# Evaluation of Knowledge Enhancement in Early Detection Stimulation Programs Toddlers Growth and Development in Tigo Balehbutittinggi City Community Health Centre 2013

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**ABSTRACT---** ***This Public Health Practice aims at evaluatingthe existing health programs in TigoBalehBukittinggiCommunity Health Center compared to the Minimum Service Standard and the Millennium Development Goal's (MDG's). The scope in this evaluation is the scope conducted during 2011-2012. The problem priority decision-making is calculated using Delbeq method. The Early Detection Intervention Stimulation Program for Toddlers Growth and Development (SDIDTK) is a priority problem. The lack of commitment of all parties tothis program became the root of the main problem why this program did not work properly which resulted in a poor quality of toddlers and high rates of toddlersmorbidity. The establishment of Toddlers Growth and Development Forum involving all sectors, programs and communities is expected to reduce the toddler morbidity and in toddler growth and development irregularities, so that the resulting childrenare qualified ones.***

**Keywords---** SDIDTK Knowledge; Toddlers; Children Quality

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## 1. INTRODUCTION

The current development paradigm is the development of human resources quality. The indicators of development success are measured in economic development, health and education contained in the Millennium Development Goal's (MDG's). Of the eight MDG's goals, there are four health sector which are key positions, namely; reducing children mortality; improving maternal health; and combating HIV/AIDS, malaria and other infectious diseases (1).

One of the subsystems within the National Health System (NHS) is Public Health Efforts (SME) or the so-called Community Health Centers (Puskesmas) that make the first contact and provide first services (Minister of Health Regulation No. 75 of 2014). Efforts to improve, prevent, treat and recover are undertaken in complete, integrated and qualified health at primary, secondary and tertiary levels (2; 3).Community Health Centers perform its functions by increasing awareness, willingness and ability to live a healthy life for every person residing in the Community Health Centers (4). Community Health Centersare a central driver of health oriented development, community empowerment centers, first strata health care centers, services provided for individuals and community health services (2; 5).

Maternal and Child Health Program (KIA) are the two keys that describe the health status of a nation, and the current KIA gets greater attention portion. Maternal Mortality Rate (AKI) and Infant Mortality Rate (AKB) in Indonesia in 2015 were still far from the target. MDG's Development Goals Agreement stipulated by WHO are AKI 102/100,000 KH and AKB 15/1,000 KH (6; 7). According to the Indonesian demographic and health survey results in 2007, AKI was 228/100,000 live births and AKB was 26/1,000 live births.

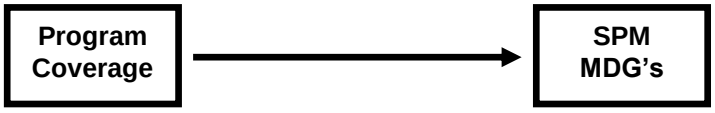
Law of the Republic of Indonesia Number 23 of 2002 on Children Protection states that the children protection shall be based on Pancasila and the Constitution of 1945, without leaving the basic principles of the Convention on the Rights of Children which include: non-discrimination; best interests of children; the rights to life, survival and development; respect for the views of children (8). Government performs efforts to monitor toddlersgrowth and development, known as Early Intervention Detection Stimulation for Toddlers Growth and Development (SDIDTK) in order to detect early irregularities of growth and development and conduct follow-up in order to fulfill the rights of children (6; 7; 9).

TigoBalehCommunity Health Center is one community health center located in Bukittinggi City, with a population of 25,253 inhabitants; 10% of them were 0-4 years (which is the golden period). The coverage achievement of SDIDTK in Bukittinggi in 2012 was 35.89% of the national target of 100%. The achievementof SDIDTK in TigoBaleh

Community Health Center in 2012 was 20.67%. This achievement was the lowest compared to other Community Health Centers in Bukittinggi City. It is then what we want to evaluate, to determine the root of the existing problems and solutions.

## 2. METHOD

Conducting a situation analysis by comparing the achievement coverage of programsto the target of Minimum Service Standards and MDG's.




