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Review Article

Role of Physiotherapy in Guillain Barre Syndrome: A Narrative Review

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ABSTRACT

Background: GBS is considered as most disabling neurological condition after poliomyelitis. The incidence of GBS is 1 to 2 in 100,000 per year and the lifetime likelihood of the disease is 1:1000; GBS can attack at any age, the most common age group is 30- 50 years. The mortality is about 8% to 12%. Even after the treatment the disability persist in about 20% to 25% of the GBS patient especially with ambulation.
Purpose: the objective of this article is to provide better understanding of the response and course of the disease to physiotherapy and other medical personnel to offer effective physiotherapy measures which can fasten the rehabilitation process.
Material and methods: Electronic databases up to January 2015 were searched for the key words Guillain Barre syndrome, physiotherapy, rehabilitation, multidisciplinary care, including Medline, CINAHL, AMED, PEDro, LILACS, and the Cochrane Library for the studies reporting outcomes of GBS patients following physiotherapy as rehabilitation interventions
Results and Conclusion: The disability, functional impairments, quality of life effects may be permanent and may lead to long lasting dependence. The patients with GBS are best managed with therapeutic modalities like immunoglobulins or plasma exchange in the acute phase of the disease but lack follow up rehabilitation. A lot of studies have been done on the acute management of the disease but there is a paucity of studies on long term rehabilitation including physiotherapy management of the patient. To physical therapist and other medical personnel, the finding may have implication in terms of planning of rehabilitation and caring interventions and will provide us a platform to develop evidence based protocol and tools for better rehabilitation in the society for GBS patient in acute, subacute and chronic phase, which are currently not available.

Key words: Guillain-Barre syndrome, rehabilitation, physiotherapy.

INTRODUCTION

Guillain-Barre syndrome is an immune mediated disorder of peripheral nervous system of acute or sub acute onset. It is most commonly characterized by combination of generalized weakness paresthesias of limbs, and areflexias. [1] The reported incidence of GBS is 1 to 2 per

100,000 populations and the life time likelihood of any individual acquiring GBS is 1:1000 with a slightly higher incidence in male than in female. It can occur at any age but the most common age is 30 -50 years. [2] The most common infections reported to be preceding GBS, about 10- 14 days are upper respiratory infections. Other identified infections include campylobacter jejuni, cytomegalovirus (CMV), Mycoplasma pneumonia, Epstein-Barr virus, and influenza virus. [3]

Commonly recognized variants of GBS include acute inflammatory demyelinating polyneuropathy (AIDP), acute sensory and motor axonal polyneuropathy (ASMAN), Miller Fisher syndrome (MFS) and acute motor axonal neuropathy (AMAN). [2,3] The mortality rate of GBS patients is 3.5% to 12%; 25% patients require ventilatory support. [4] Almost 20% of patients of GBS suffer severe disability especially in ambulation. The prognosis of the disease depends on the wide variety of factors including old age, preceding illness, rate of progression, extent of disability and time of therapeutic intervention. [5]

Most of the patients have preceding illness; 60% of the patient's have respiratory illness as antecedent event, however, about 27% of the patients do not present with any preceding events. [5,6] In absence of multidisciplinary therapeutic approach the disease is highly progressive and may lead to severe respiratory complications requiring ventilator support and almost one third of the patients need management in critical care unit in acute phase. [3,6] The disease presents itself with wide variety of autonomic dysfunctions including life threatening arrhythmias, hypotension, hypertension, and gastrointestinal problems in considerable patients. [7,8]

The diagnosis is confirmed by nerve conduction velocity testing and cerebrovascular fluid examination both of which may be normal in the early phase of GBS. [3,7,8] The disease is considered to be the most disabling condition and the most common cause of acute paralysis in children as well as in adults after the eradication of poliomyelitis. [9,10] The progression of the disease depends upon its severity at onset. It suddenly progresses to severely disabling paralysis of the limbs within few days of onset and the disease severity reaches it peak in two to three weeks in about 50% and 80% of cases respectively. [11] The disease starts its recovery after two-four weeks leaving almost 20% of the patients disabled even after the treatment especially in ambulation. [12]

