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Aims and Scope

The primary objective of the Neurocosm International Journal (NIJ), popularly known as the Neurocosm journal, is to serve as a comprehensive, open-access platform that is dedicated solely to facilitating the progress and advancement of the field of Neurology, Brain & Spine Learning by -

- offering gifted and talented researchers engaged within the domain of Neurology, Brain & Spine a unique setting for them to get their work published and elevate their reputations/standing within the global community, as well as,
- providing professionals, students, academics, and scholars free access to the latest and most advanced research outcomes, findings, and studies, being carried out in the field of Neurology, Brain & Spine, all across the world.

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Current Treatment Strategies and Future Endeavors for Traumatic Brain Injury

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ABSTRACT

Traumatic brain injury can be developed in a person due to violent blows to the brain, and an object that can go through the skull can affect the brain cells temporarily. The issue of moving, speaking and emotional breakdown can be possible with the effects of traumatic brain injuries. Neurologist are helping patients with Traumatic brain injury by providing them with the best possible treatment to get back to normal life. TBI patients are facing difficult issues in life that can be short-term and long-term. The counselling of patients with emotional support, and proper surgical treatment by reducing the pressure from brain swelling, resting, and returning to normal activities are beneficial for patients facing the issues of traumatic brain injury. Social support can be always helpful for a person to provide treatment for TBI patients. Speech and language therapy is also helping patients suffering from the issues of TBI. Difficulties are developed by operating brain surgery due to the different complexity of the brain and nervous system. The prevention of injuries can be ensured with the help of wearing the appropriate gear, wearing helmets, and taking other preventive measures. Using the proper techniques is also beneficial for a person facing traumatic brain injury issues. Patients facing the problem of traumatic brain injury can be cured with the help of caring, support, and other appropriate treatment which are essential as per the situation of the patient. The fear and difficulties are increasing in the person facing the issues of TBI.

Keywords Traumatic Brain Injury, Treatment for Brain Injury

INTRODUCTION

Traumatic brain injury (TBI) develops whenever a sudden trauma causes brain damage. The objects piercing the skull and creating damage to brain tissue is the primary effect of traumatic brain injury. Traumatic brain injury is divided into four parts: Brain Contusion, Second Impact Syndrome, Penetrating Injury, and Shaken Baby Syndrome. Repeated vomiting, severe headache, feeling weak, numbness, and one pupil of an eye becomes larger compared to another. It can create confusion, blurry vision, and difficulty concentrating issues for the patients. Image testing, MRI scans, CT scans, and much more are the way to detect traumatic brain injury. The best treatment that is provided for traumatic brain injury is including emotional support, surgery can also be helpful to stop the bleeding of blood from the brain, and rehabilitation also is a beneficial treatment for traumatic brain injury. Rest and return to physical activities can play a major role in the treatment of TBI. Patients suffering from TBI can be recovered within 1 week to 1 month. Several maintenances of different prevention strategies are important for gaining prevention from brain injury. Patients are provided better attention towards airways; adequate hemodynamic support system and oxygenation are helping to reduce the effect of hypoxia and hypotension. Creating significant growth in the prevention of traumatic brain injury can be possible by maintaining all the safety rules while driving. Treating the person with motivation is beneficial in TBI and can help to get back to normal life quickly. Changing behaviours as an effect of TBI can be reduced with the help of proper treatment and support.

In the study, different treatment strategies that are beneficial for improving the condition of traumatic brain injury for people are explained. The difficulties in moving, speaking, and ensuring concentration are developed in the person these factors are expected in the TBI that are creating issues for people. Physical and emotional symptoms are also developed in the person such as headache, sleep disorder, mood changes, and nausea. These issues are observed and ensure treatment for the issues is developed and explained in the study. Those are effective and create a major part in the growth of the brain.

LITERATURE REVIEW

Treatment procedures in the TBI

The cases of brain injury require emergency head surgery which is important for stopping the bleeding of patients. Clear fluid leaking from the nose and ears can be seen as a symptom of severe brain injury. First aid treatment is the primary treatment that is provided for patients suffering from traumatic brain injury. Recovery procedure from TBI can be possible within 3 months of the accident in usual cases. The treatment procedure for patients with traumatic brain injury is explained as follows-

Counseling for emotional support- Proper counselling for emotional support is helping to reduce issues of brain injury. Treatment for a person can be possible with the help of proper emotional support and providing counseling. These are helping to ensure growth and reduce tension from the patients and are beneficial for the treatment procedure of brain injury. The way of expressing emotion can be changed in a person due to injury in the head from accidents. The continuous emotional changes or mood changes quickly can be seen in a person facing TBI and are helped with counseling [9]. Doing different fun activities in front of the patient can be beneficial for boosting their motivation and stimulating their brain cells. Providing emotional support can be beneficial for ensuring focus on work and completion of tasks on time.

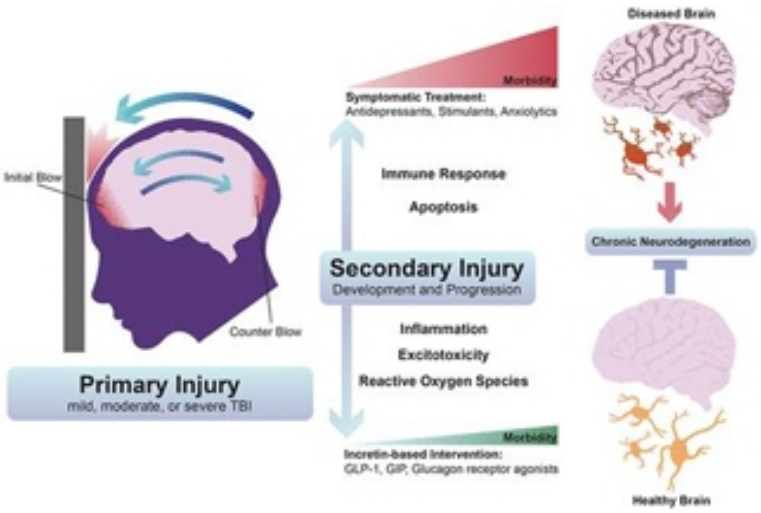

Figure 1: Different injuries in Traumatic Brain injury[9]

Surgery- The removal of clotted blood from the skull through surgery is helping to ensure life-saving for the patients. The removal of this clotted blood from the brain is helping to ensure damage reduction. Minimizing the additional damage to the brain cells is developed with the help of immediate surgery as per the need. The surgery can be beneficial for immediately reducing the effect of serious brain injury.

Surgical intervention through head injury can solve the issues of TBI. Surgery is helping to reduce the pressure in the brain by draining accumulated cerebrospinal fluid from the skull. This process is beneficial for the swollen tissues of the brain. Some people can reach the same level of ability after being operated on for TBI.

Rehabilitation- The issues of difficulty in walking or talking can be reduced with the help of rehabilitation. The daily activities of a person can be improved with the help of this procedure which is beneficial for ensuring the growth of the person in life. Rehabbing support is helping to secure the growth of the person facing the difficulties of TBI. The reaction of rehabilitation affects different persons.

Return to typical activities- The physical activities are helping to create the patient's life better by ensuring growth and support. These are the benefits of returning to the activities. Music therapy, aquatic therapy, and other hobby development can be beneficial for patients suffering from brain injuries. The patients can be cured within two weeks to three months time frame which are helping to ensure the maintenance of lifestyle. Cognitive behavioral therapy is helping patients suffering from TBI. This therapy is helping to reduce depressive symptoms and create an improvement in life satisfaction. Physical therapy, physical medicines, speech and language therapy, and social support are helping to reduce the issues of TBI patients and helping them to maintain a normal lifestyle.

Rest- Resting is creating better help for patients suffering from TBI. The resting procedure is helping patients to ensure their recovery from accidents. Rest can help to heal the activities of the brain easily which can help a patient to cure the accident [10]. Resting and recovery can also be helpful for patients by reducing the issues of accidents naturally which is also beneficial for recovery time reduction for patients.

