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A Focus Group Discussion on the Benefits of Bio-pigment in Preventing Stunting and Obesity with RPTRA Administrators in South Jakarta

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Abstract The problem of stunting in Indonesia has recently been getting worse and has become in the top three positions in Southeast Asia due to the lack of public understanding, one of which is about nutrition. Currently in Jakarta, to reach mothers, RPTRA (Ruang Publik Terpadu Ramah Anak/Child-friendly Integrated Public Space) administrators can assist in providing information about nutrition, especially those that can overcome the problem of stunting more broadly. This activity was carried out to provide more understanding of stunting prevention nutrition for RPTRA administrators. After receiving seminar and workshop materials, a Focus Group Discussion was held for RPTRA administrators regarding the benefits of biopigments in preventing Stunting and Obesity. Each group was given a question related to their knowledge of changes about biopigments benefits in fruits and vegetables. FGD data was analysed by using three methods of coding (open, axial, and selective coding). Eighty per cent of the answers from RPTRA administrators were still limited to sources of nutrition that were commonly used on a daily basis, even though their level of understanding about nutritional sources had increased after the seminars and workshops. The main reason for this was because there was still a view that other sources of nutrition that they had just discovered were considered expensive or difficult to find.

1. INTRODUCTION

Indonesia is one of the countries with the highest prevalence of stunting in Southeast Asia for infants under five years old according to WHO (Adelia, 2017). The average prevalence of stunting for infants under five years old in Indonesia in 2005-2017 was 36.4%. In addition, the prevalence of obesity in Indonesia is 21.8% and is predicted to reach 40% in 2030. The government has launched an integrated cross-sectoral stunting prevention intervention program to meet the third target of achieving Sustainable Development Goals (SDGs), Good Health and Community Welfare by 2025 to reduce the stunting rate by 40% (Adelia, 2017).

Stunting is caused by a lack of nutritional intake for a long time, resulting in impaired growth in children's height (Kementerian Kesehatan RI, 2018). The problem of stunting is also influenced by limited access to foods in terms of the quantity and quality of their nutrition, and often

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the lack of variety in food intake. According to (Beal et al., 2018), the important determinant factors of stunting are nonexclusive breastfeeding for the first six months, premature birth, low household socio-economic level, also low maternal height and poor education. Furthermore, the problem of obesity arises due to the role of dietary and lifestyle factors resulting in obesity, especially sugar-sweetened beverages, poor diet quality, physical inactivity, prolonged screen time, short sleep duration or shift work, and built environment characteristics (Hruby et al., 2016). One way to prevent stunting is to eat foods that contain bio-pigments, such as red, yellow, and orange pigments which are mostly obtained from fruits and vegetables. These pigments have powerful antioxidant activities and multiple health benefits, such as delaying aging, repairing the nervous system, anti-atherogenicity, anticancer, and anti-inflammation (Lu et al., 2021). This is an irony because the abundance of local natural resources rich in nutrients in Indonesia as a mega biodiversity country is not utilized by the community.

Prevention of stunting and obesity is significant for Indonesian children in order to have equal opportunities to grow and develop optimally, accompanied by emotional, social, and physical abilities that are needed to learn, and able to innovate and compete at the global level (Kementerian Kesehatan RI, 2018). Prevention of stunting and obesity will support the creation of superior quality human resources which will determine the competitiveness and quality of our nation.

The partners involved were nine Child Friendly Integrated Public Space Management Groups or Ruang Publik Terpadu Ramah Anak (RPTRA) in Pesanggrahan District, South Jakarta, which are located 7-11 km from Universitas Pembangunan Jaya. Before this community service was carried out, activities related to preventing stunting and malnutrition had been more emphasized on providing nutritious foods for children from infants to 12-year-old but not focusing on how RPTRA administrators could become agents of change in their local society. According to Mulyaningsih (2021) stunting is associated with not only child-level characteristics but also family- and community-level characteristics. Providing training to RPTRA administrators would be very effective in making them agents of change because they would know the characteristics of the people living in their area.

