Journal of Namibian Studies, 33(2023): 1201–1223 ISSN: 2197-5523 (online)

THE DIFFERENCES IN PARENTING STYLE CHARACTERISTICS OF CHILDREN UNDER FIVE IN TULUNGAGUNG AND BANGKALAN DISTRICT, EAST JAVA, INDONESIA

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Abstract

Background: Children's health is strongly influenced by the parenting style. Good parenting will affect children's optimal growth and development such as having better nutritional status and less morbidity. Balanced nutrition is needed to achieve the optimal growth and development of children starting from newborns. East Java is one of Indonesia's provinces with the highest stunting prevalence in children under five. However, few studies focused on the parenting style differences in areas with the highest and lowest prevalence of stunting.

Objectives: The aim of this study was to describe and compare the characteristics of parenting styles of children under five in Tulungagung and Bangkalan districts.

Methods: This is a descriptive-analytic study with a cross-sectional design conducted among 404 mothers in Tulungagung and Bangkalan districts which were selected by purposive sampling. Data were collected using an interviewer-administered questionnaire, including family characteristics, children feeding practices, environmental sanitation, history of infection, and

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utilization of health services. The differences in the parenting style characteristics of children under five in two districts were analyzed using Chi-square.

Result: There was a significant difference in the characteristics of mothers in Tulungagung and Bangkalan districts, including age, education level, and birth attendant. Socio-cultural, nutrition, and health-related parenting was also significantly differ in terms of parenting duration, training for caregivers, dietary taboo, parenting advice provider, early breastfeeding, other food before 6 months old, vegetable and protein food frequency, Posyandu visit frequency, vitamin A supplementation, iodized salt usage for cooking, child immunization status, child's age of first immunizations, health facilities visit, initial action before bringing children to health facilities when sick. Significant different was also found in environment sanitation including the condition of house ceiling, walls, floor, living room windows, ventilation, kitchen vent, indoor lighting, clean water facility, ownership of latrines, children feces disposal frequency, and littering location and frequency.

Conclusion: In summary, there is a parenting style discrepancy between districts with the highest and lowest prevalence of stunting in children under five.

Introduction

Childhood period is a golden period of the physical, mental, and emotional growth of children (Judistiani et al., 2015). The first year of a child's life is the basis for determining habits in the following year, including eating habits (WHO, 2010). Most of the mothers subjectively let their children eat food they like regardless of the nutritional content. A mother should be a good caregiver because being a good caregiver will create a new generation of quality in the future (Anwar & Khomsan, 2009). The need for adequate honing, compassion and care at this age will increase the survival of the child and optimize the quality of the child as the next generation of the nation (Supariasa et al., 2012).

Women as mothers and the environment play a very important role in the growth and development of children. Mother's educational background, physical and mental state, ability to practice in daily life and family support accumulate in the form of child growth and development (Kotch, 2007). Optimal growth is indicated by the compatibility between the child's age, body weight, and height, while the child's development is characterized by the compatibility between the child's age and the types of skills that must be mastered by the child according to his stage of development. The level of development of children under five includes the skills and intelligence where each phase differs according to age, supported by environmental factors

and the learning process (Nandy et al., 2005). Practices care differ between regions but children's needs for food, health, protection, and love are universal. Changes and adaptation in the process of child care in the family occur due to the urbanization process, and the increasing role of women in the economy, family, and higher education (Nandy et al., 2005)

Research in Haiti shows that the factors that influence the quality of child care can be distinguished directly and indirectly, including demographic, socioeconomic, food security in the family and other sources that support child care. Family characteristics include the number of family members, the age of the head of the family, the difference in age, gender, working family members, and environmental sanitation (McLanahan & Booth, 1989). The nutritional status of children under five is one of the benchmarks for the success of health development. Since the 1960s, the government has carried out activities to improve family nutrition known as the Applied Nutrition Program, then in 1974, the program was developed throughout Indonesia as the Family Nutrition Improvement Business Program, where it provides practical nutrition education to families through growth monitoring. children at the Posyandu, and a comprehensive basic health service package (Kurniawan, 2002).

Nutrition is needed for the growth and development of children starting from birth. In the childhood period, there is rapid growth so food intake with balanced quality and quantity of nutrition is needed to achieve the optimal nutritional status as well as growth and development. Nutritional status is strongly influenced by parenting style. Parenting style is a care practice, including health, which is applied to children under five because they are very dependent on their parents. Nutritional problems are related to aspects of health, social, economic, environmental, attitude, and behavior issues. To make it happen, a motivator in the family is needed who has the knowledge and is willing to make changes to have good nutritional behavior. A mother's basic knowledge and education are important factors in fulfilling adequate food for infants and children. Higher education will facilitate the absorption of information and knowledge about how to feed infants and children (Indonesian Ministry of Health, 2000). There are two factors that influence nutritional status, namely direct and indirect factors. Direct factors are determined by food intake and infectious diseases, while indirect factors include the availability of food in the family, child care patterns, health services, and environmental conditions (Indonesian Ministry of Health, 2000).

