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The effect of yellow pumpkin on improving nutritional status in toddlers: A literature review

Ratnawati[1], Sunarti[2], Surahma Asti Mulasari[3]

[1,2,3]Departement of Public Health, Faculty of Public Health, Universitas Ahmad Dahlan, Yogyakarta, Indonesia

ARTICLE INFO

Article history:

Received Nov 11, 2024
Revised Nov 13, 2024
Accepted Nov 17, 2024

Keywords:

Nutritional Intervention
Nutritional Status
Pumpkin
Toddler

ABSTRACT

One of the most important markers of child health and growth is nutritional condition. Malnutrition raises the risk of illness and can disrupt mental and physical development. Due to its high vitamin content, pumpkin is one way to enhance children' nutritional status. Nutritional intervention is crucial. Through a review of the literature, this study seeks to determine how well pumpkin can improve toddlers' nutritional status. This study assessed the impact of pumpkin on toddlers' nutritional status using a literature review and the PRISMA methodology. Google Scholar and ProQuest were searched, yielding 1,699 and 3 articles, respectively. Eight pertinent articles were chosen after selection based on inclusion and exclusion criteria. The findings demonstrated that processed pumpkin products, such pudding and biscuits, improved the weight and nutritional condition of malnourished children. After consuming pumpkin seed pudding, there was a noticeable increase in weight, and pumpkin cookies also had a role. Pumpkin helps malnourished children gain weight and improve their nutritional condition.

Corresponding Author:

Ratnawati,
Faculty of Public Health,
Universitas Ahmad Dahlan,
Jalan Prof. Dr. Soepomo, S.H. Janturan Yogyakarta, 55164, Indonesia
Email: Ratnahassalm14@gmail.com

INTRODUCTION

A child's nutritional condition is a sign of their health, particularly during infancy when they need to consume enough food to maintain their physical development (Hidayati & Andyarini, 2018). Malnutrition at this age has a detrimental effect on the development of toddlers, who are particularly susceptible to nutritional issues (Kemenkes RI, 2023). Malnourished toddlers had a higher chance of illness and mortality, as well as slower physical and mental development (Ningsih et al., 2022). 45 million children worldwide suffered from wasting in 2022, while 149 million children under the age of five suffered from stunting (World Health Organization, 2024). Nearly half of fatalities in children under five are due to malnutrition, with low- and middle-income nations accounting for the majority of cases (World Health Organization, 2024). According to data from the Ministry of Health of the Republic of Indonesia (2019), 13.8% of toddlers in Indonesia are considered malnourished (Kemenkes RI, 2019).

Toddler malnutrition can raise the risk of illness and mortality while also impeding physical and mental development (Ningsih et al., 2022). Toddlers are more vulnerable to infections and illnesses due to weakened immune systems caused by inadequate dietary intake (Sudiyah & Rosida, 2021). Furthermore, malnutrition affects a person's development and productivity as an adult in addition to their health and growth (Lestari, 2022). Additionally, malnutrition might impede motor development, which can have long-term consequences on children' academic performance, independence, and learning capacities (Ihza et al., 2024).

Maternal age, family poverty, difficult childbirth, exclusive breastfeeding, and a history of hospitalization for the child are all factors that contribute to malnutrition in toddlers (Novyriana et al., 2022; Rahayuwati et al., 2019). Low birth weight, illness susceptibility, and unsanitary living conditions are some of the causes of malnutrition in toddlers (Nuzuliana & Wijhati, 2022). The distribution of extra food based on local foods is one way the government is still working to enhance the nutritional condition of toddlers. One alternative to help the sustainability of this program is pumpkin, which is inexpensive and high in nutrients (Muliyati, 2019). Children readily accept the fact that pumpkin may be turned into a variety of meals, such as cookies (Liubych et al., 2023). Important nutrients found in pumpkin include beta-carotene, protein, carbs, vitamins A, B, and C, and up to 1,569 µg of beta-carotene per 100 grams (Faisal et al., 2023).