Future treatment procedures for the TBI process

The TBI treatment can be ensured with different stages which are erythropoietin (EPO), statins, carbamylated form of EPO (CEPO), bone marrow stromal cells (MSC), progesterone, and much more. This is beneficial for creating growth for the patients and ensures their quick and secure recovery procedure which is also beneficial for developing growth for the patients. A worldwide mortality of about 1.5 million per year can be seen in the TBI. Primary and secondary injuries are creating different

temporary or primary effects on the person. Primary deficit is directed toward the external impact on the brain. The secondary deficit can happen after minutes to days after the accident and can develop cerebral damage to the brain. Degradation of neuron cells can be developed by breaching the blood-brain barrier (BBB). Intracranial compartments of the brain consist of three things such as the brain parenchyma, cerebrospinal fluid, and blood. The most percentage of the skull is developed with a homeostatic environment within the skull [11]. Concussion injuries developing in a person can be understood with the help of proper imaging technologies such as computerized tomography scanning (CT), and magnetic resonance imaging (MRI) scanning are beneficial for detecting the effect of concussion.

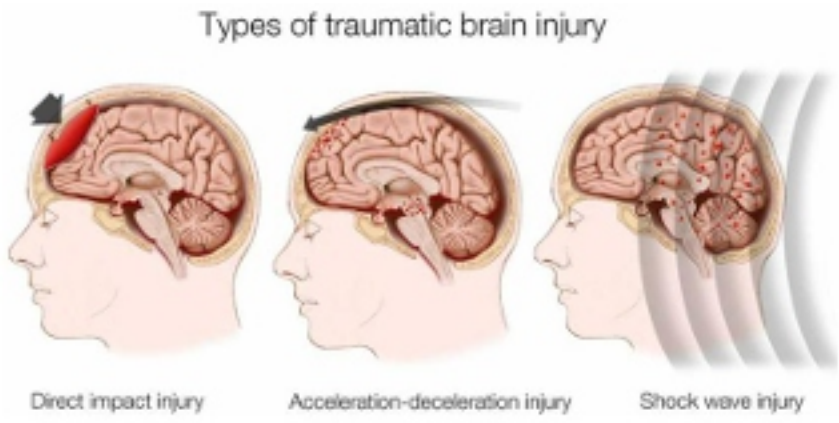

Figure 2: Traumatic Brain Injury Issues[11]

Physical therapists are also able to help persons affected with TBI by regaining their physical functions, relearning different daily tasks, and ensuring fitness and wellness for persons. The regeneration of the brain tissues cannot be possible but a repair can be done with the help of proper treatment procedures. Traumatic brain injury treatment can be possible with the help of canes and lever door knobs voice recognized software programs and different argumentative communication software programs that is helping to gather speech. Arterial spin tag labeling (ASL), functional MRI (fMRI), resting state, and connectivity MRI are the technologies that are used for diagnostic imaging techniques to identify traumatic brain injury [12]. Single photon emission computed tomography (SPECT) and MR spectroscopy (MRS) PET are also recognized as imaging techniques that are beneficial for diagnosis the of brain injuries for a person. The mental status of a person having head trauma can be evaluated with Glasgow Coma Scale, consciousness after TBI can be useful to understand the exact condition of the brain.

Figure 3: Avoiding the things in the process of concussion recovery[13]

The utilizing shock absorbers are used in helmets for reducing the effects of an accident. An impact on the head can be decreased after putting on the helmets and this is helping to change the effect of a concussion. Swelling and internal bleeding from the brain can be observed with the help of computed tomography (CT) imaging which is beneficial for understanding issues in the brain. MIPS technology is used in helmets for reducing accidents that can create the TBI process. This is helped by coping with anyone's head's protective structure. Hard hat technology is used for reducing the effect of concussions on the brain which is beneficial for preventing concussions for workers. Mouthguards and different safety gear can be beneficial for reducing the effect of traumatic brain injury issues. With the combination of cameras and sensors, the smart helmet technology is helping to record real-time information from the surroundings that are beneficial for reducing the effect of traumatic brain injury. Occupational theories for brain rehabilitation are helping to provide different processes such as emotional regulation, memory, sensory processing, and movement. Spatial computing technologies like VR are used for detecting the issues of TBI in the person which is beneficial for diagnosing accurately with the help of Intelligent Rapid Detection Software. EEG is also an effective technology that is beneficial for reducing the effect of concussions and also understanding them [13].

Difficulties in the treatment of TBI and effects of TBI

The treatment of the brain can be difficult due to damage in the brain such as tumour growth which is not easily removable. Brain surgery can be developed as a dangerous issue for patients that is creating a risk

of losing their life or being in the coma stage or becoming paralyzed person. Making surety of the person is facing the issue of enough oxygen supply, maintaining the proper blood pressure, and preventing different other injuries that can increase in the head and neck. Difficulties developed in a person facing the issues of TBI are created by the problems of social activities that are developing some mental trauma for the person facing the accidentals problems [14]. Patients with TBI are facing the issues of chronic headache, sensory impairments, weakness in the muscles, bladder and bowel difficulties, and developing long and short-term paralysis. The person facing the issues of TBI can be developing difficulty while driving a car, working on different complex machinery, or playing any kind of sports. The issues of touch, smell, and taste can be developed in a person that is created due to the effects of TBI.

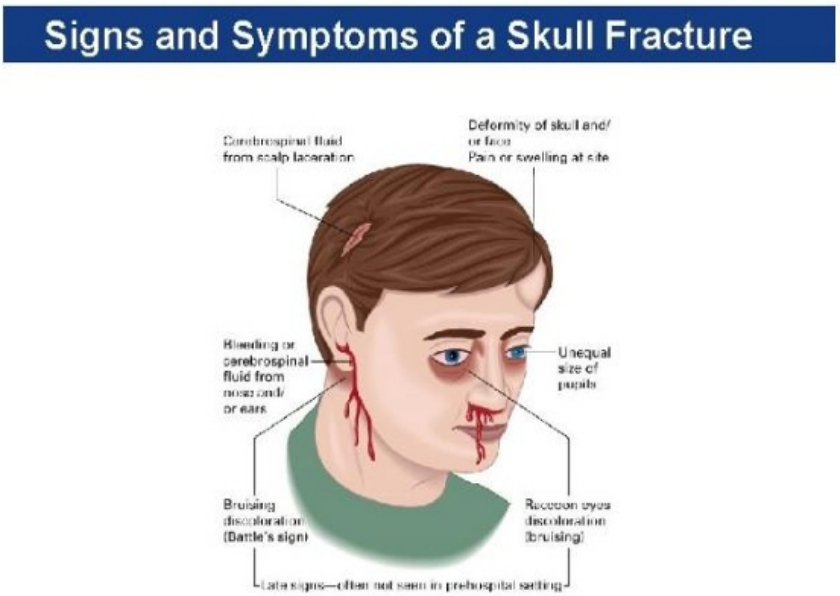

Figure 4: The various symptoms of a skull fracture[14]

Patients facing an injury in the prefrontal cortex can develop an executive dysfunction due to the TBI injury. The change of consciousness both permanently and temporarily can be developed in a person that is beneficial for reducing effect in a person. The state of coma can be developed in a person affected by altered consciousness. The coma stage is creating unconsciousness, and an inability to respond to any stimulus. The recovery procedure of a brain injury can be affected by different risk factors which are previous complicated concussions, chronic pain, headaches, anxiety, sleeping disorders, depression issues, and disabilities in learning developed in the person facing the issues of TBI [15]. The lack of motivation and social support are creating issues in providing proper help for a person facing the effect of traumatic brain injury. The disturbance in attention, executive function, and memories are hugely these are common effects that are growing in TBI. Diagnosis of brain injuries can be developed with

self-reported symptoms that are difficult to the identification. Cognitive-behavioural therapy is the most effective therapy that is provided for patients affected by TBI. Treating the emotional and mental health of a person can be easily possible with the help of this therapy. The unhealthy thinking pattern of a person can be solved with the help of Cognitive-behavioural therapy. The effects on social skills are developed in a person as it is difficult for managing the issues of emotions such as anger and excitement. The main issue that is created in a TBI patient is feeling out of the place and also feeling uncomfortable around people. Mental issues such as depression, suicidal mentality, anxiety, and substance use disorders can be developed as an effect of TBI in a person [16]. The thinking abilities, behaviour, and mental state can be affected in a person facing difficulties in TBI. The reduction in optimal decision-making can be seen as an effect of the TBI procedure. Dysarthria issues can be developed in a person facing the issues of traumatic brain injury as the major effect can be seen in the speech mechanism and which got damaged due to a major effect of the TBI. In some cases, the issues of TBI can get worse due to major changes in a person's ability that can lead to death for a person over time. The right amount of sleep, proper diet, less stress, avoiding different products of tobacco, and ensuring physical activities or back to normal lifestyle can be effective for the healing process of a person. The fear of work is developing a visible effect on the life of a person. Lack of motivation is also creating difficulties for a person facing the issues of the healing process from TBI. With the help of proper medications, the effect of TBI can be solved but the problems that are related to the recovery of initial injuries from the accidents. The difficulties treating a patient affected from TBI can be affected by their daily lifestyle, mental state, and other changes in the behaviours.

