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RESEARCH ARTICLE

EVALUATION OF STROKE REHABILITATION SERVICES IN THE IN-HOSPITAL PHASE: FINDINGS FROM A TERTIARY CARE CENTRE IN INDIA

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Abstract

Background- Stroke rehabilitation involves a multidisciplinary team providing comprehensive care to the patient.[1] The functioning of Stroke Units (SU), the highest evidence available for stroke care, is guided by the World Stroke Organisation's (WSO) roadmap of core recommendations and key quality indicators.[2]

Objectives- To evaluate the quality of stroke rehabilitationin comparison to the WSO core recommendations at a tertiary care centre in India

Methodology-A mixed method design with an exploratory research model was used. The study was conducted in 2 phases including retrospective data extraction from medical records and telephonic follow-up on the patient's functional status and adherence to physiotherapy post-discharge. 84 patient records (those admitted between Jan –June 2021) were screened. Data was extracted from 49 patient files that fulfilled inclusion criteria. 35 patients were excluded due to unavailability of patient files, non-stroke related hospital admissions. In Phase 2, qualitative data was gathered using telephonic interviews, from 7 patients who consented for the same.

Results- The mean age of the sample was 56.9 ±13years with approximately two third being males and a predominance towards ischaemic strokes (62%). Those with severe impairment on Fugl Meyer assessment were 28% of the sample. It was observed that there was inconsistent documentation of various core recommendations provided by WSO (<20%) while 16% of the services provided were not documented at all. Only two of the five key quality indicators of stroke rehab were documented.

Introduction:-

Neurological disordersaffects an average of 13 million people globally and is ranked the second most common cause of mortality.[1],[2] Amongst various causes of disability, neurological disorders rank the highest causing 11.6% of global disability-adjusted life years (DALYs).[3] Among neurological disorders, stroke represents the highest need for rehabilitation (86 million people and 18 million YLDs) across the world.[4] This need is further emphasized by the World Health Organization (WHO) agenda of development and delivery of accessible, effective, and economical rehabilitation services across the globe in 2017 (WHO rehabilitation 2030 agenda).[5]

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It is a known fact that stroke has long-term, debilitating effects on an individual's functional life and participation in the community. Stroke Units (SUs) and Multidisciplinary teams (MDT) are two approaches with high evidence for effective stroke care delivery in improving clinical, functional and quality of life (QOL) outcomes.[5,6] Thus it is essential for various tiers of health care system to follow recommended guidelines and recommendations in delivering stroke care and evaluate themselves periodically with standardized Key Quality Indicators (KQI).

One such standard of measurement is provided by the World Stroke Organization (WSO). In 2014, WSO provided a roadmap to deliver good quality stroke care, with core recommendations and KQI as a measure of quality of service at health centres. This includes recommendations and KQI for long-term stroke rehabilitation which are based on current evidence. [7,8] While they provide a framework for standardized care globally, there exists a question of adherence to these recommendations at health care facilities.

In addition, patients' perspective about the rehabilitation services provided to them aid in measuring the quality of services provided, by highlighting barriers in care, missing components and insights into the factors responsible for poor compliance to rehabilitation amongst patients.[9,10] The present study aimed to

a) evaluate the quality of stroke rehabilitation in accordance with the WSO core recommendations at a tertiary care centre in India (essential and advances levels of health service)
b) follow up on patients' long term functional status, perspectives and access to stroke rehabilitation.

Methodology:-

A mixed method design was used with an exploratory research model used. The study was conducted in 2 phases at the Department of Neurology of a tertiary care centre:

Phase 1:

Included retrospective data extraction from medical records admitted in the Stroke Unit from January to June 2021. The inclusion criteria for the present study was

1. Patients diagnosed with any type of Stroke
2. Patients admitted to the Stroke Unit (SU), Department of Neurology between Jan 2021- June 2021
3. Those with a first-ever or recurrent stroke,
4. Patients who received at least one session of Physiotherapy intervention during their in-hospital stay.

Ethics approval was received from the Institutional Ethics Committee prior to commencement of the study (Ref. No- IECCMCL/BMHR-08-431-21/Apprvl-/Neurol). Relevant medical and rehabilitation related data was extracted on the Case Record Form (CRF-1, supplementary material/appendix) which was designed to include demographic data, stroke details, in-patient treatment details, physiotherapy assessment and treatment session details. The CRF was developed using the core recommendations and KQI given by WSO as a guideline.[6]

The ward admissions register and patient discharge summaries from January-June 2021 were retrieved and screened as per the selection criteria (Figure 1). The hospital files were retrieved from the medical records department and data entry was done by MM and NS. From the initial screening, 84 patients were found of which, 35 patients were excluded due to various reasons- unavailability of medical files (n= 15), admission for neurological disorders other than stroke (n=14), patients leaving against medical advice (n=1), duplicate files (n= 2), incorrect hospital identification numbers (n=3).Data extraction was done for 49 patients and entered in an Excel Sheet.

