

## RESEARCH STUDY

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# Description of Parental Feeding Style and Eating Behavior of Under Five Children with Obese in Regency of Kebumen

## Gambaran Pola Asuh Orang Tua dan Perilaku Makan Balita Obesitas di Kabupaten Kebumen

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**ABSTRACT**

**Background:** The prevalence of overweight among under-five children in Indonesia continues to increase. According to the Indonesian Nutrition Status Survey (SSGI), in 2022, overweight among those was 3.5%, up 1.3% from 2017, while in Kebumen, it was 3.3%, up 0.9% from 2017. Overweight children have a risk of gross motor development disorders 12 times greater than normal. Currently, few health programs focus on addressing children's obesity.

**Objectives:** To understand the parenting and eating behaviors of obese under five children, serving as a reference for the obesity prevention programs in the Regency of Kebumen.

**Methods:** This research was a descriptive study using qualitative with an in-depth interview approach. The informants were ten individuals, consisting of parents of obese children and nutritionists or midwives from local health centers.

**Results:** Most parents did not force their children to eat. They rarely promised anything to make the children willing to eat and often allowed them to choose their preferred foods. They provided the opportunity to increase their food portions. The frequency of main meals for children was 2 to 3 times a day, with formula milk consumption exceeding 8 bottles per day. Additionally, there was a tendency to consume high-calorie and sugary snacks. Children under one year had a history of consistently providing commercially produced complementary feeding starting at the age of 6 months.

**Conclusions:** An education program based on parenting of demandingness and responsiveness, and appropriate eating habits, is crucial to reducing the prevalence of overweight children in the Regency of Kebumen.

**INTRODUCTION**

The prevalence of obesity in children aged 0 to 5 years (children under five) is currently increasing not only in high-income countries, but obesity in children under five also occurs in countries with low and middle income<sup>1</sup>. According to data from the Indonesian Nutrition Status Survey (SSGI) in 2022, the prevalence of overnutrition in children under five in Indonesia was 3.5%, up 1.3% from 2017. In Central Java Province, it is 3.2%, up 1.8%, while in Regency of Kebumen, it is 3.3%, up 0.9% from the 2017 PSG (Nutrition Status Monitoring) data<sup>2,3</sup>. In children under five, overweight occurs when weight for height is more than 2 standard deviations above the WHO (World Health Organization) median growth standard for children. At the same time, obesity occurs when weight for height is more than 3 standard deviations<sup>4</sup>.

Overweight and obese children under five have a risk of experiencing gross motor development disorders 12 times greater than those with normal nutritional status<sup>5</sup>. Obesity in children under five has an impact on physical health in both the short and long term. Short-

term effects include respiratory disorders such as sleep apnea and asthma, while long-term effects are hypertension, heart disease, type 2 diabetes mellitus, and orthopedic problems<sup>6,7</sup>. In addition to health effects, childhood obesity also has a high risk of experiencing psychological disorders such as depression, low self-confidence, and the risk of being a victim of bullying<sup>8</sup>. Obese children under five have a high chance of remaining obese in adulthood<sup>9</sup>.

Genetic factors, consumption of high-calorie foods, drinking high sugar-sweetened beverages, and lack of physical activity are some of the factors that can cause obesity in children<sup>10</sup>. Family factors such as parenting and family eating habits have a significant effect on the development of childhood obesity compared to physical inactivity and socioeconomic factors<sup>11</sup>. Children's nutritional status is influenced by the quality and quantity of feeding by parents or caregivers<sup>12</sup>.

Obesity in Indonesia is expected to continue to increase every year. Based on the World Obesity Atlas in 2022, the annual increase in childhood obesity in

Indonesia from 2020 until 2035 is 7.9 percent<sup>1</sup>. In Indonesia, there are currently few health programs that focus on alleviating the problem of obesity in children under five. In the District of Kebumen, programs to prevent malnutrition in children are still focused on preventing undernutrition and stunting, such as the IYCF (Infant and Young Child Feeding) program and intersectoral collaboration programs to prevent stunting.

