

Key Factors Influencing High Sweet Beverage Consumption During Complementary Feeding Period

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ABSTRACT

Background: Sweet beverages consumption during complementary feeding period is a major contributor to the increased risk of obesity and degenerative diseases in the future. Indonesia ranks third in Southeast Asia for sweet beverage consumption, with Central Java Province having the highest rate of fruit juice consumption during complementary feeding period (55.4%). An in-depth understanding of maternal characteristics is essential to formulate effective health promotion strategies to reduce sweet beverage consumption among children aged 6-23 months. **Objective:** This study aims to analyze the factors associated with sweet beverage consumption during complementary feeding period in Semarang Regency. **Methods:** This quantitative research uses a cross-sectional approach with 244 mothers of children aged 6-23 months in Semarang Regency. Univariate analysis was conducted using frequency distribution, while multivariate analysis was conducted using logistic regression tests ($p < 0.05$). **Results:** The percentage of high sweet beverage consumption among children aged 6-23 months in Semarang Regency was 63.93%. Lower maternal education ($p = 0.047$), increasing family income ($p = 0.000$), older child age ($p = 0.002$), higher support from health cadres ($p = 0.030$), and greater household food availability ($p = 0.000$) were associated with a higher odds of sweet beverage consumption during complementary feeding. Conversely, healthy children ($p = 0.000$) and greater access to information through social media ($p = 0.009$) were associated with a lower likelihood of sweet beverage consumption during this period. **Conclusion:** Factors influencing sweet beverage consumption during complementary feeding include maternal education level, child health status, family income, child age, support from health cadres, access to information through social media, and household food availability.

Keywords: Complementary Feeding, Health Status, Information Access, Social Media, Sweet Beverages

INTRODUCTION

Complementary feeding period for children aged 6-23 months represents a critical window of opportunity for influencing long-term health outcomes. The adoption of optimal complementary feeding practices during this period has been linked to enhanced child development, growth, and long-term survival. Adherence to the recommended feeding practices has been associated with a reduction in essential micronutrients deficiencies, a diminished risk of disease, and an increased likelihood of maintaining a healthy weight in later life (Bafila, Bisla and Gupta, 2023).

In light of the paramount importance of complementary feeding practices, the World Health Organization (WHO) has established a set of

fundamental global principles for complementary feeding in children aged 6-23 months. Among these principles, the avoidance of sweet beverages, including soda, fruit juice, packaged drinks, chocolate milk, syrup, and other beverages with added sugars or honey, is particularly significant. These beverages offer minimal nutritional value beyond energy and may result in the displacement of more nutrient-dense foods from the diet (UNICEF and WHO, 2021).

A higher intake of sweet beverages and an early introduction to these drinks are associated with an increased risk of obesity in children across all age groups (UNICEF and WHO, 2021). Excessive sugar consumption in early life can lead to a higher prevalence of chronic inflammation, diabetes, elevated cholesterol levels, and arthritis (Geltler

and Gracner, 2022). A positive correlation has been identified between fruit juice intake and infant weight-for-length, as well as child BMI z-scores. Furthermore, the consumption of free sugars, including those from fruit juice and sugar-sweetened beverages, has been linked to an increased risk of dental caries (Herrick et al., 2020).

The high consumption of sweet beverages in Indonesia is the third highest in Southeast Asia (World Bank, 2024). A substantial body of research indicates that 62% of children, 72% of adolescents, and 61% of adults consume sugar-sweetened beverages at least once a week. Furthermore, data from another study using a food frequency questionnaire reveal that 40.0% of children consumed sweetened beverages the day before the survey (Fanda et al., 2020).

The high consumption of sweet beverages among young children in Indonesia is a matter of significant concern. The results of the Indonesian Health Survey indicate that the provision of sweet beverages, including formula milk, fruit juice, and fruit nectar, during the complementary feeding period is relatively high. The proportion of formula milk provided in Indonesia is 38%, while fruit juice and fruit nectar are provided at rates of 45.3% and 22%, respectively. The province of Central Java exhibits the highest proportion of fruit juice provision, at 55.4%, with fruit nectar provision also exceeding the national average, at 27.1% (UNICEF & Ministry of Health Indonesia, 2023). This issue is not exclusive to a single region; rather, it is prevalent in various cities and regencies. A study conducted in a major city revealed that 40% of children under three years old consumed sweet beverages on the day prior to the interview. The most commonly consumed types of sweet beverages were sweetened milk and sweetened tea (Green et al., 2019).