Figure 1:- Process flow for the Phase-1 of the study

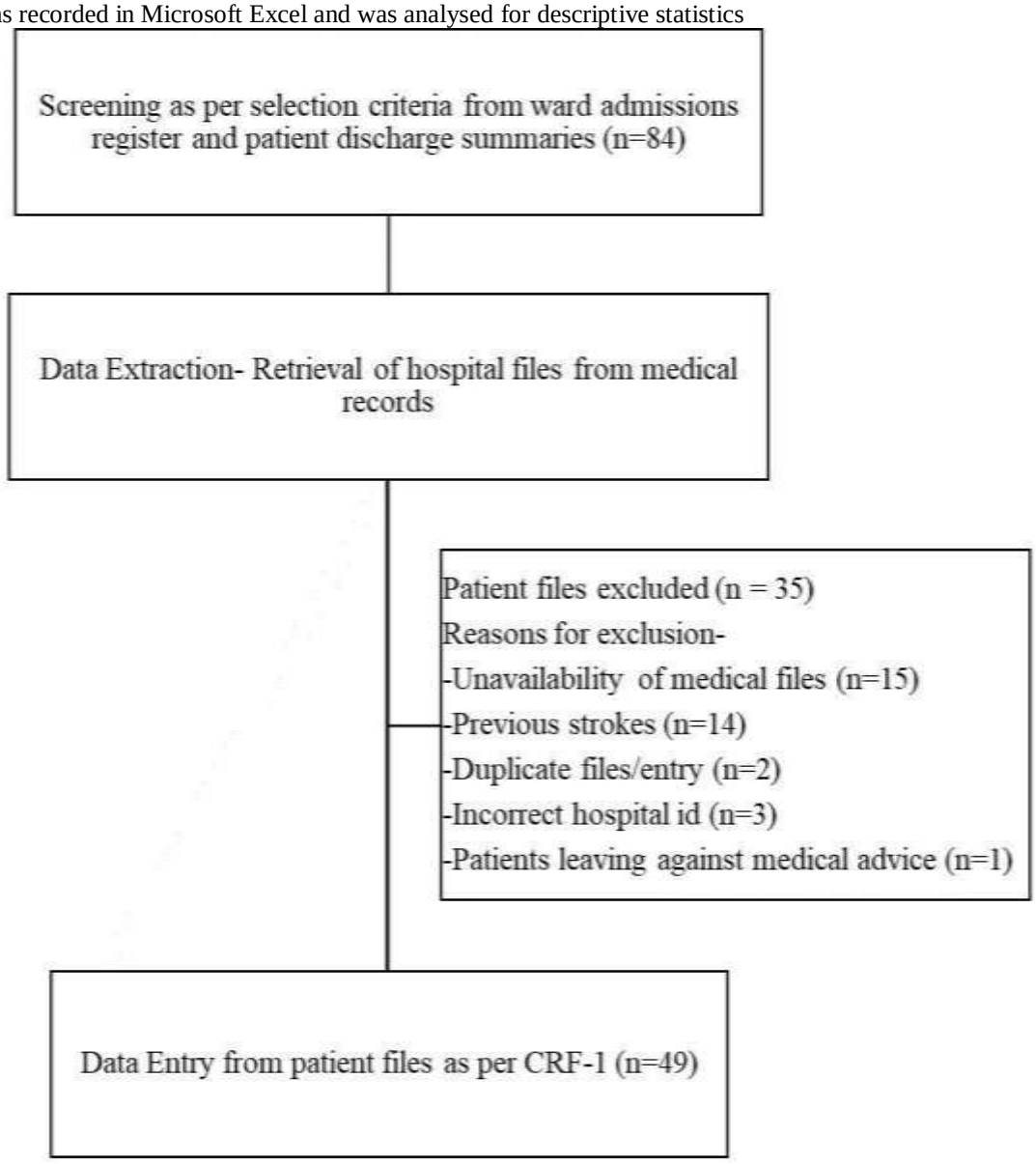
Phase 2 involved telephonic follow-ups to collect information on the patient's functional status, adherence to physiotherapy post-discharge and perspectives on stroke rehabilitation. (CRF 2, appendix). The data extracted in phase-1 also instructed the telephonic follow up (CRF-2, supplementary material/appendix) of the patients which was the Phase 2 of the study.

