



**Comprehensive Tools to Prevent Stunting Risks
(CTP Stunting Risks) in South Kalimantan**

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ABSTRACT

Stunting is a condition of chronic malnutrition in children under five. Indonesia is above the World Health Organization (WHO) standard of 20% (Riskesdas, 2018). Data from SSGI South Kalimantan Province in (2021) the prevalence of stunting is 30%, in (2022) the prevalence is 24.6% while the National National Target in (2023) is 14%. The purpose of the study was to produce a risk assessment instrument tool Comprehensive Tools to Prevent Stunting Risk (CTP Stunting Risks) and the relationship between factors that cause stunting. The research design and development of the assessment instrument through testing the factors that cause stunting from various literature is then explored with FGDs to perfect the CTP Stunting Risk instrument product. The total sample of 101 families. Based on the results, There is a relationship between stunting cases and the domain of maternal care, childcare and knowledge level with P Value = 0.000 while the family domestic factor is stated to have no relationship with P Value = 0.708. The instrument used needs to be modified and additional indicators based on the results of FGDs and the expansion of indicators of domestic family factors and the need for in-depth interviews with experts on stunting from various scientific disciplines and expert review of language.

Keywords: Comprehensive Tools, Stunting, Risk Factors

ABSTRAK

Stunting merupakan kondisi kekurangan gizi kronis pada anak balita. Indonesia berada di atas standar Organisasi Kesehatan Dunia (WHO) sebesar 20% (Riskesdas, 2018). Data SSGI Provinsi Kalimantan Selatan pada (2021) prevalensi stunting sebesar 30%, pada (2022) prevalensinya sebesar 24,6% sedangkan Target Nasional pada (2023) sebesar 14%. Tujuan penelitian adalah menghasilkan instrumen penilaian risiko Alat Komprehensif Pencegahan Risiko Stunting (CTP Stunting Risks) dan hubungan antar faktor penyebab stunting. Desain penelitian dan pengembangan instrumen penilaian melalui pengujian faktor-faktor penyebab stunting dari berbagai literatur kemudian dieksplorasi dengan FGD untuk menyempurnakan produk instrumen CTP Stunting Risk. Jumlah sampel sebanyak 101 keluarga. Berdasarkan hasil penelitian, terdapat hubungan antara kasus stunting dengan domain pengasuhan ibu, pengasuhan anak dan tingkat pengetahuan dengan P Value = 0,000 sedangkan faktor rumah tangga keluarga dinyatakan tidak ada hubungan dengan P Value = 0,708. Instrumen yang digunakan perlu dilakukan modifikasi dan penambahan indikator berdasarkan hasil FGD dan perluasan indikator faktor keluarga domestik serta perlunya wawancara mendalam dengan pakar stunting dari berbagai disiplin ilmu dan tinjauan ahli bahasa.

Kata kunci: Alat Komprehensif, Stunting, Faktor Resiko

INTRODUCTION

Optimal child growth and development is an indicator that reflects the nutritional and health status of a region's population and is one indicator of the quality of human resources. Stunting is a condition caused by chronic malnutrition, so stunting in children under five can be a key indicator of maternal and infant health. Linear growth is disrupted, and body length does not match age and can cause delays in child development, this linear growth deficit is due to the accumulation of non-optimal nutrition and nutrient intake in the first 1,000 days of life.

According to the Global Nutrition Report (2018) there are 150.8 million (22.2%) stunted children worldwide. The World Health Organization (WHO) has set a goal of reducing the stunting rate by 40% by 2025. in 2013 it was 37.2% and decreased in 2018 to 29.9%. The problem of malnutrition in Indonesia reduces economic potential by 0.04 to 0.16% of the Gross Domestic Product of Stunting in Indonesia. Intervention is needed in tackling the incidence of stunting, prevention can be done during the First 1000 Days of Life (1000 HPK).

