

Nursing Care of the Client with Dengue Fever: Nepal Perspective

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ABSTRACT

Dengue is an acute viral illness caused by RNA virus of the family Flaviviridae and spread by *Aedes* mosquitoes. Presenting features may range from asymptomatic fever to dreadful complications such as hemorrhagic fever, shock associated with other symptoms of muscles and joint pain, cutaneous rash etc. Early and accurate diagnosis is critical with good nursing care and vigilant treatment may reduce the mortality. Although dengue virus infection is usually self-limiting, it has come up as a public health challenge in our country.

This paper has the synthesis of reviews with short epidemiology, transmission cycle, clinical and laboratory diagnosis, surveillance, prevention and nursing care. The content has been extracted from various reports and publications through online access and also reviewed the national guidelines of Nepal.

Keywords: Dengue, Hemorrhagic fever, Nursing care, Prevention and Control

INTRODUCTION

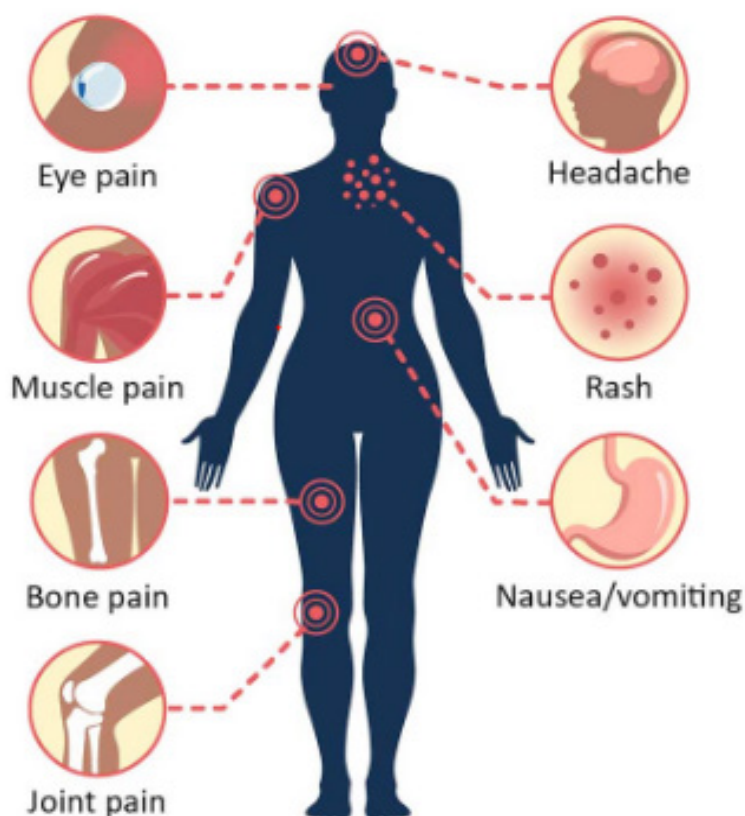
Dengue is caused by a virus of the Flaviviridae family, a mosquito-borne viral disease transmitted by female mosquitoes by *Aedes aegypti* and, to a lesser extent, *Ae. Albopictus* with other four distinct viruses that can infect human. WHO has classified dengue as Dengue without warning, with warning signs and Severe Dengue (WHO, 2009). Dengue is widespread throughout the tropics, with local variations in risk influenced by rainfall, temperature and unplanned rapid urbanization (Brady, et al; 2012).

Dengue affects most Asian and Latin American countries and has become a leading cause of hospitalization and death among children and adults in recent decades. This disease is now endemic in more than 100 countries. The outbreak pattern of this infection has seen in Delhi, India since 2006, United States 2015 and Pacific Island countries in 2016. An estimated 5,00,000 people have severe dengue require hospitalization each year, and case fatality have been reduced to less than 1% with significant improvement in case management through capacity building at country level (WHO, 2020).

In the context of Nepal, the outbreak has been seen in different time series from 2004. The number of reported cases has significantly increased in different parts of Nepal ranging from plain Terai to west to east (Khetan, et al; 2018). The largest outbreak was seen in 2019 with 14442 cases (WHO, 2020). Most of these cases were observed in the district of Chitwan, Kaski, Kathmandu, Rupandehi and Makawanpur. Till to date total 68 districts has reported such cases (Adhikari & Subedi, 2020).

