

Acceptability of Toddlers to Preparations Made From Toddler Supplementary Feeding Biscuits and Pumpkin as an Supplementary Feeding Extension

Mirthasari Palupi^{1*}, Theresia Puspita²

Prodi Profesi Dietisien Poltekkes Kemenkes Malang

*Corresponding author: college.mirthasaripalupi@gmail.com

ARTICLE INFO

Article history:
Received: 23th June 2025
Revised: 24th June 2025
Accepted: 25th June 2025

Keywords:
Cookies receipts
Food waste
Pudding
Steamed cake
Supplementary feeding

ABSTRACT

Pumpkin or Cucurbita moschata is one of the plants food sources that have high nutritional and fine fiber so that it is easily digested. The use of pumpkin mixture with supplementary feeding toddler biscuits will increase the nutritional value of supplementary feeding toddlers because pumpkin meat has a rich content of vitamins A, B and C, minerals, and carbohydrates. In this study, pumpkin and supplementary feeding biscuits were processed into steamed cake, cookies, and pudding with the aim of knowing the acceptability and food waste of steamed cake, cookies, and pudding. This research was conducted at the Taman Posyandu Melati Dawuhan Kidul Village, Papar District, Kediri Regency. The data collection technique of this study used the residual food acceptance test (Comstok) with descriptive analysis method and with quasi-experimental method conducted on 23 randomly selected respondents with the criteria of toddlers aged 3-5 years and are members of taman posyandu Melati who are not allergic to food ingredients. Based on the acceptability test of the remaining steamed cake food with 0% residue as much as 60%, cookies remaining 0% as much as 43.40%, pudding remaining 0% as much as 13%. Acceptability test of food waste with 0% food waste is steamed cake as much as 60%. It is recommended that for cookies products, the texture is less dry, the addition of pumpkin is reduced. The pudding is too mushy, so the ratio of agar flour is still lacking. The purpose of this study was to determine the acceptability of the remaining steamed cake, cookies, and pudding. Using of local and affordable food is necessary for the health of toddlers

I. Introduction

Supplementary feeding is an act of providing food in the form of biscuits that are guaranteed safety and quality and pay attention to aspects of nutritional value needed by toddlers who are targeted (Pusdatin Kemenkes RI, 2018 in Rahayu, 2020).

The Kediri City Health Office has long implemented the implementation of supplementary feeding as one of the nutrition programs to reduce the prevalence of undernutrition and malnutrition in toddlers. (Tutut Pujianto et al. 2019). The Kediri District Health Office has implemented a supplementary feeding biscuit program. However, this program experienced problems because toddlers felt bored after consuming biscuits for 3-4 days. The reason why toddlers do not finish supplementary feeding in the Kediri area is 60% of children do not want to eat and 40% are eaten by other family. Therefore, the utilization of local and affordable food ingredients is necessary for the health of toddlers (Riskseddas, 2018). One of the local foods in Kediri District is pumpkin.

Research related to toddler supplementary feeding and pumpkin which is used as a variety of processed supplementary feeding is still limited, with this research the utilization of toddler



supplementary feeding and pumpkin can be a variation of local food-based undernourished toddler food in the form of steamed cake, pastries, pudding in Taman Posyandu Melati Duwahan Kidul Village.

Pumpkin (*Cucurbita moschata*) is a food source plant that has high nutritional content and fine fiber so that it is easily digested. It has high adaptability, so it can grow anywhere both in the lowlands and highlands. Pumpkin also has a sweet taste and attractive color, so it can be used to add flavor and color to processed foods. (Stefania et al., 2021). Given the complete nutritional content of pumpkin and its relatively cheap price, pumpkin has good potential to be developed as an alternative food for the people. The nutritional content of pumpkin is quite complete carbohydrates, protein, pro-vitamin A, vitamin B1 and vitamin C. Every 100 g of pumpkin contains. 51 kcal of energy, 1.7 g of protein, 10 g of carbohydrates, 0.20 mg of vitamin A, 2 mg of vitamin C (Ministry of Health of the Republic of Indonesia, 2019).