The triggers for stunting (Mashar S.A, et al (2021) such as parental care of children, basic immunization, basic sanitation, history of infectious diseases, smoking habits, and accurate respiratory system (ARI), The purpose of the research is to produce risk assessment instrument tools Comprehensive Tools to Prevent Stunting Risk (CTP Stunting Risks) to make it easier for people to carry out early detection independently through the tools developed.

This research is needed because the number of stunting is still large in the community so that an easy practical and efficient application is needed to measure the risk of potential stunting in families and the wider community so that early prevention of preventive action can be prevented and reduce stunting cases.

METHOD

developed a standardized CTP Stunting Risk instrument product with research and development, namely Comprehensive Assessment with variables of maternal care aspects, childcare aspects, family domestic factors and the level of knowledge of mothers with children with a history of stunting from various literature to make it more comprehensive. The sample size was 101 families with a history of stunting in randomized districts and cities, namely Tanah Laut Regency, Banjar Regency, Batola Regency, Banjarbaru City and Banjarmasin City in South Kalimantan Province, which were compiled by FGD with 6 families with children with a history of stunting and 2 health cares.

RESULTS AND DISCUSSION

Questionnaire Validity and Reliability Test

The measuring instruments is used from Kemenkes (2018) Questionnaire of Risk Factors Tools for Stunting Risk Prevention The validity of the mother factor of 11 questions obtained the result of the Cronbach Alpha value > 0.5 while the instrument value is said to be reliable if CronbachAlpha > 0.60 (Sugiyono, 2016) so that the reliability of the mother factor measurement instrument on stunting is included in the reliability category, namely 0.962.

The validity of the child factor instrument from 4 questions obtained the Cronbach Alpha child factor instrument value > 0.9 while the reliability of the child factor measurement instrument on stunting is included in the reliability category, namely 0.984.

The validity of the child factor instrument from 6 questions obtained the value of the domestic family factor instrument Cronbach Alpha > 0.9 while the reliability of the domestic family factor measurement instrument on stunting is included in the reliability category, namely 0.984.

The validity of the child factor instrument from 7 questions obtained the Cronbach Alpha child factor instrument value > 0.9 while the reliability of the child factor measurement instrument on stunting is included in the reliability category, namely 0.985.

From the questionnaires of maternal, child, domestic factors and level of knowledge designed statistically, the results of validity and reliability tests are in the good category.

The relationship between maternal care and stunting

Table 1**Test Results of the Relationship between Maternal Parenting and Stunting**

| | Stunting | | Total | P value |
|----------------------|--------------|-------------|---------------|---------|
| | Not Stunting | Stunting | | |
| Poor parenting | 0 0.0% | 69 68.3% | 69 68.3% | 0,000 |
| Mom's Good Parenting | 10 9.9% | 22 21.8% | 32 31.7% | |
| Total | 10 9.9% | 91 90.1% | 101 100.0% | |

The results of the analysis showed that 68.3% of respondents with poor maternal care experienced stunting, the relationship between maternal care and the incidence of stunting was proven significant, indicated by a p value of 0.000 <0.05, pregnant women with good care tend to have children who are not stunted.

The relationship between parenting practices and stunting

Table 2**Test Results of the Relationship between parenting and stunting**

| | Stunting | | Total | P value |
|---------------------------|--------------|-------------|---------------|---------|
| | Not Stunting | Stunting | | |
| Poor Child Care Practices | 0 0.0% | 81 80.2% | 81 80.2% | 0,000 |
| Good Child Care Practices | 10 9.9% | 10 9.9% | 20 19.8% | |
| Total | 10 9.9% | 91 90.1% | 101 100.0% | |

The results of the analysis 80.2% of respondents with poor parenting practices experienced stunting, further illustrating that children with poor parenting are at risk of stunting. The relationship between parenting and the incidence of stunting is significant, indicated by a p value of 0.000 <0.05. Children with good parenting tend not to experience stunting, while children with poor parenting are at risk of stunting.

