test</i> | <i>p=Value 0.000</i> | | | | <i>p=Value 0.005</i> | | | |

Table 1 shows that the majority of respondents, both treatment and control groups, know about various types of fruit. The results of statistical tests showed that there were significant differences in knowledge about the kind of fruit before and after treatment (treatment group = *p-value* 0.000 and control group = *p-value* 0.005).

Table 1 also shows that most respondents did not know about the benefits of fruit. However, storytelling and health education traditionally show differences in knowledge about fruit benefits before and after treatment (treatment group = *p-value* 0.000 and control group = *p-value* 0.005).

Table 2 overview of knowledge about types and benefits of vegetables before and after treatment

| Education Level | Treatment | | | | Control | | | |
|---------------------------|----------------------|------|------|------|----------------------|------|------|------|
| | Pre | | Post | | Pre | | Post | |
| | n | % | n | % | N | % | n | % |
| Type of Vegetables | | | | | | | | |
| Known | 30 | 50% | 60 | 100% | 38 | 63% | 51 | 85 |
| Unknown | 30 | 50% | 0 | | 22 | 37% | 9 | 15 |
| Total | 60 | 100 | 60 | 100 | 60 | 100 | 60 | 100 |
| <i>T-test</i> | <i>p=Value 0.000</i> | | | | <i>p=Value 0.024</i> | | | |
| Vegetable Benefit | | | | | | | | |
| Known | 1 | 6.7 | 4 | 1.7 | 23 | 38.3 | 17 | 28.3 |
| Unknown | 59 | 93.3 | 56 | 98.3 | 37 | 61.7 | 43 | 71.7 |
| Total | 60 | 100 | 60 | 100 | 60 | 100 | 60 | 100 |
| <i>T-test</i> | <i>p=Value 0.000</i> | | | | <i>p=Value 0.106</i> | | | |

Table 2 shows that before treatment the respondents who knew about the type of vegetables in the treatment group were 29 (48.3%), while in the control group as many as 38 (63.3%). After being given treatment, the treatment group experienced a high increase in the number of respondents who knew the type of vegetable compared to the control group. The results of statistical tests showed that both the treatment and control groups had the same difference before and after treatment ((treatment group = *p-value* 0.000 and control group = *p-value* 0.024).

Table 2 also showed that most of the treatment groups did not know the benefits of vegetables,

However, after treatment, the respondent's knowledge of the benefits of vegetables increased, this was supported by the results of statistical tests showing a *p-value* of 0.000. This indicates that there were differences in knowledge of vegetable benefits before and after treatment. In the control group, there were 23 (38.3%) respondents who knew about the benefits of vegetables, after treatment respondents who knew vegetable benefits only increased to 37 (61.7%). The results of statistical tests showed *p-value* 0.106. This indicates that there is no difference before and after the provision of traditional health education to knowledge about the benefits of vegetables

Table 3 Overview of Practical Ability Fruit Consumption before and after Treatment

| Fruit Practical Consumption | Treatment | | | | Control | | | |
|-----------------------------|-----------------------|-----|------|-------|-----------------------|-----|------|------|
| | Pre | | Post | | Pre | | Post | |
| | n | % | n | % | n | % | n | % |
| Consume | 21 | 35% | 59 | 98.3% | 21 | 35% | 23 | 38.5 |
| Not Consume | 39 | 65% | 1 | 1.7 | 39 | 65% | 37 | 61.5 |
| Total | 60 | 100 | 60 | 100 | 60 | 100 | 60 | 100 |
| <i>T-test</i> | <i>p= Value 0.000</i> | | | | <i>p= Value 0.000</i> | | | |

Table 3 showed that in the treatment group there was a significant increase regarding the number of respondents who were able to practice fruit-eating as many as 59 (98.3%) respondents, while in the

control group only 23 (38.5%). The results of statistical tests showed that the two groups had differences in the practice of eating fruit before and after treatment (*p-value* 0.000).

