Patients With Spinal Cord Injury

Developing Life Style Modification Model For Patients With Spinal Cord Injury

Thesis

Submitted for partial fulfillment of the Requirement Master Degree

In

Nursing sciences
(Medical – Surgical Nursing)
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List of Abbreviations

ABG : Arterial blood gases
AD : Autonomic dysreflexia
ASA : Anterior spinal artery
AVMs : Arteriovenous malformations
BP : Blood pressure
BUN : Blood urea nitrogen
CBC : Complete blood count
CHD : Chronic heart disease
CNS : Central nervous system
COPD : Chronic obstructive pulmonary disease
CSF : Cerebrospinal fluid
CT : Computed tomography
DNA : Deoxyribonucleic acid
DVT : Deep venous thrombosis
ECG : Electrocardiogram
EEG : Electroencephalogram
HCT : Haematocrit
HGB : Hemoglobin
L1-L2 : Lumbar1-lumbar2
LTGs : Long term goals
MRI : Magnetic resonance imaging
NG : Nasogastric tube
NPO : Nothing per mouth
NSAID : Non-steroidal anti-inflammatory drugs
NT-SCI : Non-traumatic spinal cord injury
OTC : Over the counter
PE : Pulmonary embolism
PET : Positron emission tomography
PNS : Peripheral nervous system
PTT : Partial thromboplastin time
ROM : Range of motion
SCC : Spinal cord compression
SCI : Spinal cord injury

SIADH : Syndrome of inappropriate antidiuritic hormone
STGs : Short term goals
TB : Tuberculosis
TCD : Transcranial Doppler Sonography
Temp : Temperature
TPN : Total parenteral nutrition
UTI : Urinary tract infection
VS : Vital signs
WNL : Within normal limit

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Introduction

Spinal cord injury (SCI) is an insult to the spinal cord resulting in a change, either temporary or permanent, in its normal motor, sensory, or autonomic function. Some persons lose the ability to use their legs and lower body only (paraplegic), while others lose ability from the neck down (quadriplegic). SCI often results in significant neurologic dysfunction and disability. **(Spinal Cord Injury Information Network, 2006)**

An annual incidence of 15 to 40 traumatic SCI cases per million populations has been reported worldwide. In Egypt, the Information Center in Ain-Shams University Hospital reported that 360 cases with spinal cord injury where admitted in May, June and July 2007 and out of them, 60% were with lumbar disk, 10% with cervical disk, 10%with spinal cord tumor, 20% were with infectious diseases as (abscess, hemorrhage, haematoma and inflammation). The incidence of spinal cord injury in the United States is 450,000 people living with a spinal cord injury **(Neurosurgical Association, 2005).**

Sharon (2000) mentioned that Spinal cord trauma can be caused by any number of injuries to the spine that can result from motor vehicle accidents, falls, sports injuries, industrial accidents, gunshot wounds, assault, and others. Spinal cord injuries are classified by the mechanism of injury, skeletal and neurologic level of mechanism, and completeness or degree of injury.

SCI is classified according to the person's type of loss of motor and sensory function, the following are the main types of classifications: quadriplegia involves loss of movement and sensation in all four limbs (arms and legs), paraplegia involves loss of movement and sensation in the lower half of the body, triplegia involves the loss of movement and sensation in one arm and both legs and usually results from incomplete SCI **(Ohio State University Medical Center, 2004).**

As regards symptoms**, the National Spinal Cord Injury Association (2001)** mentioned that symptoms of spinal cord damage usually appear immediately after the injury. Symptoms can develop slowly, however, if an infection or tumor is gradually increasing pressure on the spinal cord, they may include weakness, poor coordination or paralysis, particularly below the level of the injury, numbness, tingling, or loss of sensation, loss of bowel or bladder control and pain. Diagnosis identified that, a person may suffer from injury to the spinal cord in a number of ways, automobile accidents, gunshot wounds, and other forms of violence often inflict severe damage to the spinal cord, but tumors, degenerative diseases, and infections also can impair the functions of the spinal cord and its branches **Sharon, (1998).**