Creating educational media or digital counselling with attractive infographics and preparing an internal extension team from the RPTRA management itself could be the answer to the primary needs of RPTRA administrators to facilitate the achievement of a healthy and prosperous life for every family in their partner communities. The collaboration between Universitas Pembangunan Jaya and partners was effective considering that the RPTRA Administrators had access to all PKK (Family Welfare Empowerment) and a group of mothers who come from 10 heads of neighboring families to facilitate the running of a program) in Bintaro with a total population of ±59,000 (BPS Kota Jakarta Selatan, 2018).

2. METHOD

We held seminars (offline and online) and a workshop for RPTRA administrators in nine locations in South Jakarta from October 2021 until December 2021. We also provided RPTRA administrators with infographic posters related to stunting, obesity, biopigments, and nutrition. We held five seminars and one workshop, and we also provided 15 infographic posters for the RPTRA administrators.

After running several series of activities, we held a Focus Group Discussion (FGD) session to analyse the extent of understanding that RPTRA administrators learned from the seminar. A FGD is a method of collecting in-depth qualitative data through a group discussion on a specific social issue or topic (Sugarda, 2020). The data analysis was done by doing three steps of coding, which were open, axial, and selective coding. In the open coding, researchers analyzed the data in all possible directions. The axial coding stage asked the researchers to contextually, consequentially, interactionally, and causally analyze the relations within the data (Qureshi & Ünlü, 2020). In addition, this FGD was also conducted to discover their family's daily diet in relation to consuming vegetables and fruits that contain biopigments. The activity was carried out for approximately two hours in the Veranda Hotel meeting room in December 2021.

The FGD was conducted by dividing 30 participants (25 women and five men) from the RPTRA into six random groups. The group members were randomly selected. The participants hads been working for RPTRA for one to seven years. Their educational backgrounds ranged from Senior High School to Bachelor Degree; their ages ranged from 20 to 58 years old. Each group was accompanied by one moderator from the research team. Each group was given one question with two until four sub-questions related to eating patterns and habits of foods containing biopigments. These questions included the following.

a. When preparing foods for your family, what considerations did you use to determine vegetable menus?
b. When preparing food for your family, what considerations did you use to determine fruit menus?
c. When buying fruits and vegetables for you family diet, what knowledge do you generally apply regarding the vegetables and fruits you buy?
d. In your opinion, are dishes made of vegetables in Indonesia (you can mention examples healthy and nutritious foods?
e. Are snacks available for your children at their kindergartens and elementary schools healthy and liked by your children?
f. For your BADUTA (babies under two years old), what types of vegetables do you usually give?

The answers from each group were written onto the online jam board and presented to all of the participants. When the participants were answering each question and

sub-question, the research team moderated this session. The online jam board was used to make it easier for each group to provide their answers, and they could be instantly shared and presented.

3. RESULT AND DISCUSSION

The FGD went effectively and each participant gave their answers and opinions related to the questions given. The questions given were about their daily experience and understanding about food nutrition, biopigment, stunting, and obesity. The FGD process was facilitated using online jam board to enhance their presentations based on ICT skills, teamwork orientation, and efficiency.

3.1 Group one's result

The first group received questions regarding the consumption of vegetables in their families. The questions given weare, "When preparing foods for your family, what considerations did you use to determine vegetable menus? i) choices of vegetables, ii) preparations that are generally made for families, iii) reasons for considering the choice of types and preparations of vegetables). iv) Are there other things to be considered (e.g. cost, preferences, etc.)?" Their answers were described in the online jam board as presented in Figure 1.

Based on the answers presented in Figure 1, factors that came into consideration in choosing vegetables to be consumed in their family (pink sticky notes) were the factors comprising ease of obtaining, habits (familiar), family recipes, and vegetables grown in their own yard. There were also other considerations