The relationship between family domesticity and stunting

Table 3**Relationship between family domestic and stunting**

| | Stunting | | Total | P value |
|----------------------|--------------|-------------|---------------|---------|
| | Not Stunting | Stunting | | |
| Poor family domicile | 6 5.9% | 60 59.4% | 66 65.3% | 0,708 |
| Family Domestic Good | 4 4.0% | 31 30.7% | 35 34.7% | |
| Total | 10 9.9% | 91 90.1% | 101 100.0% | |

The results of the analysis showed that 5.9% of respondents with poor family domestic

factors were not stunted, then 59.4% of respondents with poor family domestic factors were stunted, then 4.0% of respondents with good family domiciles were not stunted and 30.7% of respondents with good family domiciles were stunted. This illustrates that there is no difference in the proportion of stunting respondents with poor family domiciles and respondents with good domiciles, this is also in line with the results of the chi square test (p value $0.708 > 0.05$) which shows no relationship between family domiciles and the occurrence of stunting.

The relationship between knowledge and stunting

Table 4

Relationship between family knowledge and stunting

| | Stunting | | Total | P value |
|--------------------------------|--------------|-------------|---------------|---------|
| | Not Stunting | Stunting | | |
| Mother's knowledge is not good | 0 0.0% | 86 85.1% | 86 85.1% | 0,000 |
| Mother's Knowledge Good | 10 9.9% | 5 5.0% | 15 14.9% | |
| Total | 10 9.9% | 91 90.1% | 101 100.0% | |

The results of the analysis 85.1% of respondents with poor maternal knowledge experienced stunting, then 9.9% of respondents with good maternal knowledge were not stunted and 5.0% of respondents with good maternal knowledge experienced stunting. The Chi Square test results showed a p value <0.000 , which means that there is a significant relationship between the knowledge of pregnant women and the incidence of stunting. Pregnant women with good knowledge tend to produce children who are not stunted.

Discussion Stunting prevention can be done from the period of pregnancy of a mother, especially since the First 1000 Days of Life (HPK) as the first determinant of whether the child will experience stunting or not (Nurfatimah et al, 2021), while the condition of a woman's pregnancy is influenced by the nutritional status before conception which is largely determined by the nutritional status in adolescence and adulthood (Muchtart et al, 2023). before pregnancy or during the fertile woman period (Muchtart et al, 2023). Gestational age of less than 37 weeks can result in fetal growth and development that is not optimal, so there is a risk of babies being born weighing less than 2,500 grams or LBW. Based on the results of research by Astutik, Rahfiludin, & Aruben (2018), low birth weight is a risk factor for stunting in toddlerhood (Ngainis Sholihatin Nisa, 2019).

Stunting is the result of the interaction of various factors, namely insufficient nutritional intake and increased nutritional needs. Inadequate intake is due to socioeconomic factors (poverty), low education and knowledge of infant and young child feeding practices (adequacy of breastmilk), adequacy of animal protein in complementary foods, neglect, cultural influences and availability of local foodstuffs. Factors that lead to increased need (e.g. chronic diseases that require increased nutritional requirements) include congenital heart disease; cow's milk allergy; very low birth weight infants; congenital metabolic disorders; chronic infections caused by poor personal and environmental hygiene (chronic diarrhea); and immunization-preventable diseases (tuberculosis, diphtheria, pertussis and measles), with

stunted children at high risk of infection and illness from tuberculosis due to a reduced immune system.

Exclusive breastfeeding is the provision of breast milk alone without the addition of other liquids, be it formula milk, water, orange juice, honey and or other additional food until the baby reaches 6 months of age (Ngainis Sholihatin Nisa, 2019). Infants need complementary foods so that nutritional fulfillment for growth can be fulfilled. WHO/UNICEF in its provisions require children aged 6-23 months to obtain adequate complementary food with the provision of receiving at least 4 or more of 7 types of food (cereals / tubers, nuts, dairy products, eggs and other protein sources, vegetables and fruits rich in vitamin A, vegetables and other fruits-Minimum Dietary Diversity /MD). Anemia that often occurs in pregnant women is anemia due to iron (Fe) deficiency, so it is better known as Iron Nutritional Anemia (INA). Iron deficiency anemia is one of the disorders that often occur during pregnancy (Ngainis Sholihatin Nisa, 2019). Previous research stated that a history of diarrhea disease ($p=0.025$ OR: 3.619) had a significant relationship with the incidence of stunting. The relationship between maternal nutritional status during pregnancy (LILA) and the incidence of *stunting* in toddlers aged 06-36 months according to Sukmawati et al (2018),