The treatment of GBS aims to accelerate recovery, reduce complications in acute phase of illness and reduce the occurrence of long term neurological residual disability. [13] The various treatment modalities utilized for the modifications of disease symptoms are plasma exchange, intravenous immunoglobulins (IVIg) and corticosteroids. Plasma exchange is considered as the first and cost effective modality for the treatment of GBS especially when used within the seven days of the onset of the symptoms the effects of plasma exchange have proved useful in reducing the time of ventilator support and fastening recovery and early ambulation in GBS patients. [13] IVIg has shown equal benefits in improving the disease symptoms as plasma exchange. [14] The use of corticosteroid as treatment was found ineffective in various randomized control trials hence they are not used for the treatment. [15] Multidisciplinary [MD] care is reported to be as important as immunotherapy. [6] In GBS the concept of MD care refers to the management of the patients with inclusion of at least two disciplines [medicine, physiotherapy, occupational therapy, dietetics and other

health professionals] [5] The fact that the disease results in disability inspite of all therapeutic measures is the reason to explore the role of rehabilitation through physiotherapy in the management of GBS. As there is paucity of studies with good level of evidence about role of physiotherapy in GBS patients more studies and research is required. The objective of this review article is to provide better understanding of the response and course of the disease to physiotherapy and for medical personnel to offer effective physiotherapy measures which can fasten the rehabilitation process.

MATERIALS AND METHODS

Electronic databases up to January 2015 were searched including Medline, CINAHL, AMED, PEDro, LILACS, and the Cochrane Library for the studies reporting outcomes of GBS patients following physiotherapy as rehabilitation interventions that addressed functional restoration and participation. The keywords search were Guillain Barre syndrome, physiotherapy, rehabilitation, multidisciplinary care. The research gap was identified. And conclusions were drawn. Keeping the research objective in mind, previous work done by other authors related to physiotherapy was analyzed.

Main Findings:

1) Weakness and fatigue:

The most predominating feature of GBS is weakness which may range from slight paresis of upper and lower limbs including intrinsic muscles of hand and foot to complete quadriparesis requiring mechanical ventilation which can be graded from 0 to 6 on hughes functional score. [16,17] Depending on the extent of the weakness, resistive active, active- assisted, and passive exercises can be prescribed to the patients. [18] Proper position of the paralyzed limbs through splints and pillows is required in order to maintain the neutral position of the joints so as to avoid the permanent deformities. In severely paralyzed patients turning on bed in an hour or two should be performed in a view to prevent bed sores. [10,19] As the patients recover or when there is incomplete functional recovery, functional orthosis may help the patient to recover or perform functional task with ease. [6,10] Weakness of the limbs leads to immobilization which increases the risk of deep vein thrombosis (DVT). DVT is a common complication of GBS but the incidence is unknown as it has never been studied systematically for the patients of the disease entity. However, the risk of developing thromboembolism in post operative patients who are at moderate risk has been shown to reduce by almost 70% by measures like passive movements, compression bandaging, and supportive stockings. Similarly in patients GBS the complication of DVT could be prevented. [6]

Fatigue was noticed in majority of the patients which affects the quality of life in almost 75% of the patients in spite of showing an apparently good recovery and restricts the patients in activities of daily living and their social life. [18] A national survey from Australia, reported disabling fatigue in majority of patients which was not statistically related to physiotherapy received which further suggests the importance of assessment of fatigue in treatment plans to improve functional recovery in GBS patients. [16] In a study of 113 post acute GBS patients it was demonstrated that severe fatigue was present in 80% of the patients which was found to be the most disabling symptom. [20]

2) Pain and autonomic dysfunction:

Pain as an early symptom has been reported in many retrospective and prospective studies in GBS patients. [6,21,22] Pain is reported as a common and severe symptom in all variants of GBS which may occur as

first symptom and may last for over a year. [21] Pain in neurological conditions like stroke, multiple sclerosis, is effectively reduced by transcutaneous electrical nerve stimulation (TENS). [23] The beneficence of TENS in GBS has been shown as an adjunct to the pain management with low evidence and has not been widely studies. [24,25] Mostly the management of the pain is done by the carbamazepine and gabapentin in GBS patients. [21,22]

Autonomic dysfunction is present in approximately 50% of patients with usual manifestation of sinus tachycardia along with more serious complications including life threatening arrhythmias, hypotension, hypertension and gastrointestinal dysmotility. [26]

3) Disability in GBS:

Patients with GBS require long term rehabilitation. [6,10,19,27] Rehabilitation is required in approximately 40% of the hospitalized cases. The requirement of ventilator support increases the duration of hospital stay in approximately 30% patients. [10] It has been found that at two weeks 76% patients were dependent in activities of daily living and 12% patients remained disabled even after two years of onset of symptoms. [28] It has been reported that the patients who did not receive physiotherapy at the time of hospitalization had poorer recovery. [16]

4) Residual fatigue in GBS:

Fatigue has been studied as a major manifestation in the patients with GBS. Residual weakness and fatigue has been reported in 13 % of GBS patients. Exercises are well tolerated and improve fatigue in GBS patients. [29] It has been suggested that endurance training may improve the symptoms of residual fatigue. [30] Improvement in residual fatigue after exercise training has been reported in breast cancer and multiple sclerosis patients and has not been studied effectively in GBS. [31] Residual fatigue also increases the health burden in the society. It has been reported in a study that mean health burden of the campylobacter associated illness in the Dutch population in the period of 1990 ± 5 is 1400 (90% CI 900 ±2000) DALY (Disability Adjusted Life Year). The main determinants of health burden were acute gastroenteritis (440 DALY), gastroenteritis related mortality (310 DALY) and residual symptoms of Guillain Barre syndrome (340 DALY). [32]

5) Sensory loss:

Sensory loss is seen in ASMAN variant of GBS as sudden onset. [26] The patient will have gloves and stocking type sensory loss. It has been reported in a prospective study that sensory impairment were predominant along with the motor impairment in almost 50% of the patients even after two years of onset of symptoms. [33] Sensory loss may lead to various other complications such as injuries to the limb, skin ulceration which may heal with difficulty and infections. [34] Patient education for daily examination of the skin along with skin cleaning and soaking along with proper lubrication of the skin should be promoted. Care should be taken while wearing orthosis by inspecting the skin several times a day. [34,35] Balancing exercises for ataxic gait can be prescribed along with the walking aids and visual feedback control should be encouraged. [36,37]

6) Respiratory dysfunction:

Respiratory dysfunction leads to poor prognosis in the patients with GBS and requires ventilatory support and critical care management. [38,39] Role of chest physiotherapy along with postural drainage is vital in the patients on ventilator support. [40,41] Even if the patient is weaned off from ventilator breathing exercises including segmental breathing, pursed lip breathing and diaphragmatic breathing exercises are needed to increase the vital capacity of the lungs. [18,27,42] Airway clearance techniques

like mechanical respiration may be required in some patients with proper techniques for maintaining hygiene and providing incentive spirometry to encourage recovery. [40]

7) Bladder and bowel involvement:

Bladder and bowel involvement is a very autonomic dysfunction in GBS as well as various neurological diseases leading to incontinence as a common manifestation. [26] The incontinence may further lead to the serious complications like urinary tract infections, perineal rash, pressure ulcers, renal stones, and damage and skin breakdowns. [18] It may also lead to social constraints to the patients as it may lead to embarrassment and low self perception. The wide varieties of treatment options are available to treat incontinence including conservative management (such as physical therapies, behavioral training, self catheterization, anti incontinence device), pharmacological agent and surgeries. The most commonly recommended physiotherapy treatment in women with stress urinary incontinence is pelvic floor muscle training. [43] These exercises are also prescribed in mixed incontinence and less commonly in urgency incontinence. The biofeedback and electrical stimulation are the common adjuncts with pelvic floor exercises. [44] However there are no such evidence found in GBS patients.

8) Factors associated with poor outcomes of GBS:

Other issues that affect rehabilitation are dysautonomia, cranial nerve involvement, and various medical complications associated with GBS. [10] Old age, ventilatory dependence, no treatment offered (TPE/ IVIG), rapid onset of the symptoms, rapid progression of the disease leading to quadriplegia, campylobacter jejuni infection, and patient showing no improvement at three week down the line of the treatment are some associated features which results in poorer outcomes. [18]

9) Physiotherapy techniques and guidelines:

There are very few studies available suggesting the role of physiotherapy in improving the outcomes in GBS patients. The various outcome measures used for assessment of GBS patients are summarized in table 1. Exercise programs for the rehabilitation of the patients with peripheral neuropathies are focused on symptomatic treatment with a very few studies in the literature about the type of exercises programs and their effect in strengthening and endurance. [30,45] Studies have shown that the exercise interventions are associated with significant improvements in muscle strength, functional ability and fatigue.[29,46] For patients with peripheral neuropathy the recent recommendation of exercises includes a combination of aerobic and functional exercises as well as therapeutic exercises including progressive resisted exercises utilizing repetitions of specific muscle contraction and strengthening exercises to target specific week muscle group with a care to avoid over exertion. [18]