METHODOLOGY

The secondary research process has been used in this research study and it helps a lot to get the relevant information for the study. It helps to make a large progress on the research work and this process has not needed any kind of highly technical knowledge to collect information. On the other hand, this method gives the high chance to know about the treatment procedures and strategy. The secondary qualitative process has big advantages to get relevant data for the research process in a large amount and all data are high in quality. Generally, this process uses previous data that are similar to the subject matter and also assists to provide a bulk amount of data [4]. Apart from this, this kind of data is always available on the internet, and there is no need to pay money to extract information from the source. This is a much better, easy, and quick process for getting data and also better than other processes of research. This study also supports gaining lots of information and experiences. These experiences can make an innovative

impact on future study and research also. This process of research study helps to gain knowledge about traumatic brain injury or TBI. This research process provides the entire and essential information about the difficulties in the process of treatment of TBI. Apart from this, the actual cause of choosing a secondary qualitative process in this research study is, this method has the ability to save time and effort to gather data and analyze the process. It helps the candidates to donate their time and effort to the research study [3]. Accordingly, the primary key of this method is the observation that makes an effective impact on the research progress and also helps to provide authentic information for research. The other reason for selecting a secondary qualitative method for the study is budget. This process does not require money or any charges to take the information. Through internet surfing, individuals can get information and this is available for all. On the other hand, this study also provides opportunities to create the differences between past treatment processes and the present treatment process of TBI. moreover, also provides the ability to predict the future treatment process of TBI [2]. The secondary qualitative process has the facility to provide provisions to create a structured framework of the data also maintaining its patterns and sequences. Moreover, this process also maintains the ethics to get the data and also maintains authenticity that can increase the value of research work. Amed, PubMed, Medline, and various sources have been used to get authentic and relevant information for the study. For all research studies, it is essential to get authentic data, otherwise, it makes an impact negatively on the research. Information is the main resource that can change the values of the research objective and it also plays an essential role to meet the objective or goal of the research work [5]. On the other hand, these data are also able to open a new door for future researchers and it can be confessed that the secondary qualitative method is the appropriate method for this study.

DISCUSSION

The entire brain is affected by a traumatic brain injury that is creating a diffuse type of injury and swelling. Bilateral decompressive craniotomies are used as a radical surgery that is beneficial for reducing the effect of traumatic brain injury. Preventing the issues of traumatic brain injury can be developed with the help of appropriate gear that are reducing the chances of accidents. Cognitive concussions are helping to reduce the issues of different impaired reactions of memory and attention problems [1]. The ocular motor is the symptom that is creating eye pain, difficulties in judging distance, issues in focusing, blurred vision, and headaches can be developed through treatment of this issue. Headache can be created by vomiting, light, sound, and smell issues that can be treated with the help of headache management. Vestibular issues are creating dizziness, vertigo, nausea, and other issues that

can be treated with the help of a physical therapist. Different mood changes can be seen in the people such as sadness, fatigue, and irritability can be seen in a person affected with TBI. Cognitive behavioural therapy and counseling are helping to reduce issues of mood change. The return to normal activities can be possible for a person by taking an adequate amount of rest both physical and mental [6]. This is beneficial for reducing the effect and symptoms of TBI and providing a better way for backing into normal life quickly. The things such as driving without a helmet, using proper protective gear, and always using seat belts are helping to reduce the risk of traumatic brain injury of a person. Neurological investigation for braininjured patients can be developed with the help of a proper understanding of the Glasgow coma scale, providing the significant role of using the immediate decision-making possibilities of traumatic brain-injured patients [7]. Elevation of the head can be the medical intervention for the TBI process that is helping to provide venous outflow.

Hyperventilation is the process that is helping to reduce the cerebral blood volume that is used on the occasion of acute neurological deterioration that is affecting a person. The issues of early seizer can be reduced with the help of prophylactic antiepileptics. The benefits of preventing a longterm seizure can be gained through Seizure Prophylaxis. alternation of blood rheology can be detected with the help of Hyperosmolar Therapy which is beneficial for transient vasoconstriction. The osmotic diuretic properties mechanism used for decreasing ICP is not effective in reducing the primary effect.

The maximal management can be placing patients in the comatose stage possible for helping with bursting continuous electroencephalogram. Decrease of metabolic demand in the brain. The use of barbarities in a prophylactic way is helping to reduce the effect of hypertension defecting the maximal medical and surgical ICP- lowering therapies. Therapeutic Cooling is helping to reduce the risk of alteration in the blood sugar, coagulation factors, and platelet count can be developed in infants and children by decreasing oxidative injuries [8]. Counting platelet and coagulation factors developed in the person is helping to reduce the issues of TBI in the person. The hypothermic state can be developed for a person facing the issues of TBI. ICP monitoring is helping to understand the issues of brain-injured patients and those helping to identify the issues of emergent surgical intervention.

CONCLUSION

From the study, it can be concluded that Traumatic brain injury can have a serious effect on a person in the short-term and long term. This is also beneficial for identifying the serious issues of brain injuries

and their effect on the person. TBI can be solved with the help of proper treatment and also by managing proper guidelines that are beneficial for treating the patients affected by TBI. Proper counselling for emotional support is helping to reduce the issues of TBI in a person. Resting is one of the best ways for providing proper treatment for the brain and developing a return to normal life can be done with the help of maintaining proper growth in the treatment of TBI. Rehabilitation is the best possible way for ensuring growth for patients and this is the main motive of treatment for the patients affected by TBI issues. Returning to normal life is important for the person and relearning basic skills such as walking or talking can be useful for treating the patient facing the issues of TBI. Recovery from a brain injury can be possible with the help of neurosurgery, physical therapies, speech therapies, physiology services, and social services can be helpful for a person facing the issues of traumatic brain injuries. Wearing a helmet, using the proper gear, and other preventing things are helping to reduce the issues of TBI for a person. The treatment can be dangerous and expensive due to risk factors for treating the patients of TBI.

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Diagnosing Causes of Myopathy and Its Effective Treatment

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A B S T R A C T

This article is based on myopathy and its effective treatment and management process. This study focuses on myopathy which is one of the neuromuscular disorders that can affect the internal and external organs of the body. Accordingly, individuals can face difficulties in their daily life and household activities. On the other hand, this study has shed light on the diagnosis process of myopathy and it has been seen that CD4, CD8, and MHC classification make an impact on the disease, and these kinds of factors force to improve the treatment process also put the positive effects on the diagnosis process of this disease. This method also analyses the entire diagnosis reports and finds the symptoms of myopathy and this process of diagnosis also helps the individuals to get the proper treatment. Moreover, a biomedical genetic test is another process that can also recognize enzyme abnormalities and other complications. This article also highlights the tools that are generally used in the treatment process of myopathy. In order to check the level of enzymes, such as Creatine kinases (CK), Alanine Aminotransferase (ALT), Aspartate aminotransferase (AST) level helps to predict the damage to muscles tissues and biopsy is one of the processes of detection. myositis-specific antibody technique also checks the antibodies and their action. On the other hand, this study also discussed the treatment and management strategies of myopathy.

Keywords MHC or Major Histocompatibility Complex, Electromyography, Creatinine Kinases (CK), Alanine Aminotransferase (ALT), Aspartate Aminotransferase (AST), STIR, Anti-Signal Recognition Particle (SRP)

INTRODUCTION

Myopathy is a neuromuscular disorder that causes muscle weakness due to the dysfunction of muscle fibre and includes muscle cramps, stiffness, and spasms. This disease indicates effectiveness on the muscles that are connected to skeletal muscle and creates a problem with daily chores appropriately. There are different types of myopathies that can be inherited or acquired due to the circumstances of the individual lifestyle. “Inherited myopathy” can be developed due to the inheritance of abnormal gene mutation from the parents that causes the development of congenital myopathy in the person's body [1]. The defect in the mitochondria leads to mitochondrial myopathy that affects organ systems such as the heart, brain, and gastrointestinal tract. “Metabolic myopathy” indicates that dysfunction in the genes creates a lack of code for the enzyme needed to maintain the normal function of the muscles and their movement. This type of Myopathy reflex exercise intolerance extensional muscle pain in the shoulder thighs and muscle fibre condition and leads to muscle weakness in the individuals and lack of utilization of normal muscle strength.

