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Original Research Article

Structural Model of the Quality of Life of Stunting Children in Kupang City: An Approach Using Partial Least Square Modeling

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Abstract: The meaning of stunting is not limited to children being shorter than their peers, where the meaning is more than that. Stunted children are prone to disease. Stunting children is a widely accepted predictor of poor quality of human resources, which in turn reduces a nation's productive capacity in the future. The aim of the research is to examine the structural model of the quality of life of stunted children using a partial least squares modeling approach in Kupang City to accelerate improving the quality of human resources. The research was designed cross-sectionally using a stratified sampling procedure, carried out using stratification and cluster techniques. Two sub-districts were randomly selected and obtained, namely Oesapa sub-district in the working area of the Oesapa Community Health Center representing the coastal ecosystem zone, and Sikumana sub-district in the Sikumana Community Health Center working area representing the plain ecosystem zone. In each ecosystem zone, 50 households were systematically selected that had stunted toddlers. Thus, as many as 100 stunting households were involved. The information data collected are: characteristics of the social ecosystem (environment), food security, mother's parenting patterns, housing environment sanitation, disease control efforts, nutritional intake, nutritional status, incidence of illness and quality of life for children under five. Data collection techniques were structured interviews, measurements, observations and group discussions. Data analysis using smartPLS-based structural equation modeling. The research results show that the quality of life of stunted children in Kupang City, both in the coastal ecosystem zone and the plain ecosystem zone is in normal status. Maternal parenting factors have a significant direct effect on improving the quality of life of stunted children with a large role reaching 45%; Meanwhile, social ecosystem (environmental) characteristics, food security and nutritional intake have an indirect influence on the quality of life of stunted children. The indirect influence mechanism is through improving environmental sanitation, optimizing disease control efforts, improving nutritional status, which ultimately leads to improving the quality of life of stunted children.

Keywords: Stunting, Ecosystem Zone, Quality of Life, Partial Least Square Modeling.

INTRODUCTION

Indonesia and especially the Province of East Nusa Tenggara (NTT), is faced with the highest stunting prevalence rate nationally (36.3%) (Ministry of Health, 2023). Meanwhile, in Kupang City, NTT, the stunting prevalence rate was also found to be quite high (e-PPGBM, 2022) at 21.5%. This situation means that children under five in NTT and especially in Kupang City are faced with a serious situation of deprivation of survival and quality of life for children. If this condition continues, it will have negative implications, namely the quality of human resources and society in general will decline.

The condition of stunting will affect many organs and systems because it is accompanied by deficiencies in the intake of other micro and macro nutrients that the body really needs. Stunting will damage the body's defense system and mechanical defenses, making it easy to get infections. The phenomenon of stunting and the increasing incidence of infection will have a negative impact on high mortality and delays in children's intellectual and mental development. This condition reflects the problem of

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stunting which can have a negative impact on children's quality of life.

The quality of life of children is not only a form of investment in society's future, but also because children are an important group the mselves and deserve to achieve prosperity today (Wallander & Koot, 2016). Measuring children's quality of life is important, especially in evaluating alternative forms of intervention and identifying children with special needs (Eiser, 1997) as well as developing better child welfare policies (OECD, 2021).

Several researchers have identified the role of environmental factors on children's quality of life. It was found that children's increased interaction with nature has positive benefits for health-related quality of life (Tillmann, *et al.*, 2018; Sherman, *et al.*, 2005). While Rezaei *et al*., (2021) found that there is a significant negative relationship between the quality of life of children with cerebral palsy and the environmental obstacles around the child. Kostak (2006) states that environmental factors (including the condition of a region's ecosystem zone) have a strong influence on children's social and psychological development. The quality of life of children depends on the complex relationship between the children themselves and their social environment.

It is known that the phenomenon of stunting not only causes obstacles to physical growth and high morbidity and mortality in children, but also results in retardation of children's intellectual and mental development. For this reason, it is important to carry out studies of stunting associated with children's quality of life in various environmental conditions in different ecosystems. The aim is to: (a) assess the dominant factors influencing the incidence of stunting between ecosystem zones, (b) assess the implications of stunting on the quality of life of children in various ecosystem zones, and (c) assess the structural model of improving the quality of life of stunted children that is relevant in Kupang City.