The author is interested in studying the description of parenting patterns of feeding and eating behavior of obese children under five in the Regency of Kebumen because of the impact that is feared to befall children to reduce the quality of future generations. This research hopes that it can be used as a reference for making prevention programs for overweight and obese children under five in the Regency of Kebumen or in areas that have similar characteristics to the Regency of Kebumen based on the perspective of parenting and eating patterns.

**METHODS**

This research was a descriptive study using qualitative techniques with an in-depth interview approach. The research had obtained permission from the Regency of Kebumen Health Service. There were ten informants, consisting of seven main informants, namely parents of obese children under five, and three key informants, namely nutritionists and midwives from several representative Public Health Centers such as Public Health Center Kebumen II, Public Health Center Karanggayam, and Public Health Center Puring. These areas were selected based on the highest prevalence of obesity and represented several regional conditions in the Regency of Kebumen, namely urban, mountainous, and coastal areas. Of the seven mothers of children under five interviewed, six were parents of children under five over the age of two, while one was under the age of two.

Data were collected between May and June 2023 using purposive sampling and snowball sampling techniques. Purposive sampling was carried out at the beginning by applying inclusion criteria, namely, informants who had children under five with obese nutritional status according to the Weight for Age indicator above > 3SD, and informants who did not have speech and hearing disorders. Then, after being in the field because some predetermined informants could not

be found, the author combined it with the snowball sampling technique, namely looking for informants by asking previous informants who were assisted by health cadres. Interviews were conducted through home visits accompanied by Posyandu cadres and nutrition workers. Before data collection, informants were asked for their consent to be involved in data collection. Data triangulation was conducted by interviewing key informants, namely nutrition workers at the Public Health Center or Puskesmas.

The study discussed in the research is parenting patterns in feeding children under five, which are divided into two dimensions of parenting, namely demandingness parenting and responsiveness parenting. The two dimensions of parenting that want to be studied in this study are how the mother's efforts in telling her child to eat, whether the mother tries to remind her child to eat, promise something (other than food) so that the child is willing to eat, whether the mother feeds the child while eating, and whether the mother allows the child to choose the preferred food. Meanwhile, the dietary pattern of children under five was studied, starting from infants related to breastfeeding history (Exclusive Breast Milk, MP ASI (Complementary Food), meal frequency, meal portions in each meal, consumption of high-calorie foods, and sugar-sweetened beverages, formula milk consumption, history of other diseases, and mothers' perceptions related to good and bad food ingredients consumed by children under five. The information obtained was then analyzed using thematic analysis before being presented in narrative form.

**RESULTS AND DISCUSSION**

**Informant Characteristics**

The main informants involved were seven people representing three health centers. Table 1 contains information on the characteristics of the informants, including the age of the children under five, the age of the parents or caregivers, the occupation of the parents or caregivers, and the last education of the caregivers. The age of the children under five involved was 1 person (14.3%) under the age of two, while the other 6 people (85.7%) were over three years old, and there were even 4 children under five (57%) who were close to five years old.

**Table 1.** Key Informant Characteristics

Informant	Children Under Five Age	Parent or Caregiver Age	Jobs	Education
A1	52 months	30 years old (Parent)	Housewife	Junior High School
A2	8 months	46 years old (Parent)	Housewife	Elementary School
A3	59 months	56 years old (Caregiver)	Tailor	Elementary School
A4	55 months	35 years old (Parent)	Housewife	Elementary School
A5	40 months	59 years old (Caregiver)	Housewife	Elementary School
A6	39 months	40 years old (Parent)	Self-employed	Junior High School
A7	55 months	47 years old (Caregiver)	Trader	Elementary School

Four (57%) of the informants were parents, while the other three (43%) were caregivers. Two of the caregivers were the children under five's grandmother, while one was a relative of the children under five. Children under five were cared for by their caregivers

because their parents worked from morning to evening, but for the description of their meals, the caregivers knew because they lived together for 24 hours, but there was one caregiver who lived with the children under five for about 12 hours.

