

Calgary Family Intervention Model Approach in Choosing Healthy Snack as Preventive Behaviour of Food Borne Disease on Children in Surabaya

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ABSTRACT

Snack food in schools is very risky for biological or chemical contamination that is detrimental to health. During the break time of 20 students at Surabaya Elementary School there were 100% of students choosing to consume snacks with striking red sauce, without packaging and colourful drinks. This can cause disease due to consumption of contaminated food, namely food borne disease (FBD). The research method quays experimental design with non-equivalent control group design. The population was 43 children, a sample of 38 children with purposive sampling technique. The results of the study before and after treatment showed 47.4% lack of knowledge to be good at 57.9%, negative attitude 57.9% to be positive 78.9%, less practice 73.3% to be good at 10.5% and enough 76.8% %. Wilcoxon Sign Rank Test results obtained knowledge ($p = 0.000$), attitude ($p = 0.008$), practice ($p = 0.025$). Mann Whitney U Test results obtained knowledge ($p = 0.001$), attitude ($p = 0.022$), practice ($p = 0.780$). It could be concluded that there was an influence of the CFIM approach on the selection of healthy snacks on FBD prevention behaviour in school-age children in Surabaya.

Keywords: CIFIM, snack, children

1. INTRODUCTION

One of the crucial things that are of serious concern at present is Children's Snack Food Handling School (CSFHS). Food snacks at school are very at risk from biological or chemical contaminants that are harmful to health, both short term, and long term. The occurrence of diseases caused by contaminated food called borne disease. The presence of foodborne diseases such as diarrhoea, cholera, and typhus is still quite vulnerable to school-age children [1].

WHO data in 2015 recorded 2 million deaths, especially children every year due to unsafe food[2]. The results of tests conducted by the Food and Drug Supervisory Agency (BPOM) in January-August 2014 is almost one-third of snacks in 23.500 at 23,500 primary schools in Indonesia contaminated with harmful microbes. It also found food additives that did not meet the requirements. In the city of Surabaya, from 6.4% of people affected by diarrhoea, 7.9% of this percentage is a group of school-age children. The typhoid prevalence of Surabaya city is still above the average prevalence of East Java which is 0.8%. School children rank first compared to other age groups in East Java [3].

Prevention of foodborne disease in children can be done by increasing knowledge, attitudes, and practices regarding the selection of healthy snacks at school. In the problem of school children in the prevention of foodborne disease, a

comprehensive assessment of the systems and sub-systems affecting children, including the family unit, needs to be assessed [4]. The assessing is not only the individual but rather the interaction with the family [5]. Calgary family intervention model (CFIM) is an appropriate intervention to change the cognitive, affective, and behavioural domains of functional family problems. Based on the description above, researchers are interested in researching with the title of Calgary family intervention model (CIFIM) approach in choosing healthy snack as preventive behaviour of food born disease on children in Surabaya.

2. METHODS

The research design used in this study was Non-equivalent control group design, which is one type of Quasy Experimental Design. The two groups got treatment before getting pre-test to measure the initial state of the two groups. After knowing the results of the pre-test of the two groups, the intervention group was given intervention, while the control class was not given intervention. After the intervention is given to one group of samples [6], followed by post-test in both groups of samples. The data collected was then tabulated and analysed using the statistic Wilcoxon Signed Rank Test. It is to determine differences in results before and after the intervention between the treatment group and the control group. Next is the statistic Mann Whitney U Test to determine the differences in the results of the treatment group and the control group.

3. RESULTS AND DISCUSSION

Table 1 Analysis of the effects of the Calgary family intervention model (CFIM) approach on the selection of healthy snacks for changes in knowledge in the prevention of food borne disease in school-aged children at YAPITA Elementary School Surabaya, on May 5-July 20, 2018

| Knowledge | Treatment | | | | Control | | | | |
|-------------------------|-----------|---------|------|------|---------|---------|------|------|--|
| | Pre | | Post | | Pre | | Post | | |
| | n | (%) | n | (%) | n | (%) | n | (%) | |
| Good | 2 | 10.5 | 11 | 57.9 | 2 | 10.5 | 3 | 15.8 | |
| Sufficient | 8 | 42.1 | 8 | 42.1 | 9 | 47.4 | 9 | 47.4 | |
| Less | 9 | 47.4 | 0 | 0 | 8 | 42.1 | 7 | 36.8 | |
| Total | 19 | 100 | 19 | 100 | 19 | 100 | 19 | 100 | |
| Wilcoxon Sign Rank Test | | p=0.000 | | | | p=0.317 | | | |