RESEARCH METHODS

The research was designed cross-sectionally. The research focused on assessing the quality of life of stunted children in various ecosystem zones, namely the coastal zone and plain zone in Kupang City. The correctness of the theoretical concept formulated was tested using structural equation modeling (SEM) with a partial least square modeling approach.

The research was carried out in Kupang City, namely in 2 villages representing two ecosystem zones, namely the mainland coastal ecosystem zone (Oesapa Village, <100 m above sea level) and the plain ecosystem zone (Sikumana Village, >100 m above sea level). The location selection was carried out according to a multistage sampling procedure with stratification and cluster techniques. Area selection was preceded by mapping all community health centers (as primary sampling units) in Kupang City based on their height above sea level (masl) using base maps and regional topographic maps.

The target population and research subjects were households with stunted toddler children, according to weighing data from the local health center. The inclusion criteria are: (a) children older than 12 months to less than 3 years, (b) not suffering from congenital abnormalities (eg Down's syndrome), (c) children not born with twins and not LBW, and (d) children live under the same roof as their parents.

The sample size for each selected PSU/Puskesmas was set the same, namely 50 sample households with children under five. Thus, a total of 100 sample households were involved in this research.

Data were analyzed descriptively (proportion of distribution) and partial least squares modeling (PLSM) with a structural model based on latent variables (constructs). Latent variables are variables that cannot be observed or measured directly, but must be measured or constructed through other variables that can be observed or measured directly, which are called manifest variables (indicators).

The latent variables and indicators used in this research are social ecosystem (environmental) characteristics (5 indicators), food security (12 indicators), parenting patterns (4 indicators), environmental sanitation (11 indicators), disease control efforts (31 indicators), nutritional intake (3 indicators), nutritional status, stunting (3 indicators), incidence of illness (3 indicators), and children's quality of life (7 indicators). Thus, 9 latent variables and 79 indicators were involved as manifest variables to be measured. The conceptualization of the structural model for the quality of life of stunted children is shown in Figure 1.