On the other hand, “Muscular dystrophy” includes progressive degeneration of muscle tissues that indicates insufficient structural support proteins present in the body. Limb-girdle muscular dystrophies are common in India and 0.8% per 100,000 people due to the lack of Lamin, myoferlin, and telethon protein in the individuals [2]. Infectious myopathy causes an attack on the body itself that muscle dysfunction and toxic myopathy is the result of toxins from alcohol, toluene, and prescribed drugs. This disease causes people to get into trouble doing activities such as getting out of a chair, climbing stairs, and doing other activities in the household [3]. Myopathy causes people to feel shortness of breath in the exertion of completing their daily tasks efficiently. This disease can be treated with physiotherapy for

developing muscle activity and recommended medication for minimizing the weakness of muscle tissues.

Muscle symptoms related to infection caused by bacteria, viruses, or other infectious organs can be improved with the treatment of antibiotics in the treatment process. The supportive and symptomatic treatment assists in developing the treatment process by providing support to the weakened muscle, including drug therapy, physiotherapy, and for better treatment of myopathy [4]. The objective of this study is to identify the causes of Myopathy in the diagnosis process and the effectiveness of its treatment procedure on the patient's health condition. This factor helps to know more about the specific symptoms of the individuals during myopathy and analyse the influence of medication and physiotherapy treatment on the individuals' health condition.

LITERATURE REVIEW

Diagnosis process of myopathy

Myopathy had been diagnosed with the help of diagnostic tests for analysing the impact of nerves and muscles and the heterogeneity of this disease for understanding clinical features to predict therapeutic outcomes. The inflammatory cells have muscle-bearing surface markers such as Cd4, CD8, and major histocompatibility complex (MHC) classes for classification of the disease impact [5]. This factor assists to develop clinical thinking in proceeding with the diagnosis process of the patients. The health care professionals include genetic tests for identifying any issues related to the structure of genes with the help of collecting blood and saliva samples of the patient. This clinical report helps medical professionals the causes of myopathy symptoms happening in the individual's body and develop a better treatment procedure. The utilisation of biochemical genetic test guides to analyse the abnormality of enzymes from the samples collected of blood, urine, and amniotic fluid of the patient in the diagnosis procedure. This factor helps to examine the abnormal level of hormones that can cause stiffness and weakness of the muscle in the patient's body.

It has been seen that the older men had asymmetric, distal weakness in their muscle tissues and shown in the biopsy report for characterises the red-rimmed vascular of “Gomori trichrome stain”. This factor helps to diagnose the impact of myopathy on the vascular system that indicates high serum CK levels for identifying the weaknesses of muscle tissues [6]. The autoimmune process guides the identification

of the pathology of immune-mediated necrotizing myopathy in the diagnosis process and reflects the impact of lipid-lowering agents, myotonia, and periodic parallelism among the patients. Moreover, the diagnosis process assists the idiopathic inflammatory myopathy signs as the combination of genetic and environmental factors that causes inflammation in the muscles of patients. Myopathy diagnosis shows neuromuscular junction disorders such as EatonLambert syndrome, and myasthenia gravis and includes inflammatory dystrophies as the result of a deficiency of protein in the muscles.

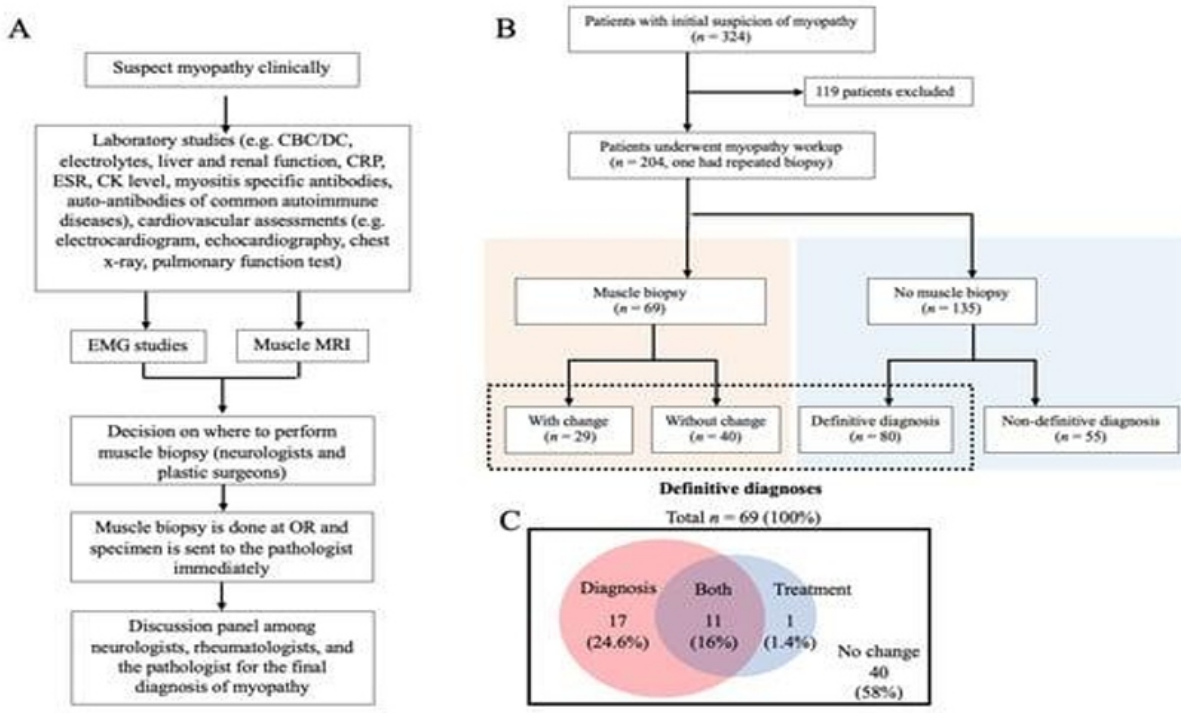

Figure 1: Diagnosis process of myopathy [7]

On the other hand, inflammatory muscle disease shows an increment in the serum muscle enzyme level that is identified in the characterised electromyography (EMG) findings and muscle biopsy demonstrating inflammation causes. This factor shows the self-reactive T-lymphocytes that have reacted to myocytes increase the expression of the MHC class and indicate the cause of myocyte death. The CD8+ T Cells are responsible for the myocyte's invasion of the polymyositis under the electroscope diagnosis process for compressing the muscle fibres [8]. Cytotoxic factormechanism in polymyositis assists to identify the disease pathogen and formation of immunological synapses between MHC muscle fibre expression and CD8+ T Cells with the help of costimulatory support. The activation of complement C3 helps to identify the disease in the early stage and changes the vasculature and neurosis of the caterpillar, perivascular inflammation, and ischemic muscle fibre damage. This factor assists to reduce the number of caterpillars per myocytes in the patient's body. The mechanism of

creating misfolded MHC glycoproteins in the automatism that leads to Endoplasmic reticulum stress and inflammatory response to the obstipation cell in defining the nature of muscle enzymes.

Tools utilized in the diagnosis process

The diagnosis process for identifying muscle weakness in the patients includes the analysis of patient history, physical examination routine, laboratory test, autoimmune serologies, imaging study, and neurologic evaluation EMG and muscle biopsy. The history and physical examination help to identify the causes of the myopathy happening in the patient's body and its impact on the patient's muscle tissue. This factor determines the onset of the disease, the pattern presentation, and the impact of environmental factors on developing the treatment process of myopathy patients. A detailed neurology exam plays an important role in observing a neuropathic disease for bordering the differential of the neuropathic process such as metabolic process and dystrophy [9]. The determination of muscle enzyme levels such as “Creatinine kinases (CK)”, “Aspartate aminotransferase (AST)” and “Alanine Aminotransferase (ALT)” for estimated damage of muscle tissues. This factor helps to examine the biopsy report before proceeding with the treatment procedure of myopathy among the patients.

