Chapter – IV

The Nursing Needs
4.1. Nursing perspective

Careful competent nursing supports often enable a person to persist with prolonged rehabilitation process. Hence caring for patients and their families experiencing musculoskeletal injuries needs “holistic approach” to identify and meet the individual needs. Equally, important (like the physical needs) are the emotional needs. Therefore, an attempt is made to study the specific emotional needs of patients and their families at individual level. Similarly, nursing care is rendered to patients and their families through psychotherapy, counseling and by providing extended services. Depending on the projected outcome of the study the specific supporting services are recommended for the patients and their families.

The primary objective of the observation and the research here is to go for an in-depth analysis of the effect caused by musculoskeletal injuries in the lifestyle of a victim. The effect can be explained in terms of a physical and intellectual, culture and emotional imbalance as well. It is both the physical and psychological crippling that drives the victim to become a recluse of a varying degree.

4.1.1 Needs for required musculoskeletal injury

* Nutrition needs
* Elimination needs
* Circulation needs
Comfort, rest, and sleep needs

Sensory stimulation needs

Movement and exercise needs

Protection and safety needs

4.1.2. Nutritional needs

✓ To maintain adequate nutrition and hydration of the individual
✓ To promote his optimal nutrition
✓ To restore the individual to a satisfactory nutritional status

4.1.3. Urinary elimination needs

✓ Maintenance of normal urinary elimination
✓ Re-establishment of a normal voiding pattern
✓ Facilitation of elimination of urine from the bladder

4.1.4. Comfort rest and sleep needs

✓ Interventions to promote comfort, rest, and sleep are an integral part of nursing care for all patients. A specific "Sleep plan," or a sleep and rest plan, is helpful in focusing attention on these important aspects of patient care.

4.1.5. Pain avoidance needs

✓ Eliminating or minimizing the stimuli that are causing pain
✓ Alleviating pain
✓ Assisting the patient in coping with pain
4.1.6. Sensory needs

✓ To prevent sensory deprivation
✓ To prevent sensory overload
✓ To restore adequate sensory input
✓ To restore normal perception

4.2. Role of nurse in patient and family teaching

Patient and family teaching is a critical part of nursing care and is one of the most challenging roles that nurses have today. Unfortunately, teaching is frequently a neglected nursing intervention and this has devastating consequences for the patient. However, teaching patients about their health care can be a nursing intervention that most often makes a difference in a patient’s quality of life.

Teaching may occur wherever nurses work, including the community, schools, industry, ambulatory care centers, hospitals, long-term care facilities, and homes. Although institutions may oversee patient education programs, all nurses in any setting are responsible for patient and family teaching. Every interaction the nurse has with patients or family members is an opportunity to provide teaching that can dramatically affect their lives.

Community as social system organizes itself to meet the needs of its members. According to the Maslow’s 'hierarchy of needs of individual as basis for its growth, development and motivation is equally applicable to community for its survival, growth, development and fulfillment'.

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Community needs can be arranged in hierarchical order similar to that of individual needs as identified by Maslow as

4.3. Nature of musculoskeletal injury

Injury to the musculoskeletal system varies from simple muscle strain to multiple bone fractures with severe soft tissue damage. The incidence of trauma to the system is increasing, partly because of society's growing interest in regular physical exercise.

Physical exercise and playing games unusually stress muscles and bones. Sports frequently result in damage to the musculoskeletal system. Road traffic accidents result in fracture in hip, fracture in femur, fracture in patella, fractures of both the bones of lower legs, fracture of ankle etc.

The increasing elderly population also contributes to a higher incidence of lower limbs or fractures with the advancing age. A person is more likely to develop decreased bone mass or brittle bone, which break easily when the person falls.

Hip and pelvic are common in this age group. The resulting physical and psychological defects are often devastating to the patient and present a challenge to nurses who provide care.

4.4. Family burden

Burden experienced by the families were assessed using family burden interview schedule areas of burden included financial burden.
disruption of routine activities, disruption of family leisure, disruption of family interaction, effect on physical & mental health of others.

Financial burden includes expenditure on medical treatment, patient care, loss of income and culture based activities like pilgrimages. The families studied significantly experience financial burden (Severe burden in six families and moderate burden in four families). Disruption of routine activities, family leisure and family interaction induct the damage of functional aspect of the family. All these areas are found to be severed affected because they devote their time and energy in taking care of the patient.