This study aims to determine the acceptability of toddlers to preparations made from toddler supplementary feeding and pumpkin as supplementary feeding Extension at Taman Posyandu Melati Dawuhan Kidul Village, Papar District, Kediri Regency

II. Methods

This study included a type of quasi-experimental research, by giving treatment to subjects and variables observed food waste from processed steamed cake, cookies, pudding made from toddler supplementary feeding biscuits and pumpkin. The research design is descriptive, by giving different supplementary feeding extension treatments from processed pumpkin to respondents. The observed variables were food waste from processed steamed cake, cookies, pudding made from toddler supplementary feeding biscuits and pumpkin in taman posyandu Melati toddlers 3 - 5 years old.

The method of measuring the acceptability of toddler supplementary feeding and pumpkin using the visual comstok method and using 23 respondents randomly selected at Taman posyandu Melati with the criteria of toddlers aged 3-5 years and members of Taman posyandu Melati who are not allergic to food ingredients. Then the remaining food was tested with the comestok form and grouped into 6 scales (food comstock scale):

1. Scale 0 = 100% of the food served was not consumed by the patient.
2. Scale 1 = 95% of food served is almost not eaten.
3. Scale 2 = 75% of the food served $\frac{3}{4}$ portion is remaining
4. Scale 3 = 50% of food served $\frac{1}{2}$ portion is remaining taman posyandu
5. Scale 4 = 25% of food served $\frac{1}{4}$ portion is remaining
6. Scale 5 = 0% of the food served was completely eaten by the patient.

The comstok test form contains the identity of the panelists, instructions for filling in and a scoring table. The comstok test form was used to assess the panelists' food waste steamed cake, cookies, modified pudding with the basic ingredients of toddler supplementary feeding biscuits with pumpkin. Stationery in the form of ballpoint pens was used by panelists to fill in the comstok form. Plastic clips and cups plastic clips and cups used for steamed cake, cookies, modified puddings container, can be tightly closed and clean.

The materials used for the comstok test are preparations made from toddler supplementary feeding and pumpkin, namely steamed cake, cookies, pudding with a gram weight in each

preparation for each panelist.

The procedure for collecting data through the comestok method is to prepare 1 sample of each preparation in a plastic clip or cup for each toddler, prepare comstok forms and stationery, invite panelists to enter the room, evaluate supplementary feeding intake using the comstock method of measuring food waste, with a scale of 0% (food runs out), 25% (remaining food ¼ portion), 50% (remaining ¾ portion), 95% (remaining food is almost not eaten), 100% (whole food).

III. Results and Discussion

Results

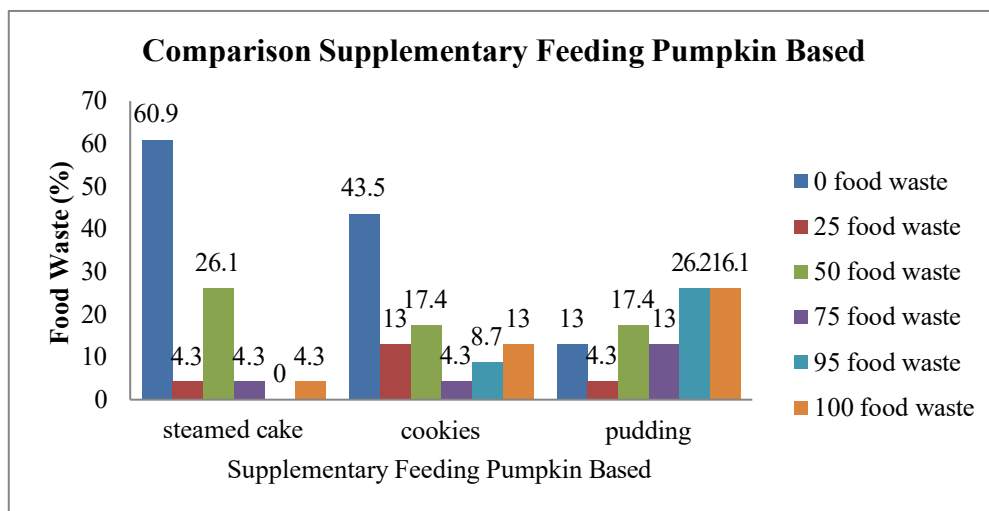


Figure 1. Comparison Supplementary Feeding Pumpkin Based

Based on Figure 1, it is known that the percentage of food waste steamed cake shows that in the 100% category it gets a result of 4.3%. the percentage of food waste cookies in the 100% category gets a result of 13%. the results of the food waste test on pumpkin pudding, the percentage of food waste pudding in the 100% category gets a result of 22% of the product not eaten.