18 patients who received physiotherapy during their hospital stay as documented in the medical files and who were advised to continue exercises after discharge were chosen for phase 2. Out of these, 4 mortalities were recorded during the hospital stay.

Phone calls were made to 14 patients seven of whom were able to participate in the interview as per CRF-2. 7

patients were excluded- patients expired (n= 1), patients didn't pick up the call/ incorrect phone number (n= 6).

Verbal Informed consent was taken before beginning the telephonic interview. The telephonic conversation was audio recorded and CRF-2 was administered as per the predefined interview guide.
Data was recorded in Microsoft Excel and was analysed for descriptive statistics



Results:-

The study aimed to evaluate the in-hospital stroke rehabilitation services during acute and early subacute stroke. 49 patient records were analysed as per the data extraction done from the hospital files. About two-thirds of the sample were males, with a mean age of 56.9 years (±13). (Figure 2) Half of the patients had a moderate stroke (NIHSS score of7-16) which was predominantly an ischemic attack (62%). About 29% of the Fugl Meyer scores were documented of which close to half of the patients had very severe upper limb impairment (FMA score of 0-35) following stroke. (See Figure 3)

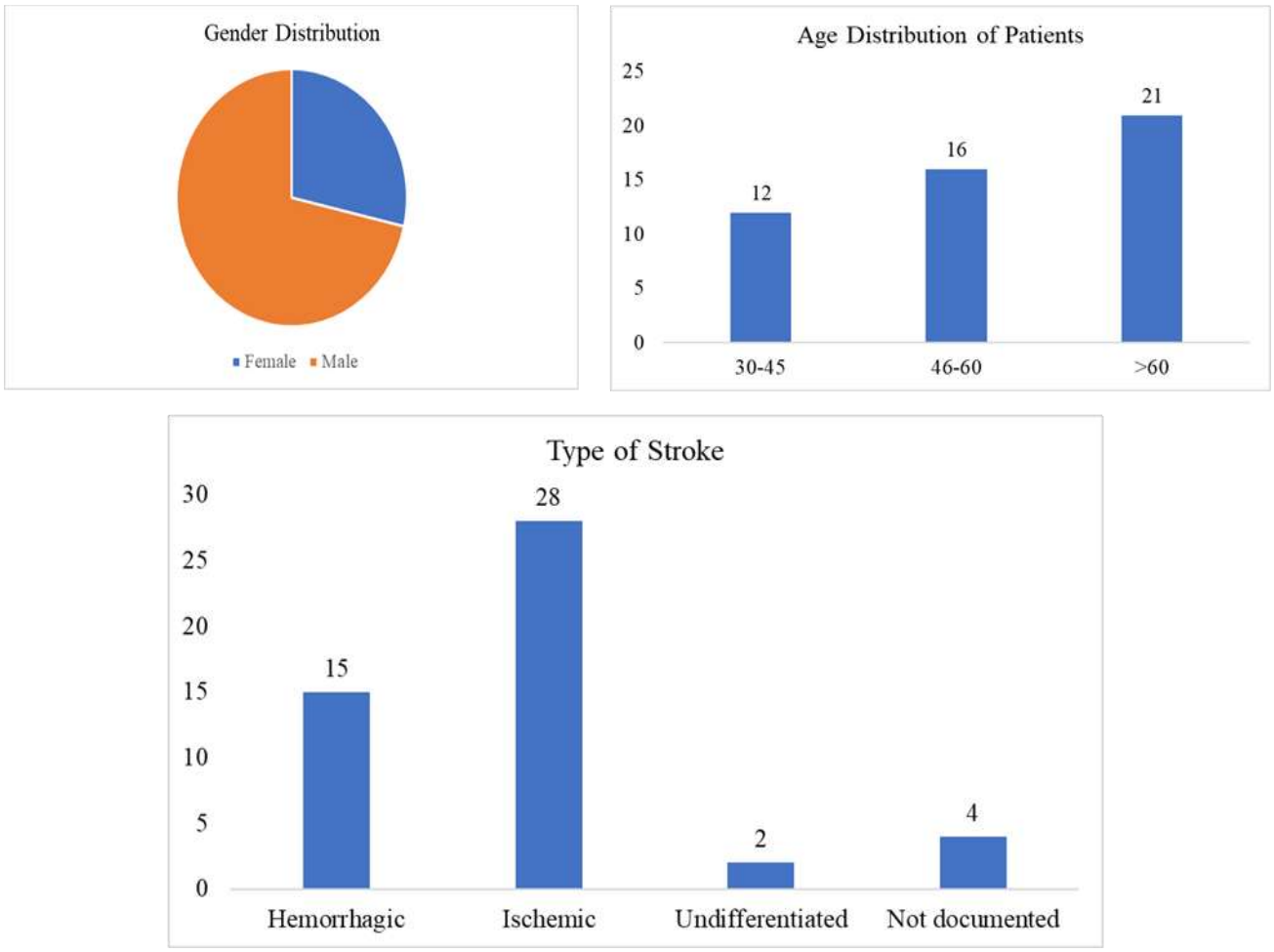


Figure 2:- Patient Demographics (n = 49).