Table 4 Overview of Practical Ability Vegetable Consumption Before and After Treatment

| Vegetable Practical Consumption | Treatment | | | | Control | | | |
|---------------------------------|-----------------------|-------|------|-------|-----------------------|-------|------|------|
| | Pre | | Post | | Pre | | Post | |
| | n | % | N | % | n | % | n | % |
| Consume | 22 | 36.7% | 56.4 | 93.3% | 22 | 36.7% | 23 | 38.5 |
| Not Consume | 38 | 63.3% | 4 | 6.7 | 38 | 63.3% | 37 | 61.5 |
| Total | 60 | 100 | 60 | 100 | 60 | 100 | 60 | 100 |
| <i>T-test</i> | <i>p= Value 0.000</i> | | | | <i>p= Value 0.000</i> | | | |

Table 4 shows that in the treatment group there were 56 (93.3%) who were able to practice eating vegetables, while in the control group only 23 (38.5%). The statistical test results showed that in the treatment group there were differences before and after storytelling using media booklets on the ability to eat vegetables (*p-value* 0.000), whereas in the control group there were no differences before and after traditional health education on the ability to practice vegetable eating (*p-value* 0.088) From some of the descriptions above, the results of this study are in line with previous research that good knowledge will increase a person's awareness of eating fruit. This is supported by the research of Kristjandottir *et al.* (2006) that knowledge about benefits and recommendations for fruit consumption is directly proportional to fruit consumption in children.

The results of the study also showed that the two groups had knowledge of various types of vegetables, but there were still many respondents who did not have awareness about the benefits of vegetables. Even in the control group, there was a decrease in the number of respondents who knew vegetable benefits. This condition is in line with the ability to practice eating vegetables.

In the treatment group, the existence of knowledge about the types and benefits of

vegetables made respondents have the ability to practice eating vegetables. Even the data shows that after storytelling using booklet media on the types and benefits of vegetables there were 56 (93.3%) respondents who consumed vegetables.

In contrast to the treatment group, in the control group of respondents who knew the benefits of vegetables only 17 (28.3%) respondents. The results of the analysis show that at least the respondents knew about the benefits of vegetables because the information provided was unclear and unattractive. This condition has an impact on vegetable consumption practices. The results of vegetable consumption practices in the control group were only 23 (38.5%) respondents.

The difference in the results of the two groups can be due to the method used. In the control group, health education is only given using traditional methods, namely by telling stories without using media. Media is one important component in providing health education, especially in pre-school age. The media can transfer information faster to children. Media can also stimulate the senses in children so that the acceptance of the information supplied is quickly captured.

This is proven by the application of method storytelling using booklet media in the intervention group. The use of booklet media

serves as a teaching aid to attract children's interest in the process of storytelling (Humaniora, 2018). Various types of fruits and vegetables can be shown through the images used in this study. Symbol manipulation is an essential characteristic of the stages of preschool children. In pre-school age the ability of children to be in the ability to use symbolic images in thinking (Syaodih, 2011). In addition, children get clear and tangible visualization of the images shown through the booklet, in this case, the storytelling can present information and messages through sound and pictures (audio and visual) so that it is easier for children to understand the contents of information.

Storytelling with media booklet is one of the learning methods that are suitable for preschoolers. When the process of storytelling takes place, the narrator conveys an absorption of knowledge to the audience. This process is the experience of a child (Ochs, 2009). Children adopt stories told by storytellers which contain good messages to enjoy eating fruit and vegetables so that children's knowledge increases which are indicated by the increase in respondents' knowledge which has an impact on the ability to practice fruit eating.

Delivery techniques and methods are essential factors that can support the success of information transfer. The purpose of delivering information must adjust to the needs. The method used must be following the characteristics of the group that will receive the information. The advantage of a storytelling method is that the story can be a vehicle for sharpening imagination, opening understanding and learning to the characters' experiences in the fairy tale. The storytelling technique is a unique, exciting way without being forced and without needing to patronize the child (Fihtri, 2017).

Conclusion

Storytelling is a method of delivering information that is appropriate for preschoolers. The results of the pre-test and post-test in the treatment group showed that there was a significant effect of the

application of storytelling to the knowledge of fruit and vegetable consumption. Knowledge of fruits and vegetables in children will be very supportive of the attitudes and behavior of children to consume them. When children know about the benefits of consuming fruits and vegetables, children will be interested in trying to consume them

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