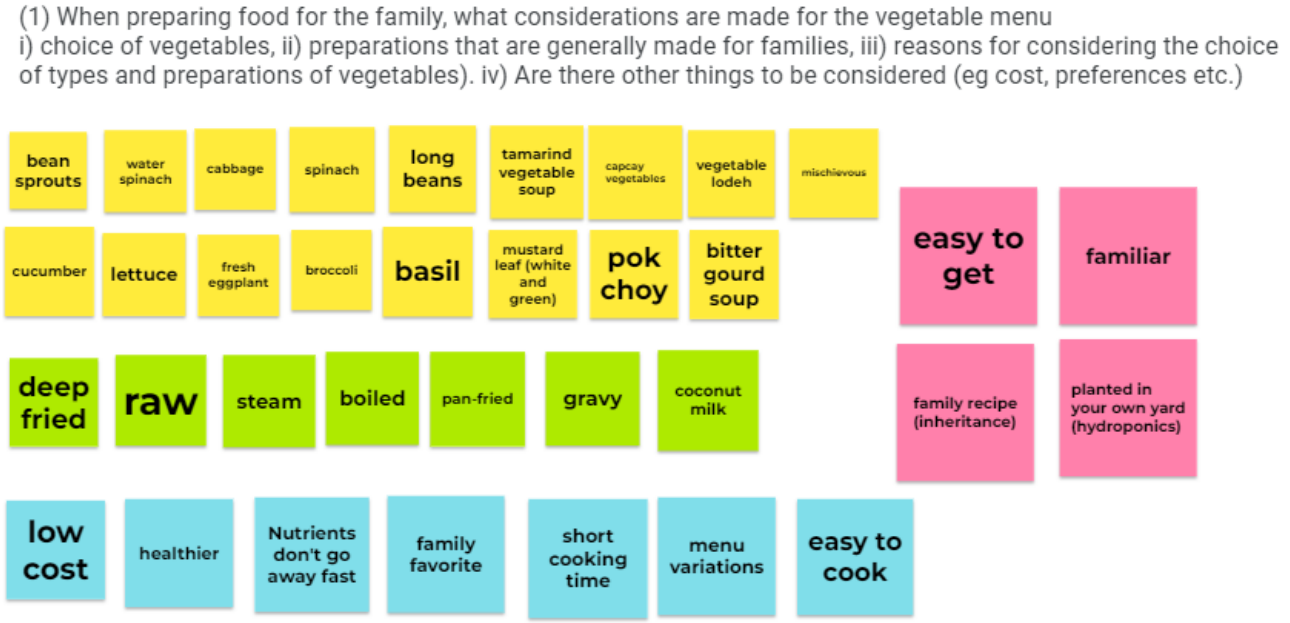

Figure 1 . Group one's online jam board

in choosing the vegetables (blue sticky notes) such as prices, nutrition, ease of cooking, etc. The participants' answers are in accordance with the findings of a study conducted by (Dasipah et al., 2010), which show that in buying vegetable produce, consumers have different preferences in choosing their desired vegetables. Consumers are interested in vegetables that contain vitamins that are good for their family health and prefer vegetables whose freshness is more observable and that are easy to process. The respondents of this study also considered prices although they were not very careful in considering buying other produce.

The choice of vegetables consumed by the participants' families (yellow sticky notes) were vegetables that were easy to obtain every day such as water spinach, bean sprouts, broccoli, cucumber, lettuce, etc. Food processing (green sticky notes) that were often used by the participants were frying, sautéing, boiling, unprocessed/eaten raw, or made into soup. These answers suggest that the participants' families' daily consumptions of vegetables was fairly undiversified. This finding is in accordance with the research conducted by Nurhayati (2013), which is one of the most consumed vegetables in Indonesia is spinach.

According to Agudo (Nurhayati, 2013), experts and organizations incorporate recommendations in the guidelines for their diet. Some dietary guidelines only contain qualitative messages, such as "increase consumption of vegetables and fruit", "eat a variety of vegetables and fruits every day" or "eat a lot of vegetables and fruits". These have been applied in Chile, China, Finland, France, Ireland, Norway, Portugal, and Sweden. Guidelines for diet in some countries such as Denmark, Germany, and Indonesia give recommendations that include the term "portion" as a quantifier without providing a definition of what is meant by a portion.

Even though they had been given knowledge of the diversification of vegetables and fruits in their daily diet, it

turned out that there were still many families that would not diversify their food. These results indicated that the motivation for food diversification in the target community still had to be strengthened.

3.2 Group two's result

The second group was given questions regarding the consumption of fruits in their families. These questions were, "When preparing food for your family, what considerations did you use to determine fruit menus? i) choice of types of fruits, ii) preparations that are commonly made for families, iii) Are there other things that become the bases for considerations (e.g. cost, season, prices, preference, etc.)?". Their answers are presented in Figure 2.

