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Analysis of Children Health Indicators on the Achievement of Index of Community Health Development in Tanjung Jabung Timur Regency

Dwi Noerjoedianto[1], Andi Subandi[2], Andy Amir[3]
[1,2]*Faculty of Medicine and Health Sciences, Universitas Jambi, Indonesia*
dwi_noerjoedianto@unja.ac.id, athayasubandi@gmail.com

Abstract

The Public Health Development Index (IPKM) is an indicator to determine the level of success in health development in a district. There are several indicators to determine the IPKM value. Child health is the one an indicator of IPKM, has 6 indicators; child malnourished, child stunting, child overweight, child weighing, neonatal visit, and complete immunization. Methodology this was quantitative research. This study was conducted 5 months starting from May to October 2019. The data analyzed used the public health development index formula that has been determined by calculating weights for each indicator and then used minimum and maximum standard values. The results and conclusions were the sub-indicators of the health service group in 2016 amounted to 0.71819347, in 2017 amounted to 0.686645863, in 2018 amounted to 0.730251925, this value was fluctuating in 2016-2018. From 6 sub-indicator of child health, child stunting still has a low value which indicates that this sub-index under adverse condition when compared to the other sub-indicator. However, there are must be improvements to increase this value.

Keywords
public health development index; child health

I. Introduction

The Community Health Development Index (IPKM) is a composite indicator that describes the progress of health development. IPMK can be formulated from community-based health data, namely Basic Health Research (Riskesdas), National Socio-Economic Survey (Susenas), and Village Potential Survey (Podes) (1). IPKM was formed by the Health Research and Development Agency (Balitbangkes) of the Ministry of Health. The preparation of IPKM was started by Balitbangkes in 2009 based on 24 indicators. In 2014 using the 2013 Riskesdas data and 2011 Podes, the 2007 IPKM was refined with the calculation method and the number of indicators became 30 indicators. The addition of indicators aims to enrich information that can support policy making in determining the basis for health development. The change in the calculation method aims to make it easier to determine the problem group of indicators that must be intervened (2).

IPKM can determine the ranking of districts/cities in terms of health development (3). The general principles of indicators used in the preparation of the IPKM are simple, easy, measurable, useful, reliable, and timely. This set of health indicators can directly or indirectly play a role in increasing the life expectancy of a long and healthy life. The indicators contained in the IPKM as a determinant of the ranking of districts/cities in terms of health development are the impact of health development in the previous year, so that

IPKM can be used as a reference for local governments (Pemda) in making more appropriate intervention programs, as advocacy material for local governments to be encouraged in raising its health ranking, as the formulation of severe/special health problem areas (DBKBK), as the basis for determining the allocation of health assistance funds from the center to the regions, and can assist the State Ministry for Development of Disadvantaged Regions (KMPDT) in developing districts/cities in Indonesia (3).

Nationally, Jambi Province ranks 9th out of 33 provinces for IPKM as seen from Riskesdas data in 2013. On the other hand, when viewed from the Profile of the Jambi Provincial Health Office, there are still many regencies/cities that have not met the national IPKM target as seen from the indicators. The development of the health sector will greatly affect life expectancy. Life expectancy is one of the indicators to assess the Human Development Index (HDI). Jambi Province has a life expectancy of 70.71%, i.e. 66-76 years, while the minimum standard value for IPKM assessors is 100%. Meanwhile, Tanjung Jabung Timur Regency is the district that has the lowest life expectancy of the 11 districts/cities in Jambi Province, which is 65.56%.(4).

One of the indicators that determine the IPKM of a district/city is the health of Toddler. The under-five health indicator has 6 sub-indicators which are calculated to get the value of the under-five health indicator. According to the 2018 Riskesdas data, the Toddler Health indicator in Jambi Province has a value of 3.8% of toddlers with poor nutritional status and 11.9% of toddlers with poor nutritional status who are weighed based on body weight according to age (W/U), for the prevalence of nutritional status in toddlers based on the height index for age (TB/U) are very short by 13.4% while for the nutritional status of short toddlers in Jambi Province it is 16.8%. The weighing sub-indicator for toddlers is 1,279 Toddler who were weighed in the last 12 months. The proportion of complete basic immunization for toddlers in Jambi Province is 62.6% and for complete neonatal visits for toddlers in Jambi Province is 37.3% or 1,279 toddlers (5).

