

settings. Failure to recognize excessive fluid intake can result in ineffective treatment, exacerbation of psychiatric symptoms, and in severe cases, coma or even death. The findings of this study have the potential to contribute to the creation of a training program for healthcare providers. Such a program would enable the development of improved care plans for patients who engage in excessive fluid consumption and are at risk of developing hyponatremia and water intoxication.

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## Identifying Effective Psychotherapies for Older Adults in an Inpatient Setting: A Narrative Review and Synthesis

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doi: 10.1192/bjo.2024.136

**Aims.** We sought to review the evidence available to answer the question: Which psychological therapies are effective in the treatment of depression in older adults in an inpatient setting?

**Methods.** An advanced literature search and systematic review was conducted using Web of Science and PubMed. A set of keywords were identified around depression, older age and the inpatient setting. These were combined with a wide range of keywords around psychological therapies.

Non-English language articles were translated using Google translate.

Articles were reviewed for the relevance to the study question by reviewing the title and abstract. Full text articles were retrieved for those felt to be relevant to the study question.

**Results.** Of 709 articles identified from both databases, 20 articles were retrieved for full text review. Five studies were identified that appeared to offer insight into the study question. These papers focused on interpersonal therapy, cognitive behavioural therapy, or behavioural group therapy.

Brand and Clingempeel (1992) investigated the incremental implementation of group behavioural therapy in a randomized control trial. The study did not show statistically significant differences between treatment groups, but clinical significance differences supported this intervention's efficacy.

A case study by Soller (1997) followed the journey of a 69-year-old man through inpatient CBT sessions over three and a half months. This was followed with outpatient follow up. There was improvement but this was primarily subjective reporting.

A randomized controlled trial by Snarski et al. (2011) looked at the efficacy of behavioural therapy. The authors' overall conclusion was that patients benefit from this intervention and that further investigations should be done to strengthen their findings further.

A pilot study by Cabanel et al. (2017) focused on determining the feasibility of a multi-professional adaptation of group behavioural therapy sessions. This paper provides a signal towards the effectiveness of multi-professional approach to treatment.

Bollmann et al. (2020) focused on the implementation of interpersonal skills groups. It showed good feasibility as well as good

patient adherence. Self-reported and observer-reported depression ratings saw improvement throughout the study.

**Conclusion.** Although the studies showed a signal towards improvement for a range of therapies, the evidence from these studies is not convincing.

There is a lack of high quality research in this area. More studies are needed to determine the most appropriate psychological therapy to use and how this might be adapted to the transient nature of the inpatient setting.

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## A Systematic Review of the Use of Portable Ultra-Low-Field Magnetic Resonance Imaging in Non-Acute Brain Imaging and Its Potential Use in Dementia Assessment

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doi: 10.1192/bjo.2024.138

**Aims.** The aims of this study were to evaluate the literature regarding the use of ultra-low-field magnetic resonance imaging (ULF-MRI) and its potential use in dementia diagnosis.

Access to neuroimaging causes bottlenecks in dementia diagnostic pathways and limits overall capacity; there is wide variation across the UK. At present, dementia diagnosis rates in the UK remain below 65% and significant improvements in efficiency and accessibility of assessment services are needed to meet growing demand.

Modern MRI scanners use high strength magnetic fields (typically 1.5–3T), are expensive to install and operate, and usually require patients to travel to a general hospital. ULF-MRI systems (typically < 0.1T) are portable, relatively inexpensive, and do not require specialist staff to operate. They do not require shielding and are powered via a standard electrical socket. The use of ULF-MRI has historically been limited by multiple factors including poor image quality. Advances in software and hardware now mean that there is realistic potential to use ULF-MRI across a range of clinical applications.

**Methods.** The study followed the PRISMA 2020 guidelines and was registered on PROSPERO. Five electronic databases were searched for studies related to ULF-MRI using pre-developed terms. Studies comparing high field and ULF-MRI neuroimaging in adults were included. Studies of acute presentations (e.g. traumatic brain injury or acute cerebrovascular accident) were excluded. A data extraction template was used to synthesise study characteristics and outcomes. Two reviewers completed the selection process and data extraction independently.

**Results.** 2357 citations were identified, from which 101 studies were selected for further review based on title and abstract, of which eight met criteria for inclusion. Further studies were identified by forward and backward citation searching and through

contact with active researchers in the field. The selected publications included both single and multi-centre studies. The Hyperfine Swoop system was used in almost all studies. Mean participant age range was 31 to 63. Qualitative and quantitative comparisons demonstrated good correspondence between high field and ULF-MRI across a range of measures studied, including volumetric measures and moderate to severe white matter hyperintensities.