Table 2 Distribution analysis of the effects of the Calgary family intervention model (CFIM) approach concerning the selection of healthy snacks for the change in attitude in the prevention of food borne disease in school-aged children at SD YAPITA Surabaya, on May 5-July 20, 2018

| Attitude of | Treatment | | | | Control | | | | |
|-------------------------|-----------|---------|------|------|---------|---------|------|------|--|
| | Pre | | Post | | Pre | | Post | | |
| | n | (%) | n | (%) | n | (%) | n | (%) | |
| Positive | 8 | 42.1 | 15 | 78.9 | 7 | 36.8 | 8 | 42.1 | |
| Negative | 11 | 57.9 | 4 | 21.1 | 12 | 63.2 | 11 | 57.9 | |
| Total | 19 | 100 | 19 | 100 | 19 | 100 | 19 | 100 | |
| Wilcoxon Sign Rank Test | | p=0.008 | | | | p=0.317 | | | |

Table 3 Distribution of analysis effects of the Calgary family intervention model (CFIM) approach on the selection of healthy snacks for practice changes in the prevention of *food borne disease* in school-age children at YAPITA Elementary School Surabaya, on May 5-July 20 2018

| Practice | Treatment | | | | Control | | | | |
|-------------------------|-----------|---------|------|------|---------|---------|------|------|--|
| | Pre | | Post | | Pre | | Post | | |
| | n | (%) | n | (%) | n | (%) | n | (%) | |
| Good | 1 | 5.3 | 2 | 10.5 | 2 | 10.5 | 2 | 10.5 | |
| Sufficient | 4 | 21.1 | 7 | 36.8 | 6 | 31.6 | 6 | 31.6 | |
| Less | 14 | 73.7 | 10 | 52.6 | 11 | 57.9 | 11 | 57.9 | |
| Total | 19 | 100 | 19 | 100 | 19 | 100 | 19 | 100 | |
| Wilcoxon Sign Rank Test | | p=0.025 | | | | p=1.000 | | | |

Table 4 Distribution analysis of differences influence the Calgary family intervention model (CFIM) approach to the selection of healthy snacks for knowledge in the prevention of food borne disease in school-age children at YAPITA Elementary School Surabaya in the treatment and control groups, on May 5-July 20, 2018

| Knowledge | P value |
|--|---------|
| Pre-Test Group Treatment Pre-Test Control Group | 0.784 |
| Post-Test Group Treatment Post-Test Control Group | 0.001 |
| Mann-Whitney U Test with significance p <0.05 | |

Table 5 Distribution analysis of differences in effect of the Calgary family intervention model (CFIM) approach on the selection of healthy snacks for attitudes in the prevention of food borne disease in school-age children at YAPITA Surabaya elementary school in the treatment group and control group, on May 5-July 20 2018

| Attitude | P value |
|--|---------|
| Pre-Test Group Treatment Pre-Test Control Group | 0.743 |
| Post-Test Group Treatment Post-Test Control Group | 0.022 |
| Mann-Whitney Test with significance p <0.05 | |

Table 6 Distribution of analysis of differences of effects of the Calgary family intervention model (CFIM) approach on the selection of healthy snacks for practice in the prevention of food borne disease in school-age children at SD YAPITA Surabaya in the treatment and control groups, on May 5-July 20 2018

| Practice | P value |
|--|----------------|
| <i>Pre-Test</i> Group Treatment <i>Pre-Test</i> Control Group | 0.302 |
| <i>Post-Test</i> Group Treatment <i>Post-Test</i> Control Group | 0.780 |
| Mann-Whitney Test with significance $p < 0.05$ | |

4. DISCUSSION

Knowledge of health contains what is known by a person in the way health care. Knowledge is a predisposing factor that facilitates behaviour change, including health behaviour. Knowledge can be disseminated through learning media and the selection of suitable methods[7]. In the approach to the Calgary family intervention model (CFIM) on the range of healthy snack foods used media booklet and video playback. In implementing the Calgary family intervention model (CFIM) approach, the researcher uses the lecture and discussion method to convey information[8]. This type of method in this study used a combination of existing and Socratic methods. Learning methods need to be combined because there is no best and independent method so that they can be applied according to the expected goals[9]. Intervention Calgary family intervention model (CFIM) through home visits, including individual learning methods, generally with face to face so that the material provided focuses on each family. It allows respondents to understand better the content provided.