Regarding to treatment, **Dincher (1999)** mentioned that treatment of a spinal cord injury may be medical or surgical. The initial goals for the patient with spinal cord injury are to saving the patient's life and preventing further cord injury. the medical management of the patient with a spinal cord injury actually begins before the patient reaches the hospital, the

initial assessment of the patient involves ensuring the patency of the airway, adequate breathing, and circulation. If the person is unconscious or is unable to maintain an airway, the chin lift or jaw-thrust maneuver should be used to establish an airway.

The usual treatment for spinal cord tumors is surgery with or without radiation and chemotherapy. The dose and drug choice depend upon the type of tumor and location. The decision to perform surgery on a patient with a spinal cord injury often depends on certain criteria, which include evidence of cord compression , progressive neurologic deficit , compound fracture of the vertebrae, presence of bony fragments that may dislodge and penetrate the cord and penetrating wounds of the spinal cord or surrounding structures (gunshot, knife wound) **(Schattake, 2002).**

In relation to nursing management, **the National Institute of Health (2006),** stated that the nurse who cares for the SCI patient during the acute phase provides the assessment, implementation of routine care, and critical interventions necessary for survival. Although this group of patients require the coordinated efforts of a multidisciplinary team for rehabilitation, rehabilitation after spinal cord injury seeks to prevent complications, promote recovery, and make the most of remaining functions. As reported by **(Perry, 2005).** Rehabilitation is a complex and long-term process. It requires a team of professionals, including a neurologist, physiatrist or rehabilitation specialist, physical therapist, and occupational therapist.

Regarding to life style, **Smith (2007)** define life style, as a way of life or style of living that reflects the attitudes and values of a person or group. Individuals' healthy and unhealthy habits ultimately determine their health and life expectancy. For individuals with spinal cord injuries, healthy habits include physical activity appropriate to their neurologic level of injury. At a minimum, this means performing range-of-motion and, if possible, voluntary muscle exercises. Other healthy habits include maintaining regular, adequate bowel programs and avoiding excessive constipation. A good bladder management program, preventing urinary tract infections, and preventing backup of urine to the kidneys will help sustain healthy kidney function into older age. Healthy diet and proper nutrition also are important.

A diet low in fat and processed carbohydrates, high in complex carbohydrates and protein is important. A healthy diet also includes sufficient fiber to promote proper bowel function as well as helping to maintain good bowel programs. For healthy lungs, avoid cigarette smoking and secondhand smoke. Finally, annual checkups with a physician familiar with spinal cord injury issues are beneficial and provide the opportunity to gain additional information about staying healthy. **(Sharon , 2006).**

There are many different factors influencing the health and life expectancy of individuals with spinal cord injuries. Each individual needs to decide how she/he can improve her/his health and take steps to improve it; this can be done individually, in a group setting, or in concert with a health care provider familiar with spinal cord injury. You are on the right

track with these questions. I encourage you to continue pursuing information about what you can do to have a healthy life with fewer medical problems. I applaud your decision to take an active role in adopting and maintaining a healthy life style **(Lewis, 2005).**

Significance of the Study

Traumatic injuries are a major public health problem imposing greater burden on modern society than other diseases. As a result of increased the rate of morbidity and mortality of spinal cord injury in underdeveloped countries in which , 1400 cases are admitted annually in neuro surgery debartmants at Ain Shams Universty Hospital and most traumas to the spinal cord injury cause permanent disability or loss of movement (paralysis) and sensation below the site of injury.

Otherwise, from the clinical experience and observation for the actual situation it is obvious that SCI patients have knowledge deficit about the disease some of patients have poorly performance of ADL and characterized by unhealthy lifestyles. So this study have been conducted to assess knowledge and perception, lifestyles, activities of daily living (needs) for patients with SCI **(Information Center in Ain Shams University Hospital , 2007) .**