### Parental Feeding

Parenting patterns in feeding were divided into two dimensions, namely, the demandingness dimension and the responsiveness dimension. The resulting parenting pattern description had four categories,

namely demanding and non-demanding parenting, responsive and unresponsive parenting. Table 2 contains some quotes that represent the four dimensions of parenting.

**Table 2.** Representative quotes related to parental feeding

Theme	Representative Quotes
High Demandingness Parenting Dimension	<p><i>"Ini kalau makan besarnya susah, jadi harus dirayu-rayu dulu, tapi tetap rutin. Makanya kalau saya punya mie instan kadang saya umpetin mbak, biar nggak minta. Kalau jajan juga gak boleh sembarangan, gak boleh es, jajan di luar, saya sediakan sendiri di rumah"</i> (Informan 4)</p> <p>"It's difficult for him to eat, so he has to be persuaded first, but it's still routine. That's why if I have instant noodles, sometimes I give them to him, so he doesn't ask for them. I also don't allow snacks carelessly, no ice, snacks outside, I provide my own at home" (Informant 4)</p> <p><i>"Yang sering minta sendiri makannya, jarang saya tawari"</i> (Informan A5)</p> <p>"Those who often ask for their own food, I rarely offer it" (Informant A5)</p>
Low Demandingness Parenting Dimension	<p><i>"Dia lebih sering minta makan, setiap bangun tidur dia harus makan. Saya tipe yang nggak mau pusing, jadi kalau anak minta makan saya kasih, kalau gak mau makan ya udah"</i> (Informan A1)</p> <p>"He asks for food more often, every time he wakes up, he has to eat. I'm the type who doesn't want to bother, so if the child asks for food I give it, if he doesn't want to eat, that's it" (Informant A1)</p>
High Dimension of Parenting Responsiveness	<p><i>"Saya sama istri sudah berusaha untuk mengurangi, tapi kadang-kadang tidak tega kalau anak nangis"</i> (Informan A6)</p> <p>"My wife and I have tried to reduce it, but sometimes we can't bear it when the child cries." (Informant A6)</p> <p><i>"Makannya gampang, waktu kecil saya kasih makan blenderan, cuma nasi dikasih sayuran itu sayuran direbus terus dicampur nasi sedikit satu sendok, sama kentang, brokoli, wortel"</i> (Informan A3)</p> <p>"Eating is easy, when I was a child I fed blender, only rice given vegetables, boiled vegetables and then mixed with a little rice, one spoon, with potatoes, broccoli, carrots" (Informant A3)</p>
Low Responsiveness Parenting Dimension	<p><i>"Minta maem sendiri, disuapin tidak mau, malah mau sendiri. Kalau sedikit anak maunya nambah, saya tidak nawari nambah tapi anak minta sendiri"</i> (Informan A5)</p> <p>"They ask for their meals, they don't want to be bribed, they want to eat on their own. If the child wants more, I don't offer more, but the child asks for it himself" (Informant A5)</p>

### Dimension of Demanding Parenting (Demandingness)

Demanding parenting is parenting that relates to parents having various demands regarding their desires for children, such as children as part of the family, discipline, expectations of children's behavior as adults, and efforts in dealing with children's behavioral problems, which are manifested in parental control and regulation actions<sup>13</sup>. Concerning feeding, this dimension addresses the extent to which mothers encourage their children to eat<sup>14</sup>. Highly demanding parenting is closely related to authoritarian parenting<sup>15</sup>.

Based on the results of interviews with parents or caregivers of toddlers, most parents of obese toddlers did

not try hard to get their children to eat, rarely promised something so that children are willing to eat, and often allow children to choose the food they like. Parents of toddlers tended to limit their children's consumption because the weight had started to increase, and there were complications of shortness of breath. There was one informant who explained that he began to change his diet to not consume too much sweet food, his toddler's lifestyle included increasing physical activity so that complications of shortness of breath can be cured. Feelings of sadness and heartlessness, when children are sick, make their motivation for parents to change their children's eating behavior.