A study of the literature was done to find out how pumpkin can help toddlers' nutritional status. This study set out to determine how well pumpkin works as a nutritional intervention to enhance toddlers' nutritional status. A literature review is a research technique that offers a summary of different kinds of research and acts as a manual for carrying out and assessing the study (Snyder, 2019). Literature reviews can be carried out in a variety of ways, either as a separate study or as a component of an empirical or conceptual investigation. They are extremely beneficial for expanding knowledge (Lim et al., 2022)

RESEARCH METHOD

The literature review approach, which is used in this study, attempts to give a summary of different studies and act as a guide for carrying out and assessing research (Snyder, 2019). A systematic search was conducted using the PRISMA (Preferred Reporting Items for Systematic Review and Meta-Analysis) technique to look at studies published between 2019 and 2024 on how providing children yellow pumpkin can improve their nutritional status. Articles were found using a number of search engines, such as ProQuest and Google Scholar.

Articles were found using a number of search engines, such as ProQuest and Google Scholar. Certain Google Scholar keywords, such "Yellow Pumpkin," "Nutritional Status," and "Toddler," yielded 21 publications, but the terms "Yellow Pumpkin" and "Toddler" together generated 31 articles. 587 articles were found when the keywords "Labu Kuning" and "Balita" were combined, and 1,060 articles were found when "Status Gizi," "Labu Kuning," and "Balita" were combined. A total of 1,699 articles were discovered in Google Scholar. Only three articles were discovered using the same keywords in ProQuest.

The following criteria are used in the selection of papers: (1) studies that particularly examine how pumpkin might improve infants' nutritional status; (2) articles written in English or Indonesian; and (3) journals published between 2019 and 2023. However, the exclusion criteria are as follows: (1) articles that are not available in their whole; and (2) articles that fall within the categories of community service articles and article procedures. Eight articles that satisfied the requirements were retrieved after the screening process. Figure 1 provides a graphic representation of the article selection process, explaining the steps taken in this investigation.

