Healthy people who hear voices help schizophrenics

Knowledge about what happens in the brains of healthy people who hear voices in their heads can help the schizophrenic.

About five percent of us hear voices in our heads, even if we are otherwise healthy.

A group of researchers is now working on how to help schizophrenics who hear voices. Their method is to study people who also hear voices, but who do not suffer from a mental illness.

The research group has studied the brain processes causing people to hear voices.

"We have found that the primary auditory cortex of healthy people who hear voices, responds less to outside stimulus than the corresponding area of the brain in people who don’t hear voices," says Post Doctor Kristiina Kompus from the University of Bergen.

Kompus, who works at Department of Biological and Medical Psychology, is lead author of a recent report published in Frontiers in Human Neuroscience.

Variations in cognitive control

The primary auditory cortex is the region of the brain that processes sound. Kompus’ study shows that healthy people who hear voices share some attributes with schizophrenics, as the cortical region in both groups reacts less to outside stimulus.

However, there is an important difference between people who hear voices. Whilst those with schizophrenia have a reduced ability to regulate the primary auditory cortex using cognitive control, those who hear voices but are healthy are able to do so.

"Because of this cognitive control, healthy people who hear voices are able to direct their attention outwards. This sets them apart from schizophrenics, who have a tendency to direct their attention inwards due to their decreased ability to regulate their primary auditory cortex," says Kompus before adding.

"These discoveries have brought us one step close to understanding the hallucinations of schizophrenics and why the voices become a problem for some people but not for others."

Many healthy people hear voices

So what is the next step for Kompus and her fellow researchers?

"We will do further research on the brain structure of people with auditory hallucinations. In particular, we wish to look at the brain’s networks that process outside voices. This is to establish whether these voice
hallucinations and the outside voices occur in the same parts of the brain. We also wish to establish if hearing voices is a genetical trait," she says.

According to the researchers, approximately five per cent of us hear voices in the head, even if otherwise healthy. This number is based on research from several countries and surveys.

For their own research, Kompus and her team used local media in Bergen to call for people who hear voices. The results were overwhelming, with around 30 people getting in touch with the researchers to register for the study.

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Kristiina Kompus, post doctor, Faculty of Psychology. (Foto: Kim E. Andreassen) [7]
Nytt bilde (5).jpg [8]

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FACTS/BERGEN FMRI GROUP

- Established in 1994.
- The group is an interdisciplinary research group at UiB and Haukeland University Hospital.
- fMRI is short for functional Magnetic Resonance Imaging.
- The group’s work focuses on brain activation studies related to a broad spectre of cognitive functions.
- A particular focus for the research group is the study of auditory hallucinations in schizophrenia, and dichotic listening studies of cognitive control.
- Recipient of a European Research Council (ERC) Advanced Grant through professor Hugdahl.

Solrun Dregelid [16]
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