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Key barriers to achieving Upper limb rehabilitation intensity at Intermediate Neurological Rehabilitation Unit (INRU)

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Abstract no: **AH9541**

Theme: Essential Rehabilitation

Purpose

- Upper Limb (UL) rehabilitation intensity is the frequency, duration, and/or rate of active therapy (Banina et al. 2022)
- 15-30hours/week of UL rehabilitation is required for optimising outcomes for motor function, self-efficacy and increasing quality of life (Ward et al. 2019)
- Patients on INRU currently only receive on average 1.8 hours/week of active UL rehabilitation based on a previous 7-day cross section of the service

AIM: To explore the key barriers to achieving sufficient UL rehabilitation intensity at the INRU and propose ways to improve this in the future.

Methods

- Stakeholder analysis identified individuals with a high degree of interest and influence in the delivery of UL rehabilitation
- Mixed methodology captured data via an MS Forms questionnaire from key stakeholders including Physiotherapists, Occupational Therapists and Rehab Assistants

Figure 1: QR code for questionnaire

Scan the QR code to access the online questionnaire!

- Basic thematic analysis identified recurrent themes for barriers and future recommendations for increasing UL rehabilitation intensity on INRU

Results

Table 1: Response rate and initial data

Response rate	73.3%
Average active UL rehabilitation given to patients	2.5 hours/week

91% of participants strongly disagreed or disagreed that the current intensity of UL rehabilitation on INRU was sufficient to support patients' recovery.

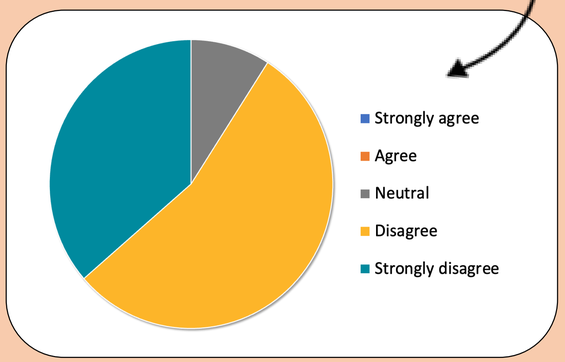

Figure 2: Opinions on sufficiency of current levels of UL rehabilitation intensity

Key Barriers:

- Time management such as inflexible timetables
- Staffing availability
- Reduced input from family and carers
- Lack of resources such as access to new technologies

Future Recommendations:

- Utilisation of group sessions, such as an MDT UL exercise group
- Use of resources, including sensory retraining bags and considering new technologies such as robotics
- Education for staff and families/ carers to support the 24-hour approach to rehabilitation

Conclusions

This project sheds light on the barriers to achieving adequate UL rehabilitation intensity in an inpatient INRU. Moving forward, implementation and evaluation of the proposed interventions should be explored further by the INRU therapy team alongside the next cohort of Physiotherapy students.

Impact

By recognising these barriers and suggesting potential changes, we can enhance UL rehabilitation intensity and improve patient outcomes and experience in the future. Sharing knowledge will support other services in addressing similar issues surrounding UL intensity.

References: Baniña, M.C., Molad, R., Solomon, J.M., Berman, S., Soroker, N., Frenkel-Toledo, S., Liebermann, D.G. and Levin, M.F. (2022) 'Exercise intensity of the upper limb can be enhanced using a virtual rehabilitation system.' *Disability and Rehabilitation: Assistive Technology,* 17(1), pp.100-106. Ward, N.S., Brander, F. and Kelly, K. (2019) 'Intensive upper limb neurorehabilitation in chronic stroke: outcomes from the Queen Square programme.' *Journal of Neurology, Neurosurgery & Psychiatry,* 90(5), pp.498-506.

CSP student conference abstract (for reference)

Theme: Essential Rehabilitation

Title: Exploring the key barriers to achieving Upper limb (UL) rehabilitation intensity at Intermediate Neurological Rehabilitation Unit (INRU) and ways to improve this in the future

Purpose: UL rehabilitation intensity can be quantified in relation to frequency, duration, and/or rate of active therapy. The literature suggests that 15-30hours/week of UL rehabilitation is required for optimising outcomes for motor function, self-efficacy and increasing quality of life. A previous student project demonstrated that patients on INRU currently only receive on average 1.8 hours/week of active UL rehabilitation. This study aims to explore the key barriers to achieving sufficient UL rehabilitation intensity at the INRU and propose ways to improve this in the future.

Methods: A stakeholder analysis was completed to identify those individuals with a high degree of interest and influence in the delivery of UL rehabilitation. A qualitative methodology was used in the form of an online questionnaire via Microsoft Forms to gather data from these healthcare professionals, including Physiotherapists, Occupational Therapists and Rehab Assistants. Questions included perception of the number of hours spent per patient on active UL rehabilitation, whether this was sufficient, key barriers to achieving appropriate intensity, and suggestions to increase this in the future. A basic thematic analysis was completed identifying recurrent themes for barriers and future recommendations for increasing UL rehabilitation intensity on INRU.

Results: The overall response rate was 73.3% and, on average, participants predicted they give 2.5 hours/week of active UL rehabilitation to their patients. The findings indicate an overall agreement among participants that current UL rehabilitation provision at INRU is insufficient. Several key barriers were identified including time management, staffing, reduced input from family and carers, and lack of resources such as access to new technologies. Key future recommendations included increasing utilisation of group sessions, such as an MDT UL exercise groups, as well as use of resources, including low-cost options like sensory retraining bags and considering new technologies including robotics. Education for staff and families/carers was a common response to support the 24-hour approach to rehabilitation which is essential in our patient population.

Conclusion: This study sheds light on the barriers to achieving adequate UL rehabilitation intensity in an inpatient neurological rehabilitation unit. Moving forward, implementation and evaluation of the proposed interventions should be explored further by the INRU therapy team alongside the next cohort of Physiotherapy students.

Impact: By recognising these barriers and suggesting potential changes through a multifaceted approach, we can enhance UL rehabilitation intensity and improve patient outcomes in the future. Sharing our knowledge will support other neurological rehabilitation services in addressing similar issues surrounding UL intensity.

Three key words: Upper limb, rehabilitation intensity, barriers, neurological rehabilitation