Changes in behavior to become healthier in a person or health behavior caused by illness is called sick-role behavior. Individuals who have been diagnosed with illness by a doctor can take action to change behavior to be healthier such as dietary adjustments, and exercise so that the illness can be cured<sup>16,17</sup>. Other studies have also proven that parenting patterns are associated with the incidence of overweight in adolescents<sup>18</sup>. There are also studies with different results, where high demand or authoritarian parenting is associated with a high risk of obesity in children<sup>19</sup>.

### Dimensions of Responsiveness Parenting

Responsive parenting is how sensitive the mother or caregiver is in understanding the needs of the child when feeding. High responsive parenting is closely related to permissive parenting<sup>14,15</sup>. In this parenting pattern, parents give children the freedom to consume various types of food that toddlers want. If the toddler does not want to eat, parents offer food that the child likes so that the child can eat<sup>20</sup>.

The interview results showed that in this dimension, parents or caregivers mostly did not offer children a second portion of food, but when their children wanted to add a second portion of food, the mother or caregiver did not prevent it. There were even two caregivers of toddlers who conveyed the reason why they did not limit the food consumed by their children, the reason was because they could not bear the child to cry. The mother or caregiver allowed the child to take their food according to what the child wanted.

Optimal feeding by parents to prevent weight gain or obesity in children is to balance demandingness parenting arrangements with responsiveness parenting, which considers what the child needs at that time. Parents should care about when children should start eating because they are hungry and when they should stop eating as a sign of parental responsiveness so that they will not experience an increase in body weight<sup>14,21</sup>. In addition to having an impact on nutritional status, parenting patterns that are balanced between demanding and responsive have also been shown to improve development in children, especially epistemic curiosity (EC) in children<sup>22</sup>. In teaching children to have good eating behavior, environmental arrangements are also needed, such as providing healthy food choices such as providing vegetables and fruits<sup>21</sup>. Authoritarian parents show low responsiveness and high demands, while permissive parents show high responsiveness and low demands. Neglectful parents showed equally low levels of responsiveness and demandingness<sup>15</sup>.

### Eating Patterns Under Five Children

Parenting patterns are seen from the frequency of eating in one day, the portion of one meal how much the amount, the consumption of high-calorie foods and sugar-sweetened beverages, the history of exclusive breastfeeding and MP ASI, formula milk consumption, and the history of other diseases that have been experienced by toddlers. Table 3 contains quoted information that represents the description of diet in obese toddlers.

**Table 3.** Representative quotes related to the description of the children's diet

Theme	Representative Quotes
Meal Frequency	"Sekali makan dua sendok, kadang tergantung kalau lagi rewel ngga habis. Satu hari dua kali, enjang kali sonten" (Informan A2) "Two spoons at a meal time, sometimes it depends if she is fussy and doesn't finish it. Twice a day, morning and evening" (Informant A2)
	"Rutinnya 2 kali sehari, pagi sama sore. Siang ngga mau nasi, maunya buah" (Informan A4) "Routinely twice a day, morning and afternoon. I don't want rice in the afternoon, I want fruit" (Informant A4)
	"Makannya 3 kali sehari, jumlahnya satu piring. Kalau jajan ngga terlalu, sukanya makan besar. Lauknya telur, wortel, bayam, sosis, kalau ngga biasanya saya campur mie. Kalau ayam, kalau gak fried chicken ngga mau, harus di goreng, kalau di kecap tidak mau" (Informan A6) "She eats 3 times a day, one plate. She doesn't eat snacks, she likes to eat big. Side dishes are eggs, carrots, spinach, and sausage; otherwise, she usually mixes noodles. If it's chicken, if it's not fried chicken, she doesn't want it, it has to be fried, if it's soy sauce, she doesn't want it." (Informant A6)
Meal Portion	"Setiap hari makan tiga kali, tapi porsinya tidak banyak" (Informan A1) "Every day she eats three times, but the portions are not much" (Informant A1)
	"Nasinya ngga banyak, satu centong lebih, yang kuat jajannya seperti roti kemasan" (Informan A4) "The rice is not much, more than a spoonful, strong snacks like packaged bread" (Informant A4)  "Jumlahnya satu piring. Kalau jajan ngga terlalu, sukanya makan besar. Lauknya telur, wortel, bayam, sosis, kalau ngga biasanya saya campur mie. Kalau ayam, kalau gak fried chicken ngga mau,