Nutritional problems are known as multi-complex problems because not only economic factors but cultural factors also play a role. Cultural factors also affect the parenting style in the family; thus, it has an

impact on the health and nutritional status of children. These cultural factors include ethnicity/ethnicity and traditions/customs regarding health and nutrition. Different ethnic backgrounds in parents will have an impact on different eating habits of children (Bringham, 1997). Previous studies related to the culture of feeding behavior showed that based on the interview with children's mothers, for protein intake, fish is not given to children due to the fear of fish's spines will be swallowed by them. Other reasons are because the fish price is expensive, there is a fishy taste that can interfere with the appetite, and fish or meat will cause intestinal worm infection. Vegetable intake is also a problem, mothers prefer soft-cooked vegetables by reason that children do not want to eat hard vegetables because they think that it is raw or unripe. Likewise with carbohydrate intake, if children have not eaten rice, they are said to have not eaten it even though there are other carbohydrate substitutes besides rice. Moreover, mothers consider instant noodles as a side dish because of the affordable price and ease to get. Based on the observation results, parenting patterns, especially among mothers who have children in Tulungagung Regency, found obstacles when raising children, namely limited time with children. When preparing food, the food served is only perfunctory, sometimes the food served only eats rice, instant noodles, and eggs. Apart from food, there are food taboos from the Madurese, Malay, Dayak, Chinese and Javanese tribes that are not allowed, namely types of food that smell fishy, such as eggs, seafood foods such as fish, and shrimp.

According to data from the Ministry of Health in 2021, the stunting problem in East Java reached 23.5%. Bangkalan is the district with the highest stunting rate of 38.9%, and Tulungagung is the district with the lowest stunting rate of 13.1% (Indonesian Ministry of Health, 2021a). The number of stunted children in Tulungagung district based on Weighing Month data in August 2020 was 2,901 children out of 52,694 children with a stunting prevalence of 5.51% (Tulungagung Regional Development Planning Agency, 2021). We hypothesize that there is a discrepancy between parenting styles in the two districts regarding the stunting prevalence. Therefore, the aim of this study was to determine the characteristics of the parenting style of children under five in Tulungagung and Bangkalan districts.

MATERIAL AND METHOD

This study was an analytic-descriptive study with cross-sectional design to analyze the differences in the characteristics of the parenting style of children under five in Tulungagung and Bangkalan districts. The sample in this study were mothers with children under five who had stunted and non-stunted children in 5 sub-districts each at

Tulungagung and Bangkalan Districts selected using purposive sampling. Based on the Indonesian Nutritional Status Survey 2021, Bangkalan has a total of 77,634 children under five while Tulungagung has 12,840 children under five. The calculation of the sample size is based on the stunting prevalence in each district and the 1:2 ratio between stunted and non-stunted children. A total of 404 mothers were involved, consisting of 330 mothers in Bangkalan district (110 stunted and 220 non-stunted children) and 74 mothers in Tulungagung district (24 stunted and 50 non-stunted children).

The data used are primary data collected through structured questionnaires that contain open and closed questions arranged according to the variables studied, including family characteristics, parenting style, children feeding practices, history of infection, utilization of health services, and environmental sanitation. The questionnaire on the parenting style of children under five was prepared by the researcher (social culture of parenting and nutrition care) while the questionnaire on the pattern of care for the health and environmental sanitation was adopted from the Indonesian Nutritional Status Survey 2021 (Indonesian Ministry of Health, 2021b). Ethical approval for the study was granted by the Ethical Committee of the Faculty of Medicine, Universitas Brawijaya, Indonesia No.61/EC/KEPK/03/2022 and from the National and Political Unity Agency (Badan Kesatuan Bangsa dan Politik) from each district. All mothers who agree to participate in this study filled out and signed the informed consent.

Data analysis was performed using SPSS. Descriptive analysis was used to describe the basic characteristics of subjects under various demographic variables, including the parenting style. The bivariate data analysis was performed using the Chi-square test with a significance level of p-value < 0.001 to analyze the differences in the characteristics of the parenting style of children under five in Tulungagung and Bangkalan districts.

RESULTS

This study examines the differences in parenting style characteristics between Tulungagung and Bangkalan district. We divided the characteristics into five sections: socio-demographic characteristic, socio-cultural parenting style, nutritional parenting style, health-related parenting style, and family environment sanitation.