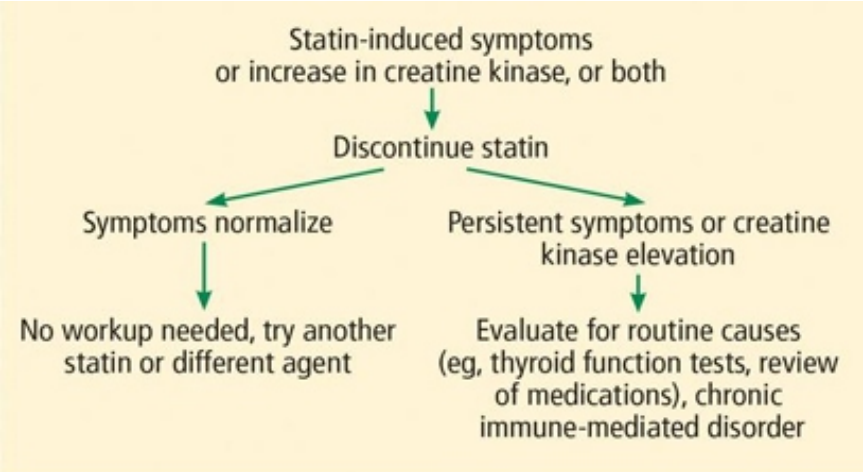

Figure 2: Stain-induced symptoms in myopathy[10]

The myositis-specific antibody technique is utilized for the determination of the presence or absence of antibodies with the immunosorbent assay methods for analysing the sensitivity and specificity of autoantibodies. On the other hand, the anti-signal recognition particle (SRP) assists to predict the future course and the progress of the treatment for schedule with the help of anti-tRNA synthesis . This factor acts as the part of antibodies for strong presentation in reducing the muscle enzyme impact from the patient's body and defines MCA status for the ant synthetase syndrome. This ant synthetase help to

provide better treatment therapy to the muscle strengthening their muscles tissues and examining its impact on the recovery process. The imaging process utilises magnetic resonance imaging (MRI) for determining the location of muscle involvement, muscle loss, and severity of the disease activities. MRI process helps to understand the short tau inversion repeat (STIR) in observing the changes of water content and inflammation for increasing signal intensity that determines the autonomy of the disease.

The application of MRI assists to evaluate the extent of muscle damage and determine the appropriate site of muscle biopsy by looking into specific sides of interest in real-time and measuring the signs of active disease. The neuromuscular evaluation heads to differentiate between myopathy and neuropathy diseases with the help of Electromyography (EMG) that assists to measure the electrical activity of the patient's muscles [11]. This factor helps to understand nerve conduction by velocity testing that assists to distinguish the details of muscle disease from neurological disease in supporting the findings of myopathy diseases. Moreover, muscle biopsy assists medical professionals in using certain areas of tissues for examination of lymphocytic infiltration, fibre necrosis, degenerative and regenerative behaviour of the muscle fibre. The nerve conduction studies help to identify the places of electrodes in the skin for the stimulating process of nerves and recording the electrical activity that monitors the quality of muscle weakness [12]. This test assists to perform the lumbar puncture in extracting the cerebrospinal fluid with needles between two vertebrae in the lower back for analysis of the pattern of myopathy diseases.

Treatment and management of myopathy

The treatment procedure for myopathies includes different approaches such as strength therapy, supportive care, symptomatic therapy, and psychological support to the patients in maintaining the management procedures. The multimodal approach of conservative and supportive care helps these patients to improve their quality of life with the help of pharmacological treatment in reducing the issues of myopathy effectively. The strength therapies help to apply immunotherapy in dermatomyositis (DMY), polymyositis (PM), and immune-mediated necrotizing myopathy in developing muscle activities. The application of “Corticosteroids” assists to develop pulmonary and cardiac function with the help of high-dose medication [13]. This factor guides the stimulation of the muscle fibbers’ activities in individuals through enzyme replacement therapy that manages the enzyme stimulation in the muscle tissues. The development of the simulation process helps to decrease the

inflammation of the muscle tissues and improve the body's autoimmunity response with the help of drugs such as “methotrexate”, “azathioprine”.

The implementation of pharmacological intervention assists healthcare providers in utilising creatine monohydrate as the counter supplement in improving the strength and function of dystrophies. This factor helps to enhance dermatomyositis and polymyositis and develop the tolerance of creatinine for fulfilling the needs of supplements. Exercise also helps to increase the flexibility of the muscle tissues and build the strength of muscles for doing daily activities of the individuals. The application of aerobic exercise in inflammatory myopathy leads to regulating PM and DMY for developing the maximum oxygen uptake, and isometric force with the help of randomised control trial process [14]. The improvement of peak torque guides to include resistive exercise in chronic myositis for developing the result in the inclusion of body myositis in strengthening the muscle groups. The studies found that low-intensity activity exercise helps to maximize the heart rate from 60% to 65% with the benefits of facioscapulohumeral dystrophy (FSHD) through Becker muscular dystrophy (BMD). This factor helps to strengthen the muscles with the help of an effective training process and provides supplements according to the requirement of the patient's diet.

The designing process of restrictive exercises Ashish to build the muscles with the help of repetitive contraction against the resistance force such as dumbbell, free weight, and resistive band. This factor helps myopathy patients to extend the distribution of weakness and develop baseline activity for enhancing the treatment procedure of patients. The guidance of a physiotherapist to understand the appropriate strengthening test for performing the strengthening evaluation in the maintenance of the daily log of activity and exercise performed by the patient. The documentation of physical tasks guides myopathy patients to determine the benefits of exercise programs in their health condition and evaluate its impact on strengthening muscle fibres effectively [15]. Moreover, the supported therapy helps to promote limiting limb contractures, respiratory compromise, swallowing, and gastrointestinal issues in the management process of myopathy treatment. The development of contraction with the help of strengthening and positioning assists to preserve the function of muscle tissues in maintaining the quality of health condition.

The stretching program guides the patient and their families to improve the joint range of motion in DMD with serial casting through the guidance of therapists. The symptomatic therapy treatment guides to fight against factors related to myopathy disease issues and resolves it with cardiac management, and

treatment of Edema and pain effectively [16]. Psychological support helps to look after the mental condition of the patients by providing medication and treatment for fighting against anxiety and depression to develop the quality of the patient's life.

METHODOLOGY

Research method

The research method assists to develop the constitution process of research questions for developing insights about the research topic and builds the research patterns for collecting the data properly. The explanatory method is utilised in this research process for explaining the diagnosis cause and the treatment procedure of myopathy and determining the response of the patient in the treatment process. This factor helps to provide insightful knowledge about the causes that increase fatigue in the muscle tissue and weaken the muscle fibre and result in paralysis in most cases [17]. The knowledge about the cause of myopathy helps the therapist and caregiver to enhance the planning process of the treatment procedure.

Research design

The well-constructed research design helps to ensure the usage of methods helps to fulfil the research aim with the help of the collection of high-quality data. This factor analyses the gathered data related to myopathy in the right way to answer the research question. The descriptive design helps the research process to develop the credibility of resources in gathering data related to the cause and the treatment procedure of myotherapy [18]. The utilization of proper resources assists to describe the myopathy impact on the individual's patients with the help of well-being in the health care services and motivates them to participate in the exercise and strength programs.

Research approach

The research approach guides provide a detailed plan for keeping track of the research process and progress with the help of appropriate data in managing the research process effectively. The deductive approach is used in this study that helps to analyse the possible relationship between concepts and variables related to myopathy causes and its treatment procedure. This factor assists to collect data from

the online resources related to myopathy causes and treatment process that guides to the evaluation of the treatment programs efficiently [19]. These data access to answer the questions related to myopathy therapy and its causes that decreases the quality of life of the patients due to increment paralysis causes.

Data collection

The data collection process helps to collect data from reliable and valid resources such as PubMed, Google Scholar, and last year's articles and journals related to the research topic. The secondary data is collected to develop the research method and observe the research patterns with the help of collected data in the working process. This factor helps other researchers and readers to know more about the myopathy cause and treatment program's effect on the patient's health condition with the help of therapists and caregivers. The gathered data also helps to describe the myopathy sign and symptoms of the patient and explain the diagnosis process with the help of medical tools in the treatment process appropriately [20]. The knowledge about the diagnosis process helps to construct the research method to develop the treatment procedure of the individual patients by analysing their clinical and past history data for constructing proper treatment plans with the guidance of therapists.