The high consumption of sugary drinks is strongly associated with the rising prevalence of overweight among young children in Indonesia, which has increased from 3.5% in 2022 to 4.2% in 2023 (UNICEF & Ministry of Health Indonesia, 2023). Central Java Province, known as the region with the highest consumption of sugar-sweetened beverages, has also seen an increase in the prevalence of overweight among young children, from 3.5% in 2021 to 4.2% in 2023. Notably, Semarang

Regency in Central Java has a higher prevalence of overweight among young children compared to both the provincial and national averages, reaching 5.2% in 2023 (UNICEF & Ministry of Health Indonesia, 2023). This occurs because most parents in Semarang Regency introduce sugary drinks to children under the age of two, including sweetened tea, sweetened milk, and fruit juices with added sugar. Therefore, it is necessary to conduct research on the factors influencing sweet beverage consumption in children under two years old in Semarang Regency, in order to prevent the development of overweight and obesity in later years.

This issue is of concern because the consumption of sweet beverages during the complementary feeding period can shape unhealthy food preferences that persist into adulthood (Key National Health and Nutrition Organization, 2019). Repeated exposure to sweet beverages can reinforce the natural preference for sweet tastes, thereby reinforcing the consumption of sweet beverages. If this practice persists throughout adolescence and into adulthood, it may elevate the likelihood of developing overweight or obesity, as well as increasing the risk of developing chronic diseases (UNICEF and WHO, 2021).

It is unfortunate that the issue of sweet beverage consumption during the complementary feeding period has not yet been subjected to rigorous scrutiny in Indonesia. Despite the establishment of a specific indicator by the WHO, namely Sweet Beverage Consumption (SwB), for this phenomenon, only a limited number of studies have examined the introduction of sweet beverages during the complementary feeding period. Consequently, this study aims to assess the prevalence of sweet beverage consumption during this period and to analyze the factors influencing it. It is anticipated that the findings of this study will contribute to the raising of government awareness regarding the prevention of early obesity and will serve as a guideline for the development of more effective health promotion strategies to reduce the consumption of sweet beverages from an early age.

METHODS

Adopting a cross-sectional study structure, the research was conducted in

the workplaces of Bergas, Pringapus, and Lerep Community Health Centers in Semarang Regency, Central Java Province, between March and July 2024. The study sample consisted of 244 mothers with children aged 6-23 months who met the inclusion criteria of residing with their child at the study location, directly caring for the child for more than six hours a day without delegation to others, and having accurate knowledge about the foods provided during the food recall period, as well as being able to read and write. Mothers with children suffering from chronic diseases or congenital abnormalities, mothers with severe illnesses that significantly impair their ability to engage in daily activities, mothers who are not involved in child feeding practices, and mothers unable to communicate effectively were excluded from the study.

The independent variables in this study included residence, mother's education level, employment status, mother's age, mother's income, family income, number of children, child's age, child's health status, breastfeeding status, number of Integrated Health Post (Pos Pelayanan Terpadu/Posyandu) visits in the last six months, husband's support, family support, health cadre support, access to feeding practice information through social media, access to information via maternal and child health book (Buku KIA), access to information from healthcare professionals, personal autonomy, household food availability, mother's knowledge level, mother's capability and attitude toward child feeding practices, and availability of time for preparing and providing complementary foods.

The dependent variable was the practice of sweet beverage consumption in complementary feeding for children aged 6-23 months. This was measured based on the Sweet Beverage Consumption (SwB) indicators from the World Health Organization (WHO, 2021). The categorization of feeding practices was based on the inclusion of sweet beverages in the complementary diet. Practices were classified as "low sweet beverage consumption" if sweet beverages were included for less than two consecutive days. Conversely, practices were categorized as "high sweet beverage consumption" if sweet beverages were included for at least two consecutive days.

The data collection for the independent variables was conducted through interviews using a validated and reliable questionnaire, while the dependent variable was obtained from 3 x 24-hour food recall results. The data were analyzed using SPSS version 25. Univariate analyses were conducted using frequency distributions, while multivariate analysis employed backward-LR logistic regression. This study was conducted in accordance with the ethical standards of the Health Research Ethics Committee of the Faculty of Public Health, Diponegoro University, which approved the study under the approval number 219/EA/KEPK-FKM/2024.