The strengthening exercises can be isometric (performed against maximal resistance where no associated joint movement is possible), isotonic (performed against a submaximal known resistance, this is typically greater than 70% of the maximal load possible, where joint movement and limb excursion is permitted) or isokinetic (performed against variable resistance but where the speed of contraction is constant). The exercises in the endurance programmes typically involve gradually increasing the duration and intensity of aerobic activity for example cycling, running, or walking. Specific muscle endurance programmes may also involve the use of low load high repetition muscle contractions. [6,30,45]

Table 1: Various outcome measures used in the studies for GBS patients

Sr. No	Outcome Measures	Description of outcomes measures	Authors Used these Scales
1	Manual Muscle Testing Sumscores (MMT) [56]	It is a sum of the Medical Research Council Grades (range 0-5) score 0 bieng total paralysis and 60 being normal strength for the following pair of muscles: upper arm abductors, elbow flexors, wrist extensors, hip flexors, knee extensors, and foot dorsal flexors. Subdivisions of the scores MRC arms (0-30) MRC legs (0-30) are also incorporated.	Mhandi, LE. et al [52].; Karavatas, SG. [47]; Forsberg A. et al [33]
2	Fatigue severity scale (FSS) [56]	It is a brief self assessed questionnaire containing nine items with answers ranging from 1(Strongly agree) to 7 (Strongly Disagree) and the mean score ranging from "no signs of fatigue" to "most disabling fatigue".	Garssen, MP. et al [29]; Davidson, I. et al. [16]
3	Hughes Functional score	It assesses the functional mobility of the patients scores ranging from 0 (no signs symptoms) to 5 (requiring ventilator support for at least part of the day)	Davidson, I. et al.[16]
4	Functional impairment measure (FIM FAM) scores [56]	It scores 18 activities on seven point scales including independence in self-care, sphincter control, mobility, locomotion, communication, and cognition. The minimum and maximum scores of the total rating being 18 and 126 respectively.	Mhandi, LE. et al [52].; Khan, F. et al [48].; Dimer. et al [49].; Meythelar. et al; Nicholas. et al
5	Depression anxiety severity scale (DASS) [56]	It is a four point likert scale which contains self report 3-7 items scale measuring negative emotional states of anxiety, depression and stress.	Khan, F. et al. [48]
6	Short Form (SF) 36 [56]	It is a widely used questionnaire for measuring self reported physical and mental health and contains 36 questions.	Davidson, I. et al.[16]
7	Hospital anxiety and depression scale (HADS) [56]	It is a self assessment instrument designed for assessing the clinically significant depression and anxiety in the patients attending the outpatient clinics and hospitals. It is a 14 items scale; 7 measuring anxiety and 7 measuring depression. Score ranges from 0 to 21 higher scores representing more distress.	Davidson, I. et al. [16]
8	World health organization Quality of life (WHO QOLBREF) [56]	It is a health profile measure covering the broad domains of quality of life, each divided into facets. 26 items from WHOQOL- 100 are included in WHOQOL BREF.	Khan F. et al. [48]
9	Barthel Index [56]	It measures the functional independence in personal care and independence. Total 10 items are measured on the basis of the independence of the patients and scores are added to form an overall score that ranges "0 to 100" with higher scores indicating higher independence.	Nicholas 2000; Forsberg A. et al [33,57]
10	Katz Index (revised version Extended Katz scale)	It is a tool to measure the independence of the patients in activities of daily living. The index ranks adequacy in performing six activities of daily living in which the patient score yes/ no. Six points indicating the total independence, 4 point indicating moderate independence and 2 points indicating the mild independence.	Forsberg A. et al [33] Forsberg A. et al [55]
11	Perceived index problem profile (PIPP)	It contains 23 items that assess the impact of health on a six point scale with "no impact" to "extreme impact" with high score indicating the high impact.	Khan, F., et al. [48]
12	INCAT sensory sum score	This scale comprises of pinprick, vibration sense and two point description sense in both arms and legs ranging from 0[normal sensation] to 20 [most severe sensory deficit].	Merkies. et al [58]
13	Rankin Scale	This scale grades from 0 [no symptoms] to 5[severe disability, be ridden incontinent requiring constant nursing care and attention].	Merkies. et al [58]
14	Grip assessment	Grip assessment is done by vigorimeter (Martins, Germany, Tullingten) which is a hand held dynamometer. A medium sized bulb is used and the pressure get registered in the manometer and expressed in kilo pascals. (Kpa; range 0-160)	Merkies. et al [58], Forsberg A. et al [33]
15	Over all disability sum score (ODSS)	A total score range from 0 (no signs of disability) to 12 (most severe disability). It comprises of good functional description of arms and legs disability. Primarily used for stroke rehabilitation.	Merkies . et al [58]
16	Rotterdam nine items handicap scale (RIHS9)	It comprises of 9 inquires related to activities of daily living. The score ranges from 9 (Unable to fulfill any applicable task or activity] to 36)able to fulfill all the applicable task and activities).	Merkies. et al [58]
17	Frenchay Activity index	It is a 15 item self reporting scale for instrumental ADL necessary for living independently in the community. It consists of a 4 point interval scale indexing the recollection of activities over past 3 and 6 months of the items related to household and social activities and travel outings, gardening and gainful work respectively. The scores can range from 15 to 60, higher scores indicating the higher success with activity.	Forsberg A. et al[55]
18	Sickness impact profile [56]	It measures the changes in the patients behaviour due to sickness. It fills 136 statements in 12 categories.	Forsberg A. et al[55]
19	Nottingham Health Profile [56]	It is a brief indication of perceived physical social emotional health problems. It has two version original contained 33 items and revised version contained two parts including 38 items in part I and 7 items in part II .	Dimer. et al.[49]
20	Visual analog scale (VAS) for pain and fatigue	It is a 100 mm self rated scale with "no pain" or "no fatigue" to "unbearable pain" or worst imaginable fatigue as opposite extremes.	Forsberg A. et al[33]

