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A Holistic Nursing Approach to Multiple Sclerosis in A Young Adult Filipino Patient: A Case Report

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Abstract: This case report details the case of a 22-year-old female diagnosed with multiple sclerosis (MS) who was admitted to a tertiary hospital for exacerbation of symptoms. The patient presented with a persistent temporal headache and loss of light perception in her left visual field. The report includes a comprehensive overview of the patient's medical history, including a history of relapsing-remitting MS, physical examination findings, and identified nursing diagnoses. A detailed plan of care with specific nursing interventions is presented, addressing both the patient's physiological and psychosocial needs, followed by an evaluation of the care provided. The report also provides principles of nursing management, emphasizing the importance of individualized and holistic care for patients with this chronic neurological condition.

Keywords: *Multiple Sclerosis, Nursing Care, Holistic, Case Report*.

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I. INTRODUCTION

Multiple Sclerosis (MS) is a chronic inflammatory disease affecting the central nervous system (CNS), leading to physical and cognitive disabilities.[1] It involves autoimmune-mediated destruction of myelinated axons.[2-4] The cause is unclear, involving genetic predisposition and environmental factors.[1] MS affects approximately 2.5 million people worldwide, with a higher prevalence in females.[2] On the other hand, there is paucity of epidemiologic data on MS in the Philippines.[5] Onset typically occurs in young adults (20-30 years). The disease course varies, with relapsing-remitting MS being the most common.[4,6] MS causes diverse neurological symptoms, including sensory loss, visual disturbance, muscle weakness, and impaired balance.[2] This report presents the case of a young adult female patient diagnosed with MS two years ago, who was admitted due to a severe headache and vision loss.

II. PATIENT PRESENTATION

The patient is a 22-year-old female admitted to a tertiary government hospital with a persistent temporal headache and loss of light perception in her left visual field. She had a history of relapsing-remitting MS, with previous episodes of sensory disturbances, leg weakness, and altered consciousness. Her current admission was prompted by an exacerbation of neurological symptoms. She was also diagnosed with Major Depressive Disorder (MDD) and Urinary Tract Infection (UTI) was found on her urinalysis and microbial culture test upon admission to the ward.

III. ASSESSMENT

Upon conducting a nursing history, it was noted that the patient is currently on her second week of hospital stay. Two weeks prior to admission, the patient was admitted to a local hospital due to a thermal burn lesion from a steam hot bath. Due to the persistent neurologic cues, the patient received five cycles of methylprednisolone pulse therapy (MPPT), and three therapeutic plasma exchange (TPE) sessions, which somehow improved the initial signs and symptoms of MS. She was maintained on pregabalin, as well as escitalopram for her MDD. She also received antibiotic therapy for UTI, and continuous psychiatric medications.

Neurological examination revealed decreased sensation and mobility in her lower extremities, and she has a history of falls due to bilateral lower extremity weakness. Her functional ability is scored as 3, indicating a need for extensive assistance with weight-bearing support. She also had a visual field defect with no visual perception in her left eye due to sclerotic lesions. An integumentary assessment revealed a thermal burn lesion on the gluteal area. She also reported experiencing mood changes, embarrassment related to incontinence and her physical condition, and disruptions in her sleep and menstrual cycle.

Cardiovascular and respiratory assessment showed vital signs within normal limits. Gastrointestinal findings include

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intermittent fecal excretion, occurring twice a day, with yellowish-brown, semi-formed stool. She reported fecal and urine incontinence, and it was noted that there was positive fluid balance.

Psychologically, the patient's mood was affected by pain and pricking sensations, making her angry or moody at times. She reported that her illness has caused significant physical changes, including lower extremity paralysis and weight gain. She reported being embarrassed by her inability to control her urine, which led her to quit school, and she also expressed embarrassment about the burn site. It was also reported that her menstruation cycle is disrupted, occurring at 3-5 month intervals, with her last menstruation two months ago characterized by excessive bleeding and pain. General findings include fatigue and reported significant physical changes, including weight gain.

Her laboratory and diagnostic tests initially revealed mild anemia and leukocytosis due to the urinary tract infection. A urine culture showed bacterial growth. Her capillary blood glucose levels were consistently high especially during her MPPT sessions. No other pertinent findings were found on all other laboratory and diagnostic tests.