RESULTS AND DISCUSSION

The study results indicate that 63.93% of respondents provided sweet beverages in complementary feeding for more than 2 x 24 hours during the food recall period (high sweet beverage consumption). The provision of sweet beverages mainly consists of sweetened tea, fruit juice with added sugar, sweetened milk, and various packaged drinks with sweet flavors.

This suggests that the provision of sweet beverages during the complementary feeding period in Semarang Regency is perceived as a normative and prevalent practice. A variety of sweet beverages are readily available and affordable to the community (Wiradiyanti, 2023). It is a common misconception that fruit juice with added sweeteners is a healthy and beneficial option for children. In fact, research suggests that it is preferable to provide fruit in its original form and with its natural flavor (Tiwari, Gaikwad and Aneja, 2021).

Furthermore, many individuals are unaware of the potential negative consequences of introducing sweet beverages at an early age. In this study, a question was posed to assess respondents' knowledge regarding the introduction of sugar and sugary beverages during the complementary feeding period. Only 31.15% of respondents correctly answered that children should not be given sugary beverages in any form during this period. In contrast, 68.85% of respondents provided incorrect answers, mistakenly believing that sugary beverages could be introduced during the complementary feeding period.

The study respondents were predominantly mothers residing in Bergas District. The findings indicate that the level of education and access to employment for women in Semarang Regency is quite high. This is reflected in the high educational attainment of respondents, with the majority achieving secondary education (74.59%). This high level of education suggests that women in this area have good access to educational opportunities, which can positively impact various aspects of their lives.

The employment rate among respondents was 44.26%, indicating that the rate of female labor force participation in Semarang Regency is relatively high. This indicates that a considerable number of families in this region derive benefit from the augmented economic

contribution of employed mothers, which has the potential to enhance the quality of life and access to essential resources. However, this rate is lower than the female labor force participation rate of 66.37% reported by the Central Statistics Agency of Semarang Regency (Central Bureau of Statistics of Semarang Regency, 2024). This discrepancy may be attributed to the difficulties associated with reconciling familial and occupational responsibilities. Mothers with young children who opt to engage in paid employment must demonstrate a combination of physical and mental preparedness, as well as the requisite skills (Fajriyati, Lestari and Hertinjung, 2023).

Table 1. Frequency distribution of background characteristics

No	Background Characteristics	Frequency	%
1	Sweet Beverage Consumption (SwB)	244	100%
	Low	55	36.07%
	High	156	63.93%
2	Residence	244	100.00%
	Bergas	97	39.75%
	Pringapus	87	35.66%
	West Ungaran	60	24.59%
3	Education Level	244	100.00%
	Primary	13	5.33%
	Secondary	182	74.59%
	Higher	49	20.08%
4	Employment Status	244	100.00%
	Unemployed	136	55.74%
	Employed	108	44.26%
5	Child health status	244	100.00%
	Unhealthy	23	9.43%
	Healthy	221	90.57%
6	Breastfeeding status	244	100.00%
	Non-breastfed	87	35.66%
	Breastfed	157	64.34%

The health status of children at the time of the study showed that 90.57% of children aged 6-23 months in Semarang Regency were healthy. This indicates that public health efforts, including immunization programs, access to healthcare services, and clean and healthy living behaviors, are effective. The coverage of basic immunizations in Semarang Regency, including BCG, DPT, Polio, MR, and IPV, has reached 100%. Furthermore, the regency has 26 community health centers (Puskesmas) and 68 assistant health centers distributed across all districts. The number of public health workers has increased from 67 in 2020 to 140 in 2023 (Central Bureau of Statistics of Semarang Regency, 2024).

This success demonstrates that these strategies have effectively improved child health status, ensuring protection from common illnesses and health issues at this age.

The data on breastfeeding status indicate that 64.34% of children aged 6-23 months are still being breastfed. Despite the fact that over 60% of mothers in this region endeavor to continue breastfeeding their children until they reach the age of two, this percentage is lower in comparison to the provincial breastfeeding continuation rate. The 2023 Maternal and Child Health Survey (SKI) indicates that 86.60% of children aged 6-23 months in Central Java Province are still being breastfed (UNICEF & Ministry of Health

Indonesia, 2023). The significant discrepancy between the rate observed in Semarang Regency and the provincial average suggests the presence of obstacles to maintaining breastfeeding until the child reaches at least 2 years of age.

