

## **Quality of Life for Post-Traumatic Brain Injury: systematic application of “BrainNext” Tools in cognitive rehabilitation for workplace integration**

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Faculty:

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Traumatic Brain Injury (TBI) is acute and can be fatal. Still, the surviving population exhibit severe neurophysiological deficit overlapping extreme motor-cognitive-behavioural dysfunction comorbidity to severe seizure episodes in normal populations. Most of the TBI population is at productive ages and re-integrating into the workplace, which might have multiple challenges for the person and the working environment. Awareness and social understanding regarding post-TBI cognitive capacity and behaviour changes are still underrated in general work/home environments and often observed facing mental harassment, emotional abuse, and forced retirements.

The presentation discusses post-TBI Patient’s journey in cognitive rehabilitation for quality of life and workplace re-integration. Patient Y, 48 years old on the largest scale of his career graph, met with a severe road accident, was hospitalised with internal bleeding, and was in a coma for 20 days, he survived but developed extreme behavioural deficit and was primarily treated with psychotropic medicines. The condition worsened daily by developing memory cognitive-motor dysfunctions, and was referred for neuropsychiatric evaluation using the “UMACE” screening test and followed by “BrainNext” cognitive rehabilitation.

The presentation illustrates a post-TBI patient case study facing severe cognitive disability, with a systematic cognitive rehab programme, acquired 80% of previous capacity to be accommodated into new ways of working, though keeping the considerable gap in higher cognitive re-learning capacity required for the original position at workplace. Due to a lack of awareness about the cognitive deficit in the work environment, the person’s reintegration couldn’t be fulfilled, finally had to resign from work.

Neuropsychiatric evaluation was done with UMACE for the patient to understand domain-specific deficit and to submit the clinical evidence of decreased cognitive capacity for the work authorities to allow flexibility and provide a buffer period to be accommodated into new work ways. “BrainNext” rehab program was carried out for 8 months at home by providing training for the caregiver. The total rehab program was divided into 9 follow-ups. First, 3 follow-ups every 15 days duration followed by 6 follow-ups every month and additional 8 online sessions, 1 hour each, carried for memory tasks. Cognitive responses were recorded, and new tools and cognitive domain exercises were added as the brain progressed, with intermittent support to the family and the work authorities by reporting the progress and explaining the limitations. The 1% to 10% scale was used to measure the improvement, with 0% as a baseline condition. Within 15 days of the rehab programme, >10% improvement was observed. By the end of 8 months, >75% improvement was observed in memory recall, word

and language comprehension, reasoning, numerical ability, executive functioning, behavioural responses, spatial-motor and emotional balance improved by >80% with no seizure episode observed during the last 6 months rehab program.

The behavioural-cognitive-motor deficit, often comorbid with severe seizure episodes, might create work difficulties for both entities. “BrainNext” rehabilitation could help improve various cognitive domain deficits regaining normal brain capacity by >75% from baseline condition within 7 to 8 months giving quality of life to the patient and relief for the caregiver by re-integrating the person into new ways of working, simultaneously creating awareness in the work environment to accommodate the new changes in the old employee. Still faces many challenges due to a lack of awareness of the deficit and flexibility in re-positioning the person with the new NORMAL cognitive capacity.

### **About Our Speaker:**

Mangal Kardile

Proprietor/Founder – Trademark reg company - “Mental Health Aims”, Founder & Director – DRMK MEMORY FOUNDATION, President – ARDSI Nashik support Group, working in mental health consultancy and services (research & clinical work) since 2000.

The founder/proprietor has a strong clinical and research background in the field of Philosophy, Clinical Psychology, Clinical research, Neuropsychology and Medical neuroscience. Having International Diploma in Mental Health Laws & Human Rights- WHO Geneva & ILS Law college Pune.

The founder has presented many research paper /publications on the National and International platform. One of the research projects regarding memory and cognitive diagnostic tool – “UMACE” the founder has been awarded international funding from “Capacity Australia”, NGO, Sydney Australia, 2015. The founder has designed and completed many mental health related projects in the specific areas such as – Forensic psychiatry (under WHO program), De-addiction, Dementia – professional specific awareness raising program (for Nasik Police – Kumbh Mela 2015) with successful outcome. Most of the research work, product development and projects are self-funded. \*More than 5000 persons with neurological deficit have been assessed and supported for memory and cognitive rehabilitation successfully, since 2008 at Mental Health Aims, Nashik.