Data analysis

The data analysis process helps to analyse and monitor the collected data related to the research topic in delivering better outcomes in the research work. The secondary data analysis process is utilised in this research process for developing an understanding of the relationship between the diagnosis and treatment process of myopathy. This factor helps to modify the insights about the cause of myopathy and its impact on the patient's health condition that enhance the therapist's approach to the patients. The development of the therapist approach helps to improve the construction of strength care, symptomatic care, and psychological support for participation in the treatment procedure. This factor assists to motivate the patients to take the treatment for improving their muscle strength with the help of the exercise treatment and take their prescribed medicine on time [21]. The maintenance of the treatment procedure helps the patient to notice a growth in their health condition and develop flexibility in the muscle tissues and build new muscle fibres effectively.

FINDINGS AND DISCUSSION

Analysing the diagnosis process of the myopathy

Myopathy diagnosis process assists the health care provider in observing the physical and clinical report of the patients in examining reflex activity, muscle strength balance, and sensation. This factor helps to understand the current condition of the patients and build a treatment plan according to their circumstances for reducing muscle weakness efficiently [22]. The blood test help to identify the muscle enzyme such as creatinine kinase that causes a breakdown in the muscle tissues and increases the impact of myopathy in the patient's body. The low level of electrolytes such as sodium, magnesium potassium, calcium, and phosphorus in the muscle tissues of patients indicates the cause of myocyte death in maintaining the straightness of the muscle fibre. On the other hand, the EMG report access to monitor the narc conduction with the electricity for understanding the type and degree of muscle damage [23]. The muscle biopsy helps to define the gene mutation causes in the patient's body for identifying the inflammatory issues in the muscle tissues.

Effectiveness of tools in myopathy diagnosis

Gene testing assists to analyse the DNA base mutation with the help of monitoring DNA samples for understanding the variables of genetic nutrition that develops various types of myopathies in individuals. This factor indicates that the GNE gene in the patient's body is caused by weakness of the tibialis anterior muscle and decreases the stability of muscle fibres. Computerized tomography helps to develop the imaging process of muscle disease muscle declaration and muscle wasting and measure the amount of muscle damage in the diagnosis process. Magnetic resonance imaging (MRI) assists to identify the edema and fatty replacement of muscle tissues for the diagnosis process of inherited myopathy with the help of distinctive patterns in the muscle involvement [24]. This factor helps to reveal the diffuse hyperintense T2-weighted signal for including muscle atrophy and fatty replacement with the anti-SRP antibodies. Electromyography helps to analyse the individual's motor unit action potential (MUAP) duration from the close position muscle membrane and determine the muscle functions and fatigues.

Influence of treatment on myopathy patients

The treatment procedure of myopathy includes strength care, symptomatic care, supportive care, and psychological care for developing the quality of healthcare services and enhancing the patient's quality

of life. The strength care process helps to enrol the patient in the standing program for obtaining the strength measurement in analysing the followup evaluation schedule in understanding the success and failure rate of the constructed programs. This program helps to develop the muscle's activity with the help of a caveat in reducing the forced vital capacity in dyspnoea for increasing the strength of muscle tissues [25]. The supportive care assists to develop the offering of supportive exercise with the help of Cervical orthoses for supporting the damaged muscle tissues in walking and straightening of limbs effectively. Symptomatic therapy assists therapists to reduce the secondary impact of obesity, pain, and edema due to the lack of muscle activity and develop the quality of treatment management of the patients. Psychological care helps to reduce the depression and anxiety impact on the patient with the encouragement to participate in the therapy process for developing their muscle strength with the help of exercise and medication efficiently.

Discussion

The above literature shows that myopathy refers to the disease of the muscles due to the lack of proper nutrients and minerals that causes damage to the muscle tissues. The common symptom is muscle weakness that indicates weakened muscles of the upper arm and upper legs and also creates issues in the respiratory muscles. Muscle atrophy begins the development of thinning out muscles and wasting away of muscles that create abnormal shapes of the bones. On the other hand, it also highlights a lack of energy, fatigue of muscle, and weakness in progressive muscle damage with exertion in the individual's patients [26]. The diagnosis process utilizers other blood such as erythrocyte sedimentation rate for measuring inflammation and antinuclear antibody test for monitoring autoimmune activity.

The application of electromyography helps to understand the muscle's consulate through the usage of needles for detecting different characteristics of muscle structure and movement.

The offering of exercise programs helps to develop the structural process of muscle tissues and increase the flexibility of muscles in the treatment procedure properly [27]. The treatment procedure also offers psychological treatment for motivating and encouraging the patient to participate in various activities related to muscle strengthening and developing their mental health effectively.

CONCLUSION

In this above study, it has been described that myopathy is one kind of neuromuscular disorder that is responsible for muscle weakness. There are some classifications of myopathy that can be acquired or inherited due to the specific circumstances of the individual's lifestyle. From this study, it has been seen that Myopathy has the ability to affect other organs of the body and also make an impact on the health condition and psychological condition of a person. disease affects the brain, heart, gastrointestinal tract, and other essential internal parts of the body. On the other hand, myopathy disease creates barriers to leading a healthy lifestyle and it also reduces the activity level of a person who faces difficulties in climbing stairs, walking, holding something by hand, and other household activities. This study has also discussed the diagnosis process of myopathy and also discusses the tools that are used in the treatment of myopathy. Accordingly, this study has shed light on the management and treatment process of myopathy.

From this study, it has been recognized that this disease has various factors that force it to change and develop clinical thinking and it makes an impact on the process of treatment and also helps the individual to get better treatment. This research study has utilised the secondary qualitative method for getting authentic data and also uses the data for the study. This process helps to get lots of information on myopathy and its treatment process. These processes help to provide value to the research paper. The finding of the study reflects that the observation of blood report and EMG report guides the therapist to provide a proper treatment plan to the myopathy patients and analyse the muscle functionality. The diagnosis process of myopathy utilizes muscle biopsy for analysing the gene mutation and determining the type and degree of muscle damage efficiently.

The offering of supportive and psychological care helps the patient to participate in exercise therapy. This factor helps to use supplement tools for developing the flexibility of muscle tissues in the hand and legs in the treatment process. Psychological care helps the patient to fight against the present anxiety in the treatment procedure to accept the failures in the myopathy treatment program.

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Exploration of Neuro-Ophthalmology for Treatment of Visual Loss or Problems with Eye Movements

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A B S T R A C T

This above article is based on the neuro ophthalmology that is connected with the neurology and ophthalmology. This is one of the complex systems in the world and it make an huge impact on the world medical platform. There are several symptoms and several diseases that cannot possible to recognise in the manual system. This treatment also includes the artificial intelligent advancement and that helps to provides the opportunities to get the zero human error outcomes and real time data. This process also meets the goal and objective in a fast and accurate way. Now days neuroophthalmological is one of the innovative treatment processes that can be able to check the entire nervous system and also check the eye related nerves. This study has shed light on the impact on neuro-ophthalmology in the treatment procedure. CML automation treatment process provides suitable solution for the individual. On the other hand, the neuro-ophthalmology provides the advantages that can create a presurgical map and also set the instrument as per the requirements. Accordingly artificial technologies also provide the clear view of nurse and its difficulties. This study has used the secondary method for the study and its helps get the versatile data that helps to increase the values. Now days robotic surgery one of the innovative processes that helps the individual to get rid from their difficulties easily and allows the medical practitioners to reduce the rate of disease.

Keywords Nervous System, Optic Nerves, Optic Neuritis, Papilledema, Toxic Optic Neuropathy, Neuroimmunology, Artificial Intelligent, Vision, Eye, CML Automation Treatment , ONH Volume Images, Fundus Photography, Papilledema , Retinal Nerve

INTRODUCTION

The Neuro-Ophthalmology treatment process is merging in the field of ophthalmology and neurology. Diseases of the complex nerve system are diagnosed by this treatment process. The nerve system which is related with vision and eye are managed by this treatment process. Several symptoms are included for considering this treatment. Sudden reduction of vision, visual hallucinations, intractable headache, double visions, pupillary abnormalities are the several symptoms related to vision for considering it. Different kinds of eye diseases are treated under this treatment and the diseases are optic neuritis, papilledema, squint, toxic optic neuropathy. Several management and diagnosis tests are involved in the treatment through this procedure. Eye examination is essential in neuro-Ophthalmology. Orthoptic evaluation, determination of color movement, visual screening in neurological, diplopia charting, evaluating color vision and contrast sensitivity and other basic tests such as CT scan, MR venogram and MRI are done in this treatment. Vision loss is impactful for the people and along with their friends, family and society.