The respondents in this study exhibited a range of ages between 19 and 51 years, with an average age of 30.66 years. The number of children among respondents exhibited a range from one to four, with the majority having two

children. The data indicate that the majority of respondents are within the childbearing age group, with the majority having two children, which aligns with government recommendations. This reflects the success of family planning programs in Semarang Regency, as evidenced by the increase in new family planning participants from 71.22% in 2022 to 93.60% of the target in 2023 (Central Bureau of Statistics of Semarang Regency, 2024).

Table 2. Frequency distribution of respondent characteristics

No	Characteristics	Unit	Mean	Median	Mode	Minimum Value	Maximum Value
1	Mother's age	y/o	30.66	30.00	29.00	19.00	51.00
2	Number of children		1.85	2.00	2.00	1.00	4.00
3	Mother's income	Rp	1112745.90	0.00	0.00	0.00	13000000.00
4	Family income	Rp	3701475.41	3000000.00	2500000.00	1000000.00	25000000.00
5	Child's age	m/o	14.10	14.00	10.00	6.00	23.00
6	Integrated Health Post visit	times	5.56	6.00	6.00	2.00	6.00
7	Husband support	%	48.63	50.00	33.33	0.00	100.00
8	Family support	%	34.82	33.33	33.33	0.00	100.00
9	Health cadre support	%	24.53	16.67	16.67	0.00	100.00
10	Information access through social media	%	41.09	40.00	30.00	0.00	80.00
11	Information access through maternal and child health book	%	93.20	100.00	100.00	60.00	100.00
12	Information access through health professional	%	34.40	35.71	0.00	0.00	100.00
13	Personal autonomy	%	74.66	83.33	91.67	50.00	100.00
14	Household food availability	%	70.32	71.43	100.00	14.29	100.00
15	Level of knowledge	%	59.05	61.54	53.85	7.69	100.00
16	Level of capability	%	56.95	60.00	60.00	0.00	100.00
17	Mother's attitude	%	78.76	77.78	73.33	53.33	100.00
18	Time availability	%	79.30	100.00	100.00	0.00	100.00

The respondents' incomes exhibited a wide range, from IDR 0.00 to IDR 13,000,000.00. The largest group was comprised of mothers with no income (IDR 0.00). A lack of personal income can affect an individual's autonomy in decision-making (Kibria et al., 2024). Without their own earnings, they are likely to be more dependent on partners or other family members with incomes, which can limit their financial decision-making freedom. This may result in a reduction in their purchasing power and ability to prioritize personal and children's needs (Shirisha and Bansal, 2022).

The family incomes of respondents exhibited a range from IDR 1,000,000.00 to

IDR 25,000,000.00, with the most prevalent family income falling within the IDR 2,500,000.00 bracket. The combined income of the husband and wife was approximately equal to the regional minimum wage (RMW) for Semarang Regency, which is IDR 2,582,287.00 (Governor of Central Java Province, 2024). In terms of purchasing power, an income close to the RMW suggests that these families may encounter difficulties in meeting basic needs such as food and housing. This situation may also restrict the quality and quantity of nutrition available to the family, which could ultimately impact the well-being and

health of their children (Yanti and Murtala, 2019).

The majority of respondents had children around 10 months old, with an average child age of 14.10 months. There are varied challenges in complementary feeding practices during those ages, including the transition from pureed to chopped foods, introducing a more varied diet, controlling sweet beverage intake, and avoiding unhealthy foods (Complementary Feeding Consortium et al., 2023).

The majority of respondents indicated that their children were approximately 10 months old, with an average age of 14.10 months. During this period, parents may encounter a range of challenges related to complementary feeding practices, including the transition from pureed to chopped foods, introducing a more varied diet, controlling sweet beverage intake, and avoiding unhealthy foods (Hafifah and Abidin, 2020).