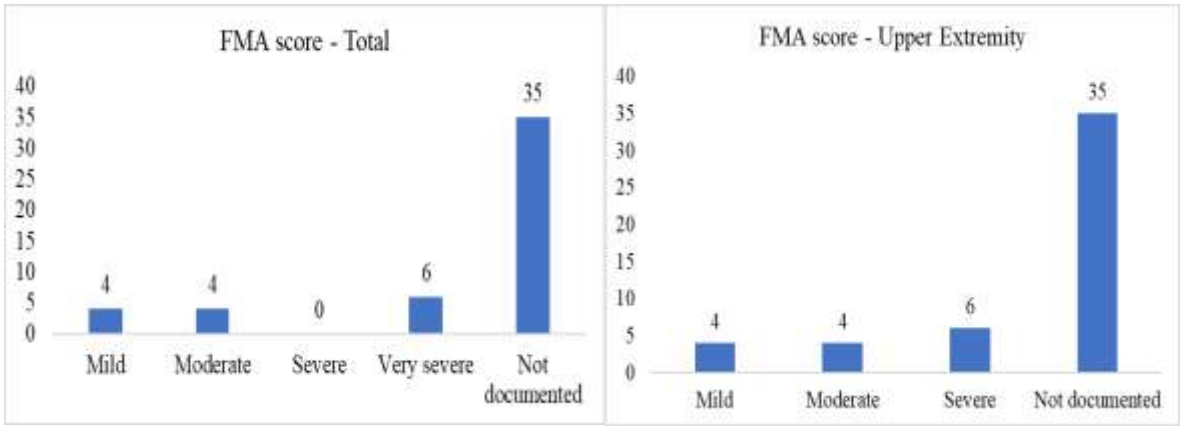


Figure 3:- Documented Patient Characteristics (n = 49).

Rehabilitation services at this SU were customized for patients based on the severity of the stroke (NIHSS) and their residual impairment (FMA). Only 2 out of the 5 KQI for Essential and Advanced level SU were documented by this centre. However, lack of documentation does not clarify whether these measures were being followed without documentation or were not followed at all. For KQI-2 documentation was found in 70% of the patients, however, we can state that 100% of the patients were rehabilitated in the SU as this centre consists of a dedicated space for rehabilitation within its SU. For KQI-3, an average of 30 mins of Physiotherapy was recorded which included both

ICU and ward-based physiotherapy sessions. Sessions provided by Occupational Therapists and Speech Language Pathologists were not documented. The fall risk assessment was documented for 6% of the patients. The centre reported no falls during the in-hospital phase of the included sample.

Table 3:- Documentation of WSO Rehabilitation Recommendations for Essential Stroke Unit (n = 49).

WSO Rehabilitation Recommendations for Essential & advanced Level SU	**Data Recorded**
All patients with acute stroke should have an initial functional assessment to determine rehabilitation needs and receive an individualized rehabilitation plan.	
Record of trunk evaluation	27 (55.1%)
Outcome measurement for impairment as per ICIDH-2	18 (36.7%)
Outcome measurement for functional limitation as per ICIHD-2	16 (32.7%)
FMA score UL	14 (28.6%)
FMA score LL	14 (28.6%)
FMA score total	14 (28.6%)
Modified Barthel Index score	7 (14.3%)
Berg Balance Scale	3 (6.1%)
All patients who are admitted to inpatient rehabilitation following stroke should be treated in a specialized stroke rehabilitation unit.	
PT referral by Physician	23 (47%)
Therapy should include repetitive and intense use of tasks that challenge the patient to acquire the necessary skills needed to perform functional tasks and activities.	**Data not documented**
Patients should receive adaptive training (such as the use of specialized devices) to improve performance of specific functional tasks.	**Data not documented**
Spasticity and contractures can be prevented or treated by antispastic pattern positioning, range-of-motion exercises, and/or stretching. Routine use of splints is not recommended	**Data not documented**
Healthcare workers and families should be taught to protect and support the paretic arm during movement, and to protect during wheelchair use by using a hemi-tray or arm trough.	
Caregiver training on therapy	1 (2%)
Patients should be made aware of their increased risk for falls and given a list of precautions to reduce their risk of falling.	
Patients should be assessed for post stroke pain, including persistent central pain and shoulder pain on the affected side.	Data not documented
Patients should be assessed for communication deficits.	Data not documented
Interventions to improve functional communication for patients with aphasia should be implemented (such as teaching families about the need for ongoing conversation, use of non-verbal strategies).	Data not documented
Patients with aphasia should be referred to a speech-language pathologist for individualized therapy to improve communication ability.	Data not documented