Table 1. Characteristics of Respondents in Tulungagung and Bangkalan Districts

Characteristics	Tulungagung (n=74)	Bangkalan (n=330)	p-value
	n(%)	n(%)	
Mother's age group			< 0.001
<20 years	16 (21.6)	21 (6.4)	
20-25 years	21 (28.4)	84 (25.5)	
26-30 years	16 (21.6)	87 (26.4)	
31-35 years	21 (28.4)	76 (23.0)	
>35 years	0	62 (18.8)	
Employment status			0.337
Civil servant	0	2 (0.6)	
Private employee	5 (6.8)	20 (6.1)	
Entrepreneur	7 (9.6)	45 (13.6)	
Laborer	5 (6.8)	10 (3.0)	
Unemployed	51 (69.9)	211 (63.9)	
Others	5 (6.8)	42 (12.7)	
Family income (per month)			< 0.001
< 1 million rupiah	25 (35.2)	208 (63.0)	
1-2 million rupiah	36 (50.7)	83 (25.2)	
2-3 million rupiah	10 (14.1)	29 (8.8)	
>3 million rupiah	0	10 (3.0)	
Education status			< 0.001
Primary school	6 (8.1)	168 (50.9)	
Junior high school	27 (36.5)	73 (22.1)	
Senior high school	32 (43.2)	67 (20.3)	
Diploma	2 (2.7)	6 (1.8)	
Bachelor	7 (9.5)	16 (4.8)	
Child's age			< 0.001
Median (min-max)	36 (2-72)	24 (2-90)	
Children's order			0.077
1st child	32 (43.2)	130 (39.4)	
2nd child	34 (45.9)	120 (36.4)	
3rd child	7 (9.5)	55 (16.7)	
4th child	0	21 (6.4)	
5th child	1 (1.4)	4 (1.2)	
Birth attendant			< 0.001

Midwives	44 (59.5)	269 (81.5)	
Medical doctor	30 (40.5)	42 (12.7)	
Other	0	19 (5.8)	

According to Table 1, there was a significant difference (< 0.001) in the age of the respondent. The age group of respondents in Tulungagung is younger than in Bangkalan. In Tulungagung, half of the respondents were aged 25 years or less, while in Bangkalan most of the respondents aged more than 26 year old (68.2%). Based on family income per month, there was a significant difference (< 0.001) Most respondents in Tulungagung have a family income of 1-2 million per month (50.7%), while respondents in Bangkalan <1 million per month (63%).

Based on the education level of the respondents, there was a significant difference (p< 0.001). Most of the respondents from Tulungagung graduated from high school (43.2%), while respondents in Bangkalan graduated from elementary school (50.9%). Based on the age of the children, there was a significant difference (< 0.001). The median age of children under five in Tulungagung is 36 months (2-72), while in Bangkalan is 24 months (2-90).

Based on the birth attendant, there was a significant difference (< 0.001). Some of the respondents' birth attendants from Bangkalan were midwives (81.5%). Births assisted by doctors were more common in Tulungagung (40.5%). Births assisted by traditional birth attendants were only found in Bangkalan (5,8%).

Table 2. Socio-Cultural Parenting for Children in Tulungagung and Bangkalan Districts

Characteristics	Tulungagung (n=74)	Bangkalan (n=330)	p-value
	n(%)	n(%)	
Number of family members			0.102
Mother taking care of the children			0.770
Yes	71 (95.9)	314 (95.2)	
No	3 (4.1)	16 (4.8)	
Parents/in-laws taking care of the children			0.501
Yes	3 (4.1)	20 (6.1)	
No	71 (95.9)	310 (93.9)	
Time of parenting by mother (per day)			0.034
<6 hours	2 (2.7)	17 (5.2)	
6-12 hours	7 (9.5)	69 (21.2)	
>12 hours	65 (87.8)	240 (73.6)	
Time of parenting other than the mother (per day)			0.674

<6 hours	11 (40.7)	93 (49.2)	
6-12 hours	7 (25.9)	38 (20.1)	
>12 hours	9 (33.3)	58 (30.7)	
Age when child when starting to be parented by someone else			0.442
0-6 month old	9 (47.4)	103 (59.9)	
7-12 month old	5 (26.3)	27 (15.7)	
>12 month old	5 (26.3)	42 (24.4)	
Training for caregivers/babysitter			0.041
Yes	0	13 (37.1)	
No	9 (100)	22 (62.9)	
Dietary taboos for children			0.021
Yes	8 (11.3)	78 (23.6)	
No	63 (88.7)	252 (76.4)	
Reason for the taboos			0.593
Health-related	8 (100)	76 (85.4)	
Ancestral-related	0	13 (14.6)	
Parenting advice provider			0.029
Mother and/or husband	50 (67.6)	269 (81.5)	
Grandmother and/or mother in law	20 (27.0)	50 (15.2)	
Other	4 (5.4)	11 (3.3)	

As seen on Table 2, in the terms of the duration of parenting by the mother between respondents from Tulungagung and Bangkalan (p=0.034) meaning that there is a significant difference. Most of the respondents in Tulungagung (87.8%) and Bangkalan (73.6%) cared for children>12 hours per day. The proportion of mothers who care for children 6-12 hours per day in Bangkalan is greater (21.2%) than in Tulungagung (9.5%).