➢ *Nursing Diagnoses* [7,8]

The priority nursing diagnoses encompass both physiological and psychosocial dimensions, reflecting the multifaceted impact of MS. The physiological problems are as follows:

- Impaired physical mobility related to neurological deficits, as evidenced by decreased sensation and mobility in the lower extremities and the need for assistance with ADLs. This diagnosis addresses the direct impact of MS on motor function and the resulting dependence on others for basic needs.
- Impaired urinary and bowel elimination secondary to neurological dysfunction, indicated by incontinence and altered elimination patterns. This highlights the disruption of normal physiological processes due to MS affecting nerve pathways.
- Risk for infection associated with the thermal burn and invasive procedures. This diagnosis acknowledges the vulnerability to infection due to skin compromise and medical interventions.
- Self-care deficit related to impaired mobility, necessitating assistance with feeding, bathing, and dressing. This emphasizes the functional limitations imposed by MS and the need for nursing support in daily living activities.
- Chronic pain stemming from neurological symptoms, as reported by the patient's experience of temporal headaches and pricking sensations. This diagnosis focuses on the persistent discomfort and sensory disturbances characteristic of MS. There was also impaired comfort (acute pain) related to the various physical symptoms and the presence of a thermal burn.
- Risk for disuse syndrome due to decreased mobility, posing the threat of complications like muscle atrophy and contractures. This identifies the potential consequences of prolonged immobility and the importance of preventive nursing actions.

➢ *On the Other hand, Psychosocial Nursing Problems are as follows:*

- Ineffective role performance due to functional limitations and the impact of the illness on her ability to attend school and maintain her previous roles. This diagnosis addresses the psychosocial consequences of MS on the patient's social and academic life.
- Disturbed body image associated with physical changes, incontinence, and the presence of the burn, leading to embarrassment and self-consciousness. This highlights the emotional distress and altered self-perception experienced by the patient.
- Low self-esteem evidenced by feelings of embarrassment, withdrawal from social interaction, and negative comments from others. This diagnosis underscores the psychological impact of MS on the patient's sense of self-worth.

IV. PLAN OF CARE AND NURSING INTERVENTIONS

The nursing plan of care is comprehensive, addressing both her physiological and psychosocial needs with specific interventions aimed at promoting recovery, managing symptoms, and enhancing her quality of life.

For physiological problems, several interventions were planned. To address her impaired physical mobility and risk for disuse syndrome, nurses implemented range-of-motion exercises to maintain joint flexibility and muscle strength. They also provided assistance with regular position changes to prevent skin breakdown and promote comfort. Active-assistive range-of-motion exercises were encouraged to maintain joint function and prevent muscle atrophy. Collaboration with physical therapy was essential to develop a rehabilitation program tailored to her specific needs. Additionally, the patient and her family received education on safe transfer techniques and the use of assistive devices.

In managing impaired urinary and bowel elimination, nurses initiated bladder and bowel training programs to establish a regular elimination pattern. Monitoring fluid intake and output was crucial, along with assessing for signs of urinary tract infection. Meticulous perineal care was provided to prevent skin irritation and infection. Nurses also offered emotional support and maintained a non-judgmental approach to address the patient's embarrassment related to incontinence.

To mitigate the risk of infection, strict infection control measures, including hand hygiene and sterile technique, were adhered to during wound care and invasive procedures. Meticulous wound care was provided for the thermal burn, involving regular cleaning and dressing changes. Nurses monitored for any signs and symptoms of infection, such as fever, redness, and purulent drainage. The indwelling catheter

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was managed according to protocol to minimize the risk of urinary tract infection.

For the self-care deficit, nurses provided assistance with ADLs, such as feeding, bathing, and dressing, while encouraging the patient to participate to the extent possible. Independence was promoted by breaking down tasks into smaller, more manageable steps. A supportive and encouraging environment was created to foster the patient's self-esteem.

Chronic pain was managed through the administration of analgesics as prescribed, and their effectiveness was monitored. Non-pharmacological pain management techniques, such as warm compresses, were implemented. The patient's pain level was assessed regularly, and she was encouraged to verbalize her discomfort. A calm and restful environment was provided to promote comfort.