Based on the answers shown in Figure 2, it can be seen that the considerations in choosing fruits to be consumed in the participants' families (green sticky notes) were factors comprising availability, disease treatments, beauty, likings, and affordability. When we asked the participants about where they learned the information about the advantages of the fruits, mostly stated that they learned these from the elderly or other people who were not reliable sources.

The choice of fruits (pink sticky notes) consumed were those which were easy to obtain everyday such as banana, papaya, melon, pineapple, etc. Processing methods (blue sticky notes) that they often used were frying, made into pudding, made into fruit salad, making infused water, etc. These findings are in accordance with the research conducted by Nurhayati (2013) that found that one of the most consumed fruits in Indonesia was banana.

According to Nurhayati (2013), the problem of eating is generally happening in children, including the problem of consumption of vegetables and fruits. Planting of the healthy living habit, including planting of the eating habit, must be carried out by preschool children. These results indicate that it is necessary to introduce food diversification not only to parents but also to children.

3.3 Group three's result

The third group received questions related to knowledge and information about vegetables and fruits they buy. These questions were, "When buying fruits and vegetables for your family diet, what knowledge do you generally apply regarding the vegetables and fruits you buy? (Provide as much information as you can about the vegetables and fruits you buy)". Their answers are presented in Figure 3.

Based on the participants' answers presented in Figure 3, the knowledge and information related to vegetables are shown in the green sticky notes, whereas those of fruits are shown in the pink sticky notes. In general, information and knowledge related to vegetables and fruits purchased are price, freshness, and durability, processing method, benefits, color, versatility, the fruits' potential to be used as medicine, etc.