There was a significant difference in the proportion of respondents who reported dietary restrictions for their children (p=0.021). The proportion of respondents from Tulungagung who reported good abstinence in Tulungagung was smaller (11.3%) than respondents from Bangkalan (23.6%). There was a significant difference in terms of providing parenting advice in the two groups (p=0.029). Most respondents both in Tulungagung (67.6%) and Bangkalan (81.5%) stated that parenting advice came from their mothers and husbands. Suggestions from grandmothers or in-laws were more reported by respondents from Tulungagung (27%) than respondents from Bangkalan (15.2%).

Table 3. Nutritional Parenting Style for Children in Tulungagung and Bangkalan Districts

Characteristics	Tulungagung (n=74)	Bangkalan (n=330)	p-value
	n(%)	n(%)	
Early breastfeeding (first 1 hour after birth)			< 0.001
Yes	275 (83.3)	275 (83.3)	
No	29 (39.2)	55 (16.7)	
Provision of fluids other than breast milk at birth			0.986
Yes	20 (27.8)	92 (27.9)	
No	52 (72.2)	238 (72.1)	
Child's age when stopped for breastfeeding			0.093
<6 month old	11 (16.7)	28 (8.6)	
≥ 6 month old	63 (85.1)	302 (91.5)	
Child's age when received food other than breast milk			< 0.001
<6 month old	5 (6.8)	113 (34.2)	
≥6 month old	69 (93.2)	217 (65.8)	
Source of daily food			0.876
Local food	62 (83.8)	274 (83.0)	
Non-local	12 (16.2)	56 (17.0)	
Daily food variety			0.258
staple food, animal side dish, vegetable side dish, vegetable, fruit, milk	46 (62.2)	163 (49.4)	
staple food, vegetable side dish, vegetable, fruit, milk	4 (5.4)	24 (7.3)	
staple food, animal side dish, vegetable, fruit, milk	10 (13.5)	54 (16.4)	
staple food, vegetable, fruit	5 (6.8)	30 (9.1)	
staple food, animal side dish, vegetable side dish	2 (2.7)	32 (9.7)	
Others	7 (9.5)	27 (8.2)	
The frequency of vegetables and fruit consumption			0.086
Not at all	5 (6.8)	19 (5.8)	
Once per day	20 (27.0)	56 (17.1)	
Twice per day	30 (40.5)	122 (37.3)	
Three times per day	19 (25.7)	130 (39.8)	
The frequency of vegetable and animal side dishes consumption			< 0.001
Not at all	3 (4.2)	28 (8.5)	

Once per day	14 (19.4)	30 (9.1)	
Twice per day	30 (41.7)	120 (36.6)	
Three times per day	25 (34.7)	150 (45.7)	
Type of food processing for children			
Cook the food	43 (58.1)	249 (75.5)	0.003
Cook and buy the food	31 (41.9)	81 (24.5)	
The person who prepares daily food for children			
Mother	70 (94.6)	322 (97.6)	0.245
Others	4 (5.4)	8 (2.4)	
The person who feeds the children			
Mother	68 (91.9)	312 (94.5)	0.413
Others	6 (8.1)	18 (5.5)	
Frequency of Posyandu visits			
1-3 times a year	2 (2.8)	100 (30.4)	
4-6 times a year	9 (12.5)	53 (16.1)	< 0.001
7-9 times a year	0	1 (0.3)	
10-12 times a year	26 (36.1)	122 (37.1)	
>12 times a year	35 (48.6)	53 (16.1)	
History of vitamin A supplementation			
Yes	63 (86.3)	220 (67.3)	< 0.001
No	10 (13.7)	107 (32.7)	
Type of salt for cooking			
Iodized	74 (100)	297 (90.0)	0.005
Non-iodized	0	33 (10.0)	

There was a significant difference in terms of early breastfeeding in the two groups ($p< 0.001$). 83.3% of respondents from Bangkalan reported breastfeeding within the first hour after giving birth, while in Tulungagung only 60.8% of respondents answer so. The provision of food other than breast milk before the child is 6 months old was also significantly different in both groups ($p<0.001$), more respondents (34.4%) from Bangkalan reported giving their children food before 6 months old compared to 6.8% of respondents from Tulungagung.

There was a significant difference in the frequency of giving vegetable and animal side dishes to respondents from Tulungagung and Bangkalan ($p=0.027$). Most respondents from Tulungagung reported providing vegetable and animal side dishes 2 times per day (41.7%), while most Bangkalan respondents gave vegetable and animal side dishes 3 times per day (45.7%). Most respondents from Bangkalan prefer to cook their own food for their children (77.6%) compared to

respondents from Tulungagung who choose to cook their own food (58.1%).

There was a significant difference in the frequency of visits to Posyandu (p<0.001). Most of the respondents from Tulungagung came to the Posyandu more than 12 times (48.6%), while most of the respondents from Bangkalan visited the Posyandu 10-12 times in a year (37.1%). Respondents from Bangkalan who come to the Posyandu are 1-3 times more frequent (30.4%) than respondents from Tulungagung. There was a significant difference between respondents from Tulungagung and Bangkalan regarding vitamin A supplementation (p<0.001). Respondents from Tulungagung who had received vitamin A for their children were 86.3%, while in Bangkalan, there are fewer respondents (67.3%).