Theme	Representative Quotes
	<p><i>harus di goreng, kalau di kecap tidak mau” (Informan A6)</i>                      "The amount is one plate. she doesn't eat snacks, she likes to eat big. Side dishes are eggs, carrots, spinach, and sausage, otherwise, she usually mixes noodles. If it's chicken, if it's not fried chicken, she doesn't want it, it has to be fried, if it's soy sauce, she doesn't want it." (Informant A6)</p>
Consumption of High-Calorie Snacks and Sugar-Sweetened Beverages	<p><i>“Teh gelas, susu kotak kadang-kadang, yang praktis, susu formula paling pagi bangun tidur, terus nanti malam sebelum tidur” (Informan A1)</i>                      "Glass tea, sometimes boxed milk, practical ones, formula milk in the morning when she wakes up, then at night before bed" (Informant A1)</p> <p><i>“Kalau jajan saya kasih roti atau biskuit biasanya, roti tawar sekali makan bisa sampai 3 lembar sekali makan, tapi semua saya sediakan Mbak” (Informan A4)</i>                      "For snacks, I usually give bread or biscuits, up to 3 pieces of white bread per meal, but I provide everything" (Informant A4)</p> <p><i>“Jajan apa aja mau, sukanya donat sama coklat seperti beng-beng, es krim” (Informan A5)</i>                      "Any snacks he wants, like donuts and chocolate like beng-beng, ice cream" (Informant A5)</p>
History of Exclusive Breastfeeding and Complementary Feeding	<p><i>“Dulu 6 bulan ASI mbak, baru 6 bulan ke atas dikasih bubur bayi yang beli itu” (Informan A4)</i></p> <p><i>“Baru 6 bulan ke atas dikasih bubur bayi yang beli itu, baru setelah usia 1 tahun saya ganti ke bubur yang dijual jual yang mangkuk kecil” (Informan A4)</i></p>
Formula Milk Consumption	<p><i>“Dulu ASI berhenti usia 19 bulan, habis itu saya tidak pernah stok susu, paling susune, susu kotak kalau ke warung beli satu, itu pun yang plain bukan yang coklat yang ada gula atau gimana. Sehari bisa habis enam kotak tapi waktunya sebulan sampai dua bulan ngga lama, sekarang hanya satu kotak setiap hari” (Informan A1)</i>                      "Previously, breastfeeding stopped at 19 months of age, after that, I never stocked milk, or milk boxes if I went to the stall to buy one, even the plain one, not the chocolate one with sugar or something. A day can be used up six boxes but the time is a month to two months not long, now only one box every day" (Informant A1)</p> <p><i>“Ngga mesti mbak anu maemnya susah, cuman kuat di susu susu SGM. Sejak 6 bulan sudah minum susu tapi disambung dengan ASI. Dari bayi sampai usia satu tahun diberi ASI, tapi kadang saya kasih susu formula karena kerja. Tapi sejak usia satu tahun saya kasih full susu formula, soalnya gak mau ASI. Pemberiannya paling mau tidur saat bobok siang, bobok malem terus kalau siang 1 botol. Susu kalau kepengin 2 sekaligus, susu kotak yang kecil. Setiap hari susu kotak kecil selalu sedia. Sejak tiga tahun lebih sudah ngga mau susu formula, jadi saya ganti susu kotak Mbak” (Informan A4)</i>                      "It's not necessarily difficult to eat, it's only strong in SGM milk. For 6 months I have been drinking milk but connected with breast milk. From infancy until the age of one year, she was breastfed, but sometimes I gave formula milk because of work. But since the age of one year, I give full formula milk, because he doesn't want breast milk. I give him the most when he wants to sleep at noon, sleep at night, and then 1 bottle during the day. Milk if you want 2 at once, a small milk box. Every day a small milk box is always available. Since more than three years old, I didn't want formula milk, so I changed the milk box" (Informant A4)</p> <p><i>“Mulai naik sejak 2 tahun, mungkin sering ngemil, maemnya doyan, susu juga mau, kalau malem harus susu, susu 3 sampai 4 botol saat siang kalau malam kadang 4 botol. Botol ukuran 200 ml” (Informan A5)</i>                      "Started to increase when 2 years old, maybe he often snacks, his food is good, and he also wants milk, if at night he has to have milk, 3 to 4 bottles of milk during the day if at night sometimes 4 bottles. 200 ml bottle" (Informant A5)</p> <p><i>“Semenjak sesak nafas, konsumsi susu sudah saya hentikan. Kalau dulu kuat susunya. Banyak konsumsinya, satu dos susu bisa habis 3 hari. Semalem bisa 10 botol, dari bayi memang ibunya tidak keluar ASI, terus anaknya alergi susu sapi sampai umur 4 bulan. Setelah usia 4 bulan alerginya sembuh, lalu konsumsi susu sapi, setelah itu pertumbuhannya cepet banget, gemuk banget,</i></p>