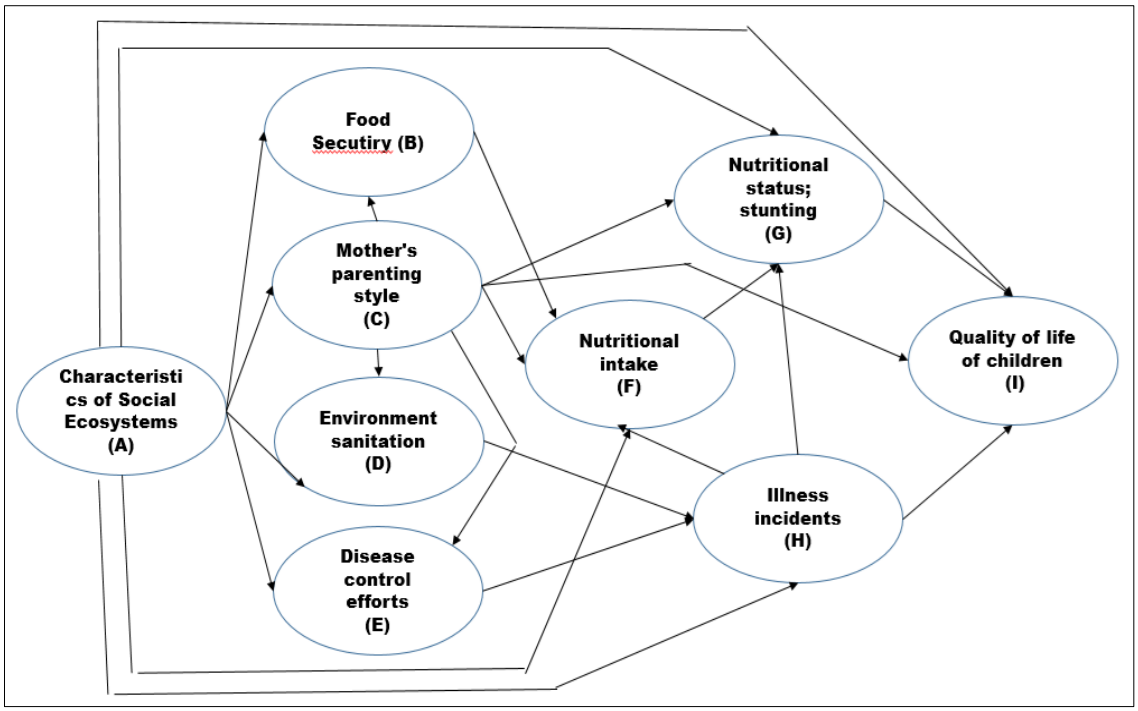

Figure 1: Conceptual Model Framework

PLSM-based analysis has 3 relationships that link the structural model with the measurement model, namely (a) inner model, which refers to the structural model and the relationship between latent variables; (b) outer model, which refers to the measurement model and the relationship between a construct and its indicators. In this research, a reflexive relationship pattern is used or the indicators are a reflection or manifest of the latent variable; and (c) weight relation, which refers to the latent variable score.

RESEARCH RESULT

1. Children's Quality of Life

A child's quality of life is interpreted as a parent's subjective perception of values related to their child's health status in seven sectors, namely physical function, motor, autonomy, cognitive, social, positive mood and negative mood. The quality of life of children under five was measured using a health-related quality of life instrument, where each sector of a child's quality of life consists of 8 questions (adapted from Verrips *et al*., 1999). The quality of life of normal and/or at risk children refers to the standards set out by Skarr *et al*., (2002). A child's quality of life is normal if they have a total score of ≥ 65.48 (≥1 SD) and a child's quality of life is "at risk" if the total score is <65.48.

The quality of life of children at risk is defined as children aged under five from the results of measurements from an individual perspective, who are suspected of having impaired quality of life (at risk) in one or all quality of life sectors. The quality of life of stunted toddlers in Kupang City, detailed by quality of life sector and sample area, can be seen in Table 1. It shows that the average quality of life score for stunted toddlers in Kupang City is 93.40 ± 6.904; this means that stunted toddlers in Kupang City are in normal quality of life status, that is, they have an average quality of life score ≥ 65.48. When compared to a population of healthy children, that is, if it has an average total value of 81.38 ± 15.90 (Skarr *et al*., 2002). Thus, children in Kupang City can be classified into a population of healthy children or having a normal quality of life.

Table 1: Average Quality of Life Score for Stunted Toddlers in Kupang City According to Quality of Life Sector

Children's Quality of Life Sector	Average Value
Physical Function	96.748 ± 7.034
Motor Function	93.694 ± 5.739
Autonomous Function	90.802 ± 8.545
Cognitive Function	88.3722± 7.514
Social Function	96.265 ± 4.537
Positive Mood Function	97.898 ± 5.112
Negative Mood Function	92.156 ± 8.266
Children's Quality of Life	93.450 ± 6.904

Source: processed from primary data

The quality of life of stunted toddlers in Kupang City was reviewed according to quality of life sectors (Table 1), it was found that all sectors of children's quality of life (physical function, motor, autonomy, cognitive, social, positive mood and negative mood) were in normal status, namely has an average value ≥ 65.48. In this way, stunted children who occupy the Kupang City area, starting from the coastal ecosystem zone to the plain ecosystem zone, have a normal quality of life.

2. Evaluation of the Structural Model of Quality of Life for Stunting Children

a. Outer Model

The measurement model using reflective indicators is carried out by evaluating convergent validity and discriminant validity which are assessed based on the loading factor (>0.6), then evaluating the value of Average Variance Extracted (>0.5), cross loading (>0.7) and composite reliability (>0.7). Based on the loading factor, AVE, composite reliability and cross loading values (Table 2), the convergent validity and discriminant validity tests evaluated in the outer model can be concluded to be valid and reliable.

Table 2: Outer Loading Value: Measurement Model According to Construct and Ecosystem Zone in Kupang City

No	Latent Variable	Kupang City			
		AVE	Composite reliability	R square	Cronbachs Alpha
1	Nutritional intake	0,718	0,884	0,410	0,815
2	Characteristics Of Social Ecosystem	0,506	0,754	-	0,538
3	Illness incidents	0,677	0,804	0,169	0,564
4	Food security	0,754	0,860	0,024	0,676
5	Quality of life of children	1,000	1,000	0,214	1,000
6	Mother's parenting style	0,706	0,827	0,036	0,593
7	Environment sanitation	0,534	0,873	0,045	0,836
8	Nutritional status; stunting	0,768	0,868	0,072	0,700
9	Disease control efforts	0,629	0,834	0,082	0,701