In terms of the use of iodized salt for cooking (p=0.005), it means that there was a significant difference between respondents from Tulungagung and Bangkalan. All respondents from Tulungagung use iodized refined salt for cooking. It was still found that 10% of respondents from Bangkalan used non-iodized salt in the form of brick salt.

Table 4. Health-related Parenting Style for Children in Tulungagung and Bangkalan Districts

Characteristics	Tulungagung (n=74)	Bangkalan (n=330)	p-value
	n(%)	n(%)	
Immunization status			
Basic immunization completed	53 (74.6)	97 (31.5)	< 0.001
Basic immunization not completed	18 (25.4)	195 (63.3)	
Not immunized	0	16 (5.2)	
Child's age when receiving immunization for the first time			
≤7 day old	66 (89.2)	241 (73.0)	0.003
>7 day old	8 (10.8)	89 (27.0)	
Perception of the suitability of immunization with the child's age			
Yes	74 (100)	294 (90.7)	< 0.001
No	0	30 (9.3)	
Frequency of bathing children			
< 2 times per day	1 (1.4)	8 (2.4)	1.000
≥ 2 time per day	73 (98.6)	322 (97.6)	
History of contracting illness in the past 6 months			0.007
Yes	55 (75.3)	289 (87.6)	

No	18 (24.7)	41 (12.4)	
History of ARI in the past 3 months			
Yes	60 (95.2)	262 (90.0)	0.192
No	3 (4.8)	29 (10.0)	
History of diarrhea in the past 3 months			
Yes	3 (4.8)	25 (8.6)	0.441
No	60 (95.2)	266 (91.4)	
History of measles in the past 3 months			
Yes	0	5 (1.7)	0.591
No	63 (100)	286 (98.3)	
Visiting health facilities when the child sick			
Yes. always	51 (70.3)	287 (87.0)	0.002
Yes. not always	18 (24.3)	37 (11.2)	
No	4 (5.4)	6 (1.8)	
Type of health facilities visited when the child sick			
Secondary health care	1 (1.4)	20 (6.1)	0.145
Primary health care	73 (98.6)	310 (93.9)	
Initial actions before taking a sick child to the health facility			
Give the child medicine bought from drugstore	38 (79.2)	98 (31.6)	
Give the child traditional medicine	4 (8.3)	81 (26.1)	< 0.001
take the child to traditional medicine practitioner	0	45 (14.5)	
Do nothing	6 (12.5)	86 (27.7)	

Most of the respondents in Tulungagung (74.6%) reported that their child had been fully immunized, while in Bangkalan it was only 31.5%, meaning that there was a significant difference proportion of children's immunization status between respondents from Tulungagung and Bangkalan ($p<0.001$). In Bangkalan, 5.2% of respondents reported that their children were not immunized, in Tulungagung all respondents reported that their children participated in the immunization program. There was a significant difference between respondents from Tulungagung and Bangkalan in terms of the child's age when they first received immunization ($p=0.003$). 90.4% of respondents from Tulungagung reported that their children had received their first immunization at the age of 0-7 days, while respondents from Bangkalan were lower at 75.3%. 100% of respondents from Tulungagung reported that immunization was

appropriate for the child's age, while in Bangkalan it was slightly lower at 90.7% (p=0.006).

There was a difference in the proportion of respondents from Tulungagung and Bangkalan who reported visiting health facilities when their child was sick (p=0.002). The proportion of respondents who always come to health facilities when a child is sick in Bangkalan is greater (87%) than respondents from Tulungagung (70.3%).

There was a significant difference in the two groups based on the initial action before bringing the child to the health facility when sick (p<0.001). Most of the respondents from Tulungagung (79.2%) gave medicine to their children that were obtained from buying at a drug store, while respondents from Bangkalan were only 31.6%. Respondents from Bangkalan who gave herbal medicine or traditional medicine were 26.1% while respondents from Tulungagung only 8.3%. No respondents from Tulungagung reported taking their children for treatment with traditional medicine, while in Bangkalan as many as 14.5% of respondents did so.

Table 5. Family Environment Sanitation in Tulungagung and Bangkalan Regencies

Characteristic	Tulungagung (n=74)	Bangkalan (n=330)	p-value
	n(%)	n(%)	
House ceiling			
Not available	41 (55.4)	92 (27.9)	< 0.001
Available. poor condition	7 (9.5)	70 (21.2)	
Available. good condition	26 (35.1)	168 (50.9)	
House walls			
Not permanent	3 (4.1)	46 (13.9)	< 0.001
Semi-permanent	5 (6.8)	82 (24.8)	
Permanent	66 (89.2)	202 (61.2)	
House floor			
Soil	5 (6.8)	65 (19.7)	0.027
Cement/bamboo	6 (8.2)	30 (9.1)	
Tile/ceramic	62 (84.9)	235 (71.2)	
Bedroom window			
Not available	17 (23.6)	83 (25.2)	0.784
Available	55 (76.4)	247 (74.8)	
Living room window			0.05
Not available	3 (4.2)	66 (20.0)	