**Conclusion.** The limited available evidence suggests that there is potential for ULF-MRI to transform the approach to neuroimaging in the assessment of dementia. Dedicated research into the use of ULF-MRI in this specific application will determine if it will be one of the much-needed disruptors to our current processes of dementia assessment.

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### Youth Group Wellbeing Project for Adolescents Impacted by the March 15 Attacks – Protocol for a Pilot Randomised Waitlist-Controlled Trial

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doi: 10.1192/bjo.2024.139

**Aims.** Psychological distress is common in adolescence; even more so following traumatic events. On 15 March 2019, two mosques in Christchurch were targeted in an act of terrorism. This has had widespread repercussions in the Muslim and wider community in Christchurch and New Zealand. This protocol offers an integrated group treatment based on an indigenous Islamic Psychology framework incorporating components of established transdiagnostic interventions for increasing wellbeing and reducing psychological distress in teenagers. We aim to measure the effect size of the treatment effect on total difficulties, emotional difficulties, trauma symptoms, somatic symptoms and functional impairment in adolescents self-identifying as impacted by the terror attack. We will measure the degree of parental distress and somatic symptoms to explore whether an intervention for adolescents has an impact on parental wellbeing. We will determine the feasibility and acceptability of this approach to inform supports for similar populations and as an example of cultural adaptation of mental health services.

**Methods.** This is a randomised controlled trial with a waitlist-controlled design to measure the size of treatment effects on clinical outcomes, and the feasibility of this protocol. We aim to recruit 64 participant families. A 6-week group programme will be offered to teenage participants randomised to the study group and offered to the waitlist group following the study. The study will be community-based in one site. We will assess clinical outcomes including emotional difficulties and somatic symptoms in teenagers (aged 12–19) and parents at baseline, end of treatment and at 3-month follow-up, and measure the project's acceptability with participants and parents. Individuals' experiences of the programme will be examined using qualitative analysis of participant interviews at the end of the programme. Statistical analysis will be a mixed method design including effect size difference calculations, quantitative measures of acceptability and qualitative analysis. Treatment data from participants randomised to the waitlist first will not be included in statistical

comparison of treatment effects but will be used for the assessment of feasibility.

**Results.** This study will inform whether this unique approach is feasible and easily accessible for adolescents impacted by traumatic events. Its design has been driven by community engagement and stakeholder consultation to consider recruitment, relational safety, screening, and risk management. The project has an emphasis on widening access to mental health supports in a minority faith community by maintaining cultural sensitivity and reducing stigma associated with mental illness.

**Conclusion.**

Trial registration: ClinicalTrials.gov, NCT05030909. Registered on 8 September 2021.

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### Exploring Pathways to Autism Spectrum Diagnosis in Adulthood

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doi: 10.1192/bjo.2024.140

**Aims.** Autism spectrum is a neurodevelopmental condition usually diagnosed in early childhood. The broadened diagnostic criteria of the DSM-5 (2013) have led to an increasing number of autism spectrum diagnoses of individuals requiring lower levels of support. Barriers to diagnosis, especially in adults, include the complexity of differential diagnosis with co-occurring psychiatric disorders. This study explored the various pathways of psychiatric diagnosis preceding an autism spectrum diagnosis in adulthood.

**Methods.** This retrospective cohort study was extracted from health-administrative data from Quebec (Canada) and included all adults with a first recorded autism spectrum diagnosis between 2010 and 2017 (index date). A Trajectory of psychiatric Diagnoses (TDx) was defined as a succession of categorical states, each corresponding to a medical record of a psychiatric diagnosis. These TDx were analysed from 2002 to 2017, using a state sequence analysis with trimester as time units. For each trimester, we defined the following diagnoses in order of priority: 1) autism spectrum, 2) intellectual disability (ID), 3) schizophrenia, 4) bipolar disorder (BP), 5) depressive disorder (DD), 6) anxiety disorder (AD), 7) attention-deficit/hyperactivity disorder (ADHD), and 8) other psychiatric disorders. The simple Hamming metric was used to measure the dissimilarity between TDx, followed by a hierarchical cluster analysis to categorise similar trajectories.

**Results.** The study cohort included 2799 adults diagnosed with autism spectrum between 2010 and 2017. Several psychiatric disorders were recorded during the study period, including AD (77.5%), DD (58.0%), schizophrenia (49.4%), BP (48.3%) and ID (33.2%). Results revealed 5 distinct types of TDx. Types 1 and 2, shared by 63.8% and 17.6% of the cohort respectively, represented individuals in younger age groups with similar characteristics, but with very different sequences of psychiatric diagnoses. Slight or sharp increases in diagnoses were observed around 2010, predominantly associated to autism spectrum in Type 1, and to schizophrenia and AD in Type 2. Individuals