UNIT 5  REHABILITATION

5.0  INTRODUCTION
Rehabilitation is a crucial step and process in any kind of disabilities. In the previous Units you have learned about various developmental disorders. These disorders affect the development, behaviour, academic achievement and social and communication skills of children in a significant way. These children have a right to live their life to the fullest extent possible. Rehabilitation helps one to gain back in different aspects of one’s life such as social, academic, career and personal. It facilitates successful and effective adaptation to one’s environment.

5.1  OBJECTIVES
After studying this Unit, you will be able to:

- define the concept of rehabilitation;
- explain the goals of rehabilitation;
- describe the basic principles of rehabilitation; and
- explain the certification procedure in rehabilitation.
5.2 CONCEPT OF REHABILITATION

Rehabilitation refers to restoration or recovery of the biological, psychological and social functioning of an individual which was lost or impaired due to injury or disability. It is founded on the premise that all individuals have inherent worth and have their right to be experts in their own health care. The aim of rehabilitation is to regain maximal functioning, and independence of the client. In case of brain-injury not only the functions of the areas of damage is lost, it also affects the region of the brain distal to the site of injury that is anatomically connected to the damaged area. This is called ‘diaschisis’. Brain also has a capacity to take on the role of its damaged part. This is termed as the principle of equipotentiality. One of the basic objectives of rehabilitation is to prevent complications in such cases. Thus, rehabilitation is a process of adaptation or recovery from disability or functionally limiting condition, whether temporary or irreversible (Gender, 2012). This recovery or restoration of functions could be to a normal or near normal level.

5.3 GOALS AND PURPOSES

Rehabilitation goals are the desired outcomes for each rehabilitation client (Habel, 1993). Therefore, the goals of rehabilitation are required to be mutually established by the rehabilitation professionals in consultation with the client and his family members. The interdisciplinary team of rehabilitation professionals regularly meet to decide the immediate and long-term goals. Realistic goals are set in consultation with the client and the family members and other caregivers. The ultimate purpose is to enhance the client’s wellbeing.

In this context, it should be noted that there is a difference in the focus in acute care and rehabilitation care. Mauk (2012) makes a careful distinction between acute care and rehabilitation care. In acute care, the participant’s survival is the primary focus and the care is provided through activities of daily living for the person; whereas in rehabilitation, the focus is on educating persons to be able to perform activities of daily living for themselves.

The purpose of rehabilitation may be precisely stated as follows: (1) Promotion of self-care, (2) Maximising independence, (3) Maintaining and restoring functions, (4) Preventing complications, and (5) Encouraging adaptation (Habel, 2012).

5.3.1 Promotion of Self-Care

Disability causes not only physical problems but also emotional challenges. The client has to adapt to them. Physical problems restrict the individual’s activities of daily living (ADL) (e.g., skills such as brushing, grooming, toileting or speaking), as often seen in case of traumatic head injuries, sensory-motor disabilities, severe or profound mental retardation. Some of these problems are overcome by use of augmentative and alternative devices. Augmentative devices are those which enhance the existing capabilities of the people with disabilities (for instance, spectacles enhancing vision, hearing aids for hearing or mobility aids for movement); whereas, alternative devices are those which are used in developing a parallel or alternative forms of executing certain functions of a client that are lost due to injury or disability (e.g., communication devices such as, speech synthesizers for those who have lost their speech, the aphasics; braille for reading of the visually handicapped, and wheel chairs for the ones with severe locomotors disability involving the lower limbs). Such improvised ADL kits and appliances compensate the loss to a large extent. However, while suggesting alternative devices, the rehabilitation professionals should look into the possibility of using augmentative
methods that can enhance their functions, or behavioural training in which effort is made to teach alternative ways of responding. Providing prosthetic environment by modification of the existing ones can also be incorporated as a part of rehabilitation training. Adherence to an alternative method or device for ADL reduces the chance of using the residual skills. This has an impact on adaptation. Therefore the option for using alternative is required to be exercised carefully. The primary caregivers and family members play a significant role in promoting self-care. When the injury is severe enough, it is difficult to expect that the functions can be restored completely to the premorbid level. The client has to adapt and adjust to the natural environment (e.g. home, vocational and social environment).