Table 3: Cross loading values

Indicators	Nutritional intake	Characteristics Of Social Ecosystem	Illness incidents	Food security	Quality of life of children	Mother's parenting style	Environment sanitation	Nutritional status; stunting	Disease control efforts
A1	0.140	0.764	0.225	-0.144	0.107	0.172	0.226	-0.158	0.259
A2	0.145	0.677	0.065	-0.050	0.076	0.162	0.111	-0.030	0.155
A5	0.279	0.689	0.065	-0.117	0.100	0.062	0.078	-0.029	0.171
B1	-0.406	-0.128	-0.258	0.845	-0.373	-0.149	0.057	-0.015	-0.265
B3	-0.484	-0.141	-0.286	0.892	-0.375	-0.333	0.045	-0.107	-0.317
C2	0.494	0.212	0.232	-0.255	0.436	0.895	0.114	0.159	0.541
C4	0.309	0.091	0.297	-0.224	0.322	0.782	0.038	0.031	0.561
D1	0.201	0.233	-.0007	-0.045	0.095	0.169	0.812	0.120	0.181
D4	0.043	0.063	-0.094	0.090	-0.016	-0.016	0.706	0.003	-0.028
D5	0.077	0.047	-0.054	0.044	0.015	0.021	0.743	0.001	0.025
D7	0.141	0.210	0.038	0.031	0.161	0.072	0.755	0.013	0.196
D8	0.042	0.120	-0.080	0.114	0.109	0.071	0.667	-0.049	0.071
D9	-0.057	0.092	-0.147	0.108	0.080	-0.017	0.694	-0.105	-0.037
E10	0.524	0.292	0.321	-0.312	0.418	0.565	0.135	0.113	0.869
E2	0.532	0.221	0..285	-0.268	0.455	0.624	0.140	0.185	0.832
E25	0.371	0.149	0.263	-0.211	0.191	0.324	0.030	0.177	0.685
F1	0.885	0.248	0.383	-0.495	0.612	0.512	0.050	0.270	0.663
F2	0.882	0.169	0.165	-0.482	0.545	0.378	0.170	0.108	0.415
F3	0.769	0.232	0.047	-0.270	0.490	0.299	0.151	0.048	0.332
G2	0.145	-0.195	-0.047	-0.143	0.047	0.110	-0.008	0.905	0.150
G3	0.208	0.008	0.004	0.032	0.133	0.109	0.043	0.847	0.194
H2	0.124	0.054	0.692	-0.106	0.031	0.222	-0.034	-0.173	0.201
H3	0.295	0.214	0.936	-0.348	0.177	0.281	-0.057	0.049	0.368
I5	0.656	0.135	0.151	-0.430	1.000	0.458	0.126	0.097	0.460

Based on the results of the analysis above, it was found that latent constructs that had significant indicators and loading factors >0.6 were as follows:

a. The construct of social ecosystem (environmental) characteristics is intended as a characteristic of the respondent. The results of the construct validity analysis obtained indicators A1 (age), A2 (education) and A5 (food expenditure).
b. The food security construct is intended as a condition where food is met for each household member which is reflected in the frequency of food consumption, food crisis conditions and coping strategies at the household level. The total indicators for the food security construct are 12 indicators, namely B1 – B12. The results of the construct validity analysis showed indicators B1 (Food crisis in the last 2 months) and B3 (incidence of weight loss in the last 2 months).
c. The construct of maternal parenting is intended as the mother's knowledge, attitudes and practices in caring for her child which are reflected in indicators of the mother's access to health nutrition information and services, mother's knowledge of health nutrition, health nutrition practices and behavior, quality of care, and the mother's time allocation for caring for the child. Measured using indicators C1-C4. The results of the analysis found indicators C2 (mother's nutritional knowledge) and C4 (quality of child care).
d. The environmental sanitation construct, shows the state of house cleanliness which is related to family health, measured using indicators of clean water availability, house walls, MCK activities (special MCK places and rooms), floor area, waste management, house ventilation, lighting, residential density, livestock pens and cage distance. The total number of indicators is 11 indicators, namely D1-D11. The results of the construct validity analysis found D4 (Latrines), D5 (Bathrooms), D7 (ventilation), D8 (lighting) and D9 (residential density).
e. The construct of disease control efforts means various household efforts to maintain and/or care for the health of children under five and their families, both medically and non-medically, measured by children's healthy living behavior, medical visits to health facilities and immunizations for children under five. There are as many indicators for the construct of disease control efforts as there are indicators. The results of the construct validity analysis found that indicators E10 (hand washing behavior before eating), E2 (foot washing habit before sleeping), E25 (immunization services) had factor loadings >0.6, while other indicators were not significant.
f. The nutritional intake construct is intended as the condition of nutritional intake obtained by children under five, measured from breast milk history and eating habits, various types of food consumed, energy consumption levels and protein consumption levels. The nutritional intake construct is measured using 3 indicators, namely F1-F3. The results of the construct validity analysis found indicators F1 (consumption variety), F2 (energy consumption level) and F3 (protein consumption level).
g. The nutritional status construct is intended as a child's nutritional status which reflects changes in physical size and body structure. Measurement of the construct of children's nutritional status is based on anthropometric measurements using G1-G3 indicators. The results of the construct analysis of children's nutritional status showed indicators G2 (BB/TB) and G3 (TB/U).
h. The construct of illness suffered by a child is intended as a condition of dysfunction in the balance of the child's body due to infection or chronic disease related to malnutrition. Measuring the construct of illness incidence is based on indicators H1-H3. The results of the analysis of the construct of illness incidence, found indicators H2 (length of illness) and H3 (Frequency of illness).
i. The construct of children's quality of life is intended as a subjective perception of how children (represented by their parents) feel about values related to their health status. The construct of children's quality of life, measured by indicators of physical function (K1), motor function (K2), autonomous function (K3), cognitive function (K4), social function (K5), positive mood (K6), negative mood (K7) and the child's overall quality of life (K8). The results of the construct validity analysis of children's quality of life, found indicator I5.

a. Inner Model

The inner model in PLS is evaluated with the R2 value for the dependent construct and the path coefficients or t-values for each path for significant tests between constructs in the inner model. The resulting R2 value (R2: 0.410) shows that maternal parenting, ecosystem characteristics and food security have a positive effect (by 41%) on nutritional intake.

b. Structural Model Testing (Inner Model)

The structural model is evaluated based on the R value for the dependent variable and the coefficient value on the path (B) for the independent variable, whose significance is then assessed based on the T-statistic value for each path. The R2 value is used to measure the level of variation in changes in the independent variable

towards the dependent variable; The higher the R2 value means the better the prediction model of the proposed research model. Furthermore, the path coefficient or inner model value shows a significant level in hypothesis testing. The path coefficient score or inner model indicated by the T-statistic value must be above 1.96 for the two-tailed hypothesis and above 1.64 for the one-tailed hypothesis for hypothesis testing at 5 percent alpha and power 80 percent (Hair *et al*., 2006).

The output of the structural model testing results is shown in Figure 5 and the effect size of R2 is shown in Table 4. In terms of the effect size of R, Cohen (1988) in Scheper *et al*., (2005) grouped them into small (R value - 0.02), medium (R value - 0.13) and large (R - 0.26). The model testing results as in the table are as follows:

- The latent construct with a large effect size (R2) in Kupang City is nutritional intake and incidence of illness, generally found in all areas of Kupang City, including the coastal and plain zones. Meanwhile, the latent construct of children's nutritional status (stunting) and children's quality of life has a large effect size, and is often found in coastal and plain zones.
- The latent construct with a medium effect size category is maternal parenting, found in the coastal zone
- Latent constructs with small effect sizes are food security and environmental sanitation conditions,
- Overall it was found that the structural model for improving the quality of life of stunted children had a relatively large average effect size, both at the coastal ecosystem zone level, plain zone and generally in Kupang City. By referring to the criteria of Schepers *et al*., (2005) can be categorized as a structural model with fairly good suitability.