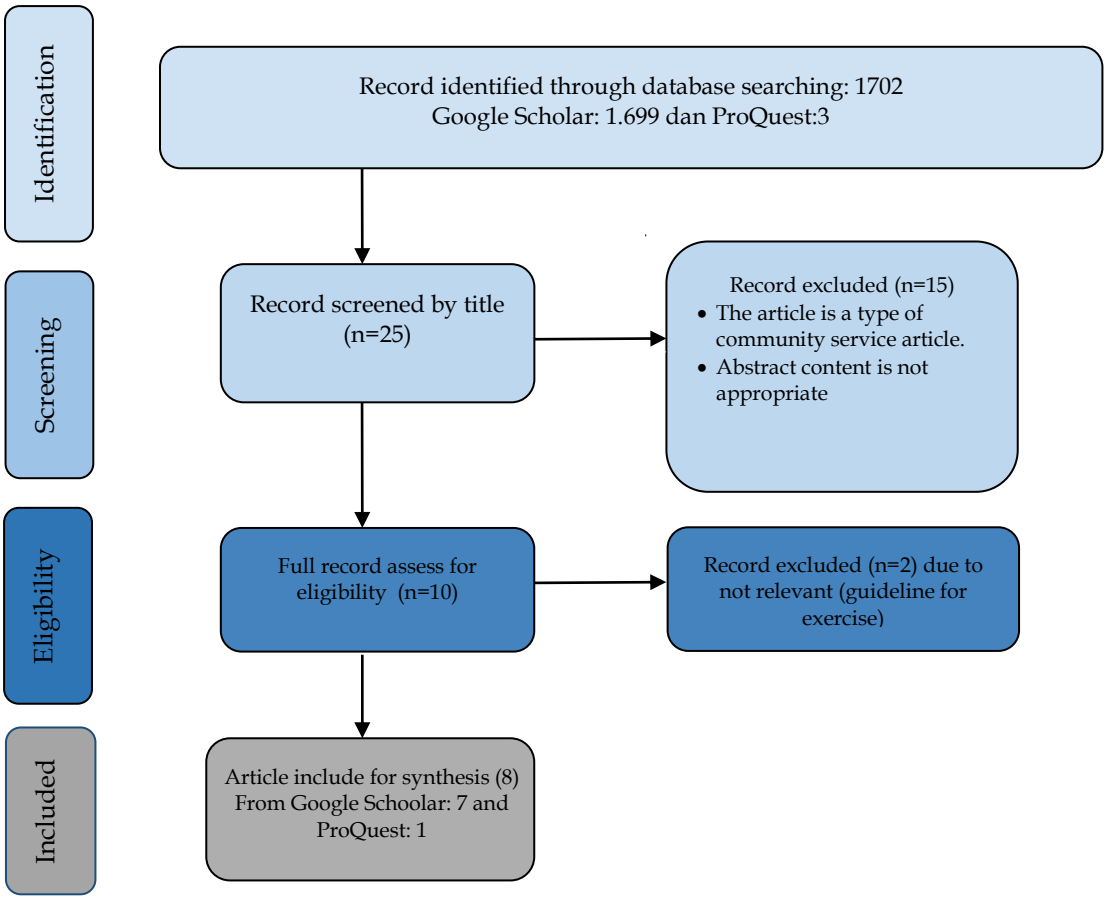

Figure 1. Article selection process with PRISMA

RESULTS AND DISCUSSIONS

Results

The findings of a study of the literature on pumpkin research indicate that feeding malnourished children pumpkin in different processed forms, including pudding and biscuits, improves their body weight and nutritional condition. Rachmawatiningsih et al. (2022) and Noviyanti and Rahmawati (2022) found that providing papaya and pumpkin seed pudding significantly increased body weight. According to studies by Yulianto et al. (2022) and Usu et al. (2022), children who are malnourished may acquire more weight when they eat pumpkin biscuits. The study by Fandir et al. (2022) reported an increase in weight and height among toddlers who received pumpkin seed biscuits. However, the research conducted by Ratnawati and Satriani (2024) found less significant results regarding the improvement of nutritional status using a combination of fish flour and pumpkin biscuits. Nevertheless, the majority of studies indicate that pumpkin is effective in enhancing nutritional intake and weight gain in toddlers experiencing malnutrition.

Table 1. Literature review on the effect of pumpkin on improving the nutritional status of toddlers nutrition status of toddlers

No	Authors (Year)	Title	Method	Results
1	Noviyanti and Rahmawati (2022)	The Effect Of Giving Pudding Seeds Of Yellow Pumpkin And	This study utilized a two-group pretest-posttest design, conducted from	The study results indicated that the average nutritional status of toddlers before and after the

No	Authors (Year)	Title	Method	Results
		Papaya On Nutritional Status In The Working Area Of The Puskesmas Gilingan	September to October 2021 at Puskesmas Gilingan in Surakarta. The sample comprised 22 toddlers aged 24-59 months, divided into two groups: 11 participants received pumpkin seed and papaya pudding, while the other 11 received papaya pudding. The pudding was administered in a quantity of 100 grams daily for a duration of 14 days. The independent variable was the provision of pudding, and the dependent variable was body weight. Data were collected through interviews, documentation, and anthropometric measurements, and analyzed using paired t-tests and independent t-tests.	intervention in the pumpkin seed and papaya pudding group was -2.293 ± 0.32 SD and -1.889 ± 0.47 SD, respectively. In the control group, the average nutritional status before and after the intervention was -2.23 ± 0.28 SD and -2.09 ± 0.354 SD. The results of the difference tests revealed a significant effect of the pumpkin seed and papaya pudding on the nutritional status of the toddlers (p=0.007), as well as in the control group (p=0.047). Therefore, it can be concluded that the provision of pumpkin seed and papaya pudding positively influenced the improvement of nutritional status in toddlers experiencing undernutrition.
2	Usu *et al*., (2022)	Pengaruh Pemberian Cookies Daun Kelor (Moringa Oleifera) dan Labu Kuning (Curcubita Moschata) Terhadap Pertambahan Berat Badan Balita di Wilayah Kerja Puskesmas Bontoa	This study was a pre-experimental research conducted in two phases. The first phase focused on developing the cookie formula and conducting a preference test. The second phase evaluated the effect of cookie consumption on weight gain in toddlers with undernutrition (weight-for-age -3 SD to ≤ -2 SD) at Puskesmas Bontoa, Maros Regency, in 2021, over a period of 30 days. Body weight data were measured using an electric scale, while family characteristics and food consumption data were obtained through interviews and 2x24-hour dietary recalls. The analysis was performed using the Kruskal-Wallis test, Mann-Whitney test, and paired t-test. The research subjects consisted of 28 toddlers aged 2-5 years.	The results indicated that the cookie formula with the addition of moringa leaf flour and pumpkin flour that was most preferred was F2, with a preference percentage of 64%. The average protein content in cookie F2 was 5.58 grams per 100 grams, while the carbohydrate content was 41.20 grams per 100 grams. The paired t-test revealed a significance value (2-tailed) of 0.00 < 0.05, indicating a significant effect of cookie consumption on weight gain in toddlers with undernutrition. The average weight gain after cookie consumption was 0.319 grams. Therefore, cookie F2 can be recommended to help increase weight in toddlers aged 2-5 years.
3	Yulianto, Telisa and Pertiwi, (2022)	Efektivitas Pemberian Biskuit Tepung Labu Kuning dan Tepung Tempe terhadap Perubahan Berat Badan pada Balita Gizi Kurang di Puskesmas Punti Kayu Palembang	This study employed a quasi-experimental design with a pre-test and post-test with a control group, conducted at Puskesmas Punti Kayu in Palembang from February to March 2022. A total of 60 toddlers with undernutrition (-2 SD to <-3 SD) were selected as samples using simple	The results indicated that the majority of the sample were male (51.67%) and aged 12-36 months (66.67%). The average weight in the intervention group before the intervention was 9.73 kg, which increased to 10.36 kg after the intervention, with a change of 0.595 kg. Meanwhile, the control group had an average weight of 9.45 kg before the intervention, which