Discussion

Pumpkin contains nutrients that the body needs, such as protein, carbohydrates, fiber, vitamin A, beta-carotene or provitamin A, vitamin B1, vitamin B3, vitamin C, vitamin K, iron, calcium, phosphorus, potassium and magnesium. Pumpkin also has a sweet taste and attractive color, so it can be used to add flavor and color to processed foods. (Stefania et al., 2021). Given the complete nutritional content of pumpkin and its relatively low price, pumpkin has good potential to be developed as an alternative food for the community. Supplementary Food Program (supplementary feeding) for undernourished toddlers, providing biscuits as additional food for undernourished or malnourished children through the health center (Irwan, T M et al., 2020). According to the World Health Organization (WHO), supplementary feeding is made from oil, sugar, milk, water and flour. In addition, supplementary feeding can be processed by itself as snacks whose composition includes energy and protein content and is made from ingredients that are easily available to the community at affordable prices, such as steamed cake, cookies,

pudding. To knowing the acceptance of processed steamed cake, cookies, and pudding, a food waste test was conducted.

The results of the comparison of the remaining meals that have been carried out by 23 panelists show that, the percentage food waste of steamed cake shows that in the 100% category gets a result of 4.3%. The percentage of food waste cookies in the 100% category is 13%. Meanwhile, the results of the food waste test on pumpkin pudding show that the percentage in the 100% category results in 22% product not being eaten, because based on the average questionnaire, it states that the texture of the pudding is too mushy, the pumpkin cookies have a less crunchy texture and the steamed cake has a good taste and soft texture.

Geeting better respondents rated the taste of their food, less food waste occurred. Respondents who had a lot of food waste said that the taste of the food was not good. In this case, the taste of food is one aspect of food assessment that is very subjective and difficult to assess accurately, because the assessment of food taste is based on the respondent's preference for the food, but if the product matches with the respondent's taste, it will leave a little food waste and vice versa (Wirasamadi, et al, 2019). Food consistency is part of the taste of food, because it affects your sensitivity to taste. For example, solid or thick food will provide different stimuli to the human five senses (Moehyi, 1992).

Some panelists stated that they had breakfast at home. Meal time serving is the time when people usually eat every day. People feel very hungry 3 to 4 hours after eating, so after that, food should be taken in the form of snack or heavy meals. Timely food distribution and appropriate meal spacing also affect food waste. (Umami, 2017). Dietary habit can describe eating habits and food-related behaviors, including eating habits, frequency of eating, eating habits, beliefs about eating (restriction), division of food among family members, acceptance of food (like or not) and selection of food ingredients to be eaten. (Dewi, 2015).

Supplementary feeding is an effort to improve nutrition by using additional food to meet nutritional needs and achieve good nutritional status. The additional food used can be in the form of local food-based snacks. Local food is certainly more varied than manufactured food, but it still needs to be considered how and how long to cook it so that the nutritional content is maintained (Regulation of the Minister of Health of the Republic of Indonesia Number 51 of 2016).

IV. Conclusion

Based on the research results of the food waste can be concluded that the acceptance of toddlers to processed steamed cake made from supplementary feeding toddlers and pumpkin with 0% food waste as much as 60% toddlers, processed cookies made from supplementary feeding toddlers and pumpkin with 0% food waste as much as 43.40% toddlers, processed pudding made from supplementary feeding toddlers and pumpkin with 0% food waste as much as 13% toddlers, thus the best recommendation for supplementary feeding from the three preparations is steamed pumpkin cake.