Available	69 (95.8)	264 (80.0)	
Ventilation			< 0.001
Not available	2 (2.7)	41 (12.4)	
Available. small	35 (47.9)	199 (60.3)	
Available. large	36 (49.3)	90 (27.3)	
Kitchen smoke vent			0.007
Not available	5 (6.8)	33 (10.0)	
Available. small	29 (39.7)	186 (56.4)	
Available. large	39 (53.4)	111 (33.6)	
Indoor lighting			0.05
Not bright	0	29 (8.8)	
Less bright	4 (5.4)	51 (15.5)	
Bright	70 (94.6)	250 (75.8)	
Clean water facility			< 0.001
Not available	0	21 (6.4)	
Available. own facilities. not meet the requirement	4 (5.4)	52 (15.8)	
Available. other people's facilities. meet the requirement	11 (14.9)	77 (23.3)	
Available. own facilities. meet the requirement	59 (79.7)	180 (54.5)	
Latrine			0.005
Not available	2 (2.7)	22 (6.7)	
Available. not gooseneck latrine. without lid. channeled into river/pond	10(13.7)	64 (19.4)	
Available. not gooseneck latrine. with lid. channeled into river/pond	1 (1.4)	28 (8.5)	
Available. not gooseneck latrine. with lid. channeled into septic tank	17 (23.3)	95 (28.8)	
Available. gooseneck latrine. with lid. channeled into septic tank	43 (58.9)	121 (36.7)	

Water disposal facility			0.104
Not available	1 (1.4)	13 (3.9)	
Available. absorbed but pollutes water sources	5 (6.8)	51 (15.5)	
Available. drained into an open sewer	34 (46.6)	131 (39.7)	
Available. absorbed but does not pollute water sources	26 (35.6)	88 (26.7)	
Available. flowed into closed sewers for further processing	7 (9.6)	47 (14.2)	
Garbage disposal facility			0.564
Not available	13 (17.8)	48 (14.5)	
Available. not waterproof and without cover	33 (45.2)	137 (41.5)	
Available. waterproof but without cover	15 (20.5)	94 (28.5)	
Available. waterproof and with cover	12 (16.4)	51 (15.5)	
Opening bedroom windows frequency			0.264
Never	11 (15.3)	77 (23.3)	
Sometimes	17 (23.6)	81 (24.5)	
Always	44 (61.1)	172 (52.1	
Opening family room windows frequency			0.145
Never	7 (9.5)	42 (12.7)	
Sometimes	20 (27.0)	120 (36.4)	
Always	47 (63.5)	168 (50.9)	
Cleaning the house and yard frequency			0.662
Sometimes	7 (9.5)	37 (11.2)	
Always	67 (90.5)	293 (88.8)	
Baby/children feces disposal to latrine			0.05
Never	5 (6.8)	92 (27.9)	
Sometimes	11 (14.9)	43 (13.0)	
Always	58 (78.4)	195 (59.1)	
Littering frequency			< 0.001
Never	1 (1.4)	48 (14.5)	
Sometimes	14 (19.2)	24 (7.3)	
Always	58 (79.5)	258 (78.2)	

There was a significant difference in the condition of the house ceiling between respondents from Tulungagung and Bangkalan ((p<0.001). Most respondents in Tulungagung (55.4%) reported that their house had no ceiling, while in Bangkalan 72.1% reported that their house had a ceiling. There was a significant difference in the condition of the house walls between respondents from Tulungagung and Bangkalan (p<0.001).. As many as 89.2% of respondents from Tulungagung reported that their houses have permanent walls, while in Bangkalan it was lower at 61.2%.

The condition of the house walls between respondents from Tulungagung and Bangkalan (p = 0.027), meaning that there is a significant difference. As many as 84.9% of respondents from Tulungagung reported that the floors of their houses were already using tiles, while in Bangkalan it was lower at 71.2%. Respondents from Bangkalan reported that the floor of their house was still soil by 19.7%, while in Tulungagung it was 6.8%.

There was a significant difference in the ownership of the living/family room window between respondents from Tulungagung and Bangkalan (p=0.001). Most respondents from Tulungagung (95.8%) reported having windows in the living/family room, while the proportion of respondents in Bangkalan was lower at 80%.

In the ventilation conditions at home between respondents from Tulungagung and Bangkalan (p<0.001) there was a significant difference. Most of the respondents from Tulungagung reported having a fairly large vent (49.3%), while most of the respondents from Bangkalan reported having a small ventilate (60.3%). There was a significant difference in the condition of the kitchen smoke vent at home between respondents from Tulungagung and Bangkalan (p=0.007). Most respondents from Tulungagung reported having a large kitchen smoke hole (53.4%), while most respondents from Bangkalan reported having a small kitchen smoke hole (56.4%).