## 3. RESULTS

**Table 1**.Analysis of general description situation of program coverage in TigoBaleh Community Health Center

| No | Health Status | | Coverage | | Target | | | Status |
|---|---|---|---|---|---|---|---|---|
| | | | Community Health Center | National | Global | SPM | MDGs | |
| **I** | **Health Degree** | | | | | | | |
| 1 | Life expectancy( Year) | Male | | 66 | 66 | 67.9 | | |
| | | Female | | 71 | 71 | | | |
| 2 | Neonatal Mortality Rate (per 1,000 Live Birth) | | 5.3 | 17 | 23 | | <19 | No Problem |
| 3 | Infant Mortality Rate (per 1000 Live Birth) | | 9.8 | 27 | 40 | 40 | 23 | No Problem |
| 4 | Toddler Mortality Rate (per 1000 Live Birth) | | 0 | 35 | 57 | 58 | 32 | No Problem |
| 5 | Maternal Mortality Rate (per 100.000 Live Birth) | | 0 | 228 | 210 | 150 | 102 | No Problem |
| **II** | **HEALTH SERVICE** | | | | | | | |
| 1 | ANC Visit 1 (%) | | 97.2 | 93 | 81 | 95 | 93.3 | No Problem |
| 2 | ANC Visit4(%) | | 97 | 82 | 55 | 92.5 | 90 | No Problem |
| 3 | Labor with medical workers (%) | | 92.7 | 77 | 69 | 88 | 86 | No Problem |
| 4 | Neonatal Visit 2(%) | | 91.1 | 70 | 46 | 84 | 85 | No Problem |
| 5 | Immunization (%) | a. Measles (%) | 91.4 | 67 | 85 | 67 | 89 | No Problem |
| | | b. DPT3(%) | 91.2 | 83 | 85 | 85 | 85 | No Problem |
| | | c. HepB3(%) | 91.2 | 83 | 75 | 85 | 85 | No Problem |
| **III** | **Risk Factors** | | | | | | | |
| 1 | Residentshave accessto clean water(%) | | 94.9 | 82 | 89 | 63 | | No Problem |
| 2 | Infant Visit Coverage and SDIDTK for Toddlers (%) | | 34 | 0 | 0 | 80 | 86 | Problem |
| 3 | Exclusive Breast Milk (%) | | 53 | 32 | 37 | 80 | | Problem |

| No | Health Status | | Coverage | | Target | | | Status |
|---|---|---|---|---|---|---|---|---|
| | | | Community Health Center | National | Global | SPM | MDGs | |
| 4 | Toddler Nutrient Status (%) | Stunted | 12.5 | 40.1 | 26.7 | 32 | 15.5 | No Problem |
| | | Malnutrition | 8.5 | 19.6 | 16.2 | 11.9 | 11.9 | No Problem |
| | | Over Nutrition | 1.9 | 11.2 | 6.7 | | | No Problem |
| **IV** | **SUMBER DAYA** | | | | | | | |
| 1 | Specialist Doctor : Resident Ratio (100,000) | | 16 | | | 6 | | No Problem |
| 2 | Doctor : Resident Ratio (100,000) | | 19 | 29 | 142 | 40 | | Problem |
| 3 | Dentist : Resident Ratio(100.000) | | 19 | 6 | 22 | 11 | | No Problem |
| 4 | Nurse : Resident Ratio(100,000) | | 62 | 204 | 281 | 117.5 | | Problem |
| 5 | Midwife : Resident Ratio(100,000) | | 104.7 | | | 100 | | TidakMasalah |
| 6 | Nutrisionist : Resident Ratio(100,000) | | 3.8 | | | 22 | | Problem |
| 7 | Sanitary : Resident Ratio(100,000) | | 8 | | | 40 | | Problem |
| 8 | Public Health Expert : Resident Ratio(100,000) | | 3.8 | | | 40 | | Problem |

The program coverage situation analysis is based on annual reports for 2 (two) years as variables analyzed, compared to the MinimumServiceStandards set by the Government and MDG's to prioritize problems and do the problem solving planning.