Complete loss of vision is an alarming situation for a person and it affects human quality of life. Ability of independent movement is lost by the person who loses vision. Special medical care is necessary for this kind of person and in most of the cases, employees are appointed for the person to take care of. Losing vision has also an economic impact on those people who lose vision power. Opportunity for jobs becoming financially independent is lost and that people completely depend on other family members. Cerebellum has a vital role in the controlling movement of eyes and for this reason physical impact cerebellum affects movement of eyes. Neuro-Ophthalmology treatment is used to recover the issues in which the nerve system are responsible for losing vision. This treatment removes the difficulties in the

way of eye movement to increase vision.

LITERATURE REVIEW

Eye diseases treated by Neuro-Ophthalmology

Neuro-Ophthalmology treatment is considered for the patients who suffer from vision loss and difficulties in eye movement. In many cases, people cannot define color properly, which is also an issue of vision. This improper color identification plays an important role to decrease eye movement along with vision power. Several diseases are involved in these issues in human eyes. Optic papilledema, toxic optic neuropathy and squint are the diseases which have a huge impact on losing vision. Sudden losing vision and decreasing vision issue is known as optic neuritis [1]. Optic nerve is vital to provide vision power to the eye and in this disease activities of this nerve are affected and for this reason vision is decreased. Infection can be responsible for affecting activities of the optic nerve that hampers vision of humans.

Multiple sclerosis is also responsible for developing this eye disease among people. MS promotes neurological disorder and this issue of nerve plays an important role for affecting optic nerve and as a result, optic neuritis eye disease has occurred. Papilledema is a serious eye disease for which people can be fully blind. Losing side vision is the primary symptom of this disease and this disease is progressive. The situation of progression increases the issue of losing side vision and in the future a complete blind issue can happen with the people who are affected by papilledema. Considering these facts, papilledema is considered an emergency for medical treatment. There are four stages in papilledema and the stages are early, developing fully, atrophic and chronic. Several causes are responsible for causing papilledema in humans. High blood pressure, bleeding, tumors, infection, iron deficiency and "Idiopathic intracranial hypertension" are the main causes of papilledema.

These causes are responsible for swelling the optic nerve inside cranium and mostly high blood pressure is the reason for these kinds of conditions in the optic nerve. Meningitis and hemorrhage are also important causes of papilledema in humans. Bleeding in the brain, head trauma are also considered as the causes of papilledema by many medical experts [2]. Several symptoms are noticed among the patients who are affected by papilledema. Headache, vomiting, difficulties in vision and ringing sounds on ears are the important symptoms of papilledema. Losing bilateral vision, decreasing vision of color

are considered as the symptoms of nutritional optic neuropathy. In many cases it is found that loss of vision happens within days rather than months. Visual acuity is reduced and for this reason patients cannot determine objects properly. Deficiency of vitamins is the main reason for progression of this eye disease in humans. Lack of vitamin B1 and B12 are mainly responsible for increasing the issues of this eye disease.

However, taking alcohol and antibiotics are also the important causes for causing toxic optic neuropathy among people. Point of the eye in different directions is squint eye disease [3]. This disease is mainly noticed among the young children and proper treatment can remove this issue from the young children. Always squinting, age more than 3 months, double vision in the future life, these conditions are considered for the children who have squint problem in their eyes. Several issues are to be faced by the children in their future life. Double vision and lazy eye these kinds of issues can be faced in the future due to squint eye disease. In lazy eye issues, the brain cannot provide proper signals to the and for this reason different kinds of issues such as accidents may occur due to this eye issue.

Usages of artificial intelligence systems in Neuro Ophthalmology

Technology has developed a lot and most of the advanced technologies are used in modern treatment to reduce complexity of the entire treatment process. In recent times artificial intelligence systems have developed much more and the system is used in medical treatment largely. Artificial intelligence systems have the capability to accelerate the existing process accurately. Considering the fact, AI is used in neuro-Ophthalmology to make this treatment process accurate and fast [4]. The entire diagnosis process gets fast movement that helps to provide fast treatment to patients in emergency situations. In neuro-Ophthalmology, multiple diagnosis can be done in a short time that provides scalability to the treatment of eye care. Recent developments in AI helps to utilize this modern technology in detection of functional and structural damage of optic nerve and disorder in color movement. AI is a technical system that enables interpretation, receiving and learning from the data to understand the goal of a particular procedure. Signals of the nerve travels to the retina from phototransduction as a form of light. In recent times, development of digital technology and cameras helps to provide high quality photographs retina and ONH that offers alternative procedures to ophthalmology to detect movement of nerves.

During treatment fundus photographs are taken by the modern technology of the patients who are in ED

and suffering from headache, visual changes and neuro deficit. Neuro experts are necessary to describe the movement of nerves through the condition of photographs and as per the condition of the photographs diagnosis is done in this treatment. Artificial intelligence systems such as CML are used to classify eye disease. CML is one kind of artificial intelligence system that is used in eye treatment [5]. The CML method of AI is used to identify severity of papilledema. ONH volume images are taken by AI technology through a method that helps to identify the condition of the entire nerve system. DL method of artificial intelligence system is used for finding out algorithms on papilledema for ONH. Identification of these abnormalities helps to provide proper treatment to the eye disease affected patients. CML is an automatic system which is used to collect fundus photographs.

Medical experts detect papilledema through the collected photographs. In most of the cases it is found that the collected photographs are around 92.9% to 97.9% accurate to detect papilledema [4]. The four features such as color, textual, disc, vascular and obscuration are found about 87.8% accurate to detect papilledema. Function of AI systems can be important for screening and identifying characters of ONH structure that helps to detect movement of eyes. The system is capable of providing descriptions of Neuro-Ophthalmology conditions accurately and timely. The pandemic situation been boosted to accelerate the implementation of AI systems in clinical practice. Diagnosis procedure has become fast through using AI systems in the treatment of eye disease and for this reason the medical experts get the opportunity to detect the disease quality that helps to take emergency decisions for the treatment. Features for visualization help to examine the condition of the eye and nerve that helps approaching actual treatment.

Impact of Neuro-Ophthalmology and its process

Neuro-Ophthalmology is much more complex and critical in the case of eye treatment. Visual loss is considered as the primary symptom of eye disease. In research it is found that visual loss is also a temporary symptom for eye disease. Fugax is short term symptoms and in the emergency three clinical conditions such as occlusion of optic and retinal nerve, process of arteric and neuritis of optic nerve [6]. Painless sign is also a symbol of losing visual and these symptoms are found in the emergency situations in eye movement. Different kinds of primary symptoms are before visual loss and the symptoms are in progressive manners. This kind of progression helps to increase its bad impact on the eye and nerve system and for this reason the ability of the eye in vision is decreased.

In many cases it is found that 1 to 2 weeks are passed for developing this eye disease among patients. During the progression of this eye disease, diminution and fogging of color issues are noticed among these patients. Many patients suffer from diplopia issues in emergency situations. Visual distribution such as double vision is the diplopia disease of patients [7]. Different kinds of causes are responsible for causing diplopia among patients. Cornel lesions disorder are the reason for this eye disease among patients. It is observed that the patients who have misalignment issues in eye movement suffer from diplopia. Different kinds of misalignments such as horizontal misalignments considered as non-fixing eye movement. Smooth eye movement testing is done to detect issues of eye movement.

In this process, medical experts tell patients to fix a horizontal and vertical moving object. The movement of the country considered object is not too quick. This procedure helps to detect the function of the abducens nerve through this pursuit smooth movement of the eye. Convergence testing is done to understand movement of a patient's eye [8]. Slowly moving the thumb is to be fixed for the patient through this testing. Convergence eye issues mainly occurred due to injuries of traumatic brain. Many patients suffer from the issue of high-level visual disturbance and structural disorder of cortex is responsible for it. Hallucinations and palinopsia are found among the patients who have high level visual disturbance. The neurological system is also associated with this eye issue and patients frequently see darkness, curve line, blurred spots and gaps. These issues are vital for the patients who suffer from eye disease. Neuro-Ophthalmology treatment is considered as the emergency needs for patients.