There was a significant difference in indoor light conditions between respondents from Tulungagung and Bangkalan (p=0.001). Most respondents from Tulungagung (94.6%) reported bright lighting in their homes, while the proportion of respondents in Bangkalan was lower at 75.8%. There was a significant difference in ownership of clean water facilities between respondents from Tulungagung and Bangkalan (p<0.001). Most respondents from Tulungagung (79.7%) reported having their own clean water facilities and meeting the requirements, while the proportion of respondents in Bangkalan was lower at 54.5%. In Bangkalan there are still 6.4% of respondents who do not have clean water facilities in their homes.

There was a significant difference in latrine ownership between respondents from Tulungagung and Bangkalan (p=0.00). Most respondents from Tulungagung (82.2%) reported having a latrine at home and it was channeled to a septic tank, while the proportion of respondents in Bangkalan was lower at 65.5%. In Bangkalan there are still 6.7% of respondents who do not have a latrine in their house, while in Tulungagung it is smaller at 2.7%.

There was a significant difference (p=0.05). Respondents from Bangkalan who disposed of their feces into the river/garden/pond were 27.9%, while in Tulunagung only 6.8% had similar behavior. Respondents from Tulungagung who every day throw their waste into the toilet are 78.4%, while respondents from Bangkalan who do the same thing are 59.1%. There was a significant difference (p=0.05). Respondents from Bangkalan who throw garbage into rivers/gardens/ponds are 14.5%, while in Tulunagung only 1.4% have the same behavior. Respondents from Tulungagung who throw garbage into the trash every day are 79.5%, while respondents from Bangkalan who do the same thing are 78.2%.

DISCUSSION

Characteristics of Respondents in Tulungagung and Bangkalan Districts

Based on the result of the present study, there are 26.9% mothers who had malnutrition children under five. In principle, nutritional status is determined by two things, nutrient fulfillment from food needed by the body and the role of factors that determine the amount of need, absorption, and use of these nutrients. Nutritional intake has a direct relationship with the nutritional status of children, so a good nutritional intake will build a good nutritional status. But the use of nutrients by the body depends on the digestion, absorption, and metabolism process. This depends on the cleanliness of the environment and the presence of diseases that affect the use of nutrients by the body (Indonesian Ministry of Health, 2000).

There were differences in the demographic characteristics of respondents in Tulungagung and Bangkalan districts in the terms of average age of mother, income, education level, age of children, and birth attendants. Respondents in Tulungagung have a younger average age, have a better income and level of education, have older children under five, and many birth attendants are assisted by doctors. The difference in income levels of the two groups is supported by data from the Central Statistics Agency in 2020 which shows that the number of poor people in Bangkalan is indeed higher than Tulungagung, namely 204,000,000 people versus 76,040,000 people, consecutively (Indonesian Ministry of Health, 2021a; Tulungagung

Regional Development Planning Agency, 2021) Data on the health profile of East Java in 2020 shows that both districts have not reached the target for delivery by health workers. However, Bangkalan has a lower delivery rate by health workers than Tulungagung (Indonesian Ministry of Health, 2021a). Unfavorable economic status conditions in Bangkalan can increase the risk of stunting (Beal, 2018) as the stunting rate in Bangkalan is still high.

Socio-Cultural Parenting for Children in Tulungagung and Bangkalan Districts

This study showed that there is a difference in the time of parenting by mothers, training for caregivers, dietary taboo, and parenting advisor between Tulungagung and Bangkalan districts (Table 2). This difference can be caused by differences in socio-cultural conditions in the two districts. The Madurese community has socio-cultural wealth in all aspects of life, one of which is the pattern of children feeding. Mothers from the Madurese community as caregivers for children tend to provide food with more carbohydrate and protein composition but lack in fruits and vegetables as sources of vitamins and minerals. Likewise, the people of Tulungagung have their own socio-cultural characteristics.

Parenting is a set of conditions that provide for the health, nutrition, security and safety of children, responsive parenting and opportunities for early learning. Parenting means taking care of children in terms of safety, health and good nutritional conditions. The socio-cultural difference in parenting patterns in Tulungagung and Bangkalan regencies is in the pattern of parenting, caregivers must pay attention and respond to children's needs and interests, encourage children to explore their environment and interact with caregivers and others. Parenting is not only important to promote early childhood development. The caregiver is the person closest to the child. Caregivers are best able to provide children with nurturing when they are safe – emotionally, financially and socially. Caregiver must also be able to participate in social networks, empowered to make decisions in the best interests of the child, and affirmed in the important role they play in the lives of children in their care. The process of parenting does not just stop when the child is young but continues until the teenager (WHO, 2018).

The difference in parenting patterns in Tulungagung and Bangkalan districts can also occur because the socio-cultural conditions related to the understanding of stunting in the two regions are also different. Although the definition of stunting is the same, there is an understanding in accepting the condition of stunted children, where people are sometimes still ashamed and do not want to accept that their children are stunted. So, the role of caregivers is very important

in increasing awareness related to stunting. For the two districts, the program for community empowerment, especially caregivers, is also different because from a socio-cultural perspective the programs implemented are also different. The empowerment program for caregivers can be an effective program by involving families such as fathers, mothers, grandmothers, in-laws and other caregivers (WHO, 2018).