For the second phase of the study, patients (n=7) were contacted for a telephonic interview. All the patients that were contacted stated that they received physiotherapy services during hospitalization, were trained (along with their caregivers/relatives) to continue with home rehabilitation and were facilitated by making appropriate arrangements to continue with rehabilitation post-discharge. The most common method used to train the patients and the caregivers was verbal instruction (57%); other methods used included videos and verbal instruction, printed material, and a combination of all the prior mentioned methods (14.3% each). On discharge, about half of the patients were referred to a local physiotherapist to continue with rehabilitation. More than half of the patients opted for a physiotherapist to visit their home to continue with their treatment, while the remaining preferred to do physiotherapy on their own (30%) or went to a physiotherapy clinic (14%). Conventional rehabilitative methods (72%) by themselves or in combination with either Constrained-Induced Movement Therapy (CIMT) (14.3%) or mirror therapy (14.3%) were used for home rehabilitation. Of the 7 patients with documented rehabilitation sessions, 57% had over 100 sessions of rehabilitation with each session ranging from 10-30 min (43%), 30-45 min (14%) or 45-60 min (29%). The intensity of the exercises was increased for 86% of these patients and 57% of patients

reported a change in their exercise. About 57% reported between 10-20 repetitions for each exercise. Resultantly 85% are now independent and have returned to their daily routine. (See Table 4)

Table 4:- Physiotherapy services offered (n = 7).

	Frequency
Referred to local PT	
Yes	3 (42.9%)
No	4 (57.1%)
Dependency Status based on mRS	
0	3 (42.9%)
1	3 (42.9%)
2	1 (14.2%)
Current work status	
Yes	6 (85.7%)
No	1 (14.3%)
Use of upper limb orthosis	
Yes	1 (14.3%)
No	6 (85.7%)
Adaptive training given	
Yes	4 (57.1%)
No	3 (42.9%)
Functional independence	
Partially independent	1 (14.3%)
Independent	6 (85.7%)
Training for home rehabilitation	
Verbal instruction only	4 (57.1%)
Videos and verbal instructions	1 (14.3%)
Printed material	1 (14.3%)
All	1 (14.3%)
Number of PT sessions post discharge	
<100 sessions	3 (42.9%)
>100 sessions	4 (57.1%)
Duration of each session	
10-30 min	3 (42.9%)
30-45 min	1 (14.3%)
45-60 min	2 (28.6%)
Mode of home-based rehab	
Conventional	5 (71.5%)
Conventional, CIMT	1 (14.3%)
Conventional, mirror therapy	1 (14.3%)
Progression in therapy plan	
Yes	6 (85.7%)
No	1 (14.3%)
Change in exercises	
Yes	4 (57.1%)
No	3 (42.9%)
Number of repetitions per exercise	
<10	2 (28.6%)
10-20	4 (57.1%)
Can’t remember	1 (14.3%)
Duration since stroke at the time of follow-up	
<1 year	1 (14.3%)
1 year	5 (71.4%)
>1 year	1 (14.3%)

Location of physiotherapy sessions	
Home physio	4 (57.1%)
Self	2 (28.6.%)
Private physio clinic	1 (14.3%)

Challenges with continuing physiotherapy

71% of the patients did not continue Physiotherapy post-discharge either due to lack of interest or financial reasons. Those who continued with Physiotherapy reported functional recovery. Some patients were also able to continue physiotherapy despite the COVID-19 pandemic and none of them had to depend on telerehabilitation services. (See Table 5)

Table 5:- Challenges in the continuum of rehabilitation post-discharge (n = 7).

	Frequency
Continued physiotherapy sessions	
Yes	2 (28.6%)
No	5 (71.4%)
Reasons to discontinue PT	
Financial	1 (14.3%)
Disinterested	2 (28.6%)
Advised by doctor	3 (42.9%)
Patient was doing well	1 (14.3%)
Ability to continue PT during COVID	
Yes	7 (100%)
No	0 (0%)
Availed Telerehabilitation services	
Yes	0 (0%)
No	7 (100%)
Cost-effective physiotherapy treatment	
Yes	2 (28.6%)
No	1 (14.3%)
Did not take sessions	4 (57.1%)

Physiotherapy awareness

The pre-stroke awareness of physiotherapy among the stroke survivors and their families was found to be low (42.9%), but following stroke, all the patients were sensitized and recognized the importance of rehabilitation. Most patients were able to discern the difference between physiotherapy and yoga (85%) or massage (100%).