5.3.2 Maximising Independence

Independent functioning can be Maximised by encouragement and reinforcement of physical and mental exercises required for restoration of the impaired functions. It requires involvement of the family members. Therefore, the approach should be family-centred. Larger communities like peers in school, neighbours in neighborhood or colleagues in the workplace may be involved in supporting the recovery process of the client. Involvement of larger communities like these helps not only restoring the impaired function, but also bolsters self-confidences and hope in the client. This is crucial for successful rehabilitation programmes. Hence, community-based rehabilitation is a buzz word in the field of rehabilitation. No matter whatever form of rehabilitation is conducted in terms of specific disabilities and rehabilitation services offered, the acquired skills are required to be generalized to the community setting in which the client would ultimately require these skills in future.

5.3.3 Maintaining and Restoring Functions

Maintenance of the existing or residual functions (the functions that are intact even after injury or disability) and restoration of the impaired functions is a core issue in successful recovery, irrespective of the type of disability, although the rate of success is determined by the severity as well as duration of injury or disability. Let us take an example of neurological trauma. In case of brain injury not only that the functions connected with the damaged neurons are permanently affected, but also the functions of the adjacent or connected neurons are temporarily affected and the extent of neuronal dysfunction depends on the distance from the area of focal injury. The temporary loss of function of the neurons adjacent to the site of lesion is called ‘diaschisis’. Finger and associates (2004) defined diascisis as a brain dysfunction in a region of the brain distal to the site of injury that is anatomically connected to the damaged area. This functional loss can be restored by engaging in exercises that require activation of these neurons. On the other hand, if certain part of the brain is damaged, it has a capacity to take on the role of its damaged part. In other words, the brain has the ability to use any of its functioning part to do what a damaged part of the brain no longer can do (Garrett, 1941). Psychologist Karl Lashley described this principle on which brain works as equipotentiality. However, the earlier one starts the programme for stimulation, the better is the effect. This is equally true for developmental disabilities and is the core philosophy behind early stimulation programmes. The developing brain and physiological system become more responsive to stimulation at early stage than at the later stages of life. However, early stimulation does not mean stimulation early in the life, but at the early stage of disability.

5.3.4 Preventing Complications

During the process of rehabilitation, complications can develop at any stage either due
to malfunctioning of the rehabilitative instruments (e.g. cardiac rehabilitation), human errors (e.g. unlocking of wheel chair at a slope), and psychological problems (e.g. aggressive or suicidal behaviour). There are specific possible complications with specific procedures of rehabilitation and the risk is much higher at the initial stage of rehabilitation than at the later stages. Hence, it deserves close monitoring till the client adapts to the process of rehabilitation.

5.3.5 Encouraging Adaptation

Rehabilitation refers to services and programmes designed to assist individuals who have experience of trauma or illness that results in impairment that creates a loss of function (Remsberg, & Carson, 2006, p.579). Adaptation to the new environment of care and rehabilitation becomes difficult when the disability is severe and sudden. It needs closer social support and constant reinforcement of the prescribed client behaviours that facilitate rehabilitation.

Applied behaviour analysis can be used extensively in order to understand the reason for non-occurrence of adaptive responding as well as the occurrence of maladaptive responding that prevents the process of rehabilitation. Applied behaviour analysis is an approach which is based on the principle that strength of a behaviour is determined by the effects it produces in the environment. It helps in controlling behaviour by programming of the environmental contingencies that regulate reinforcement and punishment in a given environment. A client who maintains his behaviours that are conducive to his rehabilitation requires to be sustained by having reinforcing consequences such as listening to music or watching a favorite television programme while doing exercise, praise, appreciation etc. The variety and source of reinforcers must change from time to time to prevent habituation of responses.