Nutritional Parenting Style for Children in Tulungagung and Bangkalan Districts

The results of this study indicate that there are differences in breastfeeding in the first one hour after birth, child's age when stopped for breastfeeding, child's age when received food other than breast milk, the frequency of consumption of vegetable and animal side dishes, type of food processing for children, frequency of visits to Posyandu, history of vitamin A supplementation, types of salt for cooking between Tulungagung and Bangkalan districts. Culture, traditions, or habits that exist in society such as dietary restrictions, and wrong eating patterns can lead to the emergence of nutritional problems, especially for children. This can have an impact on the growth and development of children (Adriani & Wirjatmadi, 2012).

Previous study by Illahi & Muniroh (2016) in Bangkalan examine socio-cultural practices related to early initiation of breastfeeding, newborn immunization practices, prelacteal feeding for newborns, early breastfeeding complementary feeding (given for baby under 6 months old), and abstinence from consuming too much marine fish. Study by Illahi & Muniroh (2016) is also in line with present study indicated that most mothers of children under five in Bangkalan have initiated early breastfeeding but the proportion is different in Tulungagung which is lower than in Bangkalan. Previous study conducted by Sunartiningsih, Fatoni, & Ningrum (2020) showed that there is a relationship between early initiation of breastfeeding and the incidence of stunting. Babies who do not initiate early breastfeeding affect their future height growth because they do not benefit from colostrum and are proven at the age of 12-24 months to experience stunting conditions or height that is not appropriate for the child's age. Previous study showed that there is an effect of prelacteal feeding with the incidence of stunting. Giving prelacteal intake before breast milk comes out and a history of infectious diseases will affect the occurrence of children's growth that is not optimal (stunting) (Rohmah et al., 2022).

The result of Illahi and Muniroh (2016) is also in line with this study. Most children in Bangkalan receive prelacteal food when they are less than 6 months old, whereas in Tulungagung the proportion is lower. Moreover, there are dietary restrictions for children, where in Bangkalan the dietary restrictions are higher than in Tulungagung.

Anshori (2013) showed that the presence of dietary restrictions in toddlers, especially protein sources, is associated with stunting. Less varied food intake in children, especially from protein sources, will affect the children growth and development (Anshori, 2013).

Health-related Parenting Style for Children in Tulungagung and Bangkalan Districts

There was a difference in Tulungagung and Bangkalan districts in terms of the children immunization status. Tulungagung has a better complete immunization status than Bangkalan. This difference can be caused by differences in education levels as research data shows that the level of education in Tulungagung is higher than in Bangkalan. Previous research found that mothers with high levels of education had children with complete immunization status (Holipah et al., 2018). A good level of knowledge can have an impact on differences in mothers' attitudes. A positive mother's attitude will make mothers more diligent in immunizing their children (Hartatik et al, 2013; Hudhah et al., 2017). The education level of respondents in Bangkalan which is lower than Tulungagung increased the risk of stunted children as reported from previous study.

Another factor that can also affect this result is the difference in birth attendants where in Tulungagung, it was found that more maternal deliveries were assisted by health workers. As previous studies reported that mothers who were helped by health workers reported having complete immunization status for their children (Efendi, 2019). This is possible because health workers will simultaneously provide important information related to immunization to mothers who are assisted in childbirth.

Respondents in Tulungagung had better behavior in accessing health services when their child was sick than mothers in Bangkalan. This could be due to the higher education level of mothers in Tulungagung. Education is a very important factor to provide the ability to think, analyze and understand the information obtained with more rational considerations and a good education will also provide a good ability to make decisions about family health (Hastono, 2010; Chandra et al., 2020). Meanwhile, mothers in Bangkalan have less behavior in using health services when their child is sick compared to mothers in Tulungagung. Low knowledge of caregivers may have an impact on the perception that the disease is mild. Previous qualitative study stated that parents will use traditional medicine first to deal with the sickness condition children (Purwati, 2021).

Family Environment Sanitation in Tulungagung Regency and Bangkalan Regency

There is a significant difference in sanitation condition in Tulungagung and Bangkalan. In general, Tulungagung has better sanitation conditions than Bangkalan. This can be caused by the number of poor people and the higher poverty rate in Bangkalan (Illahi & Muniroh, 2016) which definitely has an impact on their sanitation conditions.

Previous study stated that poor environmental sanitation conditions were associated with stunting. Children living in open defecation-free communities during this critical developmental period were 10 percent less likely to be stunted, than children in communities where all other households defecated in the open (Cameron, 2021). 78.4% respondents in Tulungagung had own latrine, while respondents from Bangkalan only 59.1%. Based on this data, it can be assumed that the risk of stunting in Bangkalan respondents is higher than respondents in Tulungagung.

CONCLUSION

In summary, there is a parenting style discrepancy between districts with the highest and lowest prevalence of stunting in children under five.

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