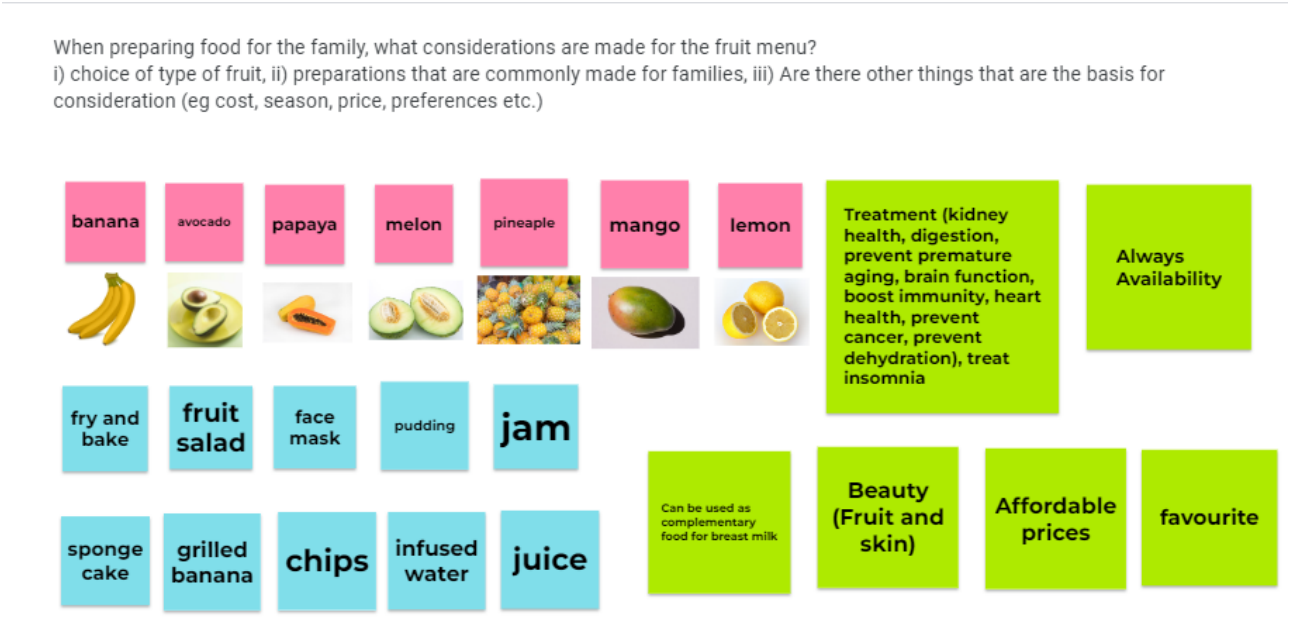

Figure 2 . Group two's online jam board

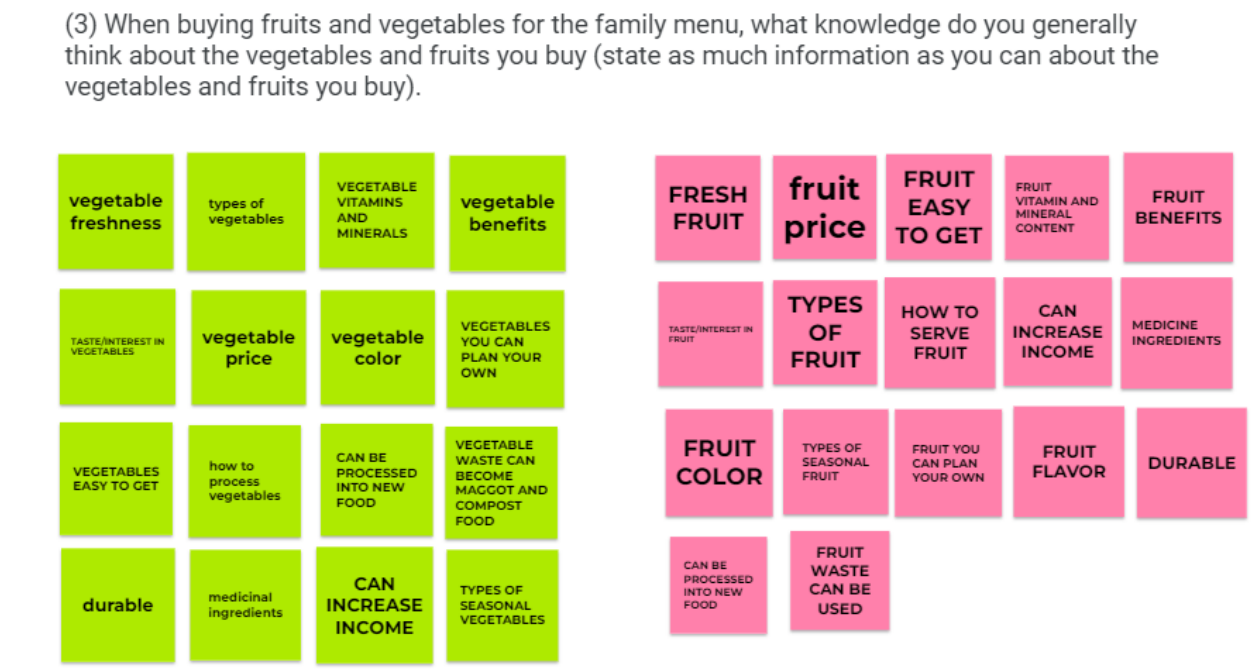

Figure 3 . Group three's online jam board

In a study conducted by Hasibuan (2019), it was found that the main preference of consumers in buying vegetables was the level of freshness and ease to process these vegetables. These results indicate that the freshness of the vegetables and the ease or difficulty toof process them are the main things in choosing vegetables for their families. This can result in reduced food diversification for the reason of convenience.

3.4 Group four's result

The fourth group received questions related to their opinion about food menus in Indonesia. These questions were, "In your opinion, are dishes made of vegetables in Indonesia (you can mention examples) healthy and nutritious foods? If yes, explain why; if not, why is it not nutritious? Answer briefly and clearly, and you can use comparisons". Their answers are presented in Figure 4. Based on the online jam board presented in Figure 4, all of the given answers indicate that the Indonesian vegetable menus (blue sticky notes) are healthy (green sticky notes). Based on the jam board, the vegetables that were most frequently cooked were leaves (e.g. spinach, kale, cassava leaves, etc.), pumpkins (chayote, bitter melon, etc.), beans (snaps, long beans), and sprouts (beans sprouts). All of the vegetable menus mentioned by the participants were onsidered healthy by the participants, marked with green sticky notes.