Table 2: Exercise model proposed for patients with GBS

Phases in GBS	Clinical Symptoms/Associated complaints	Aims to achieve	Exercise/ Electro Therapy
Acute phase in GBS:	Muscle weakness, Pain, Sensory loss, DVT, Bedsores, Fatigue, muscle imbalance , respiratory complications, immobility,	Maintaining Muscle tone, joint and skin Care, Pain control Prevention of DVT and bedsore, restoring the physical well being of the patient, prevention of respiratory complications, to promote transfers and mobility.	Passive exercises, active assisted exercises, active and active resistive exercises, TENS, crepe bandaging, compression stockings, proper turning and positioning of the patients, incentive spirometry, breathing exercises, postural drainage along with therapeutic techniques. Proper transfer skills to be taught, training for balance an equilibrium in all positions and avoid prolong positions of the limbs. Position to reduce work of breathing should be promoted.
Sub acute/ Recovery Phase in GBS	Muscle weakness, residual fatigue, development of contractures, pain in joints and muscles	Muscle strengthening, positioning of joints, to teach energy conservation, restore physical conditioning,	Strengthening exercises of specific muscle group by isometric group exercises and resistance training, prescription of proper splints for joints, proprioceptive training using some devices, initiation of specific aerobic exercises.
Chronic Phase after GBS:	Specific muscle weakness, residual fatigue, development of contractures, Difficulty in performing Activities of Daily living, Difficulty in mobilization and ambulation.	Specific muscle group strengthening, to teach energy conservation and endurance training, To teach joint positioning and provide with corrective splints. To provide gait training. To maintain and improve the vital capacity of lungs	Strengthening of specific, proprioceptive neuromuscular facilitation techniques to improve strength and facilitate movements and activities of daily living; stationary bicycle, aerobic training and treadmill walking with sufficient rest time in between to improve endurance and to avoid fatigue. Stretching exercises to improve the muscle tone and to prevent contractures. Gait training in parallel bar and postural mirror. Incentive spirometery, breathing exercises and home based postural drainage should be promoted.

The functional training including safe transfer skills, equilibrium and balance in all positions and progressive ambulation and progressions on tilt table to improve tolerance and reduce sensitivity in weight bearing. [18] The Proprioceptive Neuromuscular Facilitation (PNF) helps in gaining motor function and increased motor control. Use of partial body support system is found to be beneficial. [47] Proper limb positioning of the patient and passive range of motion exercises are found effective to avoid muscle contracture and muscle shortening. [6] We propose an exercise model for the patients with GBS in acute, sub acute and chronic phases (table 2) based on the evidences from literature review.

