studies were identified from the three databases, and after removing 42 duplicates, 274 studies were selected for title and abstract screening.

Abstracts were assessed for eligibility using the following inclusion criteria: original studies in peer-reviewed journals, clinical diagnosis of depressive disorder, measurement of rumination using a validated scale and resting state or task-based fMRI. 193 studies were excluded, and 58 studies were moved to full-text review. Intervention studies were also excluded at this stage. Following the above criteria, 25 studies were selected for full-text review.

Results: Out of the 25 studies, 9 used task-based fMRI and 16 used resting state fMRI. Only resting state fMRI studies were included for data extraction. Results from the 16 studies showed that depressed people had both increased and decreased functional connectivity between different regions of the brain during brooding rumination. The connectivity within the DMN was increased, while connectivity between DMN and other areas of brain, including between DMN and TPN (task-positive network) was reduced, when compared with healthy controls.

Conclusion: This review shows widespread associations between depression, rumination and functional connectivity within and between various brain regions. Increase of functional connectivity within the DMN during depression might be responsible for the increase in brooding rumination seen in depressed individuals. A decrease in connectivity of DMN to other areas of the brain might result in difficulties for depressed individuals to switch from a ruminating state into the executive network mode. Overall, this review provides an overview of the neurobiological underpinnings for the increase in brooding rumination in depression.

Hippocampal Basal Forebrain Connections Involved in Young Adolescents with Psychotic Experiences

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Aims: Changes in the hippocampus and amygdala are associated with psychotic illnesses. However, there is little research examining the output tracts of these regions in psychosis. The fornix connects the hippocampus to the basal forebrain anteriorly and to the hypothalamus posteriorly, while the stria terminalis (ST) connects the amygdala to these same areas. The anterior commissure divides these tracts into anterior (pre-commissural) and posterior (post-commissural) fibres. This study investigates these two tracts and their pre- and post-commissural fibres in young adolescents with psychotic experiences (PEs) as compared with controls across two timepoints (TP), 2 years apart.

Methods: 51 young adolescents with PEs (37 female) and 43 healthy controls (25 female) underwent high angular diffusion imaging at TP1, while 39 adolescents with PEs and 29 healthy controls underwent same at TP2. Images were processed using ExploreDTI and, using a bespoke method, the fornix and ST were separated and pre-commissural and post-commissural fibres isolated. Analysis of covariance was performed correcting for age, sex and intracranial volume.

Results: Right pre-commissural fornical Mean Diffusivity (MD) (p=0.035) and Radial Diffusivity (RD) (p=0.009) were increased, with decreased Fractional Anisotropy (FA) (p=0.045) at TP1. There was increase across MD (p=0.004), RD (p=0.005) and Axial Diffusivity (AD) (p=0.042) at TP2. Only right pre-commissural fornix MD and RD increases at TP2 survived Bonferroni correction at p=0.0083. No ST differences survived correction for multiple comparisons.

Conclusion: This study uses a novel method to separate the stria terminalis and fornix, using an anatomically driven approach. The results show that the hippocampal output fibres are involved in early psychosis, while the amygdala fibres are not affected. Of the hippocampal fibres, it is the fibres going to the basal forebrain, responsible for motivation and behaviour, that are specifically impacted. These changes in adolescents are entirely right sided, reflecting similar right sided hippocampal changes found in adults with psychotic illnesses. The right basal forebrain is known to influence vigilance, attention and emotional processing, which are affected in patients with psychosis. **The findings from this study suggest that the right basal forebrain is affected in children and adolescents with psychotic experiences, which are common in people who go on to develop psychotic illnesses, and thus supports the neurodevelopmental theory of psychosis.**

A Qualitative Study to Explore Perspectives Regarding the Use of Low Field Magnetic Resonance Imaging (LFMRI) Scanners, Within Dementia Diagnosis Pathways in the United Kingdom

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Aims: The national emphasis on improving rates and timeliness of dementia diagnosis is dependent on accessibility of investigative tools. Through locally accessible, point-of-care brain scans, LFMRI has the potential to improve the experience of dementia assessment pathways and time to diagnosis, and to reduce inequalities in access to dementia assessment.

The aim of this qualitative research was to explore perspectives regarding the use of LFMRI scanning within dementia diagnosis pathways, within communities where it may have the greatest impact. We also aimed to learn more about views regarding future LFMRI research, including priorities, concerns and potential facilitators and barriers to participation.

Methods: The qualitative design incorporated focus groups and interviews with individuals with dementia and their carers. The study took place within urban, rural and coastal communities in Kent. 35 participants took part in either a focus group (n=20) or interview (n=15) with an average age of 72 years. Focus groups and interviews were recorded and transcribed verbatim for thematic analysis using NVivo software.

Results: Participants described both positive views as well as caution about the use of this new investigative tool. Five subthemes were identified: access to local neuroimaging, improvement of assessment pathways, accuracy of LFMRI, concerns about expense to the NHS and engagement in future LFMRI research.

Participants were optimistic about the potential of LFMRI within dementia diagnosis pathways. They valued the possibility of access to local scanners and the benefit this would have on timely diagnosis with improved diagnostic pathways. However, there were concerns