No	Authors (Year)	Title	Method	Results
			random sampling from a total of 80 toddlers whose weights were measured. The samples were divided into two groups: 30 toddlers in the intervention group and 30 toddlers in the control group. The intervention lasted for 21 days. Data were collected through initial weight measurements and post-intervention assessments. Data analysis was performed using dependent t-tests and independent t-tests for univariate and bivariate analyses.	increased to 9.59 kg, with a change of 0.283 kg. The independent t-test revealed a p-value of 0.000, indicating a significant effect of the provision of pumpkin flour and tempeh flour biscuits on weight changes in undernourished toddlers at Puskesmas Punti Kayu in Palembang.
4	Fandir *et al*., (2022)	Effects of Giving Pumpkin Seed Biscuits (C. Moschata D.) on Underweight and Stunting Toddlers Age 12-59 Months in Banggai Regency, Central Sulawesi	The study used a quasi-experimental approach, with an intervention of pumpkin seed biscuits given over two months. The research design was a non-randomized pre-post test control group with a total of 90 toddler participants, 45 in the intervention group and 45 in control. The intervention lasted two months. The intervention was conducted over a duration of two months. The measured variables included family characteristics, household conditions, morbidity, and the nutritional status of the toddlers, with weight and height assessed using anthropometric tools. Data were collected using a household questionnaire-based application (Kobo Collect) and analyzed using Chi-Square tests, Wilcoxon Signed Rank Tests, and Mann-Whitney Tests.	The weight difference test revealed an increase of 0.93 kg in the intervention group and 0.67 kg in the control group. The intervention group gained 0.10 cm in height, whereas the control group gained 0.11 cm. Bivariate analysis revealed that the baseline data for both groups were comparable (P > 0.05), but there was a significant difference in ethnic features (P = 0.004). The intervention of supplying pumpkin seed biscuits significantly improved the weight of underweight children and the height of those with stunting.
5	Rachmawatiningsih, Noviyanti and Rahmawati, (2022)	Pengaruh Pemberian Puding Biji Labu Kuning dan Pepaya Terhadap Berat Badan Pada Balita Gizi Kurang Di Wilayah Kerja Puskesmas Gilingan	The study used an experimental design with a two-group pretest-posttest procedure. Purposive sampling was used to choose 22 participants ranging in age from 24 to 59 months. The samples were split into two groups: 11 for the pumpkin seed and papaya pudding group and 11 for the papaya pudding group. Data was analyzed using paired and	The average weight of toddlers before and after the intervention in the treatment group was 10.57±1.57 kg and increased to 11.20±1.81 kg, with an average difference of 0.63±0.58 kg. In the control group, the average weight before and after the intervention was 10.26±1.22 kg and 10.46±1.25 kg, respectively, resulting in a difference of 0.20±0.27 kg. Statistical analysis revealed significant differences in the treatment group before and after the intervention (p=0.005), as well

