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Implementing Stepped Care Approach to Neuropsychological Rehabilitation for Patients with Acquired Brain Injury

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Introduction

The stepped care model was highly recommended by the National Institute for Health and Care Excellence (NICE) guidelines for people suffering from depression and anxiety disorders. The psychological care after stroke using the stepped care approach was published by the NHS Improvement in 2011. We adopted this model to the local neuropsychological rehabilitation service for the patients with acquired brain injury (ABI).

Objectives

This study investigated whether the stepped care model could improve the access to the neuropsychological services after ABI, the effectiveness of the assessment systems to stratify the patients into different service needs, and the treatment outcomes of the clinical services delivered.

Methodology

A clear neuropsychological screening pathway was delineated by using Hospital Anxiety Depression Scale (HADS) (now is substituted by other measures), Geriatric Depression Scale (GDS), Stroke Aphasic Depression Scale (SADS), Oxford Cognitive Screen (OCS) including the Hearts Test (Heart), Digit Span (DS) and Verbal Fluency (VF). Different assessments were selected according to need. The screening tools, other neuropsychological assessments such as the Hong Kong List Learning Test (HKLLT) and the Goal Attainment Scaling (GAS) were used for the evaluation of rehabilitation outcomes.
The patients were classified into three tiers. Level 1 included patients with sub-threshold or transitory symptoms of mood and/or mild neurocognitive impairment. Level 2 included patients with mild mood and/or significant neurocognitive impairment without need of resuming cognitively demanding roles. Level 3 included patients with significant mood and/or neurocognitive impairment with need of resuming cognitively demanding roles. Clinical services of different intensity and complexity were arranged for different levels of care.

Result

From 2016 to 2017, 262 patients with ABI were admitted to MMRC. 252 (96%) of them had received the neuropsychological services. It supported that the stepped care approach could facilitate the access to neuropsychological services after ABI. Our assessment system was effective in stratifying patients into different levels of care. 24%, 48% and 28% were classified into level 1, 2 and 3 respectively. Suitable services were allocated to match the needs, and the professional resources could be utilized more effectively.

Regarding the rehabilitation outcomes, significant improvements were found in the following measures, including HADS ($t=3.7$, $p<0.05$), Heart ($t=-4.2$, $p<0.01$), DS ($t=-2.6$, $p<0.05$), HKLLT ($t=-3.2$, $p<0.05$) and GAS ($t=-22.3$, $p<0.01$). The findings provided evidences supporting that the clinical services delivered would help the patients to move to recovery.