

# Strategic nursing care in Ebola viral outbreak and care for infected patients

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**Abstract:** In Cameroon, we have not yet experienced any outbreak of Ebola Virus disease. But Cameroon's closest neighbor, Nigeria, has that experience. Cameroon is strategically located in Africa with a geography and behavioral pattern that is similar with all the Ebola infected countries. In this paper, a proposed strategic nursing care protocol such as: Surveillance and notification plan, hospital and human resource re-enforcement plan, how strategic nursing care with respect to community mobilization of resources should be planned, in anticipation of any Ebola outbreak in the country is provided in the form of a proposal to be adopted in case of a sudden outbreak.

**Keywords:** Ebola, Epidemic, Strategic, Nursing, Care, Preparedness, Cameroon

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## 1. Introduction

Ebola viral disease, hitherto known as Ebola hemorrhagic fever, is a very severe, highly infectious (contagious) and fatal zoonotic illness in humans with a case fatality rate of about 90%. There is a lot of literature about this disease in various related domains but the most important component is how to handle this disease and cope with it practically. Infected patients require intensive nursing / supportive care since, as at now, there is neither a licensed specific treatment nor a vaccine for use on both humans and animals. It is therefore incumbent on nurses to develop appropriate strategies of care as well as sensitize the public with regard to this disease. It is worth noting that strategic nursing care for this disease is not only limited to the hospital milieu but beyond. This is due to the fact that nurses of various categories and specialties are found not only in the hospital milieu but also in clinics, nursing homes, communities, health centers etc. Strategic nursing care in Ebola Viral Outbreak and care for infected patients is mandatory.

## 2. Hospital Strengthening

Hospital strengthening requires both resources and training. These resources include human resources, material and financial resources, time and space. Capacity building of personnel with a focus on this deadly disease is very essential, including the prompt supply of equipment and consumables. Governments and ministries ought to organize strategic seminars, workshops and refresher courses geared at updating the knowledge and skills of health personnel in order to attain an acceptable level of preparedness towards the fight against this deadly disease. Improvements will be useful in preventing many other infections, including hepatitis C and human immunodeficiency viruses.

There is therefore dire need for marked economic, political and cultural innovations.

## 3. Surveillance and Notification

This involves the following components:

Case definition.

- A suspected case will present with an acute onset of fever which does not respond to treatment of usual causes of fever.
- Marked weakness
- Unusual bleeding.

Early recognition of suspect cases.

This entails complete alertness and keeping an open eye on the first appearance of the virus in the human community. As soon as the first case is suspected, it should be verified, validated, confirmed and the appropriate channel respected to notify the health authorities, and the population educated and sensitized about the disease.

Barrier nursing.

This should begin at once in order to decrease the chances of spread of the disease.

The ability to obtain a skin sample safely and without cold chain problems may give an earlier warning.

### 3.1. Organization of Care

This should include the following key components:

- Creation of an isolation / barrier-nursing ward.
- Improvement of hygienic conditions in the hospital and the protection of health care workers and family members.
- Protective equipment distributed and barrier-nursing techniques implemented.
- Treatment to include infusions and better nutritional support. It is expected that with improved medical care, the case fatality rate of EHF could be reduced.

### 3.2. Strategic Nursing Care

Community Mobilization, Health Education and Training. The community should be sensitized about this disease through regular meetings of advocacy and lobbying with opinion leaders, traditional rulers, influential groups and NGOs, religious institutions, dialogue structures, stake holders, etc. During health education and training sessions key messages are communicated in very simple common language to members of the community and community health actors.

All body fluids (blood, saliva, sweat, urine, semen and stool etc) contain infectious virions and should be handled with great care using gloves, protective clothing, boots, caps and goggles to avoid contamination of self and others. Patients are usually dehydrated and require oral rehydration with solutions containing electrolytes, or intravenous fluids. Supportive care with attention to intravascular volume, electrolytes, nutrition, and comfort care is of benefit to the patient. Survivors can produce infectious virions for prolonged periods. Therefore, strict barrier isolation in a private room away from traffic patterns must be maintained throughout the illness. Patient's urine, stool, sputum, and blood, along with any objects that have come in contact with the patient or the patient's body fluids (such as laboratory equipment, bowls, forceps, draw sheets, mackintoshes, bed

and bedding etc), should be disinfected with a 0.5% sodium hypochlorite solution after use.

Patients who have died of Ebola virus disease should be buried promptly and with as little contact as possible. Ebola is transmissible from person to person via direct contact with an infected patient's blood or other body fluids. Airborne transmission of Reston ebolavirus is known to have occurred among primates; thus, although most cases in humans occur after direct contact with a patient or their blood or body fluids, transmission of Ebola virus via the airborne route cannot be dismissed. Infection control inside and outside of medical facilities relies on barrier protection using double gloves, fluid-impermeable gowns, face shields with eye protection, and coverings for legs and shoes. Nutrition is complicated by the patient's nausea, vomiting, and diarrhea. This is of great importance during the implementation of nursing care.

Ebola has been transmitted by sexual intercourse involving recovering men and their sex partners. Any individuals who were exposed to infected patients should be watched closely for signs of early Ebola virus disease.

## 4. Prevention and Control

### 4.1. In Animals

This entails the following:

- Control and destruction of fruit bats around piggeries, monkey farms and zoos.
- Routine daily cleaning and disinfection of piggeries, monkey farms and zoos with 0.5% sodium hypochlorite solution or any other effective disinfectant.
- Incineration of sharps and other consumables used in the care of infected patients.
- During an imminent or suspected Ebola outbreak, the premises should be quarantined immediately. Those working in quarantine settings should be well protected and should take special care not to contaminate themselves, or their family members and friends back home.
- Incineration or supervised burying of dead infected animals and fruit bats is mandatory.

### 4.2. In Humans

This should include:

- Health education of public with key messages to reduce risk.
- Reducing the risk of animal-to-man transmission from contact with infected fruit bats, monkeys or apes and / or consumption of their meat.
- Handle such animals with gloved hands and appropriate protective wear/clothing.
- Animal products should be well cooked before consumption (blood, meat, milk).
- Reducing the risk of person-to-person transmission:
  - Use of personal protective equipment such as gloves, aprons, long sleeved gowns, goggles, boots, caps and

masks and apply universal precautions.

- Injection safety.
- Safe burial practices.
- Avoid handshakes and kissing.
- Regular hand washing after manipulating and taking care of the patient.

#### 4.3. Key Take Home Strategies for the Community

- Master the case definitions.
- Refer all suspected cases to health facility.
- Report case to surveillance team.
- Barrier-nurse or treat cases in isolation unit.
- Respect universal precautions.
- Collect samples appropriately with patient's consent.
- Fill in the notification form.
- Draw up a list of contacts of suspected cases.
- Communicate with patient and family.
- In the case of death, coordinate and supervise safe burial.

## 5. Collection of Specimen

- Use aseptic technique.
- Collect whole blood in 2 tubes.
- 10ml in dry tube, 10ml in EDTA tube.
- Conserve in cold chain at +4 degrees centigrade.
- Transport immediately in biological containment (triple layers) to appropriate laboratory, well labeled and addressed together with clinical investigation form.

## Take Home Headlines

1. Use standard precautions with all patients.
2. Identify suspected cases of VHF promptly.
3. Barrier-nurse or Isolate the patient.
4. Wear protective clothing.
5. Disinfect reusable supplies and equipment.
6. Dispose of waste safely (Incineration).
7. Use and supervise safe burial practices.

8. Advanced preparation and community and education are very essential.

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