No	Authors (Year)	Title	Method	Results
			independent t-tests with a significance threshold of ($\alpha = 0.05$).	as in the control group (p=0.035). However, no significant difference was found between groups before the intervention (p=0.631) and after the intervention (p=0.279). The difference between groups post-intervention was significant (p=0.038). The findings indicate that the provision of pumpkin seed and papaya pudding had a positive effect on increasing the weight of undernourished toddlers.
6	Sulistyawati (2023)	The Giving Cucurbita Moschata Pudding on Weight Gain Malnourished Toddlers in Jombang, Indonesia	This study employed a quasi-experimental design with a non-equivalent control group to analyze the effect of pumpkin pudding (Cucurbita moschata) in supplementing food to improve the weight of undernourished toddlers in the Mojoagung area. The research was conducted over four months, from September to December 2022, involving 30 toddlers aged 1-2 years, with 15 receiving the intervention and 15 not receiving it. Weight measurements were conducted using a calibrated baby scale. Data were collected through interviews, documentation, and anthropometric measurements, and analyzed using paired sample t-tests to compare the outcomes between the treatment and control groups.	The results indicated that the administration of Cucurbita moschata pudding significantly increased the weight of undernourished toddlers. Before the intervention, the average weight of toddlers in the intervention group was 8,553 grams, which increased to 8,847 grams after two weeks of pudding supplementation. After six months, 14 out of 15 toddlers in the intervention group showed an increase in weight, with 93% of respondents experiencing weight gain. One toddler did not show an increase in weight; however, all involved toddlers achieved the normal weight gain threshold for their age group (12-24 months). Statistical analysis using the Paired Sample T-Test yielded a p-value of 0.000, which rejected the null hypothesis (H0) and accepted the alternative hypothesis (Ha), indicating that the provision of Cucurbita moschata pudding has a significant positive effect on the weight gain of undernourished toddlers.
7	Ratnawati and Satriani (2024)	The Effect of Giving Biscuits Made from Haruan Fish Flour and Yellow Pumpkin on the Nutritional Status of Toddlers	This study used a single-blind, quasi-experimental pre-post test design with a control group. Purposive sampling was used to choose 22 children for the September–November 2021 study. The control group was given biscuits from the government, whereas the intervention group was given biscuits prepared with pumpkin and fish flour (haruan). The Food Recall technique was used to gather information on calorie and protein intake, and anthropometric measures were used to determine nutritional status	The average Z-score in the control group was -1.4345 (showing normal nutritional status), which increased slightly to -1.3536 following the intervention. In comparison, the intervention group had a reduction in Z-score from -2.0009 to -2.1691 (showing significant malnutrition). The control group's energy intake reduced from 956.864 kcal prior to the intervention to 792.564 kcal during the intervention, whereas the intervention group's energy intake decreased from 1010.891 kcal to 793.109. Protein consumption in the control group fell from 34.436 g to 31.691 g, but in the intervention group it increased from 38.164 g to 58.75 g. Overall, the findings showed that the intervention using

No	Authors (Year)	Title	Method	Results
			based on the weight-for-age index.	fish flour and pumpkin cookies had no significant effect on the toddlers' nutritional status, caloric consumption, or protein intake.
8	Nasution, Sudaryati and Lubis (2024)	The Effect of Giving Modified Yellow Pumpkin Soybean Noodles and Tuna Fish on Body Weight and Height of Wasting Toddlers in Medan City	This study used a quasi-experimental design with a pretest and posttest control group, which included both an experimental and control group. Initial measures were taken before to the intervention (pretest). The study comprised 36 children with wasting diseases, separated into two groups: 18 in the control group and 18 in the experiment. The treatment group received modified noodles made from soy, pumpkin, and skipjack tuna for 30 days, while the control group did not receive any treatment.	The Mann-Whitney test resulted in a p-value of 0.255 for the pretest and 0.000 after the intervention, indicating a significant difference in energy intake following the administration of the modified noodles, with the experimental group achieving an intake of 1,110.37 kcal (79.31% of the Recommended Dietary Allowance). Furthermore, there was no significant difference in weight-for-height (BB/TB) between the groups before the intervention (p=0.962), but a significant difference emerged after the intervention (p=0.001). The independent t-test yielded a p-value of 0.000, indicating a significant difference between the control and experimental groups. Overall, the administration of modified noodles positively influenced the nutritional intake and weight-for-height status of toddlers with wasting.

Discussion

Malnutrition in toddlers is frequently caused by two primary factors: disease-related infections and insufficient nutritional intake owing to a lack of food availability in the family or inefficient caregiving methods. Children aged 1-3 years are the most vulnerable group, as they are unable to select and consume food that meets their nutritional needs (Rachmawatiningsih et al., 2022). To address this problem, the government sought to improve the nutritional status of toddlers by providing supplementary foods based on local ingredients. One promising option is pumpkin, which is nutrient-rich and affordable (Muliyati, 2019).