The mean scores for husband support, family support, and health cadre support in reducing the provision of sweet beverages during complementary feeding practices were relatively low, at 48.63%, 34.82%, and 24.53%, respectively. Low levels of husband support are indicative of a lack of domestic task sharing and emotional, instrumental, and financial support, which serves to exacerbate the burden on mothers in managing complementary feeding practices (Martin et al., 2021). Low family support may be attributed to a number of factors, including distance, time constraints, emotional issues, cultural judgments, and expectations that mothers should be independent in managing the household and child-rearing (Fadilah, Muniroh and Atmaka, 2023). Furthermore, inadequate family support may originate from dysfunctional family dynamics that impede the mother's self-efficacy in performing complementary feeding practices. The lowest health cadre support indicates issues with accessibility to healthcare services and uneven training coverage, which constrains their capacity to provide effective support (Anwar et al., 2024).

The mean scores for the acquisition of information regarding complementary feeding practices through social media and healthcare professionals were relatively low, at 41.09% and 34.40%, respectively. Nevertheless, the Maternal and Child

Health Book (Buku KIA), published by the Ministry of Health, was the most frequently used source of information, with a high level of access (93.20%). The relatively low scores for social media access, despite the rapid growth of social media use, can be attributed to the fact that the majority of mothers access information unrelated to complementary feeding practices, and the sources of this information are often irrelevant or unqualified (Vinshula et al., 2022). The limited access to information from healthcare professionals can be attributed to the infrequency of interactions with them and the lack of relevance of the information provided. The majority of interactions with healthcare professionals occur during child health check-ups and immunizations, with a primary focus on the child's current illness or vaccination status, rather than on complementary feeding practices. The high level of access to complementary feeding information through the Buku KIA in Semarang Regency is consistent with the high proportion of Buku KIA ownership among children aged 0-59 months in Central Java Province, which reaches 90.2%, with a utilization rate of 84.2%.

The mean score for personal autonomy in relation to complementary feeding practices was 74.66%, which is relatively high. This high score reflects the growing empowerment of women and progress toward better social changes. It signifies an improvement in women's ability to make independent and autonomous decisions in both personal and professional domains (Kibria et al., 2024). The average score for household food availability was 70.32%, indicating that the majority of households with children aged 6-23 months in Semarang Regency have access to the recommended eight food items. In terms of food security, Semarang Regency is ranked 17th in Indonesia, with an index score of 86.31% in 2022. The food availability index, affordability index, and utilization index were 80.95%, 89.50%, and 87.93%, respectively (National Food Agency, 2022).

The mean scores for maternal knowledge and ability to prepare complementary foods were 59.05% and 56.95%, respectively, indicating that there is potential for improvement in these areas. The mean scores for maternal attitudes and the availability of time for preparing and providing complementary

foods were relatively high, at 78.76% and 79.30%, respectively. The high mean score for attitudes toward complementary feeding practices indicates that the majority of mothers in Semarang Regency adhere to recommended practices. The availability of time for preparing and providing complementary foods was also rated above 70%, indicating that the majority of mothers in Semarang Regency have sufficient time for these activities. As indicated by UNICEF and the Ministry of Health of Indonesia, one of the primary constraints on Indonesian mothers is their occupational responsibilities (UNICEF & Ministry of Health Indonesia, 2019). In this

study, over half of the respondents were not employed, and the majority of employed respondents had flexible positions, such as proprietors of small businesses, online entrepreneurs, or providers of sewing services.

The results of the multivariate analysis indicate that the factors most strongly associated with sweet beverage consumption during complementary feeding ($p < 0.05$) are maternal education level, child health status, family income, child age, cadre support, access to information via social media, and household food availability.

Table 3. Determinants of sweet beverage consumption in complementary feeding practices

No	Characteristics	B	P-Value	AOR	95%CI
1	Education level (ref: primary education)		0.047		
	Secondary education	0.107	0.911	1.113	(0.169 - 7.321)
	Higher education	1.473	0.197	4.361	(0.466 - 40.830)
2	Employment Status (ref: unemployed)				
	Employed	0.871	0.059	2.389	(0.967 - 5.901)
3	Child health status (ref: unhealthy)				
	Healthy	-5.288	0.000	0.005	(0.001 - 0.038)
4	Mother's age	-0.087	0.052	0.917	(0.840 - 1.001)
5	Number of children	0.644	0.067	1.904	(0.956 - 3.794)
6	Family income	0.000	0.000	1.000	(1.000 - 1.000)
7	Child's age	0.136	0.002	1.145	(1.052 - 1.247)
8	Health cadre support	0.039	0.030	1.040	(1.004 - 1.078)
9	Information access through social media	-0.029	0.009	0.971	(0.950 - 0.993)
10	Household food availability	0.032	0.000	1.033	(1.015 - 1.051)
11	Mother's attitude	-0.041	0.064	0.960	(0.919 - 1.002)
12	Time availability	-0.014	0.061	0.986	(0.971 - 1.001)
	Constant	7.957	0.001	2854.177	