## 4. DISCUSSION

Problems solving decision-making usesDelbeq method. There are two (2) major problems that require planning, but resource problemsare a problem of allocation and recruitment of officers that could not be solved by community health centers, then the problemsto be noticed is a problem that can be handled by the community health center itself by paying attention to the criteria of the problem quantity; the seriousness of problems; costs/fundingand easiness. SDIDTK coverage problem is a problem prioritized at this time. Thus aproblem tree is created to express the root of problems that occur, so that the intervention leads to the real problems.

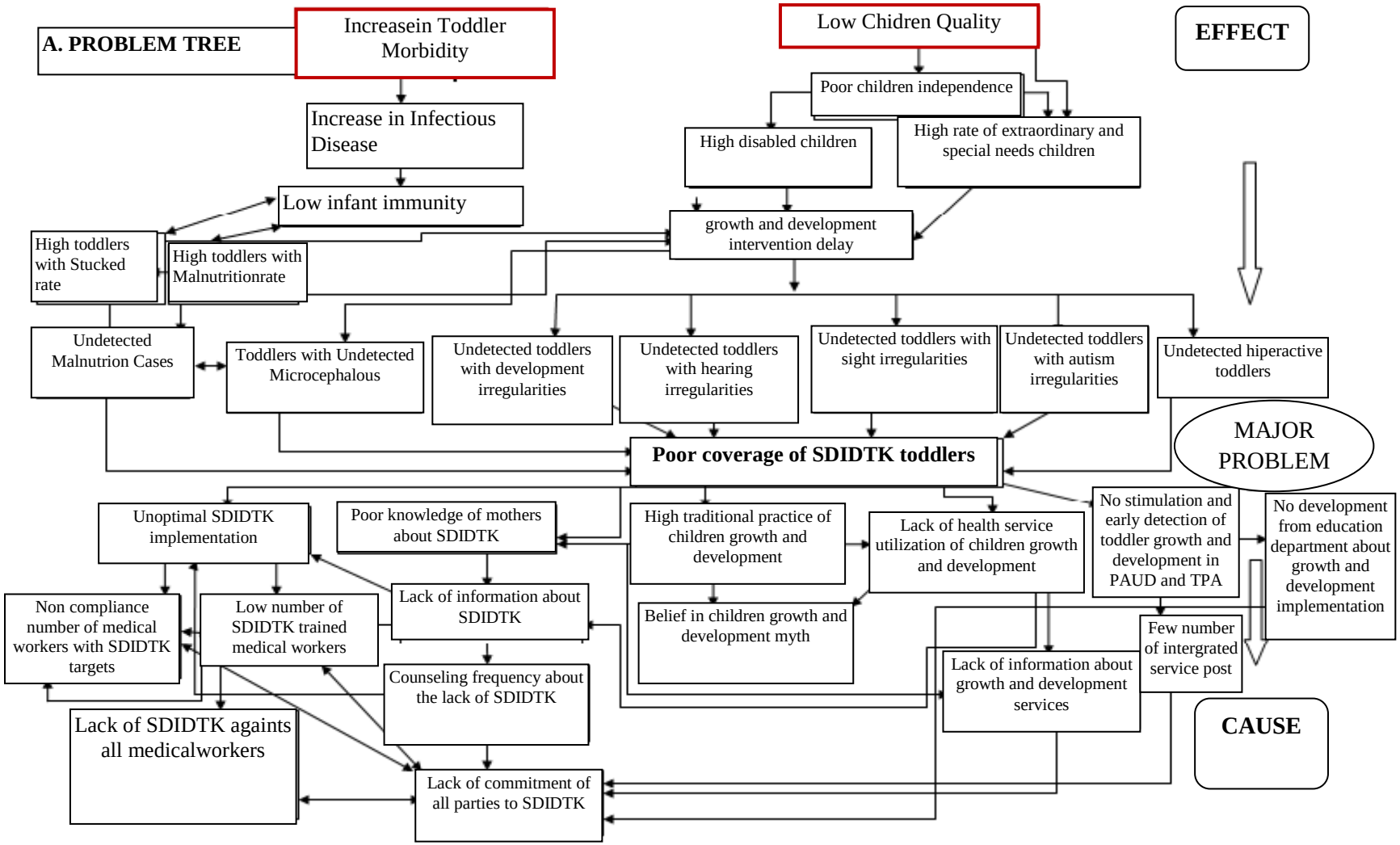



**Figure. 1**Problem Tree

After digging problemsby making a problem tree, the major problem is known, namely the lack ofcommitment of all parties to SDIDTK (either health workers, parents, cross-program, cross-sectoral, policy makers and the existing regulations).

