

Empowerment of Infant Mother to Elimination Diphtheria Disease through Environmental Management

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Abstract. Diphtheria disease in Indonesia continues to occur even tend to increase in 2011 identified 511 cases with 2.3% case fatality rate in January to 593 cases spread 95 districts and 20 provinces with death cases 32 cases in November 2017. The extraordinary case of diphtheria has spread to 28 provinces in Indonesia. This suggests that some of the factors contributing to the current high incidence of diphtheria in Indonesia support the occurrence of diphtheria. Factor causes are unhealthy environment. Therefore the environment becomes a very potential intermediary for preventing diphtheria or disease. The target of this devotional activity is self-protection and early detection of diphtheria disease in children and society in general. This is done by the healthy arrangement of the environment. The government efforts to prevent and reduce health problems and socio-economic losses due to diphtheria disease in the community. Empowering mother for the elimination of diphtheria disease through environmental arrangement is an effective effort in preventing diphtheria disease in toddlers because it can break the chain of diphtheria circulation. In addition to improving knowledge of mother and children that support the attitude and right action about diphtheria so that can protect themselves not to contract with diphtheria disease.

1 INTRODUCTION

1.1 Background

Infectious diseases in children under five this time there is an increase in the form of extraordinary because there is a decrease in endurance of children under five and associated with socioeconomic and nutritional impacts. The low purchasing power of the people can not provide nutritious food for their children. The child's immune system can be enhanced by providing nutritious good nutrition and complete immunization for optimal immune system.

Diphtheria is one of the most contagious diseases. The disease is caused by a bacterial infection of corynebacterium diphtheriae, a bacterium that infects the respiratory tract, especially the tonsils, nasopharynx (the part between the nose and the pharynx/throat) and the larynx. Transmission of airborne diphtheria (air borne disease) through coughing or sneezing of the patient who airs the air or other objects it contacts with the cough splashes of the patient. In addition diphtheria can also infect skin burns and mucous membranes.

Diphtheria is a potentially life-threatening infection that can cause death from complications in vital organs in the body. According to the World Health Organization (WHO) in 2016, there are 7.097 cases of diphtheria worldwide. Indonesia found 342 cases of diphtheria sufferers. Nearly 90% of infected people do not have a complete history of diphtheria immunization. This suggests that immunization is very important in preventing the occurrence of diphtheria. Complete basic immunization was administered 3 times, followed by DT immunization (Tetan tetanus) when the child was in primary school age, continued to be immunized with Tetanus Diphtheria (TD) to keep immune to diphtheria. Diphtheria disease in Indonesia continues to occur even tend to increase in 2011 identified 511 cases 12 cases died with case fatality rate of 2.3% in January to November 2017 recorded 593 cases spread 95 districts and 20 provinces with cases of death 32 cases of CFR in Indonesia is 9.3%. Based on basic health research in 2013, immunization coverage for children aged 2-6 years in Indonesia is only 75.6%, below of the coverage 90%. It means there are still 24.6% of children who have not been immunized that potentially infected with diphtheria and the

cause of the spread of diphtheria. The low DPT immunization coverage was Papua 40.8% Maluku 53.8% and Aceh 52.9%.

The spread of diphtheria-causing bacteria generally occurs easily in patients in densely populated environments and hygiene is not maintained. Transmission that generally occurs is exposed to splashes of patients when sneezing or coughing, contaminated items such as children's toys, towels, and others, or direct touch through the wound or skin of the patient. Based on this, the community service activities that aim to manage the environment are very important in the effort to eliminate and prevent diphtheria disease.

Environmental arrangement aims to prevent the existence of bacteria that cause diphtheria by cleaning the environment from garbage or other impurities in the house, around the house, and environment in the village. To prevent diphtheria disease need to maintain cleanliness of the environment with a clean air circulation, maintain personal hygiene and avoid direct contact with patients.

The success of clean environmental arrangement can prevent transmission of diphtheria disease. This is because the nearest mother in children who hold the decision in environmental management around the house. The environment in which children love to gather for example at school, in the playground is necessary to note because in case of extraordinary events most often contact with friends in the school or housing environment. The 100-meter radius from the patient's home is a high-risk area.

In Kelurahan Padang Bulan Selayang II and Kelurahan Asam Kumbang is a densely populated area with a lot of children under five that is 30% of population is toddler. This suggests that this area is very risky with the occurrence of diphtheria cases. In addition, this area is also classified as a region with lower middle-class economy and the level of community education is still low. Ten of the biggest diseases in this region are respiratory infection and diarrhea. This indicates that the environmental arrangement in this region is still not running well.