Pumpkin (Cucurbita moschata) has shown significant benefits in improving the nutritional status and weight of undernourished toddlers. Various methods have been employed in this research, including the use of pudding, biscuits, and noodles containing pumpkin. The results indicated that these products not only increased weight but also met children's nutritional needs. Processed pumpkin products have proven to be delicious and nutritious, making them a beneficial alternative supplementary food to support the growth and health of toddlers (Fandir et al., 2022; Nasution et al., 2024; Noviyanti & Rahmawati, 2022; Rachmawatiningsih et al., 2022; Ratnawati & Satriani, 2024; Sulistyawati, 2023; Usu et al., 2022; Yulianto et al., 2022).

As a local food source, pumpkin holds great potential for the production of high-nutrient supplementary foods. Pumpkin is rich in various nutrients, including vitamin A, vitamin B, beta-carotene, vitamin C, as well as protein and carbohydrates. The beta-carotene content in pumpkin reaches 1,569 µg per 100 grams (Faisal et al., 2023). Additionally, pumpkin serves as a source of protein, carbohydrates, fatty acids, carotenoids, tocopherols, tryptophan, delta-7-sterol, and is rich in phytochemicals, offering significant health benefits (Batool et al., 2022). The mineral zinc found in pumpkin seeds also plays a crucial role in tissue growth. Zinc contributes to weight gain by enhancing circulating insulin, appetite, and the intake of energy and protein (Sulistyawati, 2023). The levels of alkaline phosphatase produced in osteoblasts can be influenced by zinc deficiency, indicating the importance of zinc in child health (Rachmawatiningsih et al., 2022).

Pumpkin contains all the necessary macro and micronutrients, along with bioactive compounds, making it a nutritious food choice for various snack forms (Kaur et al., 2020). Different preparations of pumpkin, such as cookies, can enhance the appeal and consumption of this nutritious food in daily diets (Fandir et al., 2022). Using pumpkin in cookie production offers an innovative solution to increase the nutritional intake of undernourished toddlers (Amalia et al., 2022; Irwan, 2019). Substituting pumpkin flour in baked goods can improve their nutritional content, such as carbohydrate and fiber levels, while also providing good health benefits (Subaktilah et al., 2021). Color characteristics, including brightness, saturation, and hue, also influence children's perceptions of taste and well-being (Ezan et al., 2019). Children's food preferences are affected by soft aromas, bright colors, and specific textures and temperatures (Liubych et al., 2023; Serra, Nunes, & Nascimento, 2022). The sweet and fresh aroma of pumpkin significantly contributes to the appeal of food products that incorporate it (Xu et al., 2020).

CONCLUSION

The literature review indicated that the inclusion of pumpkin in various preparations, such as pudding and biscuits, positively impacts the improvement of nutritional status and weight in undernourished toddlers. Research noted a significant increase in weight following the provision of pumpkin seed and papaya pudding, as well as pumpkin-based cookies that contributed to weight gain in toddlers with malnutrition. Although one study found insignificant results with a combination of fish flour biscuits and pumpkin, the majority of studies support the effectiveness of pumpkin in enhancing nutritional intake and weight.

ACKNOWLEDGEMENTS

Thank you to the advisor for guiding me in the preparation of this article.

References

Amalia, M. R., Nuryani, N., & Santoso, B. (2022). Sensory Characteristics and Nutrient Content of Food Bar with Flour and Pumpkin Seed Substitution. *Jurnal Ilmiah Kesehatan (JIKA)*, *4*(1), 182–192. https://doi.org/10.36590/jika.v4i1.271

Batool, M., Modassar, M., Nawaz, A., Roobab, U., Manzoor, M. F., Farooq, U., Nadeem, H. R., Nadeem, M., Kanwal, R., Abdelgawad, H., Jaouni, S. K. Al, Selim, S., & Ibrahim, S. A. (2022). Nutritional Value, Phytochemical Potential, and Therapeutic Benefits of Pumpkin (Cucurbita sp.). *Plants*, 1–23.