Theme	Representative Quotes
	<p><i>"pokoknya kalau di Posyandu paling berat"</i> (Informan A6)</p> <p>"Since my shortness of breath, I have stopped consuming milk. In the past, the milk was strong. I used to consume a lot of milk, one box of milk could last for three days. One day I could consume 10 bottles since the baby's mother did not produce breast milk, and then the child was allergic to cow's milk until the age of 4 months. After the age of 4 months, the allergy healed, then consumed cow's milk, after that his growth was very fast, very fat, anyway if at the Posyandu the heaviest" (Informant A6)</p>
	<p><i>"Dulu sering sakit, panas, muntah-muntah karena makan misal yang agak asin, terus perut kembung, panas"</i> "Often get sick, hot, vomit because I ate something salty, then my stomach was bloated, hot"</p> <p><i>"Sesak napas, disertai batuk dan pilek karena obesitas atau kegemukan. Saya kasihan saat sesak napas, pernah sesak jam 10 langsung dibawa ke rumah sakit, itu kan panik, paniknya malam-malam. Iya pas ngga turun hujan, kalau lagi turun hujan susah, jauh banget"</i> "Shortness of breath, accompanied by cough and runny nose due to obesity or overweight. I feel sorry for them when they are short of breath, once they were taken to the hospital at 10 o'clock, they panicked, they panicked at night. Yes, when it's not raining, when it's raining it's difficult, very far away"</p> <p><i>"Saya sudah berusaha mengurangi makan makanan manis, biasa minta nambah kalau ngga ditambahin nangis, biasa minum manis, ngga dikasih minum ngga manis jadi nangis. Takutnya tetangga dengar nangis-nangis kok dibiarkan padahal demi anak, jadi terkadang muncul rasa malu"</i> "I have tried to reduce eating sweet foods, usually asking for more if I don't get more, crying, usually drinking sweet drinks, if I'm not given a drink that's not sweet, I cry. I'm afraid that the neighbors will hear me crying, even though it's for the sake of my child, so sometimes I feel ashamed."</p>
History of Other Diseases	

### Meal Frequency and Portions

Most toddlers ate 2 to 3 times a day. Two informants revealed that the frequency of eating for their toddlers was 2 times a day, namely morning and evening, during the afternoon the children did not eat a big meal but rather consumed snacks such as wafers and taro, and one other toddler consumed fruit during the afternoon. However, parents or caregivers allowed the toddlers to increase the portion of the second meal. As for the others, the frequency of eating 3 times a day was morning, noon, and evening. The toddler's portion of food, according to informants, was the same as toddlers in general, for the portion of rice at each meal was one rice spoon more. There was one toddler whose portion of food was almost the same as an adult, the informant said that the toddler did not like snacking or snacks, so he ate a lot. Two toddlers consumed the same portion of main meals as adults.

The composition of each toddler's meal was a staple food of rice with side dishes from animal proteins such as chicken, nuggets, fish, eggs, and vegetable proteins such as tofu and *tempe*. Vegetable consumption in toddlers was rare, there were even toddlers who ate vegetables with only the sauce because they were picky eaters.