Physical health is the result of proper self-care, recreation and stress free life. As the families devote their time and energy in taking care of the patient, their self care and recreation are disturbed and they experience severe stress leading to disturbed physical health.

Usually families experience mental health problems like anxiety, depression and sleeplessness when one of the members is sick. Family member of patients are found to be emotionally suffering to a significant level. Thus financial, functional and health aspects of the families are suffering due to musculoskeletal injuries.

4.5. Social support

Social supports received by the families are assessed by asking few questions related to finance assistance, emotional support and social contacts
by others. As our society is a semi-industrial one our people shows emotional and social support to a greater level possible. Among ten patients and their families studied most of them receive emotional and social support from their relatives and near ones. Financial support frequently depends on the stratum of the society to which the patient belongs our observation shows that patients and their families receive financial support partially.

4.6. Social and emotional aspects

Nursing care of emotional needs of the immobilized patients due to musculoskeletal injury is one of the largest and most significant tasks facing role in caring the patients with immobilization in order to provide comprehensive care and this depends upon physiological and psychological readiness of patients for early mobilization and rehabilitation process. Injury can cause strongest and most devastating emotions (Weiss and Troxell, 1986).

The need to move and maintain a desirable position is a basic human need. Physiologically the musculoskeletal enables movement and position changes. The bony skeletal provides support and facilities movement. Musculoskeletal injuries are one of the most frequently occurring types of limbs fracture. Although these injuries occur in isolation, eighty-five percentages of multiple limbs fracture patients will have one or more skeletal injuries [Rosenthal, 1984]. Musculoskeletal injuries cause a significant amount of disability that may be for long or permanent. This disability may result in high costs to the patient and society at wages and medical incurred.
Patients in hospitals and especially those confined to bed for any length of time become deprived of sensory response to a greater or lesser degree depending on their condition, with corresponding deterioration of intellectual activity. Our very hold on reality is basically dependent upon us receiving a continual and uninterrupted flow of sensory response from our environment and enforced immobility causes reduction in external stimulation. Physical immobility affects psychological mobility and vice versa. Hence the mind body dualism has been important ever since.

In this way, the patient can be seen as a whole person and his or her socio - psychological integrity preserved during his / her “career” as an orthopedic limbs fracture patient. The limbs fracture treatment is closely linked to the patient's coping skills.

Pain and immobility affect his / her social status and interpersonal relationship; as a result he / she frequently become depressed, almost hysterically anxious. The young person who fractured his / her lower and upper limbs in a motor cycle accident gets into irritability and depression, which taxes relationship with spouse, children and others, bringing tension and social isolation. For some people the fear of hospital procedures and equipment alone may cause great anxiety, particularly halo - femoral traction. A person coming in terms with musculoskeletal injuries is faced with crisis. He / she are with great psychological turmoil as realization of the situation hits him / her with a blow that sets him reeling. The chronically ill patient is struck by the implication for his / her future. How will he / she react to his /
her illness? or how can he / she cope with his / her fears, his / her shattered hope, deflated self – image and loss of previous roles. Patient with severe disability is fearful and sometimes hopeless about future. He may not be able to verbalize these but may have the feeling that he may not regain the physical normalcy and social respects.

Not only the patients with musculoskeletal injuries suffered but also their families. Many aspects of the families suffer financial aspect is strained because of expenditure in taking care of the patient and the loss of income of patients as well as the family members. Many functional aspects of the families are disrupted and the members suffer from physical and emotional health problems. The ability of the families in meeting the crisis caused by injuries very much depends on the social support that the families receive.

Problems of patients with musculoskeletal injuries and their families are reported less in Indian context because of lack of studies. This study will not only fill up the lacuna in the field but also develop suitable nursing intervention strategies. Appropriate Nursing Care can relieve the patients and their families from distress. With this understanding researcher study on ‘Social and Emotional aspects and Nursing needs of families of musculoskeletal injury patients’ has been planned.

At some of stage when a person becomes severely disabled he or she will experience fears and doubts concerning his / her future. He / she may not be able to verbalize these but may have the feeling that they may not regain the physical normalcy and psycho social respects. Along with these feelings
there will be mood swings from extreme helplessness to some degree of hopefulness. This concerns his / her psychological rather than his / her physical health. An emotion sometimes gives two types of attitudes. A says, "It makes me feel happy?" B says, "It makes me feel irritable".

