

What factors are associated with rehabilitation compliance among orthopaedic rehabilitation inpatients?

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Introduction

- The evidence is clear, participating in orthopaedic rehabilitation is associated with improved functional rehabilitation outcomes [1, 2].
- Thus, rehabilitation compliance is important. To date, evidence confirms that psychological [3] and emotional [4] factors are associated with rehabilitation compliance.
- Surprisingly, a lack of research investigated the impact of a diversity of factors on rehabilitation compliance among hospital orthopaedic rehabilitation inpatients.

Purpose

- Limited Australian centric research has investigated the factors associated with orthopaedic rehabilitation outcomes.
- Previous research conducted by the authors concluded that rehabilitation compliance is associated with reduced rehabilitation length of stay.
- It is important to ascertain the factors associated with rehabilitation compliance as this may improve functional rehabilitation outcomes among orthopaedic inpatients.
- The current study aimed to investigate the impact of a diversity of factors identified across international literature as associated with orthopaedic rehabilitation outcomes on rehabilitation compliance for orthopaedic inpatients attending a Rehabilitation Unit in South-East, Queensland.

Methods

- Ethical approval to conduct this research was provided by both the Metro South Health Human Research Ethics Committee (protocol no: HREC/18/QPAH/441) and the Griffith University Human Research Ethics Committee (protocol no: 2019/305).
- Factors identified from international literature as associated with orthopaedic rehabilitation outcomes were collected from the charts of inpatients over a two year period (2016-2018).
- These factors included: gender, age, culturally and/or linguistically diverse status, experiencing pain, psychological health, the number of falls in the last year, comorbidities, and functional health upon entry.
- Limited rehabilitation compliance was coded as a binary variable, where 0 was indicative of complying with rehabilitation programs, while 1 indicative of deciding to not participate in rehabilitation programs two times or more.
- Data analysis was conducted over two phases. Initially a correlational analysis was conducted. The Pearson correlation coefficient was utilised to clarify the strength of the correlation between independent factors and rehabilitation compliance. After, all items which were significantly correlated with rehabilitation compliance were simultaneously entered as covariates within a logistic regression analysis.
- Of 197 potential participants, nine were excluded from analysis due to self-discharge or death. Of the 188 included within the analysis, 18.8 percent were CALD, and 33 percent were male. The mean age was 77.4 years and the mean length of stay was 22.6 days.
- Primary conditions of participants included [with percentage in brackets]: fractured neck or femur [60.6], lower limb fracture [11.2], upper limb fracture [1.6], fracture to another bone [8.0], fracture to more than one bone [12.8], or other muscular/skeletal issue [5.3].

Findings

- Correlational analyses established that experiencing delirium, mental health concerns on admission to rehabilitation, oncological disease, and pre-morbid cognitive health issues were significantly positively correlated with limited rehabilitation compliance. While, favourable cognitive and motor functional independence scores on admission to rehabilitation were significantly negatively correlated with limited rehabilitation compliance.
- Experiencing delirium, mental health concerns on admission to rehabilitation, and oncological disease were significantly associated with a likelihood of limited rehabilitation compliance, while favourable motor functional independence scores were significantly associated with a likelihood of rehabilitation compliance. Albeit, the effect size for motor functional independence was small. The binary logistic regression coefficients have been included in the table below.

Factor	B	P-Value	OR	Lower CI	Upper CI
Oncological Disease	1.649	.002	5.200	1.843	14.674
FIM Motor	-.064	.002	.938	.902	.976
Mental Health Concerns on Admission	1.581	.005	4.862	1.630	14.500
Delirium	1.174	.016	3.234	1.250	8.370
Pre-Morbid Cognitive Health Issues	.680	.173	1.973	.742	5.252
FIM Cognitive	-.009	.661	.991	.950	1.033

Points for Consideration

- Findings confirm that comorbidities which are seldom considered within research to date, are associated with limited rehabilitation compliance. It is important that rehabilitation clinicians are cognisant of the impact that comorbidities have on rehabilitation compliance and prioritise interventions or treatments to address these comorbidities.
- Delirium is a major issue in the post-operative setting and as it has been identified as having a role to play in rehabilitation compliance, rehabilitation clinicians must be able to identify and manage delirium effectively so that the best possible functional outcomes may be achieved. There may also be a role for early collaboration with acute treating teams to come up with strategies for minimising the incidence of delirium.
- It may also be beneficial to identify pre-morbid cognitive health issues early, so that realistic rehabilitation goal-setting and discharge planning can take place.

References

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