In addition, they were able to provide reasons related to the benefits (orange sticky notes) of each type of menu they mentioned. As for the cooking methods, they still used the familiar cooking processes usually used in Indonesia. Every participant tried to share their knowledge about the benefits of each menu, such as being good for your stomach and diet, being able to reduce inflammation, having a range of nutrition, etc. However, apparently their knowledge about those benefits was not based on facts or actual research but only based on what other people said.

According to Nurmaliza & Herlina (2019), the lack of knowledge of nutrition and health among parents, especially mothers, is one of the causes of malnutrition in children under five. Mother's' knowledge about nutrition is what they know about healthy food, healthy food for certain age groups, and how they choose, process, and prepares foods correctly. The lack of knowledge of nutrition among mothers will affect the nutritional status of their toddlers, and it will be difficult to choose nutritious foods for their children and their families. These findings indicate that today's society still needs training on nutrition and its resources.

3.5 Group five's result

The fifth group received questions about their opinion related to children's snacks/food available at their children's schools. These questions were, "Are snacks available for your children at their Kindergartens and Elementary Schools are healthy and liked by your children? Discuss in groups some of these things: (i) the types of snacks that are commonly found in your children's schools; (ii) the reasons you think that these types of snacks are healthy/unhealthy; (iii) what steps should be taken by parents regarding their children's snacks?". Their answers are presented in Figure 5.

Based on the participants' answers in Figure 5, answers relating to the healthy snacks such as bread, rice cake, porridge, green bean porridge, etc. are ritten on the green

Figure 4 . Group four's online jam board

sticky notes. On the other hand, answers relating to the unhealthy snacks such as variety of fritters (*goreng-gorengan, cakwe, pempek, and cireng*), chips, candy with coloring, etc. are written on the pink sticky notes.

Based on the number of answers, the unhealthy snacks received more answers than the healthy snacks. In addition, most of the unhealthy snacks were snacks that were processed through frying, frozen foods, and snacks that contained a lot of added flavours. The participants added some reasons (orange sticky notes) for choosing healthy snacks. Firstly, the food was not processed using repeatedly used oil, The food was well packaged well; the quality of the raw materials was good; the cooking process was healthy, and the kiosk was clean.

In addition, this fifth group also gave their opinions on what steps parents should take regarding children's snacks. Their answer was that parents needed to provide education to their children regarding snacks, make sure that they bring food and drinks from home, monitor their children, and remind sellers who did not pay attention to the healthiness of the food they sell. In a study conducted by Iklima (2017) that focused on the selection of snacks by elementary school age children, as many as 54.3% of the participants chose unhealthy snacks, this finding correlated

with the availability of snacks at the participants' schools. The availability of healthy snacks at schools is one of the responsibilities of the schools, parents, and food vendors. They all should collaboratively make efforts to make such snacks available.