4.7. Adult learner

4.7.1. Adult learning principles

Understanding how and why adults learn is important for the nurse to effectively teach patients. Educational research and theory development specifically about adults have identified adult learning principles and characteristics that differentiate adult education from that of children. These concepts provide a foundation for effective teaching of adults. Many of the theories of adult learning have risen from the work of Malcolm Knowles, who identified seven principles of anthology (adult learning) that are essential for the nurse to consider when teaching adult. These principles and implications for patient teaching are presented.

4.7.2. Characteristics of adult learners

Adult learners have certain characteristics that influence their learning and distinguish them from children learners.

4.7.3. Motivation

Motivation of patient, motivation for learning and readiness to learn depend on multiple factors, such as need, attitude, beliefs, stimulation and reinforcement. No one theory explains all motives for learning and changing
behavior. Theorist continue to research why people behave as they do. When teaching adults. It is important to identify what is valued by the person to enhance motivation. If the person perceives a need for information to enhance health or avoid illness. Or has a belief that a behavior change has health value, motivation to learn is increase their activity and desire to learn. Therefore learning activities must be stimulating to maintain a desire to reach a goal.

4.7.4. Reinforcement

Reinforcement is a strong motivational factor for maintaining behavior. Reinforce involves rewarding a desired behavior with a positive stimulus to increase its occurrence. Behavior may be strengthened by negative reinforcement when the behavior removes a negative consequence, such as pain or illness symptoms.

4.8. Nurse as a teacher

4.8.1. Required skills

Knowledge of subject matter. The scope and setting of nursing practice is large and diverse. Although it is impossible to be expert in all areas, the nurse can develop confidence as a teacher by developing a thorough knowledge of the subject that is to be taught.

4.8.2. Communication skills

Patient education is an interactive process it is dependent on communication between the nurse and the patient of family member. During
the teaching process the nurse should use basic communication skills as described in the patient interview.

Medical jargon is inherently intimidating and frightening to most patients and their families. Patients can feel alienated when large, complex medical terms are used in their presence without an understanding of what the terms means. The nurse should begin by defining the medical worked or terms that are necessary to understanding the content to be taught.

**4.8.3. Empathy**

Empathy, can be defined as having the courage to enter into the world of another in a manner that does not judge sympathize, or correct, but in a manner where the goal is creating understanding. Empathy means putting aside one’s own self for a moment and stepping into the shoes of the patient. With regard to patient teaching, empathy means assessing the patient’s needs before implementing teaching.

**4.8.4. Family and social support**

Support provided by the family is important to a patient’s sense of physical, psychologic, and spiritual well-being. Family members who learn what needed care home care is can promote the patient’s self-care and prevent future hospitalization. It is important for the nurse to identify and include family members in the teaching plans for patient. Patient and families may have different educational needs. Frequently the health problem has effects
Developing a successful teaching plan requires the nurse to view the patient's needs within the context of the family's needs.

**Fig. No. 4.1 Family and social support model**

4.8.5 *Psychological characteristics*

Psychological factors have a major influence in the patient's ability to learn. Anxiety and depression are common reactions to illness. Although mild anxiety increases the learner's perceptual and learning abilities moderate and severe anxiety limit learning. The nurse must use measures to decrease anxiety before the patient can learn. Anxiety and depression can negatively affect the patient's motivation and readiness to learn. For example, the newly diagnosed diabetic patient who is depressed about the diagnosis may not...
listen or respond to instructions about blood glucose testing. Discussions with the patient about these concerns or referring the patient to an appropriate support group may enable the patient to learn that management of diabetes is possible.

4.8.6. Socio cultural characteristics

The patient's socio cultural characteristics influence his or her perception of health, illness, health care, life, and death. Social elements include the patient's lifestyle, status within a family, occupation, income, education, housing arrangement, and living location. Cultural elements include dietary and sleep patterns, exercise, sexuality, language, values, and beliefs.

4.9. Nursing implementation

4.9.1. Health promotion

The public should be taught to take appropriate safety precautions to prevent injuries while at home, at work, when driving, or when participating in sports. Nurses should be vocal advocates for personal actions known to reduce injuries such as regular use of seat belts, driving within posted speed limits, stretching before exercise, use of protective athletic equipment (helmets and knee, wrist, and elbow pads), and not combining drinking and driving.

Older adults should be encouraged to participate in moderate exercise to aid in the maintenance of muscle strength and balance. To reduce falls,
their living environment should be examined to rule out the use scatter rugs, to ensure adequate footwear and lighting and to clear paths to bathrooms for night time use. The nurse should also stress the importance of adequate calcium and vitamin D intake patient with musculoskeletal injury may be treated in an emergency department or a physician office and released to home care, or they may require hospitalization for varying amounts of time. Specific nursing measures depend on the type of treatment used and the setting in which patients is placed.