The analysis indicates that there is a significant correlation between maternal education level and the consumption of sweet beverages during the period of complementary feeding. Maternal education level is inversely associated with the tendency to provide sweet beverages as part of the complementary diet. This finding is consistent with research conducted in Germany, which demonstrates that lower maternal education levels are associated with a higher frequency of providing non-recommended foods during the period of complementary feeding, including sweet beverages (Wang et al., 2019).

It can be reasonably assumed that mothers with higher levels of education will have greater access to information about food and nutrition, including the benefits and risks associated with consuming sweetened beverages during early childhood. Conversely, mothers with higher levels of education may be more susceptible to marketing of products that claim to be healthy or beneficial, such as sweetened beverages marketed with attractive labels, fruit juices, and formula milk. Furthermore, higher education levels often influence one's perspectives and habits (Harris et al., 2020). Educated mothers may be more inclined to follow

certain trends or guidelines, including the provision of sweetened beverages as part of complementary feeding, perceiving it as a modern or fashionable dietary choice (Rummo et al., 2020).

In contrast, children who are in good health are 0.005 times less likely to consume sweet beverages during the period of complementary feeding when they are introduced to solid foods, in comparison to children who are ill. Children in good health are more likely to adhere to a regular eating pattern and to follow nutritional guidelines, including limiting the consumption of sweet beverages. Parents of healthy children can prioritize the selection of appropriate foods and beverages for complementary feeding. Conversely, children who are ill or have poor health may experience a reduction in appetite, which can give rise to parental anxiety. In accordance with research conducted in the Philippines, which indicates that children who are ill or have poor health tend to exhibit reduced or irregular appetites, thereby making it challenging for their mothers to feed them it difficult for mothers to feed them (Goyena et al., 2019). Moreover, a study conducted in Helsinki elucidates that mothers of sick children frequently confront psychological challenges, such as anxiety regarding their child's health and distress over the ambiguity of which foods or beverages their child is able to tolerate (Erkkola and Kolho, 2022). This can result in mothers selecting foods that are more readily accepted by their child or that are more likely to be preferred by the child. In such cases, parents might choose sweet beverages to stimulate appetite and increase intake during the child's illness.

An increase in family income is associated with a higher probability of consuming sweet beverages during the complementary feeding period. As family income rises, the accessibility of a diverse range of commercial foods and beverages, including sweetened beverages, tends to increase. This can result in an increased consumption of sweet beverages by children during the complementary feeding period. This is consistent with research findings in Argentina indicating that as income increases, there is a corresponding rise in the consumption of unhealthy foods and beverages (Rovirosa et al., 2024). Sweet drinks, which are generally more accessible and appealing

due to their taste, often become a preferred choice for families with higher income, despite not providing optimal nutritional value for the child's growth and development.

As children grow older, there is a notable increase in their consumption of sweet beverages during the complementary feeding period. This finding aligns with the results of research conducted on children aged 6-23 months in the United States, which indicates that the proportion of sweet beverage consumption is markedly higher in older children compared to younger ones (Herrick et al., 2020). During the complementary feeding period, parents frequently introduce a variety of flavors, with sweet tastes being particularly preferred by children. This preference may be attributed to physiological factors, as children are naturally drawn to sweet tastes, which are associated with their early experience with breast milk, which also has a naturally sweet flavor. Furthermore, as children mature, they become increasingly exposed to social environments and food advertising, which may foster a greater inclination toward consuming sweet beverages (Sartika et al., 2022). At this stage, parents may also be more inclined to offer sweet drinks to gratify their children's desires or as part of their daily dietary routines, without fully recognizing the long-term health implications.

