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Worm Infection in Children

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CASE REPORT

An 18 months old boy was brought to a community health center by his mother at around 11 pm with a problem of a small white worm in his rectum. According to his mother every night the patient cried aloud because it felt itchy around his rectum. The patient also had mild fever in the last 3 days and did not want to eat. The mother was very worried. The doctor completed the examination with laboratory examination and found that the Hemoglobin count was only 7.4. The mother said that her child had never been severely and chronically ill. Patient never had cough for long period nor repeatedly, never had a long fever, and no history of falls. Family history of the patient's illness was the patient's parents had no symptoms of chronic diseases such as hypertension, or diabetes mellitus, and pulmonary tuberculosis was also denied. The patient's mother had a history of worms last month, but there were no symptoms and no complaints at this time. The patient was the second child of two children who had complete Antenatal care during pregnancy: 9 visits (2 times in first trimester and 4 times in second trimester, 3 times before birth) at a Community Health Center. During pregnancy, she never got sick, did not take any medication nor herbal medicine, and had twice received Tetanus Toxoid shots. A normal delivery was assisted by a midwife with 9 months of gestation, birth weight 2600 grams, 49 cm long, spontaneous birth, and the neonate had a strong APGAR. The patient immunization history according to the mother is the child was fully immunized. Another DPT immunization was due which she had scheduled in November 2016.

The impression of the psychomotor development of the patient was quite good. The history of growth of the patient was the patient started prone at 2.5 months old, started sitting at 6 - 7 months old, was crawling at 8 months old, was standing at 9 months old, began walking at 1 year old, and was speaking at 18 months old. The patient was still

breastfed by the mother at 18 months of age. Mother started giving food as a companion with breast milk at 10 months old. Vegetables were given at the age of 10 months but the patient did not like fruits. Patient ate rice daily usually 3 up to 4 times a day with varied side dishes. Patient was also given a variety of vegetables. But patient was rarely given any meat because he could not chew it properly and if given, it must be removed later from the patient's mouth.

According to the patient's mother, the patient's habits at home were playing on the floor and on the ground and sometimes taking food that falls from the table to the floor or fell to the ground. Sometimes the patient deliberately pulled the tablecloth to drop the food from the table to take the foods off the floor and then he ate them. The patient's personal social history was the patient at home was socializing well with his peers. The patient was active at home, always moving around, thus making her mother feel overwhelmed to follow him at all times.

Biological and Psychosocial Diagnosis

The biological diagnosis was anemia caused by a pinworm disease (*Oxyuris vermicularis*) with alleged white pinworm exiting out of the rectum at night, as well as the possibility of mother-to-child transmission, and the risk of poor hygiene and sanitation in the preparation of food so that worm eggs entered through contaminated food or air.

Psychosocial diagnosis was the mother's anxiety about the worm discharge at night and itching disorders in the rectum made the mother want the child to be checked at the community health center at late night. His parents also did not know about the way of transmission of worms. In his village he often ran out of the house, and his mother helped her husband in his work and taking care of her small children. At home there was also her mother in-law so that his mother could not take the time to join Posyandu (monthly health check by the community) in their village.

The parents seemed to not adequately comprehend about the concepts of a Clean and Healthy Lifestyle because she rarely joined the Posyandu in her village. The patient was allowed to urinate and defecate around the house, and they rarely washed their hands using soap prior to meal time. After several home visits, it was found that there was only one latrine in the house and it was prioritized for the use of his father. His mother is a candle ice seller for elementary school students near his home. Therefore this health problem may result in other children, and families in the surrounding community will be infected with worm disease and there will be an outbreak of worms among all of the villagers.

PROBLEMS

The problem in this case was not about medical treatment of a pinworm disease, which was probably easily treated with antihelmintic within 1-2 days. At a glance this problem seems trivial, however, the interesting and challenging aspects of the above case are¹: 1) How to maintain the sustainability of clean and healthy life behavior by patients and their families, so the risk of worm infection does not occur in the future; 2) Behavior and use of latrines in the family where only 1 exists for all family members, to be healthy and regularly managed; and 3) How to educate the mother of the patient that this worm infection can occur in an outbreak, if the healthy lifestyle is not properly done while she keeps selling candle ice for elementary school children near their home.

DISCUSSIONS

The problem faced by this family is lack of knowledge about the importance of a Clean and Healthy Lifestyle. So it is necessary to educate the patient's family about the concepts of a Clean and Healthy Lifestyle². One of the important parts about the Clean and Healthy Lifestyle is the use of a properly cleaned and maintained latrine, because during this time the patient's mother is not using the toilet properly so that her child is directed to urinate and defecate in the yard. Mothers and other family members of patients also need to get information about the importance of avoiding contact with soil contaminated with feces. Pinworm eggs are very small and can be transmitted by inhalation (through the air), through human contact with humans, through human contact during food preparation, involving adherence to human skin, or transmission through shared goods (e.g. towels, cutlery and drinks contained eggs Pinworms)³. Therefore, if personal hygiene is not maintained, the Pinworm eggs may enter into our bodies. For other types of worms, transmission can take place through feces in soil contaminated with worm eggs (e.g. *Ascaris lumbricoides*)⁴. Hand washing with soap before and after activities are important to break the Pinworm cycle. The condition of the house must be kept clean, so that the worms cannot survive in that place. Treatment with pirantel pamoat dose of 10mg / kg BW for 3 days is effective to kill pinworms⁵.