In various studies, it was stated that parenting patterns of feeding children that do not comply with dietary recommendations, such as consumption of high fat, sugar, and low vegetables in children are common in people with low socioeconomic conditions. Children who are accustomed to consuming foods high in sugar, and fat

and low in vegetables and fruit will increase the activity of the brain's reward system and override the homeostatic mechanism, so there is an increase in taste to consume foods high in sugar and fat continuously<sup>23</sup>. Review research related to diet in obese toddlers also explains that meal portions affect energy intake and weight gain. Lack of control in parents increases the risk of obesity in children. For this reason, the role of parents is needed to provide regular meals for children to reduce the incidence of obesity<sup>24</sup>.

Parental involvement is needed to provide quality food for children, including introducing vegetable and fruit consumption to children. Parents are the main moderators in influencing the provision of vegetables, fruits and other healthy foods to their children. Providing vegetables and fruits at home, including setting an example by eating vegetables and fruits in front of children, will encourage children to consume vegetables and fruits<sup>25,26</sup>.

### Consumption of High-Calorie Snacks and Sugar-Sweetened Beverages

The main meal portion of obese toddlers was not too large. They preferred to snack or consume snacks. One toddler used to consume snacks such as biscuits and bread, and could eat 3 pieces with jam. Another toddler liked to consume sweet foods such as *beng-beng* and chocolate and sweet drinks such as glass tea and boxed milk. However, there was one toddler who began to become accustomed to consuming interludes with fruit because the toddler liked it and was healthier. One of the

toddler caregivers said that the parents had given directions not to snack carelessly, such as sweet foods, but the caregiver still gave the snacks because the toddler was crying and fussy, but the provision was still below normal or not too much as long as the child did not cry.

Consumption of high-calorie snacks is considered a contributor to overweight and obesity due to their high energy and carbohydrate content<sup>27</sup>. A study on overweight children in Vietnam showed that the consumption of salty snacks, sweets, and sweetened beverages, including milk, was associated with the incidence of overweight children<sup>28</sup>. Parents can provide healthy snacks education early on to children by providing an understanding of the dangers of consuming unhealthy foods.

This can control the caregiver's indifference towards children who cry because they ask for unhealthy snacks<sup>29</sup>.

### **History of Exclusive Breastfeeding and Complementary Feeding**

Most toddlers were exclusively breastfed, which was a good parenting practice to give to infants. However, there was one toddler who faced a different situation where the mother was unable to breastfeed due to post-surgery, so the toddler was given formula milk. There was also one toddler, who was given formula milk at the beginning because his mother's milk had not yet come out, only after it came out continued with breast milk until the age of six months. This is in line with Quebu's research, 2021, regarding barriers to exclusive breastfeeding in mothers is the mother's health condition which is not good due to postpartum<sup>30</sup>.

One informant stated that her toddler started receiving manufactured breastmilk MP at 6 months of age and was then introduced to rice and fruit at 8 months of age. This reflects the stage of introduction of solid food with commercial food instead of home-cooked food. Meanwhile, the other six toddlers received home-cooked breastmilk MPs that included a variety of foods, including carbohydrate sources, animal and vegetable proteins, and vegetables and fruits. This approach shows variations in home menus and feeding practices, which may reflect family preferences, culture, or personal views on nutrition and child development.

Studies show that there is no association between the provision of manufactured and homemade complementary foods and the incidence of childhood obesity, but early provision of complementary foods is associated with the incidence of overweight in children aged 6 until 24 months<sup>31,32</sup>. Parents' or caregivers' knowledge of good nutrition influences the provision of healthy complementary foods that support the nutritional status and health of their young children<sup>19</sup>. In this context, knowledge about different ways of feeding children under five is essential, and this information can be used by parents and caregivers as a reference in making good decisions related to feeding their children.