Table 4: R-Square Values According to Latent Constructs and Ecosystem Zones in Kupang City

Latent Constructs	Coastal Zone		Plains Zone		Kupang City	
	R-Square (R^2)	Description Effect size	R-Square (R^2)	Description Effect size	R-Square (R^2)	Description Effect size
Nutritional intake	0,410	Big	0,611	Big	0,410	Big
Illness incidents	0,107	Currently	0,279	Big	0,169	Currently
Food security	0,001	Small	0,007	Small	0,024	Small
Quality of life of children	0,345	Big	0,287	Big	0,214	Small
Mother's parenting style	0,117	Currently	0,073	Small	0,036	Small
Environment sanitation	0,082	Small	0,035	Small	0,045	Smal
Nutritional status; stunting	0,329	Big	0,194	Currently	0,072	Small
Disease control efforts	0,466	Big	0,406	Big	0,082	Small
Average	0,232	Big	0.237	Big	0,132	Currently

Furthermore, Table 5 shows the path coefficients in testing the structural model with the PLS approach using the SmartPLS tool. It can be seen that the unstandardized regression weight value (Original Sample) appears in the output as a prediction value (β), followed by the sample average value, standard deviation, standard error and significance level (T-Statistic). A T-statistic value greater than 1.64 (one tailed) indicates a regression relationship that is statistically feasible to be accepted in the model. Thus, Table 5 provides an overview of the magnitude and direction of influence between variables or latent constructs that are significant in the model according to the coastal ecosystem zone, plains zone and Kupang City. Next, Figures 2 show the complete model structure and the weight values of the influence between variables. latent, either directly or indirectly.

Based on the results of the structural model evaluation (Table 5 and Figures 2), four latent constructs were found that significantly play a role as the main factors in the model for improving the quality of life of stunted children, both in the Kupang City setting in general and especially in the coastal and coastal ecosystem zones. The plain ecosystem zones are as follows:

a. Characteristics of the Social Ecosystem

The results of the path parameter coefficient test on the Smart PLS output, it was found that the characteristics of the social ecosystem had a significant direct effect on maternal parenting patterns, disease control efforts, environmental sanitation and the nutritional status of stunted children. The association between the influence of social ecosystem characteristic factors occurs through the factor loadings, namely mother's age, mother's education level, household income and expenditure. These results mean that increasing the unit load of social ecosystem characteristic factors can directly stimulate improvements in maternal parenting patterns, disease control efforts, environmental sanitation and nutritional status of stunted children, which will ultimately lead to an improvement in the quality of life of stunted children.

This is relevant because the head of family mothers are young and have a fairly adequate level of education. With this character, it will encourage mothers

and their families to be more dynamic in caring for children (read providing care, compassion and honing), improving the sanitation of residential environments and carrying out disease control efforts. These various efforts will encourage the realization of a healthy level of health in children, which in turn will spur an increase in children's quality of life. If the dynamics of this social ecosystem continue to be intensified, it is predicted that children's motor function, autonomous function, cognitive function, social function and positive mood will increase.

b. Maternal Parenting Patterns

The results of the path parameter coefficient test on the Smart PLS output, it was found that the latent construct of maternal parenting patterns significantly (Table 26) had a direct effect on disease control efforts, nutritional intake and ultimately led to the child's quality of life. The association between the influence of maternal parenting factors occurs through the loading of the factors, namely access to information on nutrition and health services, maternal nutritional knowledge, and quality of child care. These results mean that by increasing the unit load of the mother's parenting style factor, it can directly stimulate various disease control efforts or efforts to reduce the incidence of illness in stunted children, increase nutritional intake, both in terms of quantity, type and frequency of nutritional intake. Adequate for stunted children. Such a situation will lead to improving the quality of life of children, especially in terms of improving the quality of motor function, autonomy, cognitive, social, positive moods and negative moods of stunted children.

Table 5: Path Coeffisients in Structural Model Testing According to Latent Constructs and Ecosystem Zones in Kupang City