Nutritional status in the community many things that can affect it. Socio-economic conditions are important factors that affect nutritional status. If the socio-economic conditions are good, the nutritional status is also expected to be better. Therefore, it is necessary to analyze the achievements of the Community Health Development Index (IPKM) on the health indicators of Toddler (6).

II. Research Methods

The type of research used in this study is quantitative by describing descriptively which aims to determine the achievement of the Community Health Development Index (IPKM) as seen from the health indicators of toddlers conducted in Tanjung Jabung Timur Regency. This research was carried out for 5 months starting from May to October 2019. The collection and retrieval of research data was carried out at the Tanjung Jabung Timur Regency Health Office. The subjects of this study are all data concerning health problems which are indicators of toddler health in the IPKM. The instrument used in collecting research data is a list of reports/data that match the indicators in the IPKM sub-index for the period January 2016 to December 2018 as well as other complementary tools such as notebooks and recording tools. The data that has been obtained will be carried out several processes such as data processing, editing, data entry and further analysis will be carried out according to the specified formula.

III. Results and Discussion

3.1 Results

From this research, the results of the analysis of the achievements of the Community Health Development Index on the health indicators of Toddler can be seen in the following:

Table 1. IPKM Achievement Results for Toddler Health in 2016

Indicator	Sub Index	Indicator Group Sub-Index	GPA
Toddler Health			
Malnourished and Undernourished Toddlers	0.16766114	0.71819347	3,2386514
Very short and Short toddlers	0.00331819		
Fat toddlers	0.13171414		
Toddler weighing	0.12135		
Neonatal visit	0.14715		
Complete immunization	0.147		

Table 2. IPKM Achievement Results for Toddler Health in 2017

Indicator	Sub Index	Indicator Group Sub-Index	GPA
Toddler Health			
Malnourished and Undernourished Toddlers	0.16686332	0.686645863	3.47425966
Very short and Short toddlers	0.00736476		
Fat toddler	0.13096778		
Toddler weighing	0.08805		
Neonatal visit	0.1464		
Complete immunization	0.147		

Table 3. IPKM Achievement Results for Toddler Health in 2018

Indicator	Sub Index	Indicator Group Sub-Index	GPA
Toddler Health			
Malnourished and Undernourished Toddlers	0.16646441	0.730251925	3.86496387
Very short and Short toddlers	0.01249042		
Fat toddler	0.1326471		
Toddler weighing	0.13095		
Neonatal visit	0.1446		
Complete immunization	0.1431		

Based on data for 3 years from 2016 to 2018 it can be seen that the sub-index value of the under-five health indicator group fluctuated, namely in 2016 of 0.71819347 then decreased in 2017 which was equal to 0.686645863 and in 2018 it increased again by 0.730251925. Meanwhile, seen from the sub-index value of very short and short toddlers for 3 years from 2016 to 2018 has a value below 0.1. This indicates that it is still quite a problem in terms of very short and short toddlers in Tanjung Jabung Timur Regency. However, IPKM for 3 consecutive years starting from 2016 to 2018 has increased.

3.2 Discussion

a. Malnourished and Undernourished Toddlers

The findings in this study showed that the sub-index value of under-fives with malnutrition and malnutrition for 3 consecutive years from 2016 to 2018 was at a stable number. Childhood under five is a group that is vulnerable to malnutrition, one of which is stunting (short). Stunting itself is defined as a linear disorder caused by chronic nutrient intake malnutrition or chronic or recurrent infectious diseases.

Toddlers have a period of rapid physical and mental development, toddlers will show rapid body growth so they need good nutrition. Malnutrition at this time will have a bad impact and affect the quality in later adulthood so that at this time toddlers need more attention in growing up (7).

Unbalanced nutritional intake can result in disruption of various functions in the body, especially brain function and will lead to nutritional disorders, namely malnutrition. Malnutrition is a condition of undernutrition caused by the consumption of nutrients, especially energy and food protein that is not fulfilled properly which lasts a long time, resulting in a more severe level of deficiency (8).

The nutritional status of Toddler will be closely related to the socio-economic conditions of their families, especially parents, including parental education, parents' occupations, number of children from parents or number of siblings, parenting patterns and knowledge from mothers (9).

Mother's education is an important thing related to the nutritional status of her child, the higher a person's education level, the more knowledge a person has. Likewise with a mother, if she knows a lot of knowledge, it can be used appropriately in making decisions related to the nutritional status of her child, because the mother is the person who plays an important role in determining family food consumption, especially for toddlers (10).