### **Formula Milk Consumption**

Two informants reported that their toddlers consumed more than 8 200 ml bottles of formula milk every day. Another informant added that after her toddler was weaned at 19 months of age, breastfeeding

was replaced by plain flavored milk boxes that could consume 6 125 ml boxes per day. However, some toddlers consumed milk only 3 to 4 times a day when going to bed. From this, it can be concluded that most obese toddlers consumed high amounts of formula or boxed milk. Most of the average formula milk consumption was above 1000 mL or 1 L every day. The results of research from Utami, 2017, showed that formula milk consumption > 100 g/day in toddlers is at a 7 times greater risk of obesity than those whose consumption is below<sup>33</sup>. Formula milk consumption in Indonesia is high at 79.8%. Formula milk contains high energy and protein, so if consumed in excessive amounts, it will increase the release of insulin and IGF 1 (Insulin Growth Factor 1) hormones that make weight gain<sup>33,34</sup>.

Some informants revealed that currently, they have been trying to reduce milk consumption in toddlers. The obstacles experienced included toddlers crying because they had been accustomed to consuming sweet drinks. The assertiveness of parents here is needed to change the consumption patterns of toddlers to be healthier.

### **History of Other Diseases**

Most informants revealed that their toddlers were healthy and active, with no significant history of illness either before their nutritional status was obese or after their nutritional status was obese. However, there was one toddler who had complications in the form of shortness of breath caused by obesity. The toddler, in the last few months, often experienced sudden shortness of breath, so his parents took him to the hospital. From the incident, the parents changed the toddler's eating behavior. In addition, some toddlers became ill when eating unhealthy foods such as instant food. Common illnesses were fever, cough, and cold.

Children with obesity are prone to respiratory diseases such as shortness of breath, wheezing, and coughing, and may even experience sleep disturbances compared to children with normal nutritional status. This is because excess weight produces mechanical effects on the respiratory system. Therefore, it is important to prevent obesity so that the morbidity of respiratory disorders in children can be avoided<sup>34</sup>.

### **Parents or Caregivers' Perceptions of Good and Poor Foods for Obese Toddlers**

Some parents or caregivers said that foods that are good for toddlers to consume are natural foods that are cooked by themselves, such as vegetables, fruit, fish, tofu, tempeh, and sausages. Meanwhile, foods that are not recommended or not good for toddlers are instant foods such as instant noodles and sweet foods such as candy. Some informants stated that buying food outside is not recommended, so informants tend to provide food for their toddlers from home.

Two informants believed that the most suitable food for children under one year of age is manufactured or commercial instant porridge, which is given alternately between regular instant porridge and instant porridge with fruit and vegetable flavors. Toddlers should be introduced to foods such as mashed rice and fruit at the age of eight months. This is because it is easier to do and

safer for the toddler. However, some caregivers introduced homemade complementary foods by pureeing rice, vegetables, and protein sources such as tempeh that are boiled and then blended before being given to toddlers during the first breastfeeding period.

Family and neighborhood also influenced parents' or caregivers' compliance in feeding their toddlers. One informant who lived in a mountainous area, where family relationships with neighbors were still strong, revealed that sometimes neighbors had an influence on decision-making for their children. The informant said that sometimes she could not be strict in restricting her child from eating high-sugar foods or snacks because the child cried. The neighbor thought that the informant was too strict and did not care about the child so the child cried, the informant finally began to reduce her assertiveness in limiting children's consumption of high-sugar snacks. Norms related to parenting that exist in the community, especially in areas where culture is still attached, include caring for and supervising children, sharing, and seeming to be responsible for the development of children in the area. Other studies explain that health is influenced by social familiarity in the neighborhood<sup>35,27</sup>.

## CONCLUSIONS

The parenting patterns of parents with obese children under five in the Regency of Kebumen were that most have highly responsive parenting compared to demanding parenting. Parents tended to provide food that the child likes and provide opportunities for children to increase the portion of food because they cannot bear the child to cry. Educational programs to prevent children under five obesity based on parental demandingness and responsiveness and proper eating patterns are needed to reduce the rate of overnutrition in children under five in the Regency of Kebumen. Moreover, support such as motivation for parents or caregivers to apply good parenting to children is also needed to support parents' firm attitude towards their children under five.

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