Greater support from health cadres is also associated with an increased probability of consuming sweet beverages. The provision of support by health cadres may not always include comprehensive nutrition education, which may result in families lacking a comprehensive understanding of the risks associated with excessive sugar consumption. Such support may prioritize meeting practical needs over the delivery of essential information regarding the limitation of sweet beverage intake (Setiawati et al., 2022). Furthermore, limitations in resources and time can restrict the capacity of health cadres to provide comprehensive nutritional guidance. As previously demonstrated in studies conducted in Bengkayang Regency and numerous other regions in Indonesia, it seems that a considerable number of health cadres still possess inadequate knowledge regarding infant and child feeding practices (Syabaniah et al., 2023). Local practices

and cultural norms may also exert an influence on dietary habits, including the consumption of sweet beverages, which health cadres may accommodate in their efforts to support families. It is therefore essential that health cadres integrate adequate nutrition education into their support to enable families to make healthier and more informed decisions.

The utilization of social media for the purpose of acquiring information regarding complementary feeding practices has been demonstrated to be associated with a reduction in the consumption of sweet beverages during the aforementioned feeding period. This is in contrast to research conducted in Jakarta based on national social and economic survey data, which indicates that access to information through social media actually increases the tendency to consume sweet beverages (Yahya, Kusuma and Ramadhan, 2023). When parents or caregivers obtain information from reliable and authoritative sources on social media platforms, they are more likely to become aware of the importance of maintaining a healthy diet for their children and the potential risks associated with excessive consumption of sweet beverages. This heightened awareness is frequently the consequence of educational content that underscores the significance of balanced nutrition and the adverse health consequences associated with the consumption of sugary beverages. Such informative and educational resources assist caregivers in making more informed decisions regarding their children's diets, including the reduction or elimination of unhealthy sweet beverages. Consequently, social media can play a pivotal role in disseminating valuable nutritional information and raising awareness about better feeding practices (Hanindita et al., 2024). This, in turn, contributes to improved dietary habits and overall health outcomes for children. By leveraging the reach and influence of social media, health professionals and organizations can effectively promote healthier eating habits and support families in making dietary choices that benefit their children's long-term well-being.

Nevertheless, an increase in household food availability has been linked to a greater probability of offering sweet beverages as part of the complementary feeding regimen. Households with good

food availability indicate an ease in providing a variety of foods and beverages, including sweet drinks (Spaniol et al., 2020). This condition of good food availability reflects a higher socioeconomic status, which often influences consumption patterns by making products such as sweet beverages seem affordable (Asghar, Fahim and Lifschitz, 2022). Furthermore, mothers may lack complete information or awareness about the health impacts of excessive sugar consumption, which may result in the overlooking of these risks when selecting foods and beverages for their children.

While maternal employment status, mother's age, number of children, mother's attitude, and availability of time for mothers are factors that warrant consideration, they did not demonstrate a statistically significant relationship with sweet beverage consumption during complementary feeding in this study ($p > 0.05$). The mother's employment status, which could influence the allocation of time and resources available for meal planning and preparation, did not demonstrate a statistically significant impact on the child's decision to consume sugary beverages. Similarly, the mother's age and number of children are factors that may influence the level of experience and skills in meal planning. The mother's age may be related to her experience and knowledge in managing child nutrition, while the number of children could affect the dynamics and challenges involved in meal planning. However, within the context of this study, neither the mother's age nor the number of children demonstrated a significant relationship with the frequency of sugary beverage consumption.

Furthermore, the mother's attitude may encompass an understanding and concern for the significance of optimal nutrition, whereas the availability of time may impact her capacity to prepare nutritionally balanced meals. While these factors could potentially influence overall dietary choices, the findings of the study suggest that they do not exert a substantial influence on the child's consumption of sugary beverages during the complementary feeding period.

CONCLUSION

The findings of this study indicate that the factors influencing the consumption of sweet beverages during the complementary feeding period include the mother's educational level, the child's health status, family income, the child's age, support from health cadres, access to information through social media, and the availability of household food supplies. The results of this research can serve as critical inputs for the formulation of health promotion policies aimed at reducing the consumption of sweet beverages among children, both at the regional and national levels.

In light of the findings of this study, it is recommended that health promotion policies prioritize the enhancement of maternal education and the dissemination of information regarding the impact of sugary beverage consumption on child health. It is recommended that intensive training programs related to complementary feeding practices (PMBA) for health cadres be implemented, along with enhanced access to accurate information through social media, to ensure effective dissemination of information. Additionally, efforts should be directed toward child health improvement programs, promoting clean and healthy living habits, and considering family income levels. This comprehensive approach is expected to reduce sugary beverage consumption and improve child health at both regional and national levels.

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