4.9.2. Preoperative management

If surgical intervention is required to treat the fracture, patients will need preoperative predation. In addition to the usual preoperative nursing measures the nurse should inform patients of the types of immobilization device that will be used and the expected activity limitations. Patients must be assured that their needs will be met by the nursing staff until they can again meet their own needs. Acutance that pain medication will be available, if needed is often beneficial.

Proper skin preparation is an important part of preoperative preparation. The protocol for skin preparation varies among agencies and may be the responsibility of the nurse. The aim of skin preparation is to clean the skin and remove debris and hair to reduce the possibility of infection. Careful attention to this preoperative treatment can influence the postoperative course.
4.9.3. Post operative management

In general, postoperative nursing care and management are directed toward monitoring vital signs and applying the general principles of postoperative nursing care frequent neurovascular assessment of the affected extremity are necessary to detect changes. Any limitations of movement of activity related to turning, positioning, and extremity support should be monitored closely. Pain and discomfort can be minimized through proper alignment and positioning. Dressings or casts should be carefully observed for the overt signs of bleeding or drainage. A significant increase in size of the drainage are should be reported. If a wound drainage system is in place, the patency of the system and the volume of drainage should be regularly assessed. Whenever the contents of a drainage system are measured in emptied, the nurse should use sterile technique to avoid contamination. Additional nursing responsibilities depend on the type of immobilization used. a blood salvage and rein fusion system that allows for recovery and rein fusion of the patients own blood ma be s The blood is retrieved from a joint space or cavity, and the patient receives this blood in the form of an auto transfusion.

4.9.4. Other measures

Patients with musculoskeletal injury often have reduced mobility as a result of the fracture. The nurse must plan care to prevent the many complications associated with limited mobility. Constipation can be prevented by activity and maintenance of a high fluid intake (more than 2500 ml per
day) and a diet high in bulk and roughage (fresh fruit and vegetables) it these measures are not effective in maintaining the patient’s normal bowel pattern, stool softeners, laxatives, or suppositories may be necessary. Maintaining a regular time for elimination aids in promoting regularity.

Discharge planning begins immediately. The duration of the hospital stay and the expected postoperative events should be discussed because the patient and family must prepare ahead. The home environment must be assessed for safety and accessibility. Are the bath room and bedroom on the first floor? Are door frames wide enough to accommodate a walker? Social support must also be assessed. Is a friend or family member available to assist the patient in the home will the patient require homemaker or meal services? The elderly patient may need the rehabilitation services of a sub acute or extended care facility for a few weeks postoperatively to progressively develop independent living skills. Specific nursing intervention related to joint surgery is summarized.

Patient teaching includes instructions on reporting complications, including infection. The home care nurse acts as the liaison between the patient and the surgeon, monitoring for post operative complication, assessing comfort and range of motion, and facilitating improvements in functional performance.

4.10. Relaxation techniques
Jacobson's approach has been used in physical therapy almost since its beginning to manage habitual holding. Jacobson's approach to instructing relaxation has been found to be very suitable in our work and certainly is the most well known in the United States. However, a large number and variety of techniques and combinations of techniques are now being used by physical therapists, as well as other medical practitioners. These include Benson's relaxation response, transcendental medication, and Schultz and Luthe's autogenic training, among others. It is generally felt that individual differences and the diversity of needs require a wide choice of techniques. A review of clinical reports suggests that a judicious mix of techniques may obtain the best results. Of the many techniques now available to us, most carry similar requirements, most notably the need for practice, a quiet atmosphere, a comfortable position and a passive and receptive attitude.

Indications are numerous. Jacobson cites some of the following.

- Acute neuromuscular hypertension.
- Chronic neuromuscular hypertension.
- States of fatigue and exhaustion.
- States of debility.
- Various preoperative and postoperative conditions.
- Sleep disturbances.
- Alimentary spasm and peptic ulcers.
Some of the most common stress-related conditions treated by physical therapists include:

- Tension headaches.
- Migraine headaches.
- High blood pressure.
- Pulmonary disease (asthma and emphysema).
- Muscle guarding.
- Spasticity.
- Arthritis and related disorders.
- Bell’s palsy.
- Burns (before treatment with debridement and range-of-motion exercises).
- Various chronic pain conditions associated with muscle tension (e.g., cervical strain, adhesive capsulitis).