Self Assessment Questions 1

Indicate the correct answer:

1) A brain dysfunction in a region of the brain distal to the site of injury that is anatomically connected to the damaged area is called,
   i) Diaschisis
   ii) Equipotentiality
   iii) Acquired brain injury (ABI)
   iv) Debloating

2) Which is of the following is not a goal of rehabilitation?
   i) Maximising independence,
   ii) Maintaining and restoring functions,
   iii) Preventing complications,
   iv) Certification.

3) Brain has a capacity to take on the role of its damaged part. This is termed as the principle of equipotentiality.

Yes/No
5.4 PRINCIPLES OF REHABILITATION

There are several principles of rehabilitation; some are general principles which reflects the general approaches and there are specific ones that explain the underlying mechanism of recovery. In the present section, we will be discussing the ‘principles’ in the former sense. Mauk (2012) outlined the following principles of rehabilitation:

5.4.1 Promote Adaptation, Not Just Recovery

Recovery of functions impaired by disability or injury can only be completed to the maximum extent by simultaneously creating an environment for adaptation. In fact the prime aim of rehabilitation is to help the individual to adapt to the day-to-day demands of life, which at times require a change in the life style of the client. Therefore, it is important for the rehabilitation professionals to prepare the client for this change. People with developmental disabilities often would not be able to return to a normal level like that of their normal counterparts. The client and family member must accept this, instead of nurturing false hopes for normalcy. In case of acquired disability, however the focus is primarily on adaptation to the life altering situation. Expressed emotion such as anxiety, depression or anger of the family member because of the disability often complicate the process of rehabilitation. Hence, they should be taught to manage them effectively.

5.4.2 Emphasising Ability

This is one of the key principles of rehabilitation. Most people with disabilities whether due to a traumatic incident and those acquired during childhood might have disabilities in certain areas of functioning whereas other areas of functioning may remain intact. For instance, a person having locomotor disability may have his speech and intellectual functions intact. Rehabilitation professionals should train these people in developing these functions to the fullest extent and make maximum use of them to compensate the functions affected by disease or disability. This may give the client a sense of accomplishment.

5.4.3 Treat the Client as a Whole Person

In rehabilitation we treat a person and not a ‘disease’. The person with disability should be treated as a holistic being. Denial and non-acceptance of limitations cause anger and depression in the client. Unconditional regard for the individual with disability plays a crucial role in enhancing psychological well being of such clients. Attempt should be made to enhance a sense of self-efficacy in people with disability. It restores confidence and determination in overcoming many obstacles both physical and psychological.

5.4.4 Disability Affects the Entire Family

Disability in a member in any family affects the entire family, as the trauma, physical cost and psychological burden is shared by all members of the family. This is not only because of close interpersonal ties between the family members but also due to demand for their involvement in care of the person with disability. Hence, in a way treating a person with disability is also like treating his family members as well. Hence, time should be spent with the family members in listening to them and advising them and helping them to overcome their negative overwhelming emotional feelings and bolster their abilities to cope with such family stresses effectively.

5.5 DISABILITY-INDUCED STRESS AND COPING

For people with disability, stress is experienced due to physically and psychologically
demanding situations that often gets compounded with the trauma of disability. It requires abilities to cope. In fact, coping is considered a powerful mediator and stabilizing factor. Lazarus and Folkman (1984) offered a transactional model of stress defining coping as a “constantly changing cognitive and behavioural efforts to manage specific external or internal demands that are appraised as taxing or exceeding the resources of the person” (p. 141). Coping response depends on ‘appraisal’ of the situation, which is an active process (Kennedy, 2008). Here appraisal means cognitive evaluation of the event. A person with disability like any other, may go through three types of appraisals: primary appraisal, secondary appraisal and re-appraisal. During primary appraisal, any event like amputation or injury that causes pain, sadness, anger, fear or similar negative emotions is appraised as a ‘traumatic’ or ‘stressful’ event. At the stage of secondary appraisal, the individual attempts to review one’s own resources and looks for alternative means of managing the perceived stress instead of being emotional about it (Taylor, 1999). This is influenced by assignment of blame or credit to oneself or others, assessing one’s own coping potential, such as one’s perception of personal control and consideration of future expectations (Lazarus, 1991). One’s belief about the ability to bring a change in the situation also plays a significant role (Greenberger & Strasser, 1986). In this context cognitive restructuring of the client is crucial. At the third stage, that is, re-appraisal stage, the reactions and counter reactions are appraised by the individual of the person-environment relationship (Perrewe & Zellara, 1999).