Constructs	Coastal Zone			Plains Zone			Kupang City		
	Original Sampel	***T-statistic***	**Description**	***Original Sampel***	***T-statistic***	**Description**	***Original Sampel***	***T-statistic***	**Description**
Characteristics Of Social Ecosystem -> Mother's parenting style	0,342	2,687	Sig.	0,271	2,266	Sig.	0.190	2.176	Sig.
Characteristics Of Social Ecosystem -> Disease control efforts	-	-	-	-	-	-	0.286	3.501	Sig.
Characteristics Of Social Ecosystem -> Nutritional status; stunting	-	-	-	-	-	-	0.286	3,501	Sig.
Characteristics Of Social Ecosystem -> Environment sanitation	0,287	2,108	Sig.	-	-	-	-	-	-
Characteristics Of Social Ecosystem -> Nutritional Status	-0,535	3,294	Sig.	-	-	-	-	-	
Food Security -> Nutritional Intake	-0,062	5,113	Sig.	-0,569	5,676	Sig.	-0,394	6,442	Sig.
Mother's parenting style -> Quality of life of children	-	-	-	0,472	3,453	Sig.	0,439	4,918	Sig.
Mother's parenting style -> Nutritional Intake	0,424	3,298	Sig.	0,304	2,587	sig	0.355	4.249	Sig.
Mother's parenting style -> Disease control efforts	0,605	7,365	Sig	0,550	5,126	Sig	-	-	-
Nutritional Intake -> Nutritional status; stunting	-	-	-	0,538	2,572	-Sig	-	-	-

