



## Review Article

# Fifth's disease in children and role of community health officer

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## ABSTRACT

Fifth's disease it is more common condition in children's age group of 5 to 15 years old and some time it will be sever in pregnant women and individual with compromised immune system. It is also named as erythema infectiosum, slapped cheek disease and most common cause is par virus B19. This is airborne virus leads to spread through saliva and respiratory secretions among children who are in elementary school period. This condition is more common during winter, spring early summer but it may spread at any time have been happens at any age group. The most common clinical symptoms are like distinctive red rash on the face that makes a child appear to have a slapped cheek and a few days later, the rash spreads down to the trunk, arms, and legs and it usually lasts 1 to 3 weeks and along with we can see head ache, fatigue, low-grade fever, sore throat, nausea, runny nose. In this kind of conditions at community level the community health officer who is in-charge of health and wellness center must diagnose the disease by clinical examination of the child and send for the specific clinical antibody test. To have relieve from those clinical symptoms must use acetaminophen that is Tylenol and intravenous immunoglobulin (IVIG) can be administered. This treatment is usually reserved for severe, life-threatening cases. The community health officer must advice non pharmacological methods like tacking adequate rest, drinking plenty of water and adequate nutrition, supplementary fluids.

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## 1. Introduction

Fifth disease is a virus that causes a bright red rash to appear on the cheeks. It's most commonly seen in school-aged children. Fifth disease is contagious and spreads easily from person to person.<sup>1</sup> this condition also called slapped-cheek disease because of the distinctive face rash that develops. Parvovirus infection has also been known as fifth disease because, historically, it was fifth in a list of common childhood illnesses characterized by a rash.<sup>2</sup> Fifth disease is caused by parvovirus B19. This parvovirus only infects humans. Other forms of the virus can infect dogs and cats. Fifth disease is spread through blood and by respiratory droplets that enter the air when an infected person coughs or sneezes. Adults who work with young children – such as child care providers, teachers, and health care workers –

are most likely to be exposed. By the time the rash appears, children are no longer contagious and may attend school or day care. The incubation period is usually 4-14 days, but it can be as long as 21 days.<sup>3</sup> the most common symptoms are Mild fever, Mild headache, Cold-like symptoms Fatigue, Mild muscle or joint pain and swelling, especially in older children and women, Bright red, slapped cheek rash on face. The community health officer during such cases must advice symptomatic treatment and administered acetaminophen or ibuprofen. Advice at community level to the mother of child and family regarding Wash hands often, Cover the mouth and nose when coughing or sneezing, Avoid touching the mouth or nose.

## 2. Definition

Fifth disease is a mild rash illness caused by parvovirus B19. It is more common in children than adults. A person

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usually gets sick with fifth disease within 14 days after getting infected with parvovirus B19.<sup>4</sup>

Fifth disease is viral illness that most kids recover from quickly and without complications. Also called erythema infectiosum, it's caused by parvovirus B19. It's especially common in kids ages 5 to 15.<sup>5</sup>

### 2.1. Causative agent

Fifth disease is an infection caused by a virus called parvovirus B19.<sup>6</sup>

### 2.2. Incubation period

Fifth disease has 3 stages

1. **The first stage:** (incubation period) lasts 7 to 14 days. This is when the child can spread the disease to others without knowing.
2. **Second stage:** starts 2 to 3 weeks after exposure. This is when the child is no longer contagious.
3. **Third stage:** may last 1 to 3 weeks.<sup>7</sup>

### 2.3. Mode of transmission

Parvovirus B19—which causes fifth disease—spreads through respiratory secretions, such as saliva, sputum, or nasal mucus, when an infected person coughs or sneezes.<sup>4</sup>

### 2.4. Clinical Manifestation

1. Mild rash illness
2. Slapped-cheek
3. Low-grade fever and tiredness
4. Joint pain
5. A pregnant woman with parvovirus B19 infection can pass the virus to her baby, and may cause foetal death.
6. It can also lead to severe anaemia in patients with low immunity
7. Head ache
8. Fatigue
9. Sore throat
10. Nausea
11. Runny nose<sup>8</sup>

### 2.5. Diagnostic evaluation

1. A blood test to detect parvovirus B19 antibody
2. Bone marrow;
3. Fetal cord blood or amniotic fluid may be collected to test for fetal parvovirus B19 infection.<sup>9</sup>

## Treatment and Preventive Methods

1. Typically, OTC pain medication, such as Tylenol and ibuprofen. These medications can help reduce swelling and joint pain. And symptomatic treatment

2. Cover the mouth and nose when coughing or sneezing, Avoid touching the mouth or nose.<sup>10</sup>

### 2.6. Role of community health officer

1. **Health Awareness Campaign:** The community health officer have tremendous role to prevent this kind of contagious disease at community level by conducting health awareness campaign regarding fifth disease.
2. **Public Notice:** in cases of pandemic fifth disease the community health officer must have public notice about the situation and create sense of fifth disease in community level.
3. **Health education:** The community health officer have to give health education like mask wearing, hand washing, sanitizer using for the hands, physical distance maintaining etc about fifth disease and make a valuable education to the public in the community and try to control the health hazard about fifth disease.
4. **Act as a physician:** The community health officer must act as a physician to treat the fifth disease in children and make the mother and family aware of it.
5. **Evaluating the health of patients and creating treatment plans:** The community health officer must evaluate the patients conduction by doing every day follow-up and plane for the treatment plan.
6. **Monitoring patients for any changes in condition:** The community health officer must monitor patient in case of serious illness and adverse drug reaction.
7. **Developing a relationship with patients and following up to track progress:** The community health officer must have good interpersonal skill to develop patient follow-up
8. **Teacher:** The community health officer must act as a teacher, and he or she must teach the community people and child of the mother and family about fifth disease and its control and preventive measures.
9. **Direct care provider:** The community health officer must would give direct care to the community people because he or she is the front line health provider at community setting, so he or she must act as direct care provider to prevention, promotion and cure of health of child who had been suffered by the fifth disease.
10. **Counselor:** The community health officer must act as counselor in the community setting. In this situation he or she clear the doubts of mother and children of the family regarding fifth disease.
11. **Advocate:** The community health officer must act as advocate to mother, child, and family and the community area in promotion of health, prevention of fifth disease.
12. **Manager:** The community health officer must act as manager like he or she could manage the fifth disease condition in the community for promotion of health of the child.

13. *Case finder*: The community health officer must find out the contagious disease like fifth disease and advice the child and the mother about treatment modalities and preventive measures.
14. *Epidemiologist*: The community health officer must act as epidemiologist it means he or she must treat the community about spreading of communicable disease and could make aware of people about fifth disease.<sup>11</sup>

### 3. Conclusion

The fifth disease is a contagious diseases which is more common in children's and immune compromised patients and rarely in pregnant women. Will be spread by droplet and sneezing and Causative agent is parvovirus B19. This virus would create number of symptoms like Slapped-cheek Low-grade fever and tiredness, Joint pain, this kind of communicable disease are more common in the community setting so the community health officer have more responsibility to treat this kind of health problems and must be treated with ibuprofen and symptomatic treatment could be preferred. The community health officer must create a awareness in the community about this condition and make public and mother of child and family to have sense about it and can be prevent it.

### 4. Source of Funding

None.

### 5. Conflict of Interest

None.

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