Based on the results of research by Wahyudi, et al., 2015 factors of mothers who do not work can also affect the nutritional status of Toddler. Mothers who do not work automatically will not get income so there is a possibility that they will not meet the daily nutritional needs of toddlers, even though the nutritional intake consumed is likely to affect the nutritional status of toddlers, therefore it needs supervision from the family in order to provide adequate and nutritious food intake for toddlers(7).

Lack of family income is related to the lack of fulfillment of food nutrition in the family. because it will affect the purchasing power of diverse and nutritious food to meet the nutritional coverage of toddlers so that toddlers with less family income will be more susceptible to malnutrition and malnutrition. This is in line with the results of research by Wahyudi, et al., 2015 which showed that some respondents had family incomes that were less than the UMK (10).

Efforts are being made to reduce the prevalence of malnourished and undernourished Toddler, namely the provision of supplementary food (PMT) for underweight toddlers, nutrition education efforts to increase exclusive breastfeeding, infant and child feeding (PMBA), and promotion of balanced nutrition guidelines (10).

b. Very Short and Short Toddlers

From this study, it was found that for 3 consecutive years from 2016 to 2018 the sub-index value of very short and short toddlers had a fairly low value, which was below 0.1. With such achievements illustrates that health problems in toddlers are still in a bad state.

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Short toddlers are one of the consequences of nutritional problems in children, this problem generally occurs in poor and low-income countries develop (11).The number of occurrences of very short and short toddlers in an area indicates that there is a prolonged lack of nutritional intake during critical periods of growth and development in early life. This problem can be caused by several factors such as the availability of food by the family, the family's knowledge of child nutrition and so on, and generally this problem occurs in countries with a difficult economy.(12).

The occurrence of the problem of short toddlers is not only due to the handling of children's nutritional deficiencies when they are born, but starts when the baby is still in the mother's womb. Nutritional intake in pregnant women also greatly determines the condition of the baby to be born later. During pregnancy the baby will experience rapid body growth and brain development so that during this period if the nutritional intake for pregnant women is not met, the possibility of giving birth to a child with a stunted condition will have a high potential.(12).

The problem of short toddlers/stunting can be overcome by providing adequate nutritional intake to pregnant women, giving Early Initiation of Breastfeeding (IMD) at least 1 hour after the baby is born, exclusive breastfeeding for babies for 6 months and continued with complementary foods until the child is 24 months old (13).

c. Fat Toddler

This study shows that the sub-index value of obese children for 3 consecutive years from 2016 to 2018 is in the range of 0.13. This achievement value is still far from 1, this can also mean that the problem of obese toddlers is still bad.

Obesity in toddlers is caused by excess nutrition or unbalanced nutritional intake in toddlers. Obesity is also a problem that often occurs in society. Excess weight at an early age, especially in toddlers, can be at high risk of causing health problems in the future, such as hypertension and diabetes. Lifestyle habits with excessive food consumption at an early age will generally continue to be carried when they reach adulthood.

The high cases of obesity in toddlers can be caused by several factors such as food consumption habits such as fast food and foods high in fat and glucose, knowledge of the mother or child's family about the consumption needs of children, birth weight, gender and so on. Several studies have revealed that the incidence of obesity in Toddler often occurs in urban areas, this is caused by their lifestyle, both from their diet and physical activity.14).

In East Tanjung Jabung Regency in 3 consecutive years during 2016-2018 there was a constant number of obese Toddler. It can be indicated that there is no improvement in the handling of nutritional status in children during these 3 years. Handling this problem is not only burdensome on one side, but also requires inter-sectoral cooperation in tackling the problem of obese toddlers. The high incidence of obese Toddler will worsen the health status of the community in the future when they are adults because they have a high risk of degenerative diseases, therefore it will reduce the success rate of a district/city in developing IPKM health.

d. Toddler Weighing

Based on the results of this study, it was found that the value of the weighing sub-index for toddlers for 3 consecutive years from 2016 to 2018 fluctuated. From 2016 to 2017 it decreased but in 2018 it increased again.

The weighing rate for Toddler is closely related to posyandu and immunization activities in an area. The high and low number of weighing toddlers in posyandu activities can be influenced by several factors, both from the toddler's family factor and from the

posyandu implementer. Factors from the family of toddlers are generally influenced by the knowledge of the toddler's family about posyandu, family or husband support and culture. While external factors such as difficult access to posyandu, availability of posyandu and so on (15).