Table 6:- Public Awareness of Physiotherapy (n = 7).

	Frequency
Knowledge of physiotherapy before stroke	
Yes	3 (42.9%)
No	4 (57.1%)
Awareness of the role of exercise in recovery after stroke	
Yes	7 (100%)
No	0 (0%)
Yoga and physiotherapy considered same	
Yes	1 (14.3%)
No	1 (14.3%)
Somewhat	5 (71.4%)
Massage and physiotherapy considered same	
Yes	0 (0%)
No	6 (85.7%)
Don’t know	1 (14.3%)

Discussion:-

The evidence-based 26 KQIs in the WSO stroke clinical practice guidelines for stroke care form the foundation and a benchmark for quality improvement of stroke services to ensure high-quality comprehensive stroke care locally, regionally, and globally. This is measured by decreased risk of mortality and also the residual disability following stroke; thus mandating regular monitoring supported by good evidence. The 5 rehabilitation-specific quality indicators cover the entire gamut of stroke care from stroke recognition and response to longer-term stroke recovery.[11]

The comprehensive SU where this study was conducted is one of the pioneer centres across North India and is one of the first few comprehensive stroke care centres in India that provides stroke care by anMDT. ThisMDTconsists of stroke physicians/neurologists, neuro-intensivists, nursing staff trained in stroke care, neuro-physiotherapists, neuro-occupational therapists, speech and language pathologists, and nurtitionist.[12]The other specialities include neurosurgery, palliative medicine, and psychiatry. These services are backed by the telestroke and telerehab services and the referral network that the centre shares with other healthcare facilities and service providers. These cost-effective services are vital to early detection and the continuum of stroke care for improved clinical outcomes.[13]

Monitoring effective treatment approaches in routine clinical practice results in a positive impact on clinical outcomes.It is often the case that there are challenges with adequate documentation of services provided or the lack of familiarity with the stroke guidelines and protocols due to disparity in the therapist:patient ratio where the focus is on rehabilitation services.in addition to the unavailability of written referrals. However, these referrals are often provided verbally or on the team's Whatsapp group which often overlooks the need for written communication in patient files.

Improving the quality of stroke care requires adherence to the evidence-based key quality indicators through multi-level changes in the reporting system, sensitization and training of personnel, periodic MDT reviews, and quality control reviews.[2] The multidisciplinary referrals and the reporting require a systematic process for accountability and patient-specific care.[15] The adoption of specific guidelines and protocols for ensuring complete documentation using a stroke-specific proforma would ensure adequate referral processes, as well as documentation of services provided to stroke patients.[14,15] Continuing professional development, facilitates the increased use of evidence-based protocols and interventions thus improving the quality of services provided.[16]

The limitations identified in the study were the challenges with the use of adjunct referral methods such as verbal instructions, the use of Whatsapp groups which were not adequately reflected in the patient documentation. Access to some patient files was restricted since some of the files are private admissions and some staff and patients keep their files after discharge.Despite adhering to the KQIs, the lack of adequate documentation of services provided reflected poorly on the quality of the stroke unit. Additionally, the lack of a stroke-specific patient proforma failed to ensure referrals and a comprehensive record of the services provided by the rehabilitation team in the patient documentation.

Conclusion:-

This project started as an audit of the rehabilitation services provided at the comprehensive stroke care centre based on the evidence-based WSO KQIs. During the audit, inadequacies in documentation were recognized, although patients received evidence-based rehabilitation. These lacunae contributed to a poor reflection of the quality of services provided at the centre. The importance of a comprehensive stroke-specific patient proforma has been recognized to ensure adherence to the WSO KQIs. The results of this study have shown there is a need to improve the documentation of services, additionally, there is a need for education and sensitization of healthcare staff on stroke care guidelines and protocols. Further benefits of this audit will improve patient outcomes through better-documented referrals and comprehensive documentation of stroke care services through the adoption of a stroke-specific patient proforma. The quality of services would be improved through periodic quality assessments and MDT reviews and evaluations. With most of the mechanisms put into place at the time of writing the manuscript, the comprehensive stroke centrehas made significant developments in the quality of services provided and has been the first comprehensive stroke care centre in India to be assessed for the WSO NABH (World Stroke Organisation and National Accreditation Board for Hospitals & Healthcare Providers) Certification of Stroke Centers in India.