Ezan, P., Pantin-Sohier, G., & Lancelot-Miltgen, C. (2019). Colour of food as a vector for children's well-being. *International Journal of Retail & Distribution Management*, *47*(6), 659–679. https://doi.org/10.1108/IJRDM-08-2017-0183

Faisal, M., Harianto, A., Hutasoit, J. P., Amrullah, S., & Ardiansyah, A. (2023). The effect of sodium tripolyphosphate (STPP) concentration on the physical and chemical properties of modified yellow pumpkin starch (Modified cucurbita moschata starch). *Jurnal Agrotek Ummat*, *10*(3), 206. https://doi.org/10.31764/jau.v10i3.15817

Fandir, A., Syam, A., Hadju, V., Thaha, A. R., Asfar, M., & Wahiduddin. (2022). Effects of Giving Pumpkin Seed Biscuits (C. Moschata D.) on Underweight and Stunting Toddlers Age 12-59 Months in Banggai Regency, Central Sulawesi. *NeuroQuantology*, *20*(8), 55–61. https://doi.org/10.14704/nq.2022.20.8.NQ44006

Hidayati, I., & Andyarini, E. N. (2018). Correlation Between Toddler Care and Nutrition Status. *International Conference on Sustainable Health Promotion*, *2007*, 124–128. https://doi.org/10.29080/icoshpro.v1i0.27

Ihza, S. E. F., Pangestuti, D. R., Asna, A. F., & Lisnawati, N. (2024). Nutritional Status and Motor Development of Toddlers Aged 24-59 Months in Agricultural Area of Semarang District. *Amerta Nutrition*, *8*(2), 199–205. https://doi.org/10.20473/amnt.v8i2.2024.199-205

Irwan. (2019). Pemberian PMT Modifikasi Berbasis Kearifan Lokal pada Balita Stunting dan Gizi Kurang. *Jurnal Sibermas (Sinergi Pemberdayaan Masyarakat)*, *8*, 145–156. https://doi.org/https://doi.org/10.37905/sibermas.v8i2.7833

Kaur, S., Panghal, A., Garg, M. K., Mann, S., Khatkar, S. K., Sharma, P., & Chhikara, N. (2020). Functional and nutraceutical properties of pumpkin – a review. *Nutrition & Food Science*, *50*(2), 384–401. https://doi.org/10.1108/NFS-05-2019-0143

Kemenkes RI. (2019). Laporan Provinsi Kalimantan Timur Riskesdas 2018. In *Kementerian Kesehatan RI*. Lembaga Penerbit Badan Penelitian dan Pengembangan Kesehatan. https://ejournal2.litbang.kemkes.go.id/index.php/lpb/article/view/3760

Kemenkes RI. (2023). Petunjuk Teknis Makanan Tambahan Balita dan Ibu Hamil. In *Direktorat Gizi Masyarakat Kementrian Kesehatan Republik Indonesia*. Kemenkes RI. https://kesmas.kemkes.go.id/assets/uploads/contents/others/20230516_Juknis_Tatalaksana_Gizi_V18.pdf

Lestari, D. P. (2022). Upaya Pencegahan Risiko Gizi Buruk pada Balita: Literature Review. *Jurnal Ilmiah Universitas Batanghari Jambi*, *22*(1), 532. https://doi.org/10.33087/jiubj.v22i1.1828

Lim, W. M., Kumar, S., & Ali, F. (2022). Advancing knowledge through literature reviews: 'what', 'why', and 'how to contribute.' *The Service Industries Journal*, *42*(7–8), 481–513. https://doi.org/10.1080/02642069.2022.2047941

Liubych, V., Novikov, V., Zheliezna, V., Koval, H., Tryhub, O., Belinska, S., Tverdokhlib, O., Honcharuk, Y., Kolibabchuk, T., & Pykalo, S. (2023). Development of The Recipe for Cookies with Pumpkin Flour. *EUREKA: Life Sciences*, *2*, 21–30. https://doi.org/10.21303/2504-5695.2023.002890

Muliyati, H. (2019). Pengaruh Pemberian Makanan Tambahan terhadap Peningkatan Berat Badan Balita Gizi Kurang. *Jurnal Ners Widya Nusantara Palu*, *2*(1), 2017.