**1. Strategy Analysis**

Strategyanalysis aims at answering questions such as whether all problems and goals should be addressed, or only some, what combination of interventions most likely to produce the desired goals, what the resource requirements, strategy (a combination of interventions) which one get the highest support/participation of various target groups, an effective strategy in supporting efforts to strengthen the institution and how to control negative environmental impacts.

Criteria for assessing alternative intervention (strategy): the benefits obtained by target (equity and participation), sustained benefits, ability to maintain the assets after the project is completed, costs (Financial and economic viability), technical feasibility, contribution to institutional strengthening and management capacity, environmental impacts, compatibility with the sectorpriority and or related programs.

Based on the problem priority on child health programs (poor coverage of toddlersconducted by SDIDTK) in TigoBaleh Community Health Center, then the intervention strategies that can be done as a problem lever are:

1. Increased knowledge and commitment to SDIDTK, through:
    a. Establishment of children growth and development community;
    b. Advocacy at the district level policy makers;
    c. Cross programs and sectors cooperation (Dharma Wanita, Bina Keluarga Balita,Department of Education);
    d. Monitoring and supervision of medical workers performance in the success SDIDTK;
    e. Monthly workshops/mini workshopsof community health center
2. Implementation of promotion and preventive activities, including:
    a. Increasing toddler's motherclass;
    b. Counseling to toddler's motherabout SDIDTK;
    c. Making Posters, pamphlets and banners;
    d. Implementation of Early Detection of Toddler Growth and Development simultaneously;
    e. Coaching SDIDTK cadres;
    f. Implementation of routine SDIDTK;
    g. SDIDTK training of medical workers;
    h. Creating a forum to share an Internet-based child growth and development;
    i. Holding competition on toddler's mother about SDIDTK

**2. Stakeholder Analysis**

In the strategy analysis, a stakeholder analysis is carried out to identify and collectinformation on stakeholders (characteristic of interest, potential and implications/involvement in a project).

Stakeholder analysis steps:

1. Identification of principal stakeholders;
2. Assessing roles to participate;
3. Identifying the possibility of cooperation and potential conflict;
4. Explaining the results of analysis and definingthe relationship with the project design

**3. Program Management**

To prepare the Communication Forum for Toddlers Growth and Development Program in TigoBalehCommunity Health Center, a joint program holder plan is made using POACE approach with the common aim at accelerating the decline in Toddlers MorbidityRate and Improving the Children Quality and has special purposes: to achieve a toddler coverage conducted by SDIDTK; early detected toddlers with developmental disorders; toddlers with growth and development irregularities are intervened early; increase knowledge of toddler's mothers and prospective mothers in children development stimulation; encourage mothers, families and communities to stimulate toddlers growth and development and conduct early detection of developmental disorders using KIA book; embrace all sectors in the toddlersneighborhood to be able to do stimulation and early detection of toddlers growth anddevelopment; raise awareness and environmental/community aids (especially family) in order to provide support in SDIDTK(4; 10; 11).

Environment can be defined as various events, circumstances and conditions beyond the individual that directly or indirectly affect children growth and development or individual. Environment is also often translated as the entire physical or social phenomenon (events, situation or condition) that affects children growth and development. Physical environment (natural environment) is anything of a physical nature around individuals such as houses, yards, fields, soil, water, season and so on (different natural environment will give different effect on people). Meanwhile, social environment (community environment) covers the entire people with various interactions that create a distinctive milieu. Community circumstances will give a certain effect on individual development (12).