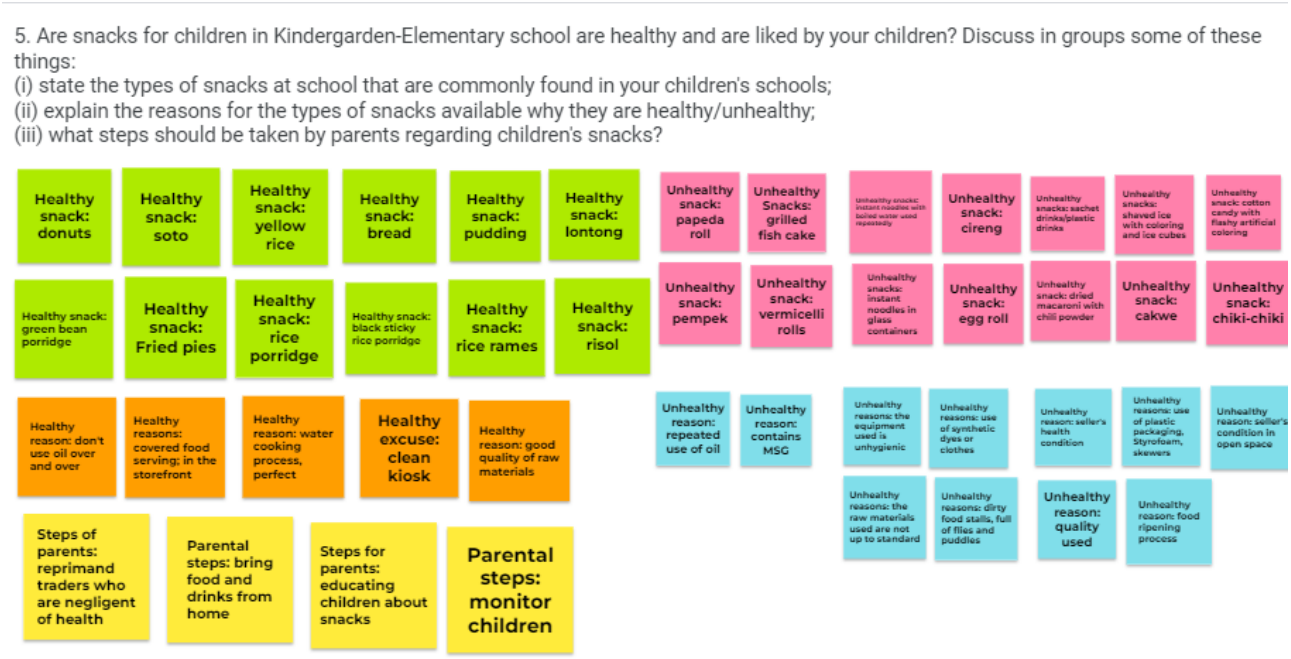

Figure 5 . Group five's online jam board

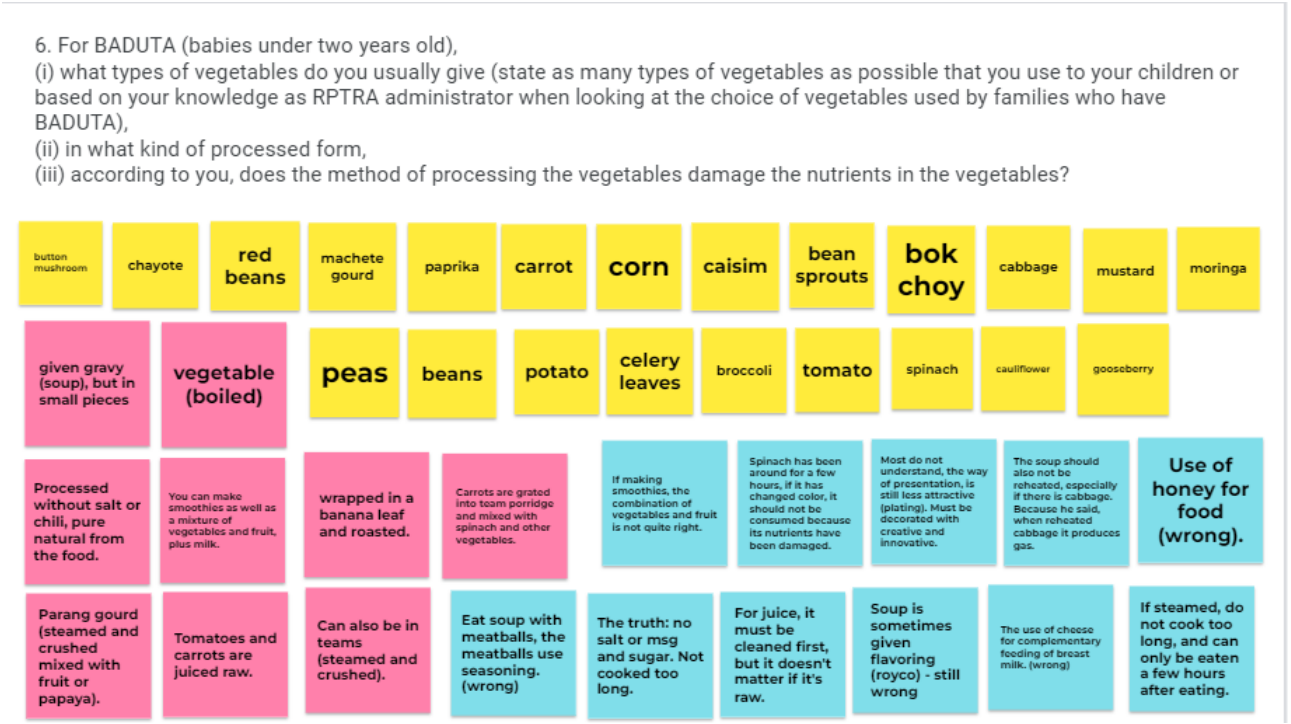

Figure 6 . Group six's online jam board

3.6 Group six's result

The fifth group received questions about their opinions related to vegetables for their infants. The questions given were, "For your BADUTA (babies under two years old), (i) what types of vegetables do you usually give them (mention as many types of vegetables as possible that you give to your children or based on your knowledge as an RPTRA administrator when noticing the choice of

vegetables chosen by parents uwho have BADUTA), (ii) in what kind of dishes are these vegetables served, (iii) according to you, does the method of processing the vegetables reduce the nutrients in the vegetables?". Their answers are presented in Figure 6.

The answers listed in Figure 6 relate to vegetable choices for babies under two years old. In general, the choices of vegetables given to these infants (yellow sticky notes) were vegetables that are easy to find every day in the participants' areas, such as beans, bell peppers, broccoli, carrots, corn, etc. These vegetables mostly had green,orange, and red colors. These vegetables (pink sticky notes) were processed into soup cut into small pieces, boiled, made into smoothies, mixed with porridge, steamed, and juiced.

The participants also answered that there were still many parents who did not understand how to properly process vegetables properly to maintain the nutrient contents in the vegetables. The mistakes that parents usually made were combining the wrong vegetables in one dish, added flavors, and cooked them in a longer time than needed so that their colors changed during the cooking process.

From the overall answers given by each group, it could be concluded that, so far, the consumption of vegetables and fruits wasis still low in terms of their types. Most parents only use vegetables and fruits that looked easy to get and weare commonly eaten. The same was true for the food processing methods. In general, parents still used methodss of processing foods that weare not appropriate, so that the nutrients contained in the foods were affected. Knowledge about nutrition and the importance of bio-pigments in foods to prevent stunting and obesity was also still limited to the basic knowledge related to their function in maintaining health. The results of this FGD have provided an illustration of how knowledge about nutrition in vegetables and fruits still needs to be improved. Moreover, the participants could be agents of change who could contribute to providing education to the communities around the RPTRAs.