The weighing of Toddler in Tanjung Jabung Timur Regency has decreased from 2016 to 2017 this can be interpreted as the number of parents who do posyandu for their children is decreasing from the previous year, this can be influenced by several factors as previously mentioned. In the following year, 2018, there was an increase, which could mean that there was progress towards changes for the better, both from families of toddlers and from posyandu organizers.

The success of the posyandu by showing the high number of weighing Toddler cannot be relied on only on one side, but must be from both sides, namely the families of toddlers and the posyandu organizers. Giving an understanding of the importance of posyandu to parents or families of toddlers is very necessary so that they realize the importance of posyandu for children. In addition, the government also provides good access for families of toddlers to reach where the posyandu is carried out.

e. Neonatal Visit

The findings from this study indicate that the value of the neonatal visit sub-index for 3 consecutive years from 2016 to 2018 is stable, which is around 0.14.

Neonatal visits are carried out periodically for 3 times when babies are 0-28 days old with a schedule of KN 1 visits for infants aged 6-48 hours after birth, KN 2 for infants aged 2-7 days, and KN 3 for infants aged 8-28day(10).Neonatal visits are interventions that are carried out to reduce the mortality rate of newborns.

Neonatal visits are important because newborns will receive comprehensive care. Treatments include umbilical cord care, exclusive breastfeeding, giving vitamin K1 injections, checking for language signs in babies, counseling related to baby's health problems, and so on (16). It is estimated that more than 15% of live births develop neonatal complications and can lead to death if the condition worsens (17).

Factors related to the low behavior of complete neonatal visits, namely the level of education, because the higher a person's education, the easier it will be to absorb information and increase the knowledge obtained so that his behavior will be better. good (18). Another factor is from health workers, if health workers provide more support to pregnant women from pregnancy to delivery, the level of compliance with complete neonatal visits will be good, in line with the results of the 2019 study by Rahmawati, et al. mothers do not get re-monitoring from health workers so mothers are indifferent to carry out complete neonatal visits.

The Public health center has made it easier for neonatal examinations, namely providing free services for baby checks and convenience for BPJS card holders because the cost of care can be cheaper. So it is hoped that neonatal visits will be better and more complete. In general, people who seek treatment at the health center are at the lower middle economic level who do not all have private vehicles (Novita *et al*, 2020).

f. Complete Immunization

From this study, it was found that the value of the complete immunization sub-index for 3 consecutive years from 2016 to 2018 experienced stability which ranged from 0.14.

Indonesia's immunization schedule is BCG is given at 1 month of age; hepatitis B given within 24 hours of birth; DPT-HB was given at 2 months, 3 months, 4 months and 18 months; measles and rubella were given at 9 months, 18 months and grade 1; and polio

was administered at 1 month, 2 months, 3 months and 4 months (19). In beyond the measure of immunization coverage, immunization indicators can serve as a proxy indication of access to health services, especially when vaccines are administered through a routine system (19).

According to the United Nations Children's Fund (UNICEF) among 2,400 children in Indonesia who die every day, including those who die from infectious diseases that should be prevented by immunization (PD3I) (12).

The Indonesian Ministry of Health has compiled programs as an effort to suppress PD3I diseases in children, such as the immunization program development program (PPI), including the provision of immune vaccines against four diseases that can be prevented by immunization (PD3I), namely tuberculosis, diphtheria, pertussis, and tetanus. This program has so far developed by adding PD3I that can be protected, namely measles, polio, hepatitis B as measured by indicators of complete basic immunization (20).

The Ministry of Health (Kemenkes) also changed the concept of complete basic immunization into complete routine immunization. Complete routine immunization consists of basic and advanced immunizations. Because basic immunization alone is not enough, further immunization is needed to maintain an optimal level of immunity.

IV. Conclusion

The index value of under-five health indicators in 3 years from 2016 to 2018 has fluctuated, from 2016-2017 it decreased and increased again in 2018. Of the six sub-indicators of under-five health, namely malnutrition and malnutrition, toddlers are very short and stunting, obese toddlers, weighing toddlers, neonatal visits, and complete immunizations are still in low numbers so that they are still in serious problems for immediate improvement, especially in the sub-indicators of very short and short toddlers which have very low achievement values which indicate that This issue is in bad condition and needs to be taken seriously. It is hoped that this research can be used as input for improvement to make an appropriate policy in the coming year.

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