



The Comprehensive Case Study on the Child Meningitis: Meningitis Leaves Long-Term Sequels

Tarekegn Fekede*

Department of Nursing, Mettu University, Ethiopia

Abstract

Background: Pyogenic meningitis is one of the most lives threatening bacterial disease which left with long term neurologic sequela. It is the disease of pus forming bacterial infection that affects meninges and spinal cord.

Objective: This case study was analyzed, discussed and compared the psychosocial aspects of the child with pyogenic meningitis with the respective literatures and guidelines.

Results: Pyogenic meningitis leaves long term sequels.

Conclusion: Holistic health care approach; early medical care, Psychosocial interventions are very important

Keywords: Pyogenic meningitis; Pediatrics; Meningitis scar

Introduction

This case study based on the care of a child who was admitted to Gondar University referral hospital, main pediatrics ward with the medical diagnosis of SAM PLUS left-sided hemiparesis 2° to complicated pyogenic meningitis PLUS pancytopenia. For the sake of privacy, the name of the patient was not mentioned in this case scenario. Further, the psychosocial issue was discussed, analyzed & compared by searching supportive literature and guidelines, which deals with current practice of psychosocial issue in nursing care for patient with complicated pyogenic meningitis and severe acute malnutrition. Then the nursing implication & reflection based on the analysis was discussed. Finally, the nursing assessment and care plan, specifically the psychosocial aspect of the nursing intervention for pyogenic meningitis to the child & his family was described in this study.

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*Correspondence:

Tarekegn Fekede, Department of Nursing, Mettu University, Metu, Ethiopia, Tel: +251-0969544523; E-mail: fekedetarekegn88@gmail.com

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Case Presentation

This is the case 7 years old, female child comes from the rural part of North Gondar zone, Wegera district admitted to pediatrics main ward a day back. She has no history of such problem before. Her main complaint was failure to communicate of 03 day duration with low-grade fever and generalized non-pruritus' rash of 06 day duration. She also has had 02 episodes of generalized tonic-clonic seizure with face deviated to the right side and gum bleeding and symptoms of Anemia. The primary care giver was his mother and brought her to the Hospital.

Discussion

Bacterial meningitis is a severe infectious disease of the membranes lining the brain and spinal cord caused by *P. pneumoniae*, *N meningitides* and *Influenza* resulting in a high mortality and morbidity throughout the world [1]. Meningitis is the most common severe infectious disease in neonates, infants, childhood and adult individuals. Bacterial meningitis is a serious life-threatening disease with severe neurological emergency such as hearing loss, developmental disorders, and neuropsychological impairment, occurring in up to 50% of survivors of the diseases. Even though there were introduction of PCV and HiB vaccine decreases the bacterial meningitis through the world, but the Incidence is 1 to 2 million cases per year worldwide [2].

Bacterial meningitis causes neurologic related mortality and morbidity globally and elevates the risk of psychological and social problems (psychosocial problems); which may result in poor antibiotic response. The rate of and associated factors for psychosocial problems among child with meningitis was assessed in this study [3].

Comparable to other childhood illnesses, the impact of meningitis is not limited to the child

experiencing it, but affects all family members. The primary caregiver, caregivers of sick children lost half their daily productivity for an outpatient visit and a full day's productivity for each day a child was hospitalized. According to studies, a caregiver's daily productivity was assumed to equal the daily minimum wage [3].

The child meningitis had long-term effects on family members' health, particularly affecting the likelihood of family members reporting anxiety and depression. These effects extended beyond a single close family member. These findings suggest that vaccinating against meningitis will bring significant health benefits not just to those that might have contracted the illness but also to their family networks [4].

In comparable to other literature, in this case study the mother was very concerned about her child's current situation and future health. She also very worried about costs of hospitalization, medication costs and her lost income as she spent more of her time with the children.

The family members experience at least one after-effect from meningitis in the survivor. The most commonly reported after-effects were behavioral or emotional problems (28%), mild/moderate learning disabilities (16%), scarring or tissue damage (14%), balance problems (13%), and speech or language problems (11%) that needs intervention as comprehensive care for caregivers [4,5].

In addition, bacterial meningitis often causes hearing loss and is fatal in 5% to 40% of children and 20% to 50% of adults despite treatment with adequate antibiotics. This increases burdens on the caregiver, which may adversely affect their mental health. In contrast, the family's mental health may affect the development or outcomes of the long-term sequels of meningitis. The main meningeal sequels were hearing loss which accounts about 22% in child after survivors of meningitis [6].

Some literature recommends rehabilitative care for the child with severe hearing impairment was defined as the absence of an observable response at ≥ 70 dBnHL (decibel above normal adults Hearing Level) and moderate impairment was defined as no response at 50 dBnHL to 60 dBnHL hearing aids throughout their life [7].

In addition to this hearing loss, Neurological sequela occurs in a substantial amount of patients following bacterial meningitis. Most frequently reported sequela are focal neurological deficits, cognitive impairment and epilepsy which were more associated with pneumococcal and meningococcal meningitis [8].

Similar to the literature, the child in this case study also has the clinical manifestation of neurological sequels like hemiparesis, deviation of face to the right side and unable to close her eye lids.

According to some literature reveals that children with meningitis caused by *P. pneumoniae* that persist to adolescent also develops or has a greater risk to develop intellectual impairment as compared with normal children [9,10].

Similar to other literature in this case study the mother was more feels anxious for her child future and burden encountered. The mother was very concerned about the child's future health, the burden of giving care along of her life and as her child still didn't walk by herself after 1 month hospitalization.

Nursing Implication

Most of reviewed literatures applaud that, the assessment and

care of the children with bacterial meningitis was not only focused on physical aspects but also psychosocial aspects of the child & family as it has positive impact on the child's outcome. Because meningitis after *Pneumococcus pneumoniae* and *HIB* bacteria were has enormous after effect. Even though several studies recommend holistic approach of nursing care, the psychosocial aspects of the patient care of a patient with meningitis & other acute illness with chronic sequels was not commonly practiced in this set up. Due to this, many patients with meningitis were suffering from psychosocial problems. As a nurse, it important to understand such problems, I have tried to implement psychosocial interventions such as reassurance, counseling about how the patient lives with disease sequels, for the family and managing acute and chronic complication by regular exercise, adherence to medication, preventing infection, promoting positive self-image, helping child and mother to cope with social anxiety and stigmatization. Finally as recommendation, all staff members and caregivers should incorporate psychosocial aspect of meningitis patients on the assessment and care activities in order to improve the wellbeing of the patient.

Reflection

From this case study I was very notable & get new knowledge. As bacterial meningitis has a significant effect on individual's psychology, social & financially as well. In addition as a nurse we need to know & react on psychosocial influences of meningitis on the patient & his/her family and should intervene as early as possible.

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