Rainfall and high humidity in this area often found inundated and flooded water, in this environment when heavy rain and long time also proves that environmental management in the Padang Bulan Selayang II area allows the development of infectious diseases caused by bacteria and viruses. Community service activities undertaken with empowerment of mother in these two urban villages with the arrangement of the environment are expected to eliminate diphtheria

and other diseases and can be creating a well-organized, clean and healthy environment.

1.2 Objective

To empower mother in sub-district of PB Selayang and Kelurahan Asam Kumbang is one effort to prevent and eliminate diphtheria disease. With the arrangement of this environment is expected to prevent acute respiratory infection disease one of his diphtheria and diarrhea that has been experienced by many toddlers. It also creates a clean and healthy environment.

1.3 Benefit

1. Against children and society can protect themselves against transmission of diphtheria disease.
2. To the community can create a clean and healthy environment.
3. Against the government can prevent and reduce socio-economic losses due to diphtheria disease.

2 METHOD OF SCIENCE AND TECHNOLOGY APPLICATION

2.1 Method of Approach Used in Program Devotion

The method of approach taken during the devotion to partners is by empowering the mother through various stages of training, guidance and assistance to targeted children and health officers who become partners. Measurement of knowledge changes and attitudes toward the mother who became the target of dedication activity can be seen from before and after activity of devotion. Mother becomes aware of the cause of diphtheria so that it can prevent it through controlling the determinants of the disease. Through this devotion activities partners and all parents of children who became the target of devotion activities are also expected to organize a clean and healthy environment. The place where children play has a healthy air circulation to interfere with the emergence of diphtheria extraordinary.

The socialization conducted in the form of educational education by mobilizing health officers to the residents related to anticipation of transmission of diphtheria, urged parents to bring their child to immunize DPT, Complete for primary prevention stage. People also keep the environment

clean, wash hands before eating, when coughing must shut up

2.2 Implementation of Activities

Implementation of activities undertaken for problem solving, such as:

1. Socialization of service activities that is explanation about the plan of activity devotion. Socialization of devotion activities provided to all mothers under five, puskesmas officials and urban village officials in two villages with the aim to understand about the meaning and purpose of the activities of dedication. In addition, this socialization will also form the attitude and desire to want to be fully involved in the activities of dedication. Based on this case, the implementation of recruitment of infant mothers as participants more easily.
2. Recruiting toddlers as participants. Recruitment is done after the socialization of activities. All the mothers in the two urban villages who are motivated to follow the devotion activities will be asked about their willingness and commitment by the team. Recruited mothers will then follow the training.
3. Training on diphtheria. Training on diphtheria disease involves transmission of diphtheria, the causes, symptoms, prevention and treatment of diphtheria performed by a team and health workers from the puskesmas. Health workers from puskesmas are the most appropriate and accurate person to provide information and facts about diphtheria so that they are invited to submit material about diphtheria. This training is required to provide a sufficient level of understanding of the purpose and implementation of service activities. The existence of a good understanding of the activities and implementation of activities will facilitate the achievement of the purpose of community service activities.
4. Training on environmental arrangement Training on the management of the environment includes activities that must be done by the mother in creating clean and healthy environment.
5. Structuring the environment by clearing garbage in two urban villages, piling up stagnant water and repairing a compressed water channel, and providing facilities and infrastructure of environmental cleanliness such as garbage.

3 RESULTS AND DISCUSSION

3.1 Preparation for Devotional Activities

Preparation of service activities begins with a survey to PB Selayang and Asam Kumbang health center in Medan Kumbang on May 9, 2018 by the team. In the survey, the team conveyed the purpose and objectives of the activity as well as the socialization of the activities. Then plan the time of the activity and discuss the things that are needed in the implementation of the activity.

3.2 Recruit Participant of the Activities Devotion

On May 16th, 2018, the teams go to PB Selayang and Asam Kumbang Health Center to perform recruitment of participant of devotion activity ie mother who will be given training about diphtheria disease and environmental arrangement relationship with diphtheria prevention. Mother to be recruited strived for at least as many as 20 people from each puskesmas so that for 2 puskesmas recruited 40 mother's mother. Recruit mother is done openly and every mother has the same rights to be elected. However, the chosen mother is determined based on the assessment of the devotion team with certain characteristics that have good communication skill, support and liked by many other mothers.