4. CONCLUSION

The findings obtained from this FGD are expected to provide an overview of the public's knowledge about nutrition, especially in preventing stunting and obesity. Generally, they were aware of and understood the importance of food diversification and how food with bio-pigments could reduce the risk of stunting and obesity. However, most of them still only ate vegetables and fruits that were commonly eaten even though there were many other types of vegetables and fruits available in Indonesia, and they contained extraordinary bio-pigments. From these findings, it is known that it was important to increase the diversification of vegetables and fruits consumed by the target community.

Scientifically, the FGD result shows that the knowledge related to the variety of vegetables and fruits can be directly related to the benefits or efficacy for people in living their everyday lives based on empirical experiences. Apparently, there a lot of practical knowledge that is not grounded on facts; it is circulating in the community, and they practice it in their daily life. This problem needs to be fixed through education and communication to reduce continuous mistakes.

Practically, we felt the impression that there was still a lack of vegetable and fruit diversification in people's daily consumption. Awareness of children's healthy snacks and food has already formed, but innovations or the creations of new menus with diverse sources of vegetables and fruits that exist in Indonesia as a mega-biodiversity country is still in small numbers.

Therefore, it is necessary to organize a follow-up program related to the understanding of food nutrition, especially for children. The program can be carried out by expanding its reach by inviting RPTRA administrators from other regions, or providing materials related to food literacy and good processing methods.

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CONFLICT OF INTERESTS

This statement is to certify that all authors have seen and approved the manuscript being submitted. We confirm that this article is the authors' original work. We also confirm that this article has not received prior publication and is not under consideration for publication elsewhere. On behalf of all co-authors, the corresponding Author shall bear full responsibility for the progress, submissions of revisions and final approval of the manuscript.

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