Nasution, M., Sudaryati, E., & Lubis, Z. (2024). The Effect of Giving Modified Yellow Pumpkin Soybean Noodles and Tuna Fish on Body Weight and Height of Wasting Toddlers in Medan City. *Formosa Journal of Applied Sciences*, *3*(2), 473–482. https://doi.org/10.55927/fjas.v3i2.7702

Ningsih, T. M., Hardjito, K., & Yanuarini, T. A. (2022). Factors Associated with Nutrition of 12-59 Months Toddlers. *Jurnal Ners Dan Kebidanan (Journal of Ners and Midwifery)*, *9*(1), 084–091. https://doi.org/10.26699/jnk.v9i1.art.p084-091

Noviyanti, R. D., & Rahmawati, T. (2022). *The Effect Of Giving Pudding Seeds Of Yellow Pumpkin And Papaya On Nutritional Status In The Working Area Of The Puskesmas Gilingan*. *12*(02), 83–87.

Novyriana, E., Irtanti, P. T., Sumaji, V. V., Susilo, N. S., Rahmadhani, W., & Putri, A. (2022). *Factors Affecting Balanced Nutrition in Babies and Toddlers*. *1*(2), 70–76.

Nuzuliana, R., & Wijhati, E. R. (2022). Child Development In Children With Malnutrition. *Proceeding B-ICON*. https://api.semanticscholar.org/CorpusID:258117788

Rachmawatiningsih, R.-, Noviyanti, R. D., & Rahmawati, T. (2022). Pengaruh pemberian puding biji labu kuning dan pepaya terhadap berat badan pada balita gizi kurang di wilayah kerja Puskesmas Gilingan. *Jurnal Riset Kebidanan Indonesia*, *6*(2), 68–75. https://doi.org/10.32536/jrki.v6i2.230

Rahayuwati, L., Nurhidayah, I., Hidayati, N. O., Hendrawati, S., Agustina, H. S., & Ekawati, R. (2019). Analysis of Factor Affecting Nutrition Status on Children. *Jurnal Keperawatan Padjadjaran*, *7*(2), 119–133. https://doi.org/10.24198/jkp.v7i2.1131

Ratnawati, R., & Satriani, S. (2024). The Effect of Giving Biscuits Made from Haruan Fish Flour and Yellow Pumpkin on the Nutritional Status of Toddlers. *Journal of Health and Nutrition Research*, *3*(2), 144–148. https://doi.org/10.56303/jhnresearch.v3i2.261

Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research*, *104*, 333–339. https://doi.org/https://doi.org/10.1016/j.jbusres.2019.07.039

Subaktilah, Y., Wahyono, A., Yudiastuti, S. O. N., & Mahros, Q. A. (2021). Pengaruh Substitusi Tepung Labu Kuning (Cucurbita moschata L) terhadap Nilai Gizi Brownies Kukus Labu Kuning. *Jurnal Ilmiah Inovasi*, *21*(1), 18–21. https://doi.org/10.25047/jii.v21i1.2629

Sudiyah, & Rosida, L. (2021). *The Characteristics of Undernutrition in Toddlers*. *34*(Ahms 2020), 212–215. https://doi.org/10.2991/ahsr.k.210127.047

Sulistyawati, H. (2023). The Effect Cucurbita Moschata Pudding on Weight Gain in Malnourished Toddlers In Indonesia. *International Journal of Advanced Health Science and Technology*, *3*(3), 173–179. https://doi.org/10.35882/ijahst.v3i3.242

Usu, J. F., Wahyuni, F., Masithah, S., & Nurcahyani, I. D. (2022). Pengaruh Pemberian Cookies Daun Kelor (Moringa Oliefera) Dan Labu Kuning (Curcubita Moshata) Terhadap Pertambahan Berat Badan Balita Di Wilayah Kerja Puskesmas Bontoa. *Preventif Journal*, *6*(2). https://doi.org/10.37887/epj.v6i2.25704

World Health Organization. (2024). *Malnutrition*. World Health Organization. https://www.who.int/news-room/fact-sheets/detail/malnutrition

Xu, L., Li, W., Voleti, V., Zou, D.-J., Hillman, E. M. C., & Firestein, S. (2020). Widespread receptor-driven modulation in peripheral olfactory coding. *Science (New York, N.Y.)*, *368*(6487). https://doi.org/10.1126/science.aaz5390

Yulianto, Y., Telisa, I., & Pertiwi, A. P. (2022). Efektivitas Pemberian Biskuit Tepung Labu Kuning Dan Tepung Tempe Terhadap Perubahan Berat Badan Pada Balita Gizi Kurang Di Puskesmas Punti Kayu Palembang. *Media Kesehatan Politeknik Kesehatan Makassar*, *17*(2), 312. https://doi.org/10.32382/medkes.v17i2.2802