It is hoped that improvements will be made to the addition of pumpkin which needs to be recalculated so that the product close to standard. Because the quality of presentation and taste will increase respondents' interest, researchers can improve the preparation and presentation methods and improve the taste. Cookies texture is less dry then the addition of pumpkin is

reduced. The pudding texture is too soft, so the ratio of agar flour is still lacking

V. References

- AKG.2019. Angka Kecukupan Gizi Yang Dianjurkan Untuk Masyarakat Indonesia. Peraturan Kementrian Kesehatan Republik Indonesia Nomor 28
- Bappenas R.I. (2011). Rencana Aksi Nasional Pangan Dan Gizi 2011-2015. Bappenas Republik Indonesia, Jakarta. Tutut Pujianto, Frenky Arif
- Budiman, Wahyu Wibisono. 2019. Pendampingan Balita Gizi Kurang Dengan Pemberian Makanan Tambahan Berbahan Dasar Biskuit PMT. Akademi Gizi Karya Husada Kediri, STIKes Patria Husada Blitar.
- Comstock, E.M, Pierre, R.G., and Mackieman, Y.D., (1991). Measuring Individual Plate Waste in School Lunches, J.Am.Diet.Assoc., 94, 290-297.
- Dewi, Y. D. (2015). Studi Pola Konsumsi Makanan Pokok pada Penduduk Desa Pagendingan Kecamatan Galis Kabupaten Pamekasan Madura. Jurnal Tata Boga (online)
- Elisa Febrianti, 2018. Taman Posyandu Sebagai Program Kesehatan Masyarakat Terintegrasi. Departemen Promosi Kesehatan dan Ilmu Perilaku Fakultas Kesehatan Masyarakat Universitas Airlangga, Surabaya.
- Hirsch, Kathleen M, et. Al. 1999. Factor Influency Plate Waste by Hospitalized Patient, JADA.
- Graves and Shannon. 1993. Ilmu Perilaku Dalam Pelayanan Kesehatan. Airlangga University
- Irwan, T M, Sunarto K, Amalia L. Efektivitas Pemberian PMT Modif Berbasis Kearifan Lokal Terhadap Peningkatan Status Gizi Balita Gizi Kurang Dan Stunting. J Heal Sci Gorontalo J Heal Sciene Community. 2020;4(2):59–67.
- Kamsiati, E. 2010. Labu Kuning untuk Bahan Fortifikasi Vitamin A.
- Kemkes RI. (2018). Laporan Hasil Riset Kesehatan Dasar (Riskesdas 2018). Jakarta: Badan Penelitian dan Pengembangan Kesehatan.
- Minarto. 2016. Pemberian Makanan Tambahan dalam Meningkatkan Status Gizi Anak. Kajian Teoritis dan Implementatif.
- Moehyi, S. (1992). Penyelenggaraan makanan institusi dan jasa boga. Bhratara.
- Mutya. (2016). Daya Terima Produk Minuman Jelly dan Serbuk Minuman Instan Labu Siam.
- Nida, Khairun. 2011. Faktor-faktor yang Berhubungan dengan Sisa Makanan Pasien Rawat Inap di Rumah Sakit Jiwa Sambang Lihum. Banjarbaru : STIKES Husada Borneo. Press.
- Skripsi. Fakultas Kesehatan Masyarakat Universitas Hasanuddin Makassar.
- Tahun 2019. Riset Kesehatan Dasar (Riskesdas) (2018). Badan Penelitian dan Pengembangan Kesehatan Kementerian RI tahun 2018.
- Thompson, E. F. 1994. Dietary Assesment Resource, Manual. Journal Nutrition.
- Tutut Pujianto, Frenky Arif Budiman, Wahyu Wibisono. 2019. Pendampingan Balita Gizi Kurang Dengan Pemberian Makanan Tambahan Berbahan Dasar Biskuit PMT. Akademi Gizi Karya Husada Kediri, STIKes Patria Husada Blitar
- Umami, R. (2017). Determinan Sisa Makanan Dan Estimasi Biaya Sisa Makanan Pasien Rawat Inap Di Rumah Sakit Islam Lumajang.
- UNICEF. (2019) Paket konseling : Pemberian Makan Bayi dan Anak paket konseling : Pemberian Makan Bayi dan Anak
- Winarno, F. G. (2008). Ilmu Pangan dan Gizi. Jakarta : Gramedia Pustaka Utama
- Wirasamadi NLP, Adhi KT, Weta IW. Analisis Sisa Makanan Pasien Rawat Inap Di RSUD Sanglah Denpasar Provinsi Bali. 2019.