In general, the environmental effects are passive, meaning that the environment does not provide a compulsion to individuals (environment provides possibilities or opportunities to individuals, so that the environment keep highly influencing the individual development). Children growth and development environment can be family, school and peer groups. Good supporting environment is highly influencing the individual development, in this case in order to actualize the children's talent or development as a whole(13).Therefore, the improvement of knowledge in the environment of growth and development needs to be given continuously.

**4. Emergency Response to Toddler Health**

Emergency is a situation that threatens individuals/groups of people that cause helplessness and need to act as soon as possible (6; 7; 9).Children growth and development problem countermeasures cannot be done separately; it requires a system that is coordinated with other programs and sectors. For the system to be run in accordance with the children quality development goals, a few steps are made consisting of:

a. Preparation

During the preparation stage, all components needed by the program in the toddlegrowth and development problem have been prepared. Growth and development irregularities are a condition that requires the procedure aids for children as an individual or family. This situation should be identified and prevented as early as possible (14). Growth and development irregularities that end in morbidity, death or loss of life quality occurs because of the risks and vulnerabilities that cannot be controlled by individuals.

Golden age (vulnerability) children living in an unhealthy environment (threats), such as having domestic conflicts or social conflicts, are at risk for growth and development irregularities. The growth and development irregularities occur if children do not get adequate nutrition, optimal stimulation (capacity), adequate health carerelated to growth and development.

b. System Development

In overcoming this problem, there are some systems run by children health and nutrition programs mutually supporting related to toddler and preschoolers growth and development (Figure 2), and if found irregularities, early referral flow is used (figure 3).