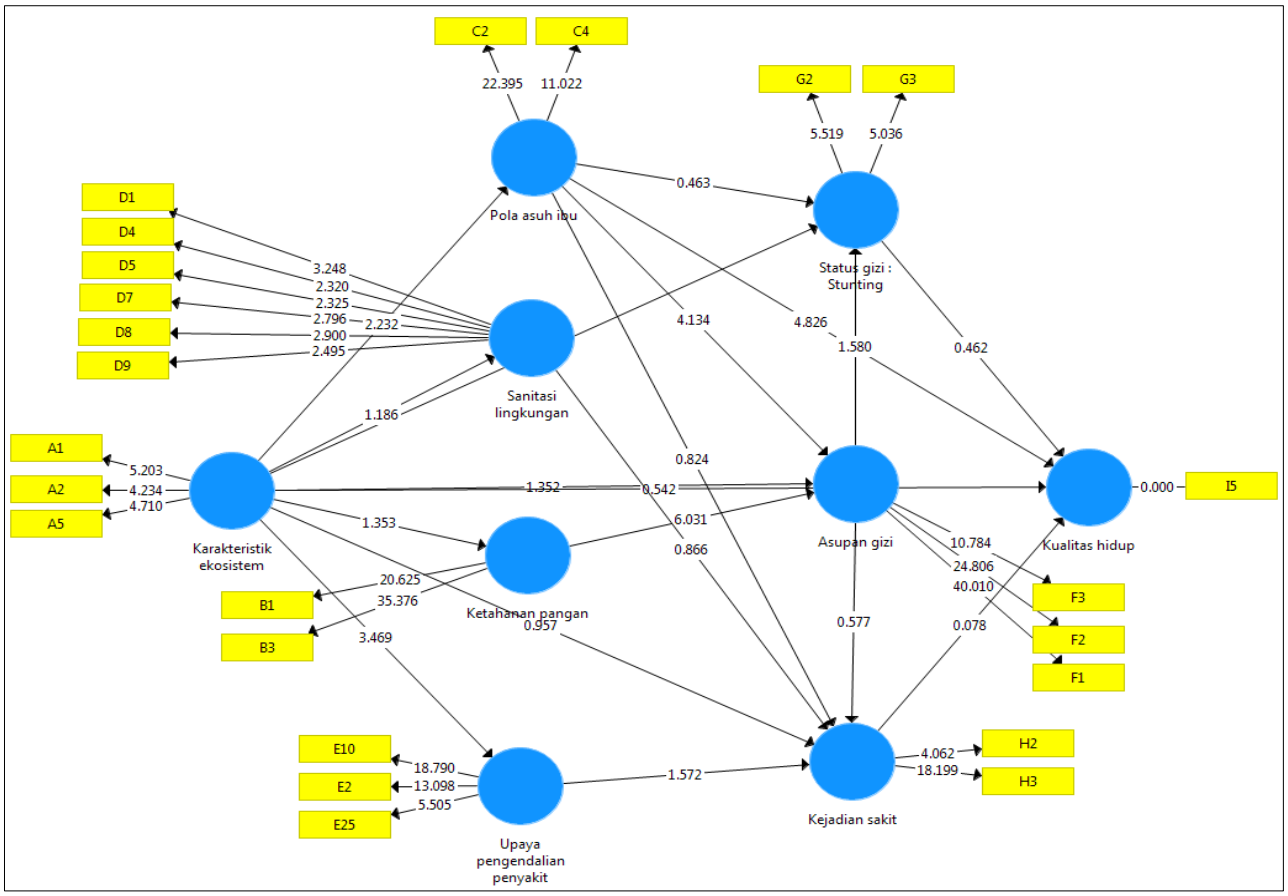

Figure 2: SmarPLS Output of Kupang City Zone Structural Model

This finding is relevant because the factor content of maternal parenting, which is presented in the form of indicators of disease control behavior practices, improving health nutritional intake and allocation (length) of time to care for children is a form of family stimulation that is generally carried out in society for sick children. Forms of stimulation include, among other things, special (special) attention from the mother for her child, such as responding to the mother's words and feelings as well as providing food and medicine when the child is sick. The phenomenon of special attention for sick children by Satoto (1990) and Manongga (2011) is that it can reduce the child's pain on the child's growth and development. The child's illness is related to the mother's perception of the child's helplessness, which she responds to with better care. Thus, the more dynamic the mother's parenting style is, it is predicted that it can directly or indirectly improve the child's quality of life.

c. Food Security

The results of the path parameter coefficient test on the Smart PLS output, it was found that the latent construct of food security had a significant, direct negative effect on children's nutritional intake in Kupang City, especially in the coastal zone and plain zone. The association between the influence of food security factors is through their factor loadings, namely the food crisis in the last 2 months and children's weight loss. This result means that increasing the content of food security factors will directly trigger a decrease in nutritional intake to low levels and have negative implications for low child growth, which will ultimately suppress children's quality of life. . This condition is relevant because stunting households generally have low incomes and limited access to adequate nutrition. Thus, there is a risk of a food and nutrition crisis resulting in a decrease in body weight in the last two months. This situation reflects the urgent needs of society, especially in overcoming food crises through direct interventions (for example PMT) and accompanied by support for productive intervention packages to improve the household economy.

d. Nutritional Intake

The results of the path parameter coefficient test on the Smart PLS output, it was found that the latent construct of maternal parenting patterns significantly (Table 26) had a direct effect on the nutritional status of stunted children. The association between the influence of nutritional intake factors occurs through load factors, namely variety of food consumption, level of energy consumption and level of protein consumption. These results mean that efforts to encourage increased nutritional intake for stunted children are a mandatory requirement, especially in terms of diverse food varieties and adequate nutritional adequacy (energy and protein). The phenomenon of the influence of nutritional intake on the nutritional status of stunted children is found only in

the plains zone; while in coastal zones and other areas it shows relatively no significant influence.

CONCLUSION

Referring to the results of observations and testing of data and information, the following can be concluded:

1. The quality of life of stunted children who live in the coastal ecosystem zone and plain ecosystem in Kupang City is in normal status
2. In the measurement model, the latent construct measurement indicators that are significant and generally applicable to Kupang City are as follows:

a. The construct of social ecosystem (environmental) characteristics is formed from indicators of age, education level and food expenditure.
b. The food security construct is formed from food crisis indicators and the incidence of weight loss in the last two months
c. The construct of maternal parenting is formed from knowledge of maternal health nutrition and the quality of child care
d. The environmental sanitation construct is formed from indicators of the availability of latrines, bathing places, ventilation, lighting and residential density
e. The construct of disease control efforts is formed from behavioral indicators of washing food before eating, the habit of washing feet before sleeping and immunization services.
f. The nutritional intake construct is formed from indicators of various types of food consumption, levels of energy and protein consumption
g. The nutritional status construct is formed from the indicators of weight index for height (WW/TB) and height index for age (TB/U).
h. The construct of illness incidence is formed from indicators of duration of illness and frequency of illness
i. The construct of children's quality of life is formed from indicators of the quality of cognitive function.

3. The dominant direct factors that have a significant influence on the nutritional status of stunted children are the characteristics of the social ecosystem (environment) and nutritional intake; while food security factors have an indirect effect on nutritional status through increasing nutritional intake.
4. In the structural model, it was found that maternal parenting factors had a significant direct effect on improving the quality of life of stunted children with a role reaching 45%; Meanwhile, social ecosystem (environmental) characteristics, food security and nutritional intake have an indirect influence on the quality of life of stunted children. The indirect mechanism of influence is through efforts to improve environmental sanitation, optimize disease control efforts, improve nutritional status, which ultimately leads to improving the quality of life of stunted children.

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