Annexure

Case Record Form 1:- Hospitalization record.

1. Demographics	
Name of Patient	
Hospital Number	
Age	
Gender	
Phone Number	
Address	

Category	**Details**			**Comments/Details**
2. Medical History and Admission Details				
Primary Treating Physician				
Diagnosis				
Other Comorbid Conditions	HTN	Yes	No	
	DM	Yes	No	
	Dyslipidemia	Yes	No	
	Cardiac issues	Yes	No	
	TB	Yes	No	
	Bronchial Asthma	Yes	No	
	Others	Yes	No	
	Not Documented	Yes	No	
Type of Stroke	Transient Ischaemic Attack (TIA)	Yes	No	
	Ischaemic	Yes	No	
	Haemorrhagic	Yes	No	
	Venous	Yes	No	
	Undifferentiated	Yes	No	
Anatomical Area Affected				
Size of Lesion				
Any Mass Effect				
Treatment Regime followed	Conservative (Medical)/ Surgical/ DSA or MT			
Details of Conservative/Medical Treatment				
Details of Surgical Treatment				
Details of DSA/MT				
Ejection Fraction during Hospital Stay (in Percent)				
Mention the day Post Stroke when EF was recorded				
Date of Admission				
Date of Discharge				
Duration of Hospital Stay (in days)				
Number of Days in the ICU				
Mode of Respiratory Care in ICU	Ventilator	Yes	No	
	Oxygen Support	Yes	No	
	No External Support	Yes	No	
Duration of ventilator support (days)				
Mode of Ventilation				
Duration of oxygen support (days)				
Percentage of Oxygen Support				
Any Previous Hospital Admissions	Yes/No/ Not documented			
Any Secondary Complications during	Pressure Sores	Yes	No	

hospital stay	Seizures	Yes	No	
	Postural Hypotension	Yes	No	
	Tightness/Contractures	Yes	No	
	DVT	Yes	No	
	Pneumonia	Yes	No	
	Pulmonary Embolism	Yes	No	
	Other (details)			
Whether it was a recurrent stroke? (Any Previous history of TIA/Stroke)	Yes	No		
NIHSS Score on Admission				
NIHSS Score on Discharge				
mRS at Admission				
mRS at Discharge				
Was Swallowing Assessment done	Yes	No		Details: IMPROVISE Stroke Swallow Screening Tool
Total Swallow Score (1 for Pass, 0 for Fail, Max. Score=9)				
Was Pain Assessment done	Yes	No		Details:
3. Physiotherapy Details				
Documentation of PT referral by Treating Physician	Yes	No		
Physiotherapy during Hospital Stay	Yes	No		Denied Physiotherapy/ Uncooperative for one or more PT Sessions
If Patient denied Physiotherapy, what was the reason (if available)?				
Duration from onset to first PT Session (in days)				
Number of Physiotherapy Sessions during Hospital Stay				
Frequency of Physiotherapy Sessions in ICU	Once a day			
	Twice a day			
	Thrice a day			
Frequency of Physiotherapy Sessions in Ward	Once a day			
	Twice a day			
	Thrice a day			
Who gave Physiotherapy Sessions during Hospital Stay	Physiotherapists			
	Caregiver			
	Nursing Staff			
Whether Aerobic Training was initiated by Physiotherapist during hospital stay	Yes	No		Details
Documentation of PT provided by caregiver during hospital stay	Yes	No		
PT Assessment (Impairment, Activity Limitation, Participation restriction) documentation	Yes	No		
Which scale for each of these categories of ICIDH-2	**Category**	**Scale**		
	Impairment			
	Participation restriction			

	Functional limitation		
Record of Trunk Evaluation	Yes	No	Details:
Record of High fall risk patients	Yes	No	Details:
FMA Score U/L			
FMA Score L/L			
FMA Score Total			
BBS Score			
Modified Barthel Index Score			
Documentation of Home PT advice	Yes	No	
Were any materials provided to the patient for home care at discharge?	Yes	No	
If yes, details: print outs of exercises with dosage, only print-outs, WhatsApp videos, verbal instructions alone, coordinated with local/home physiotherapist etc			
Documentation of PT training to caregiver	Yes	No	
Was Patient part of any research trial?	Yes	No	Details:
Was Patient referred to Occupational Therapy during hospital stay	Yes	No	If Yes, Number of Sessions
Details of OT sessions			
Documentation of Home OT Advice at discharge	Yes	No	
Was Patient referred to Speech Therapy during hospital stay	Yes	No	If Yes, Number of Sessions
Documentation of Speech Therapy Advice at discharge	Yes	No	

Case Record Form 2:- Interview Guide.
Please tick (√) the correct option where required.