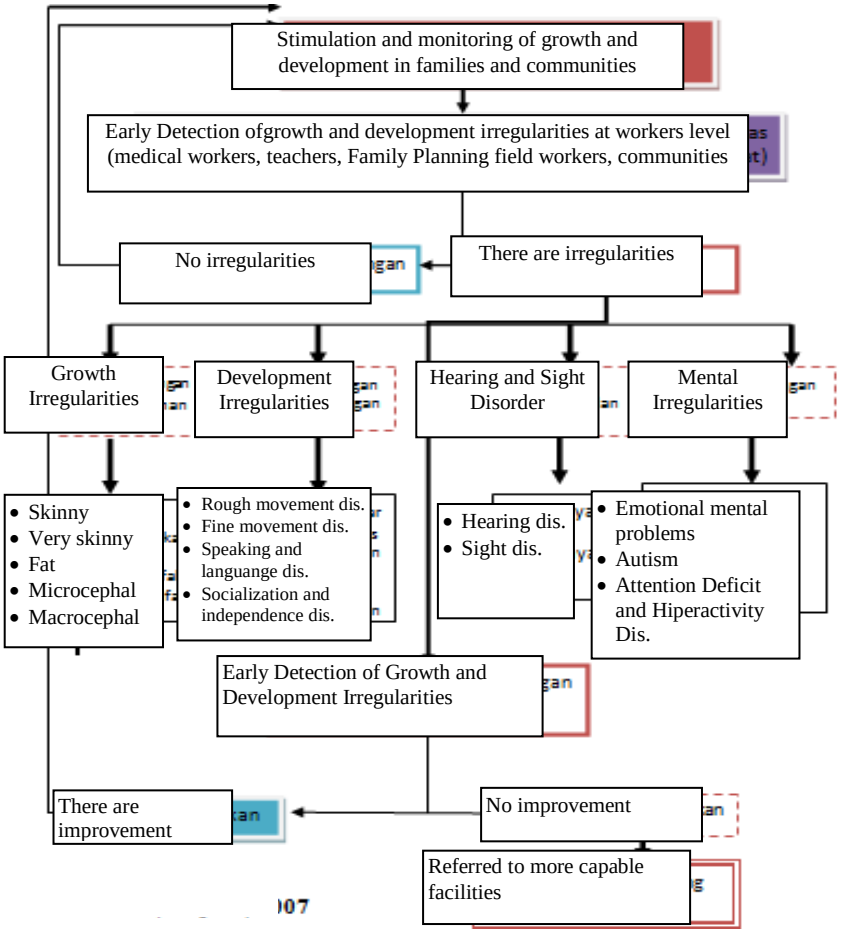
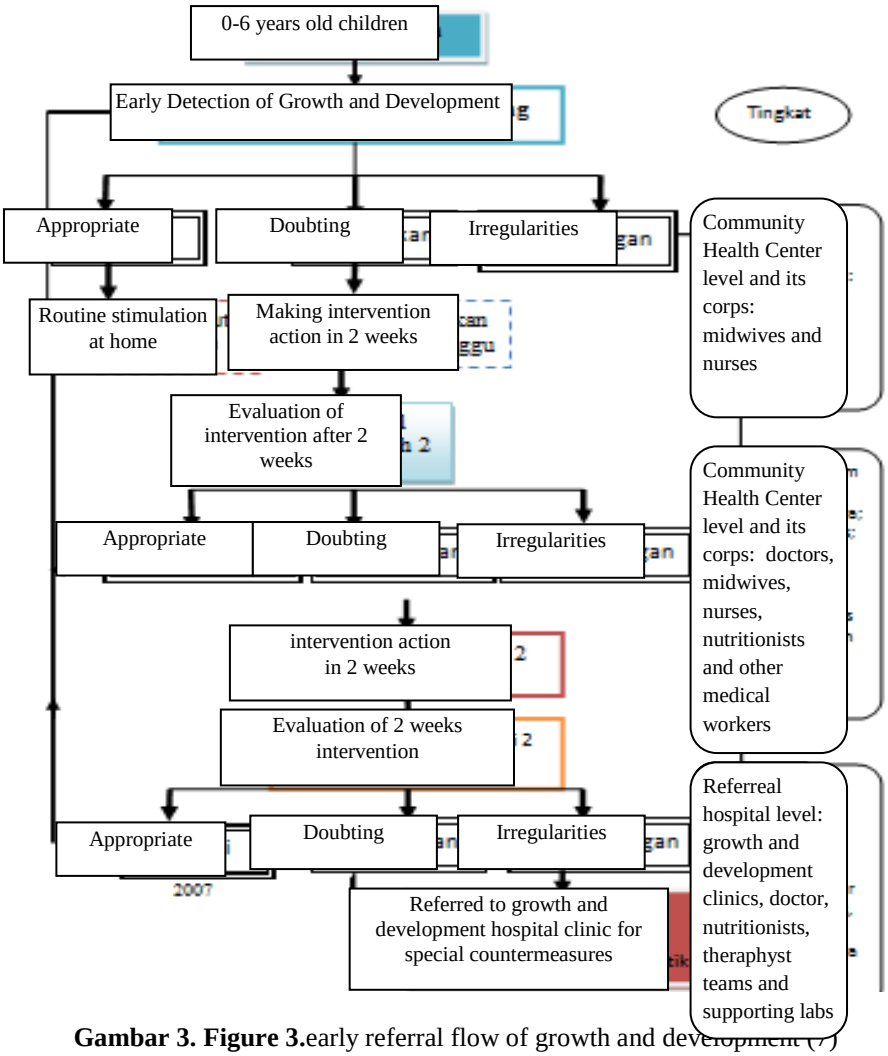



**Figure 2.**Toddler and preschoolers growth and development conceptual framework (7)




**Gambar 3. Figure 3.**early referral flow of growth and development (7)

Children with MalnutritionCareFlow is conducted by social, health and nutrition surveillance (figure 4). The first children with malnutrition careis at family level by involving all family members using a short-term/medium-term intervention, but in a poor family intervention is provided in short-term or emergency. At community level and cross-sectors are performed in integrated service posts by weighing toddlers and nutritional supplementation of basic services. At health care level, children with malnutrition are serviced by community health centers and hospitals.