METHODOLOGY

Research methodology is a process or procedure that is used for choosing different kinds of elements such as research design, approach, philosophy, data analysis and data collection method for conducting whole research. Justifications for choosing the research elements are provided through this part of study. However, the process of completing the entire study is described by methodology [9].

Both primary and secondary data collection methods are used in research. Primary data collection is expensive and for this data collection a huge amount of money is required. Besides the huge budget this data collection method is a timeconsuming process and for this reason researchers avoid this data collection method. On the other hand, the secondary qualitative data collection method is easily accessible as sources of secondary data collection are available online. Magazines, online articles and

journals are the sources of secondary data. Researchers have the opportunity to collect data from these sources easily as per their requirements.

The secondary data collection method is easy and cost effective that is beneficial for completion of the research within time and proper budget. To complete the research data are collected from different available sources in the internet and other ways after 2018. This is beneficial for getting the latest information about the research neuro-ophthalmological field. Data for the research are collected from different reliable sources in the internet such as Google Scholar, and other search engines. Raw data gathered from these sources are beneficial for achieving the proper growth in the research and helping to ensure a valuable outcome from the research [10]. A large amount of data gathered for the research from different mediums are helping to produce a visible difference in the research. Neuro-Ophthalmology treatment knowledges are gathered from secondary data helping to produce a better progress in the research. The researchers are getting benefits from the secondary qualitative research that is aiming towards the better growth in the field of neuroophthalmology. Researchers considered this method to complete the analysis process as it is beneficial for achieving growth for the research and able to ensure a better growth for understanding the issues of the disease and able to understand the latest research growth in the topic.

In this study methodology takes an essential part and entire research study is based on the secondary qualitative research process. Accordingly, this study has selected positivism philosophy and chosen inductive approach to make a similar and accurate conclusion for the study. Deductive approach always tries to test the hypotheses and this study has not choose the hypotheses for the study. That is why deductive approach is one of the best approaches for this study. On the other hand, this study also applied the cased study design that helps to provides a systematic view to the entire study.

Data collection and data analysis process is more suitable for this study, and it provides the world-based information for the research study [11]. Some researchers are use the secondary qualitative process for its advantages. Secondary qualitative method provides wide opportunities to draw out the information from the source and this method also try to get the data in an ethical manner that increase the appropriate value of the research paper. This secondary research method allows the researchers to get the data from the various source. These kinds of data are always available in the google scholar and google and another search engine. In this context electronic article helps to receives effective data for the study and it creates the data structure that can measure the value of study. This study has allowed electronic

articles, books, magazines, journals for extract information.

This is more effortless and time saving process for research and the researcher can donate their time in the research and give full effort on the study. Accordingly, it helps to provides the chances to increase the experiences and knowledge for the future study [12]. This study has provided the vital information on the neuro ophthalmology and provides many essential information on the interaction between ophthalmology and neurology. It also provides the information on the artificial technologies and its interconnection with the neuroophthalmological treatment process. Secondary qualitative process is much easier than other research procedure and it makes an impact on the medical world.

DISCUSSION

From this above study it can be stated that neuro ophthalmology is one of the innovative treatment processes that are able to mix two complex segments in the medical field such as ophthalmology and neurology. There are various kinds of diseases that make major effects on the nerves. This treatment process is interconnected with the eye and vision and there are several symptoms such as visual hallucination, double vision, interactable headache, and pupillary abnormalities [13]. There are various kinds of diseases that can be cured by this treatment process . in this context it can be said that eye examination is one of the biggest neuroophthalmology. From this above study, it has recognized that several eye diseases can easily treat by this process. Some people cannot able to recognize the color properly and this is a serious issue of vision. On the other hand, it is also responsible for decreasing eye movement [14]. Optic neuritis, papilledema, toxic optic neuropathy, and squint disease make a major impact on eye vision and sometimes these diseases are responsible for losing vision of the eye. In the whole nervous system, the optic nurse has played a special role to provides vision to the eye and there are several infections that can effects the optic nerve badly. Multiple sclerosis is also considered an eye disease and it also promotes neurological disorders also. On the other hand, papilledema is a serious condition when a patient can not see anything by eye and it is one of the emergency medical treatments. Accordingly, bleeding, tumors, high blood pressure, and iron deficiency can be causes of papilledema. From this study, it has been seen that artificial intelligence helps to provide technological advancement in these fields and medical practitioners use these technologies for diagnosis purposes and it making an effective impact on the treatment process [15]. On the other hand, artificial intelligence has the capability to provide zero human error outcomes and realtime data. On the other hand, it also makes the process of treatment accurate and fast. Nowadays it has been seen that AI technologies can able to repair

the damaged optic nerve. Signals of the nerve travel to the retina from phototransduction as a form of light. In current times digital cameras and high qualities technologies provides the high qualities images. That helps to get the clear view that helps to diagnose the disease easily. Nowdays robotic surgery one of the innovative process that helps the individual to get rid from their difficulties easily. From this above-mentioned study, it can be observed that there are various kinds of disease that are interconnected with the nervous system [16]. Some external virus are also effects the retinal and optic nerve. Artificial intelligent can detect the issues and also provides the solution in a effective manner that make the impact on the individual treatment process. Painless sign is also a symbol of losing visual and these symptoms are found in the emergency situations in eye movement.

The neuro ophthalmological is helping patients affected with loss in visual acutiy, color vision develop due to problem gaining in the optic nerve and brain. The eye movement abnormality are developed with the help fo neuro ophthalmological development that is providing the effective growth for a person. Sudden vision loss in both eyes are developed a neurological problem that is also developing pain in the eye when it is moving [17]. The occipital lobe which are situated in the sides of the brain are helping to control vision. It is also beneficial for the control of speech, shortterm memory, musical rhythm and some degree of smell recognition. No effective treatment are developed once the connection between the eye and the brain is lost. The neuro ophthalmological effect are leading towards blindness. Vitamins B12, B6 and B1 are helping to develop the growth in the optic nerves that are helping to ensure progress in the eyes. The evaluation of arteritis ischaemic optic neuropathy are ensured with MRI process that are developed due to giantcell arteritis. Bananas, avocados, pumpkin seeds, and black beans are enriched with magnesium that are beneficial for protecting the eyes from damage in the optive nerve by improving the blood flow which are helping to protect the retinal ganglion cells. Electroretinography (ERG), electrooculography (EOG) and visual evoked potentials or visual evoked response (VEP or VER) are the effective way for detecting the issues of optical nerve damage [18]. Different functions of retina and optical nerve pathways are understood with the help of these methods. With the help of different cardio exercise, the blood flow in the optic nerve and retina are increased that are beneficial for overall eye health and vision for a person. Glaucoma is developed as a common disease in the optic nerve, and it is gaining the vision loss and blindness of a person.

CONCLUSION

Neuro-Ophthalmology is a treatment procedure that is interconnected with ophthalmology and

neurology. This treatment process can detect the disease and helps the individual to proper solutions to their difficulties. There are various kinds of symptoms such as headache, pupillary abnormalities, and double vision that are easily recognized by this treatment process. In modern days, medical professionals use this treatment process to diagnose issues and eye test is one of the neuro-ophthalmology. From the above study, it has been seen that Optic neuritis, papilledema, toxic optic neuropathy, and squint are some major diseases that can be responsible for losing vision. the optic nerve is one of the vital nerves that provides vision to the eye and this nerve has a major connection with the brain and nervous system as well. on the other hand, multiple sclerosis is also an eye problem, and it is also known as a neurological issue. This study has also shed light on the artificial intelligent. The advancement of technologies provides some benefits that make the process of treatment faster and accurate. On the other hand, it provides the zero human error solutions and real time data. These has the capacity of storing previous dada and provides the solution in emergency. CML is the automation system that can be able to collect the fundus photograph. This study has also highlighted the impact of neuro-ophthalmology and its process. From this study it has been seen that this more complex and treatment procedure and all problems generally connected with the nervous system. This treatment process checks the entire nervous system and also check the conditions of nerves that is connected with the eye. After and nerve test, medical professionals suggested for the further treatment of particular issues and provides the other essential suggestions as well. This study has applied the secondary qualitative method to get the worldwide information for the study. From this study it has been recognised that neuroophthalmology treatment has the capabilities to reduce the symptoms and prevent the eye disease as well. It can be said that neuro-ophthalmology make a innovative updating in the world medical field.

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