In addition to pharmacologic management, the patient's psychosocial needs were also addressed with independent nursing interventions. For ineffective role performance, nurses assisted the patient in identifying realistic goals and developing strategies to adapt to her changed circumstances. She was encouraged to maintain social connections and participate in activities that provide a sense of purpose. Information and support regarding resources for people with disabilities was provided. The family, as well, was involved in care planning, and they received education on how to support the patient's role adjustment.

To address disturbed body image, nurses promoted a safe and supportive environment where the patient can express her feelings and concerns. Positive self-talk was encouraged, and her strengths and positive attributes were highlighted. Opportunities were provided for her to engage in activities that enhance her sense of self-worth. Education and counseling on coping strategies and resources for body image issues were also offered in collaboration with the psychiatric and clinical psychology services.

For low self-esteem, nurses provided counseling and emotional support to address her feelings of embarrassment and low self-esteem. She was encouraged to participate in decision-making and care planning to promote a sense of control. Interaction with supportive individuals and groups was facilitated. The patient's dignity and respect was maintained and advocated for.

V. EVALUATION

The evaluation of care involved ongoing assessment of the patient's response to interventions, addressing both her physical and psychosocial well-being. Physiologically, this included managing pain, improving mobility and elimination, controlling infection, promoting wound healing, monitoring nutritional status, and ensuring adequate rest. Psychosocially, the evaluation focused on her emotional state, body image, self-esteem, role performance, and her and her family's understanding of her condition and treatment. The care provided was assessed through regular monitoring, patient and family interviews, standardized tools, collaboration among healthcare providers, and review of medical records. Findings from the evaluation were used to revise the care plan as needed, especially in preparation for discharge planning.

VI. DISCUSSION

This case report highlights the complexities of managing MS, a chronic autoimmune disease with varied and unpredictable symptoms. The patient's presentation included both neurological and other medical issues, requiring a holistic approach to care. The nursing interventions focused on addressing her physical limitations, managing her symptoms, and providing psychosocial support. The importance of patient education, interdisciplinary collaboration, and individualized care planning is emphasized.

MS is characterized by inflammation and demyelination in the central nervous system, leading to a wide range of neurological deficits. The disease course can vary significantly among individuals, with relapsing-remitting MS (RRMS) being the most common initial presentation, as seen in the patient's case. The etiology of MS is complex and not fully understood, but it is believed to involve a combination of genetic susceptibility and environmental factors. [1,2]

The diagnosis of MS typically involves a combination of clinical findings, radiological evidence (MRI), and laboratory tests to rule out other conditions. The McDonald criteria are commonly used to establish the diagnosis, requiring evidence of dissemination of lesions in space and time.[9]

This case report presented several typical challenges in MS management. The unpredictable nature of relapses, the presence of both sensory and motor symptoms, and the impact of the disease on the patient's psychosocial well-being all require a comprehensive and flexible approach. The management of MS has evolved significantly in recent years, with the development of numerous disease-modifying therapies (DMTs) that aim to reduce the frequency and severity of relapses, and to slow disease progression.[10] However, the choice of DMT depends on individual patient factors, disease activity, and potential risks and benefits.

In addition to DMTs, symptomatic management plays a crucial role in improving the quality of life for MS patients. This includes addressing specific symptoms such as pain, spasticity, bladder and bowel dysfunction, and fatigue. Rehabilitation, including physical therapy, occupational therapy, and speech therapy, can help patients maintain function and independence. Psychosocial support is also essential, as MS can have a significant impact on patients' emotional well-being, self-esteem, and social relationships. Nurses play a vital role in providing holistic care to MS patients, including assessment, planning, intervention, and evaluation. They also provide education and support to patients and their families, and advocate for their needs.[3,10]

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The importance of patient education, interdisciplinary collaboration, and individualized care planning cannot be overemphasized. Patients with MS require ongoing monitoring and support to manage their condition effectively and to optimize their quality of life.

VII. CONCLUSION

This case provided valuable insights into managing MS and underscored the importance of delivering holistic care. The nursing interventions effectively improved the patient's condition and enhanced her understanding of the disease process. Key areas for improving practice, specifically in interprofessional collaborations, were highlighted in this case report.

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