Coping depends on several internal and external factors. Important internal factors include personality, behavioural and genetic predisposition, vulnerability, resilience and so on. External factors include the nature of stressors, appropriateness of rehabilitation procedure, and family, social support and so on.

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5.6 COGNITIVE-BEHAVIOURAL REHABILITATION

Psychological and cognitive disturbances are frequent outcome of disability, particularly in brain-injury rehabilitation. The theoretical foundation of cognitive-behavioural rehabilitation dates back to Alexander Luria’s (1963) writings on patients with acquired brain-injury (ABI), who considered that brain, is not a static organ. It is dynamic. After an acute injury to the brain there is a spontaneous recovery during which active functional reorganisation of the brain takes place. This may extend from 1 to 2 years. Rehabilitation and cognitive remediation during this period can immensely facilitate this spontaneous

Rehabilitation
recovery. In this context cognitive-behavioural or neuropsychological rehabilitation is important. It includes memory training, teaching metacognitive skills and so on. Massed practice of alternative skills, inculcating optimism and instruction in developing mnemonic strategies are some of the important steps in neuropsychological rehabilitation. Cognitive behavioural intervention for correcting irrational thinking about the events, people and oneself are important elements in this. A multimodal approach involving contingency management, massed practice, problem-solving skill training, relaxation training, anger management and also working with families of the client are more effective than a single modality intervention. Here "massed practice" refers to drill exercises that are designed to strengthen cognitive abilities, such as attention and information-processing speed. “Metacognitive strategies” involve teaching individuals to be conscious of their own style of thinking. It also includes introduction of new thought methods and strategies that would result in superior performance (Butler, 2006).

5.7 FAMILY-CENTRED AND COMMUNITY-BASED REHABILITATION

Success of any rehabilitation programme depends on its regularity and meticulousness in implementation of the programme. It needs involvement of many people apart from the client or the rehabilitation professional. Increasing dissatisfaction with the traditional dyadic doctor-patient model in rehabilitation family and community based rehabilitation has been considered as a viable alternative. Particularly for young children, adolescents and those who are rather confined to home-setting for a major part of their day-to-day activities, paediatric family centred rehabilitation (FCR) or family-centred care (FCC) has been used as a fundamental approach for rehabilitation. Table 1 provides the basic principles of paediatric family-centred rehabilitation. The basic philosophy behind FCR/FCC is to ensure that instead of being passive recipient of rehabilitation and care, the family members should actively participate in service delivery and supporting the programme in home-setting. It requires commitment to share, control and take responsibility in the matter of care.

Table 1: Principles of Pediatric Family-Centred Rehabilitation

| 1) | The family is recognised as the main constant in a child’s life, whereas rehabilitation systems and the personnel within those systems are transient and fluctuate. |
| 2) | Collaboration between families and health care professionals is facilitated throughout the rehabilitation process. |
| 3) | Complete and unbiased information about the child is shared with families on an ongoing basis in an appropriate and supportive manner. |
| 4) | Comprehensive policies and programmes are implemented that provide emotional and financial support to meet the need of families. |
| 5) | Families’ unique strength and individuality are recognised and their different coping mechanisms, as well as cultural values and customs, are respected. |
| 6) | The developmental needs of the infants, children, and adolescents and their families are understood and incorporated into rehabilitation systems |
| 7) | Parent-to-parent support is encouraged and facilitated. |
| 8) | Rehabilitation systems are designed such that they are flexible, accessible, and responsive to families |

Source: Naar-King & Donders (2006)
The helping professions are constantly unfolding themselves in ways that are more effective in alleviating human misery (Tharp, & Wetzel, 1969). Community-based rehabilitation (CBR) has now become a distinct philosophy of modern rehabilitation opening new avenues of understanding about the role of human environment in rehabilitation. In a sense, community-based rehabilitation has been conducive in transfer of therapeutic skills to the community members (Jena, 1996).