Question	**Details**		**Probing Questions**
Name of Patient			
Informant	Self		
	Spouse		
	Relative		
Number of Family Members			How many of the family members are active caregivers?
Duration since Stroke			
Present dependency Status	Modified Rankin Scale (mRS) score		mRS Score Description 0 No symptoms at all 1 No significant disability despite symptoms; able to carry out all usual duties and activities 2 Slight disability; unable to carry out all previous activities, but able to look after own affairs without assistance 3 Moderate disability; requiring some help, but able to walk without assistance 4 Moderately severe disability; unable to walk without assistance and unable to attend to own bodily needs without assistance 5 Severe disability; bedridden, incontinent and requiring constant nursing care and attention 6 Dead
Goes to Work	Yes		

	No		
	Retired		
Type of walking aid used (If mRS is 3 or below)	Cane		
	Walker		
	Lower Limb Orthosis		
Use of any Upper Limb Orthosis	Yes		If Yes, Which one?
	No		
Whether any adaptive training (such as the use of specialized devices) was given to you by Physiotherapy (PT) staff at Christian Medical College Ludhiana (CMCL)?	Yes		
	No		
Functionally Independent (Ability to do Activities of daily living and Self Care)	Independent		
	Partially Dependent		
	Fully Dependent		
Whether any Physiotherapy Advice was given at Discharge	Yes		
	No		
If yes, mode of training for home rehabilitation?	Printed material		
	Whatsapp videos		
	Verbal instruction only		
	CMCL PT arranged with local/home PT		
	Others		
Whether Physiotherapy exercises were explained/taught to your caregiver?	Yes		
	No		
Did You continue Physiotherapy Post Discharge	Yes		
	No		
Where were Physiotherapy Sessions Taken post discharge	AT CMC		
	Outside PT Clinic		
	Home Physiotherapy Services		
	Self-Exercise		
	Tele-Physiotherapy		
Whether Physiotherapy is	Yes		
	No		

continued at present				
Total Number of PT sessions taken since discharge				
What was the duration of each Session	10-30 minutes			
	30-45 minutes			
	45-60 minutes			
What is the mode of PT at home-based rehab/OPD rehab outside CMCL	Traditional/Conventional CIMT Mirror Therapy Gait & Balance Training Virtual reality Game based therapy Postural control, fall prevention Endurance training Fatigue management			· Whether there was use of any electronic machines? · Only exercises? · Did your therapist use mirror for some exercises? · Did your therapist tie your normal hand and encouraged exercise with other (affected) side? · Were you taught any exercises for walking and balance? · Were you taught any exercises to improve your stamina and fatigue? · Did you do any game based exercises?
What is the intensity of PT?	Did the amount of exercise increase?	Yes	No	
	Did the exercises change?	Yes	No	
	Number of repetitions of each exercise?			
What are the present PT related complaints?				
If No, What was the reason for discontinuing				· Did you recover well and was advised by doctor to discontinue. · Did not feel the need to continue/ Disinterested to continue. · You were not satisfied with treatment/recovery. · Due to financial reasons. · Did you find PT Sessions boring · Did you use alternative approaches like Ayurveda, Homeopathy, Yoga etc · Due to lack of access to rehab center or home PT in your area. · Other Reasons
Any Falls/Fractures Post Stroke?	Yes			If Yes, Specify the number and treatment taken
	No			
Did you receive any follow up Calls from CMCL Physiotherapists, post discharge?	Yes			
	No			
Were you referred to any local (in your hometown)	Yes			
	No			

Physiotherapist by CMC Staff?			
Which is the closest Physiotherapy center/Clinic for you?			
Were you able to continue PT during COVID	Yes		If Yes, describe the precautions you took
	No		If No, what alternatives/options would you have preferred?
Have you tried Tele rehab PT Sessions?	Yes		If Yes, did you like the experience? How can it be improved further?
	No		If No, why not?
What challenges did you face with Telerehab?			
If given a choice between Home Physiotherapy sessions and Telerehab sessions, what would you prefer?			
Awareness about Physiotherapy			
Did you know about Physiotherapy before you had Stroke?	Yes		
	No		
Do you think exercise plays a role in recovery after Stroke?	Yes		
	No		
Is Yoga and Physiotherapy same in your opinion?	Yes		
	No		
	Somewhat the same		
	I don't know		
Is Massage and Physiotherapy same in your opinion?	Yes		
	No		
	Somewhat the same		
	I don't know		
Was PT cost effective for you?/ Do you think your Physiotherapist was expensive?	Yes		
	No		
	I didn't take the sessions		

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