Prenatal care and nutrition during the early period of an infant's life is a very crucial factor in describing the physical and cognitive development of the child (Dable-Tupas, Talampas-Abundo, Derecho, 2022), while factors that are strongly associated with the incidence of stunting in toddlers (infants aged 1-3 years) are exclusive breastfeeding and environmental factors do not contribute to the incidence of stunting (Nurjazuli, Budiyo, and Wahyuningsih, 2023).

There is a relationship between the number of family members and the incidence of stunting, families who have a large number of family members (> 4 people) are 44 people (68.7%), and a small number of family members (≤ 4 people) are 20 people (31.3%). Family Income According to Budiastutik & Nugraheni (2018), one of the socio-economic indicators for family needs. Stunting can be caused by the amount of family income affecting the level of fulfillment of family nutrition, so families with low income are more at risk of stunting due to their low ability to fulfill nutrition. Other factors are parental employment status, number of children in a family, age of the child, birth interval, exclusive breastfeeding, vaccination status.

Herawati H, Anwar A, Setyowati DL (2022) The quality of sanitation facilities and occupant behavior have an association with the incidence of stunting and are risk factors. The quality of maternal HWWS has no relationship with the incidence of stunting but is a risk factor. There is a relationship between the number of family members and the incidence of stunting, families who have a large number of family members (> 4 people) are 44 people (68.7%), and a small number of family members (≤ 4 people) are 20 people (31.3%). Family Income According to Budiastutik & Nugraheni (2018), one of the socio-economic indicators for family needs. Stunting can be caused by the amount of family income affecting the level of fulfillment of family nutrition, so families with low income are more at risk of stunting due to their low ability to fulfill nutrition. Other factors are parental employment status, number of children in a family, age of the child, birth interval, exclusive breastfeeding, child vaccination status and recurrent diarrhea according to Danso and Appiah, (2023). The findings of this study are somewhat different from the domestic factors of the family, it is possible that the indicators made are still small so that it needs to be developed more broadly to test and describe the real situation.

Maternal factors that influence the incidence of stunting in children aged 0-60 months are the level of education and height of the mother. (Agustiningrum, R., Handayani, S., & Agustina, N. W. (2023). While Erni Rukmana, et al (2016) there is a relationship between low parental education and the incidence of stunting, families with good economic resources will obtain food for nutrition for the family, LBW is a major predictor of infant morbidity and mortality, children under five born with low birth weight are more at risk of stunting than children born with normal weight.

CONCLUSIONS AND SUGGESTIONS

The results of verbatim transcripts obtained themes based on FGD keywords, namely 1) Interpretation of pregnancy at risk of stunting 2). Child nutrition consumption factors: psychological, menu modification and community beliefs 3). Domestic family - (Economy and Unhealthy behavior: Smoking) to development comprehensive instrument refinement the domain factors of maternal care, childcare, family domesticity and maternal knowledge level obtained validity and reliability values including the excellent category. There is a relationship between stunting cases and the domains of maternal care, childcare and knowledge level while the domestic family factor is stated to have no relationship. The suggestions need to be strengthened and assistance as well as demonstrations of provided additional food in terms of quantity, quality, feeding patterns and maternal care during pregnancy need to be optimized to prevent stunting and modification.

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ETHICAL CONSIDERATIONS

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Conflict of Interest Statement

The Authors in this research have no affiliations with or involvement in any organization or entity with any financial interest or nonfinancial interest in the subject matter or materials discussed in this manuscript.

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