Attitude is the response of someone who is still closed to a stimulus or object. The Calgary family intervention model (CFIM) approach in preventing food borne disease is applied through several stages; at this stage, researchers must be able to foster a relationship of mutual trust with respondents and families[10]. According to Wright & Leahay, belief is something that underlies the ideas, opinions, and assumptions that individuals and families have [11]. Changes in the knowledge domain are intermediaries for changing attitudes and practices. According to Wright & Leahay to change attitudes is done by telling the experience of pain through therapeutic communication and provide support or motivation [11]. The Calgary family intervention model (CFIM) approach carried out continuous interactions throughout the intervention process. Ongoing interactions throughout the study between researchers and respondents, foster emotional bonds between families and researchers. It allows an increase in the attitude of respondents. Attitudes can also be influenced by motivation and reinforcement given to families in preventing foodborne disease.

Health practices are actions for healthy living or all activities in maintaining health. The attitude is not necessarily manifested in the action because it needs other factors, namely infrastructure and reinforcing factors such as support from the family. Knowledge and attitude are predisposing factors for behaviour. This means that knowledge and attitudes are the basis for shaping behaviour [12]. Healthy behaviour is difficult to change depending on one's motivation, how his perception of the threat of a

disease that raises the value of preventive behaviour, in this case, the prevention of foodborne disease. In the application of the Calgary family intervention model (CFIM) approach, there are several things can interfere with the level of concentration of children in studying the prevention of foodborne disease including is the child in a tired condition and lack of interest in learning. This condition is very influential in the process of receiving information by respondents, so the next impact is that the internalization process into action will also be less successful as desired. Several factors that influence a person's knowledge are (1) Internal factors of a person. Namely, the factors exist in the individual itself, such as intelligence, interests and also physical conditions. (2) External factors, namely originating from outside the individual itself such as family, community, and infrastructure. (3) The learning approach factor is the factor of one's learning effort towards innovation, for example, learning strategies and methods [13]. Therefore, the Calgary family intervention model (CFIM) approach is effective in increasing school-age knowledge in the treatment group as seen from the increased knowledge score of insufficient and good knowledge, whereas the control group has not yet intervened so that there is no increase in scores on knowledge pre-test and post-test.

According to Allport in Notoatmodjo, attitude is a kind of readiness to react to an object in a certain way. The Calgary family intervention model (CFIM) approach carried out continuous interactions throughout the study between researchers and respondents. The implementation of the Calgary family intervention model (CFIM) approach is carried out through home visits and involves the role of parents [14]. Relationships between family members are a bond of affection through togetherness in the family through activities carried out together and open communication[15]. This interaction gives the family strength in support (motivation) between family members in preventing foodborne disease. This good interaction is possible to appear understanding and attitude that supports the prevention of foodborne disease.

Therefore, the Calgary family intervention model (CFIM) approach can influence changes in attitudes in school-age children in the treatment group as seen from the attitude score that increases from negative to positive attitude, while the control group has not made the Calgary family intervention model (CFIM) approach, so there is no increase in scores on attitudes pre-test and post-test.

Healthy behaviour is difficult to change depending on one's motivation, how his perception of the threat of a disease so that it raises the value of preventive behaviour, in this case, the prevention of foodborne disease [7]. Psychological and

physiological factors also influence expected practices that have not yet been able to improve. In the implementation of the Calgary family intervention model (CFIM) approach, several things can interfere with the level of family concentration in studying prevention, foodborne disease, including families in fatigued conditions and emotional instability[16]. This condition is very influential on the success of the process of receiving information by respondents, so the next impact is that the process of internalization into action will also be less successful as desired. Poor parental knowledge due to low parental education is one of the factors that influence changes in the practice of preventing foodborne disease in children. The role of parents is very necessary for providing basic knowledge to children. Generally, children tend to have behaviours that are in line with the behaviour of their parents due to imitation or imitation processes that are considered important.

5. CONCLUSION

There is an influence of the CFIM approach regarding the selection of healthy snacks for knowledge, attitudes, and practices of prevention of foodborne disease in school-aged children at YAPITA Surabaya in the treatment group, whereas in the control group there was no change. There is a difference in the effect of the CFIM approach regarding the selection of healthy snacks for knowledge, attitudes, and practices of prevention of foodborne disease in school-age children at SD YAPITA Surabaya between the treatment group and the control group.

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