A high quality RCT on 79 patients evaluated the outcomes of the MD rehabilitation in chronic GBS patients by comparing the high intensity MD programme with the low intensity MD programme over 12 months. The high intensity rehabilitation programme included individually designed functional goal oriented MD programme with active patient participation for three 1 hour therapy sessions [physiotherapy, occupational therapy, speech therapy, psycho and social counseling] for up to 12 weeks. The high intensity rehabilitation programme was found significantly effective over the low intensity programmes. [48]

It has been reported in a retrospective analysis that admission neurological rehabilitation unit reveals favourable functional outcomes in patients. [49] In a prospective cohort study of 35 patients evaluated the outcomes of inpatient MD neurorehabilitation and reported significant functional recovery for longer period. The inpatient rehabilitation programme and post discharge rehabilitation programme were designed by occupational therapist and physiotherapist and comprised of range of motion exercises (passive, active assisted, active or active resisted) for limbs, deep breathing exercises, home modification for access, gait training with or without splints, assistive devices and activities of daily living skill training. [50] A national survey has reported that a considerable

amount of people do not receive physiotherapy following hospital discharge despite being indentified having relatively high amount of disability. [16] A retrospective study on 31 patients has reported the strong association of rehabilitation and increase in scores of modified barthel index than at the time of nadir. [51]

In a prospective cohort study on six patients have suggested the significant improvement in the muscle strength by isometric and isokinetic exercises during first six months and after that a stable strength by using dynamometric measures. [52] Another study on 22 patients of GBS and chronic inflammatory demyelinating polyradiculoneuropathy (CIDP) has shown a positive correlation between physical training and effects on physical fitness, fatigue and other outcomes measures of the patients. [53] In a prospective cohort study of 20 patients with 16 patients having polyneuropathy with severe fatigue have shown significant beneficial effects of bicycle training on physical fitness, functional outcomes and quality of life. [29]

In a study of 44 patients the author investigated the utilization of healthcare resources, satisfaction with these resources, informal help and burden of health care on the family during the first two year after onset and found that the patients with persistent dependency during the activities of daily living had significantly longer hospital stay and more days of outpatient rehabilitation. However, most of the patients were satisfied with the care but dissatisfied with information and finances revealing the increase in responsibility of family and household. [54] In another study the authors have looked for disability and health related quality of life and found that the impact of GBS on activities of daily living and health related quality of life measured by using Katz Personal and Extended Activities of Daily living indexes, the Barthel Index, the Franchay Activity Index and assessment of work capacity and Sickness Impact Profile was considerable two years after onset. [55]

Effectiveness of neuro-developmental sequencing in developmental motor control and gross motor skill using neuro-devlopmental position with strengthening and range of motion exercises in geriatric patients have also been reported [47] There is a case study reporting the improvement of cardiopulmonary work capacity and isokinetic strength of the legs by supervised cardiopulmonary endurance training programme. [30]

10) Ambulatory aids and wheelchair:

Prescription of ambulatory aid and wheelchair is an indication of weakness in the trunk and lower extremity muscle. The use of the assistive ambulatory devices provides a wider base of support to the patients by redistribution of the weights in the upper extremity and also allows larger shifts on the centre of gravity in order to provide balance. The ambulatory aids available from higher base of support and stability to lower stability are frames, auxiliary crutches, forearm crutches, two canes, a quad cane and a single- tipped cane. [18] There may be a requirement of wheelchair in the patients who are not able to ambulate even with the ambulatory aids or have limited cardiovascular capacity. A number of models of wheelchairs are available. Seating system should provide maximum independence and support to assure proper posture and should also minimize the pressure so as to prevent sores. [18]

CONCLUSION

At present there is a scarcity of information on the effectiveness of the physiotherapy intervention as an important modality of MD care in GBS. There is only one Randomized Control Trial (RCT) and

two systemic reviews (SR) on MD care and the reviews did not identify any RCT, SR, Clinical Control Trial where there is clarity on role of physiotherapy as an integral part of the treatment. GBS is not the disease to be treated in one day. It requires long term physiotherapy, rehabilitation and designing of specialized programmes and active patient participation. There is a strict need of RCT in this field so as to evaluate the need of physiotherapy in GBS, effect of exercises in improving the functional outcomes, to develop the exercise protocols for the patients and to make them independent in their functional status and ADL.

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