One of the basic rationale of CBR is closely linked with the conceptualisation of disability as a social construct. Handicap occurs when an individual encounters physical, social and cultural barriers, and in order to remove these barriers and constraints, involvement of the community is a prime requirement. Above all, in developing country like ours this has a special significance for the simple reason that it is cost-effective and sustainable. This has been demonstrated by a number of field experiments (e.g. Kohli, 1988; Menon, et al., 1993). In India, sustainability of voluntary effort has been recognised as an important issue, particularly in view of increasing human care needs of the society, where rehabilitation professionals are microscopic, hence the cost of rehabilitation is skyrocketing. These are some of the key rationales for which the need for CBR has become so prominent in recent times. However, such community-based programmes need to be ‘programmed’ instead of expecting them to be successful for the strong rationales that we have outlined above.

5.8 COMPETENCIES AND CERTIFICATION

Certification of rehabilitation professionals to be engaged in rehabilitation and care of people with disability has been considered an essential requirement to prevent malpractice, delivery of substandard services and unethical treatment to the people with disability. Apart from this, certification in specific specialty for practice has been associated with increased knowledge, and more positive outcomes (Carey, 2001) and above all it provides recognition of the professional competence. Thus certification establishes the credentials and the competence. The Rehabilitation Council of India (RCI), which is the apex body on rehabilitation in India, was established in the year 1986 RCI was enacted by Parliament of India in September 1992. RCI regulates the training programmes for rehabilitation professionals. At the time of its enactment the Act recognised 4 different types of handicaps such as visual handicap (Either total absence of sight, visual acuity not exceeding 6/60 or 20/300 snellen in the better eye with the correcting lenses or limitation of field of vision subtending and angle of degree or worse), hearing handicap (deafness with hearing impairment of 70 decibels), locomotor disability (inability to execute distinctive activities associated with moving, both himself and objects, from place to place, and such inability resulting from affliction of either bones, joints, muscles or nerves), and mental retardation (condition of arrested or incomplete development of mind specially characterised by subnormality of intelligence). It recognised eight different trained professionals as rehabilitation professionals: audiologists and speech pathologists, clinical psychologists, hearing aid and ear mould technicians, rehabilitation engineers and technicians, special teachers for educating and training the handicapped, vocational counselors, employment officers and placement officers dealing with handicapped, multipurpose rehabilitation therapists, technicians and such other category of professionals. Now, it has included professionals like rehabilitation psychologists in the list. Apart from regulating training programmes, Rehabilitation Council of India (RCI) enrolls rehabilitation professionals in its central register.
To conclude, rehabilitation is a holistic approach which requires a biopsychosocial perspective, success of which lies on effective orchestration of the efforts of the client, interdisciplinary team of rehabilitation professionals, family and community at large.

You will learn further about rehabilitation in the context of mental illness in Unit 2 of Block 2 in MPC-054.

**Self Assessment Questions 3**

1) Explain Paediatric Family centred Rehabilitation.

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2) Which of the following is not a rehabilitation professional as per RCI Act?
   i) Clinical Psychologists
   ii) Rehabilitation Psychologist
   iii) Developmental Psychologist
   iv) Speech Pathologist and Audiologist

Answer whether the statements are true or false.