According to Nepal Epidemiological Disease Control Department (EDCD 2019) clinical features varied from mild to severe characterized with flu like symptoms such as high fever of (40°C/104°F), rashes, severe headache, eyes pain, muscle and joint pains, nausea, vomiting, swollen glands which usually last for 2–7 days, commonly termed as the critical phase and typically most people recover in this stage. In the other hand the severe dengue is life threatening, where fever starts below 38°C with severe abdominal pain, persistent vomiting, rapid breathing, bleeding gums, fatigue restlessness and blood in vomit. These symptoms are due to plasma leaking, fluid accumulation, respiratory distress, severe bleeding and organ impairment. The next 24–48 hours of the critical stage can be lethal, hence, proper

medical and nursing care is important. Diagnostic test ranges from Virological, Serological test including full blood count and occult blood (Wang & Sekaran, 2010).



Common features of Dengue

Dengue control programme strategies and activities in Nepal (GoN, MOHP Annual Report, 2074/75)

Strategies	Activities carried out
<ul style="list-style-type: none"> • Early case detection, diagnosis, management and reporting • Regular monitoring of dengue surveillance. • Mosquito vector surveillance in municipalities. • The integrated vector control approach where combinations of several approaches are directed towards containment and source reductions 	<ul style="list-style-type: none"> • Training physician, nurses, paramedics and laboratory technicians for case detection, diagnosis, management and reporting. • Orientation to municipality stakeholders. • Supply of rapid diagnostic test kits. • Case monitoring and vector surveillance. • Search and destruction of dengue vector larvae • Develop and disseminate health educational messages.

Treatment and Nursing management: There is no specific treatment for dengue fever. Symptomatic management is crucial and quality nursing care and timely management will help to improve patient's outcome.

Nursing Care Plan of Patient with Dengue Fever

Nursing Assessment	Nursing Diagnosis	Nursing Intervention
Assess the vital signs: Temperature, Pulse, Respiration, Blood Pressure, Spo2, Pain level	<ul style="list-style-type: none"> • Alteration in thermoregulation • Risk for ineffective tissue perfusion related to failure of the circulatory system. • Risk for shock related to dysfunction in the circulatory system. 	<ul style="list-style-type: none"> • Mild fever can be reduced by applying tepid cold sponging, whereas high fever needs Antipyretics such as Paracetamol or Acetaminophen. • Offer drinks that have low temperature, but do not induce chills, it may conserve more energy. • Check temperature half hourly and record to assess general condition of patient initially and at least every four hourly later. • Assess the general condition of patient to know the progress and regression of diseases.
Evaluation of capillary refill and skin color for bleeding in various sites.	<ul style="list-style-type: none"> • Risk for bleeding related to possible impaired liver function. • Deficient fluid volume related to vascular leakage. 	<ul style="list-style-type: none"> • Assessment of increased capillary permeability. • Observe for nasal bleeding, petechiae over the skin and manage accordingly • Documentation of findings and timely reporting.
Assessment of the urine output for scanty urine	<ul style="list-style-type: none"> • Alteration in urinary output: • Deficient fluid volume related to vascular leakage in the body. 	<ul style="list-style-type: none"> • Maintain intake and output chart strictly. • Encourage fluids at least 3 liters (3000ml) per day to washout waste products as well as viruses and to compensate fluid loss through sweating.
Assess for abdominal pain and severe headaches.	<ul style="list-style-type: none"> • Alteration in comfort: pain in abdomen, headache and restlessness. 	<ul style="list-style-type: none"> • Maintain calm and quiet environment, so that patient gets enough rest to conserve energy and not to interrupt during sleep. • Maintain physical and mental peace. • Limit patient's physical activity and help to change position regularly. • Help to relieve pain and keep the clothing light and non-irritating. • Pay particular attention to pressure areas of patient with prolonged confinement to bed especially with elderly people, frequent change of position and skin care. • Provide comfortable mattress. • Administer other medicines as prescribed.
Assess for appetite and state of nausea and vomiting.	<ul style="list-style-type: none"> • Alteration in appetite, nausea and vomiting. 	<ul style="list-style-type: none"> • Serve soft easily digestible, high nutritive foods four to five times daily. • Offer oral care and help to stay hydrated. • Nutritious diet, rich in protein and vitamins are to be served in order to repair wear and tear of the body tissues. • Offer attractive serving of food to stimulate appetite.

CONCLUSION

Dengue is a mosquito borne viral disease that has spread in many countries worldwide in recent years. In Nepal dengue is rapidly emerging disease with multiple symptoms varying from mild to hemorrhagic fever resulting fatal condition. Prevention, clinical case management, surveillance, vector control and outbreak responses are ongoing steps in Nepal as per national guidelines. Quality nursing assessment and care are the gateway to reduce morbidity and mortality.

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