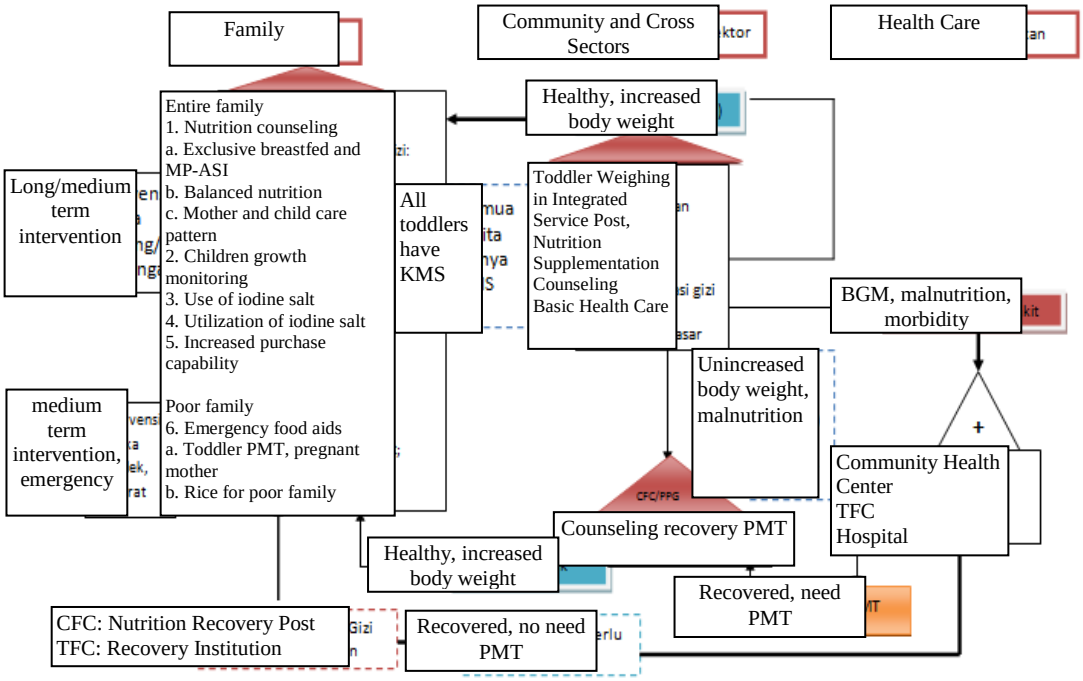



**Figure 4.**Children with malnutrition care flow (15)

c. Improving Knowledge and Commitment

Raising the commitment is performed in various ways, including cross-program cooperation with diarrhea, immunization, ISPA/Pneumonia, malaria, tuberculosis, HIV/AIDS programs; and raising coordination with the Department of Education, TPA and PAUD (early childhood). Together with a team of Toddler Growth and Development Communication Forum, a Disaster Management in overcoming toddler growth and development emergencies is made. Here is the cycle of disaster management, in each phase:

A. *Prevention and Mitigation*

Prevention is efforts made to prevent the occurrence of toddler growth and development irregularities. The programs performed in this phase are:

1) Cooperation with Maternal Health Program in the prenatal care
2) Cooperation with the Nutrition Program in the management of nutrition during pregnancy and a woman's life cycle
3) Promotion of exclusive breastfeed
4) Monitoring, weighing and following up every month
5) Coordination with cross-program on mother and toddler classes package program

Mitigation is a series of efforts to reduce risks, either through physical development, awareness and increased capacity in facing threat of disasters. Activities and programs have been implemented, such as:

1) Increased knowledge and training of medical workers in the conduct of SDIDTK and and malnutrition management.
2) Increased knowledge and training of Integrated Service Post cadres in stimulation and early detection of children development and follow-up.

B. *Preparedness*

Is a series of activities performed to anticipate disasters, through the organization and effective and efficientsteps by using: toddlers and preschoolers growth and development conceptual framework; early referral growth and development flow; children with malnutrition referral flow.

C. *Emergency Response*

Is the efforts made immediately upon occurrence of a disaster, to overcome the impact, especially in the form of rescue. At the emergency response of children with malnutrition with 10-steps Children with Malnutrition Management is performed (15).