In giving education about a Clean and Healthy Lifestyle we need to explore the obstacles of his mother and family in getting access to clean water to wash hands, considering that the water is rather difficult to get in the Gunung Kidul

area due to seasonal drought. Thereafter, it is necessary to explore the extent to which mother may seek to remove such obstacles to health and how the doctor discusses alternative solutions that are available for the family. The dialogue effort with the patient's mother in this case can be done with the following 8 questions from Arthur Kleinman⁶:

Kleinman's Questions

The following questions can help you relate to your patient on his or her level.

1. What do you think has caused your problem?
2. Why do you think it started when it did?
3. What do you think your problem does inside your body?
4. How severe is your problem? Will it have a short or long course?
5. What kind of treatment do you think you should receive?
6. What are the most important results you hope to receive from this treatment?
7. What are the chief problems your illness has caused you?
8. What do you fear most about your illness/treatment?

Harvard physician and anthropologist Arthur Kleinman studied how cultural beliefs impact an individual's understanding of health and illness. Kleinman's work offers an approach to understand the patient's "illness narrative." The wording of questions should vary with characteristics of the patient, the problem and the setting. Patients may hesitate to disclose their beliefs, so patience and a genuine interest are important. The goal of the question is to elicit a patient's understanding of their health.

The author tried to use these 8 questions with the patient's mother in this case:

1. What do you think causes the illness of the patient?
"Do not want to eat, hard to eat."
2. When do you think the start of this worm?
"I do not know, just he did not want to eat, had a fever and crying because of the itchiness. I took him to the health center."
His body was in mild fever for 3 days, record is kept in that haemoglobin (Hb) concentration just 7.4, it was in August (3 months ago). Continue to check again month to month, which month... September to the health center was 7.9. Last month to the community health center again, his Hb was 8.2. Have started to eat, already given medicine.
3. What is the result of this worm infection on your son's body, do you know?
"I do not know." * laugh *
4. Do you think this worm is easy to cure or requires a long period of time?
"Yeah, need a decent time." * laugh *
5. What kind of treatment do you expect?
"Give medicine, uhm potent medicine, the medicine has to be good." * laugh *
(Probing) Yesterday you have been told by Mrs. Midwife, how?
"Not yet."

6. What results do you expect from the treatment?
"The maximum."
7. What are the consequences of this worm?
"His stomach hurts."
8. What do you worry about most of all, as a result of this worm?
"Yes, I'm really worry if he is sick constantly."
 - (Probing) And then, how is he?
*laugh * "Do not want to eat."
 - (Probing) yeah, what are the consequences? If your son does not want to eat continue how the condition of his body?
*laugh * "yeah, he becomes fatigued."
* laugh *
 - (Probing) And then, what if the fatigue continues, how do you respond?
laugh No Answer.
 - (Prompt education) He can be in a severe anemia, the condition of his body will become not good, if it continues, it can disturb his growth, do you understand?
"Like a... His HB is difficult to increase?"
 - (Prompt education). True, if anemia, lack of blood, nutrients to the brain decrease, then the intelligence may decline.
"Yes"

By knowing the patient's perception of his illness, the doctor will know how much information should be given to the patient. In addition, doctor can pursue two-way dialogue so that the appropriate information can be given at the right time. In the example above, doctors can observe how much information is needed on the subject of worms and based on which information is known to the patient's mother. Furthermore, the decision-making process can be done in conjunction with the patient, once he or she (in this case the patient's parent) gets sufficient information related to his or her health problems.

In the case of other diseases, using the same 8 questions, perhaps the doctors will find different perceptions of patients related to the disease. It is by understanding the patient's perceptions that physicians can assess or use existing data, to help make the diagnosis, to help provide information on medical and non-medical therapy, and assess how complex are the patient's problems. Thus giving inaccurate information, too much, not at the right time, can be avoided. Furthermore, the management of the patient's health condition becomes more effective because the doctor involves the patient in thinking about the choices and shares decision making by providing space in the discussion and opportunity for the patient to contribute their thoughts. In this case, anxiety, suspicion, uncertainty, ignorance, assumptions can be avoided or kept to a minimum. Thus, health management is carried out in partnership between health care workers and their patients.

The eight questions from Arthur Kleinman can be done for all health problems. Doctors may try to explore the patient's perspectives through the use of the above 8

questions and seek to establish a more healthy dialogue with the patient.

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