3.3 Socialization of Activity on Posyandu Cadres, Head of Puskesmas, and Children of under Five Years Mothers

After recruiting the mother is held then the next team to socialize the activities. This socialization conveys about things that must be understood by the mother. In addition, training plan for improving maternal knowledge about diphtheria disease, causative factors and prevention efforts. In addition, the improvement of mother's knowledge about environmental arrangement. The implementation of counseling of diphtheria, and environmental arrangement done on Wednesday, June 6, 2018. In this counseling in addition to the attended mother was also attended by cadres and puskesmas officers.

3.4 Training on Diphtheria and Environmental Improvement on Children

After the socialization then the next activity is to conduct training on diphtheria and environmental arrangement. In this training the participants were not only mother, but also followed by several cadres and puskesmas officers from PB Selayang Public Health Center and Puskesmas Asam Kumbang. This is because they have a great curiosity about what is meant by diphtheria disease and environmental management. The material of this training is an understanding of diphtheria and its pathogenesis, its causes and prevention; understanding of the environment arrangement and its scope, the benefits and impact of environmental arrangement. In this training also presented how to do environmental arrangement to prevent diphtheria. During the training with lecture and discussion methods while playing using flipchart media and distribution of brochures about diphtheria and environmental arrangement. In the lecture exercise, it is seen that the mother, cadres and puskesmas officers are very serious and enthusiastic to listen and actively ask about things that have not been understood. Besides, it also commented on the experiences and phenomena that exist in the community. This lecture is very satisfying for mothers, cadres, and puskesmas officers who see that many of them are bluntly pointed out that this training enhances their real knowledge. In addition to improving the health of toddlers who can prevent or reduce diphtheria disease in children. The lecture materials include:

1. Definition of diphtheria, pathogenesis and its prevention.
2. Understanding of environmental management, its benefits and impacts and activities in the application of environmental management.
3. Monitoring the implementation of environmental management

In addition to lectures and discussions, the training materials are also given in the form of brochures, posters and textbooks that can be a reference for the cadres and also improve the knowledge of mother in general.

3.5 Structuring the Environment

Structuring a clean and healthy environment is a series of activities to organize a particular area to be optimally beneficial and have a good air circulation in order to create environmental sustainability and welfare of living creatures a clean environment can

prevent transmission of diseases such as diphtheria and other diseases.

After the mother gets counseling by the team of subsequent devotion to environmental stewardship, by cleaning the garbage, piling up the stagnant water and repairing the drain in the two puskesmas. The garbage scattered in the health center's yard was swept away, collected, and dumped into a waste shelter. Stagnant water at risk of mosquito breeding is closed. In addition, ditch ditch is cleaned to flow smoothly and does not have the potential to flood when heavy rain.

The implementation of this activity was carried out in mutual assistance by the parents who participated in the training and elimination of diphtheria disease and the team to the two Puskesmas. The team also provides tools for environmental management such as broom yard, waste basket and garbage pod. After the management of the environment with social cooperation and Puskesmas officers then visible Puskesmas yield to be cleaner than before the devotion activities. If an officer in charge of sweeping the Puskesmas yield is unable to attend, then it will be replaced by a friend in the next turn. The garbage that has been swept and collected is then disposed of in the trash which is also provided by the community service team. The implementation of this activity is monitored and evaluated by the Head of the health center of the Puskesmas in the Padang Bulan Selayang.

3.6 Evaluation of Mother Empowerment in Diphtheria Elimination

Evaluation result of team devotion to empowering mother of toddler to eliminate diphtheria disease found that there is increasing knowledge of mother about diphtheria disease with environmental hygiene counseling the participant can comprehend accumulated learning and experience so that it can be applied in prevention of disease that is environment-based transmission, so hopefully can prevent or eliminate diphtheria. In addition, the knowledge of mother about the effort of elimination of diphtheria through environmental management also increased with the existence of community service activity.

Based on the evaluation of the team as well as the discussion of the team with the cadres, the puskesmas officers and the mothers stated that the devotion activities performed by the team are very satisfactory and provide significant and significant

benefits to them. The obvious change seen is that the mother increased knowledge in managing the environment. The rooms and courtyards of Puskesmas also look neater and cleaner than before any community service activities. If this can take place continuously it will create a clean and healthy environment with better health of children so it will greatly support the prevention and reduction of disease.

4 CONCLUSION

1. Empowerment of mother managed to increase knowledge and skill of mother in doing environmental arrangement.
2. Mother increased her knowledge about diphtheria disease.
3. Empowerment activities for mothers can help heads of puskesmas in implementing prevention policy of diphtheria in children.
4. The existence of environmental regulation on a regular basis can prevent diphtheria in children.
5. It is expected that the head of puskesmas always monitor the environmental arrangement around the puskesmas.
6. Puskesmas officers at certain times can do counseling about diphtheria.

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