D. *Recovery*

Is an emergency recovery process of toddler condition who suffer from growth and development irregularities. Programs performed are development therapy; stimulation of delays in the development and improvement of appropriate nutrition in accordance with Children with Malnutrition Management according to rehabilitation phase and follow-up phase.

d. SystemImplementation

In accordance with Operational Strategy of Children with Malnutrition Management referring to the Ministry of Health Strategy outlined in the strategy of each program within the meaning of SDIDTK operational strategy is to improve the quality and quantity of early detection through Integrated Service Posts for prevention; improve the quality and access to health services; increase Early Alert System (SKD) and extraordinary events/KLB in health surveillance.

e. Evaluation

Once parents and family conducts intensive development interventions for 2 weeks and nutritional counseling for 1 month, children need to evaluate whether there is progress in the children development and growth. Children development is evaluated using toddler growth and development evaluation flow.

## 5. CONCLUSION

The improvement of Toddlers SDIDTK knowledge program is a priority problem.The lack of commitment of all parties tothis program became the root of the main problem why this program did not work properly which resulted in a poor quality of toddlers and high rates of toddlersmorbidity.

**SARAN**

It requires programmed and continuously improvement of knowledge and the establishment of Toddlers Growth and Development Forum involving all sectors, programs and community expected to reduce toddler morbidity rate and toddler growth and development irregularities.

## 6. BIBLIOGRAPHY


1. WHO. Millennium Development Goals (MDGs). [Online] 2015. [Dikutip:1512 2015.] http://www.who.int/topics/millennium_development_goals/en/.
2. Hartono, S. M.*Promosi Kesehatan di Puskesmas dan Rumah Sakit.* Jakarta : PT Rineka Cipta, 2010.
3. Department of Health of the Republic of Indonesia.*Pedoman Kerja Puskesmas Mengacu Indonesia Sehat 2010.* Jakarta : Department of Health of the Republic of Indonesia, 2003.
4. Irmawati.*Analisis Hubungan Fungsi Manajemen Pelaksana Kegiatan Stimulasi Deteksi dan Intervensi Dini Tumbuh Kembang (SDIDTK) dengan Cakupan SDIDTK Balita dan Anak Pra Sekolah di Puskesmas Kota Semarang Tahun 2007.* Semarang : Semarang State University, 2007.
5. Handoko, T. H.*Manajemen (Edisi 2).* Yogyakarta : BPFE, 2001.
6. Depkes. Stimulasi Intervensi Dini Tumbuh Kembang. [Online] 2011. [Dikutip: 19 02 2013.] http://www.kesehatan anak.depkes.go.id.
7. —. *Pedoman Pelaksanaan Stimulasi, Deteksi dan Intervensi Dini Tumbuh Kembang Anak di Tingkat Pelayanan Dasar.* Jakarta : General of Development of Community Health, 2007.
8. Health Office.*Buku Kesehatan Ibu dan Anak (p.67).* Bukittinggi : Health Office of Bukittinggi City, 2011.
9. Department of Health of the Republic of Indonesia. Pelayanan Stimulasi Deteksi Intervensi Dini Tumbuh Kembang Anak. [Online] 2010. [Dikutip: 15 12 2015.] http://www.depkes.go.id/pdf.php?id=1137.
10. *A Better Start in Life : Evaluation Results from an Early Childhood Development Program.* Soccoro, A. G. dan King, Elizabeth M. 101, 28 pgs, Makati : Philippine Journal of Development, 2006, Vol. 33, lss. 1/2.
11. Wijono, J.*Manajemen Kepemimpinan dan Organisasi Kesehatan.* Surabaya : Airlangga University, 1997.
12. Soetjiningsih, Gde Ranuh.*Tumbuh Kembang Anak [Edisi 2].* Jakarta : EGC, 2014.
13. Tanuwijaya, S.*Konsep Umum Tumbuh dan Kembang.* Jakarta : EGC, 2003.
14. Azwar, A.*Pengantar Administrasi Kesehatan (Edisi ke Tiga).* Jakarta : Binarupa Aksara, 1997.
15. Department of Health of the Republic of Indonesia.*Pedoman Penyelenggaraan Pelatihan Tata Laksana Anak Gizi Buruk.* Jakarta : Department of Health of the Republic of Indonesia, 2007.