3) Mental retardation refers to a condition of arrested or incomplete development of mind specially characterised by subnormality of intelligence.  
   Yes/No

4) Metacognitive strategies involve teaching individuals to be conscious of their own abilities.  
   Yes/No

### 5.9 LET US SUM UP

Rehabilitation is a process of restoration of the functioning of an individual which was lost or impaired due to injury or disability. You learned that the aim of rehabilitation is to ensure maximal functioning, and independence of the client to facilitate his adaptation to the natural environment. One of the basic objectives of rehabilitation is to prevent complications and encourage adaptation. You also learned that the disability-induced stress demands a good deal of coping skills from the client and his family members as it drastically changes the life style, even for those who have developmental disabilities. This is due to their chronic experience of infirmity. You learned about the importance of cognitive-behavioural rehabilitation, role of family and community in the rehabilitation process. Community-based rehabilitation (CBR) is a distinct philosophy of modern rehabilitation which is closely linked with the conceptualisation of disability as a social construct. CBR has been recognised as an important option for rehabilitation in view of increasing human care need of the society and cost of rehabilitation particularly in developing economies like India.

Finally you learned that certifying competencies of the rehabilitation professionals is required for preventing malpractice, delivery of substandard services and unethical
treatment of people with disability. The Rehabilitation Council of India is the apex body in this regard that regulates the training and certification for the rehabilitation professionals.

5.10 ANSWERS TO SELF ASSESSMENT QUESTIONS

Self Assessment Questions 1

1) i) diachisis
2) iv) certification
3) Yes

Self Assessment Questions 2

1) Treating the person as a whole person means disability should be treated as a holistic being. Denial and non-acceptance of limitations cause anger and depression in the client. Unconditional regard for the individual with disability plays a crucial role in enhancing psychological well being of such clients. Attempt should be made to enhance a sense of self-efficacy in people with disability. It restores confidence and determination in overcoming many obstacles both physical and psychological obstacles.

2) The three types of appraisals are: primary appraisal, secondary appraisal and re-appraisal. During primary appraisal, any event like amputation or injury that causes pain, sadness, anger, fear or similar negative emotions is appraised as a ‘traumatic’ or ‘stressful’ event. At the stage of secondary appraisal, the individual attempts to review one’s own resources and looks for alternative means of managing the perceived stress instead of being emotional about it. At the third stage, that is, re-appraisal stage, the reactions and counter reactions are appraised by the individual of the person-environment relationship.

Self Assessment Questions 3

1) Paediatric family centred rehabilitation (FCR) or family-centred care (FCC) has been used as a fundamental approach for rehabilitation. The basic philosophy behind FCR/FCC is to ensure that instead of being passive recipient of rehabilitation and care, the family members should actively participate in service delivery and supporting the programme in home-setting. It requires commitment to share, control and take responsibility in the matter of care.

2) iii) Developmental Psychologist
3) Yes
4) No

5.11 UNIT END QUESTIONS

1) What is rehabilitation? Discuss its goals and purpose.
2) Discuss the meaning and rationale for family and community-centred rehabilitation.
3) What are the basic elements of cognitive-behavioural rehabilitation? Discuss.
4) Discuss about disability-induced stress and coping.
5) Discuss the role of Rehabilitation Council of India in the disability field.
5.12 GLOSSARY

Applied behaviour analysis: It is an approach based on the principle that strength of a behaviours is determined by the effects it produces in the environment.

Augmentative devices: Those which enhance the existing capabilities of the people with disabilities.

Diaschisis: A brain dysfunction in a region of the brain distal to the site of injury that is anatomically connected to the damaged area.

Equipotentiality: Ability of the brain to use any of its functioning part to do what a damaged part of the brain no longer can do.

Hearing handicap: Deafness with hearing impairment of 70 decibels

Locomotor disability: Inability to execute distinctive activities associated with moving, both himself and objects, from place to place, and such inability resulting from affliction of either bones, joints, muscles or nerves.

Mental retardation: A condition of arrested or incomplete development of mind specially characterised by sub normality of intelligence.

Metacognitive strategies: involve teaching individuals to be conscious of their own style of thinking

Rehabilitation: It is a process of adaptation or recovery from disability or functionally limiting condition, whether temporary, irreversible.

Visual handicap: Either total absence of sight, visual acuity not exceeding 6/60 or 20/300 snellen in the better eye with the correcting lenses or limitation of field of vision subtending and angle of degree or worse.

5.13 REFERENCES AND SUGGESTED READINGS