Relaxation and related techniques are difficult to categorize, but basically there are two types: the somatic or physical approach and the cognitive or mental approach. Many techniques employ a combination of both approaches. Such a great variety of psycho physiological methods are available to us that only a general survey will be made here, with detail given to some of the more familiar ones. Physical approaches may primarily emphasize passive distraction (e.g., Jacobson’s technique, Praskauer massage, and respiratory techniques) or active or dynamic distraction (e.g., Feldenkrais’s awareness through movement, the Alexander technique). Those
that stress the mental or cognitive approach include meditation, sensory awareness techniques, autogenic training, and sentic cycles.

4.11. Overview of psycho physiologic techniques

The following list of psycho physiologic methods of relaxation and related techniques contains only the more commonly used methods of relaxation and related techniques that are practiced in the United States and Europe today. Many excellent techniques have been omitted.

- Active tonus regulation
- Alexander technique
- Auto analysis
- Autogenic training
- Awareness through Movement
- Functional relaxation
- Hatha yoga (India)
- Meditation techniques
- Muscular therapy
- Nyingma system
- Passive movements
- Progressive relaxation
- Proskauer massage
- Relaxation response
- Respiration of special accomplishment
- Self-hypnosis
An invaluable tool in the management of common musculoskeletal disorders is massage. However, since World War II, there seems to have been a general decrease in the use of massage for these conditions, perhaps because massage is time consuming, sometimes strenuous, and demands skill on the part of the person giving the treatment. It is also possible that increased knowledge and sophistication of equipment has made basic massage too simple to use. Another reason is, unfortunately, that the basis for its use has been empirical rather than scientific. However, many therapists, including these authors, believe that experience has shown massage to be an extremely important and beneficial tool. Surely it is not the total answer, but as with health or cold, exercise, relaxation, mobilization, and electrical stimulation, massage as part of our repertoire helps us treat our patients more effectively.

Our discussion of massage could focus on stroking and effleurage, petrissage and kneading, friction, percussion, ice, mechanical vibration, or connective tissue massage. It could cover direction (centrifugal versus centripetal or proximal versus distal), pressure, rate and rhythm, media, positions of patient and clinician, duration, and frequency.
However, this basic material and its history can be reviewed in the literature, what little there seems to be. Two of the better sources are Massage: Principles and Techniques, by wood and Becker, and Healing Massage Techniques: Holistic, Classic, and Emerging Methods, by Tappin.

As mentioned earlier, much has been written about massage, although little scientific study has been done on the physiologic effects massage has on various body tissues. In one study of injured muscle, animal muscle tissue was subjected to a crushing injury and later examine microscopically. One group of animals was left untreated, while another group received massage. The untreated group showed the following results:

1. Dissociation into fibrillage of muscular fibers as shown by well-marked longitudinal striation.
2. Hyperplasia (sometimes simple thickening of the connective tissue).
3. Increase, in places, of the number of nuclei in the connective tissue.
4. Interstitial hemorrhages.
5. Enlargement of blood vessels, with hyperplasia of their adventitious coats.
6. Sarcolemma usually intact, but in one section, a multiplication of nuclei reported, resembling somewhat an interstitial myositis.
The treated group, on the other hand, showed the following results:

1. Normal appearance of muscle.
2. No secondary fibrous bands separating the muscle fibers.
3. No fibrous thickening around the vessels.
4. Greater general bulk of the muscle.
5. No signs of hemorrhage.

It has been concluded from this study and others that massage may lessen the amount of fibrosis that inevitably develops in immobilized, injured, or denervated muscle. Even when there has not been injury, there are innumerable situations that will cause a metabolic imbalance within the soft tissue. Observation, and particularly palpation, will reveal abnormal muscle tissue that is often hard, well defined, stringy, and painful. Massage will benefit this uninjured but abnormal tissue as well. The discovery of endorphins may soon lead to an explanation of some of the neurophysiologic mechanisms involved in the pain relief provided by acupuncture and massage given to specific areas, such as connective tissue. In addition, relaxation instructions and autogenic phrases may be used during massage to assist patients to relax even further. Sensor motor stimulation by massage facilitates the development of premature infants and decreases the possibility of emotional disturbance. The use of deep finger pressure over painful trigger points and the use of acupuncture and acupressure massage have been found to relieve infants' headaches, tummy aches, and other minor problems.