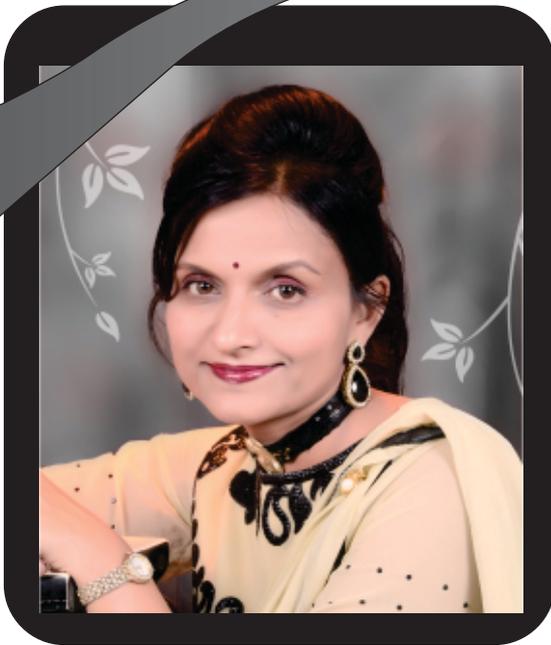


Mental Health mission – A broad spectrum of work in mental health by a clinical professional – Dr. Mangal Kardile

NEWS

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Brief introduction of the researcher

Dr. Mangal Kardile (Founder & Director “Mental Health Aims”), former name as Mangal Deshpande from Belgaum, Karnataka, (D/O Late Shri. Vasant B. Deshpande, Hydraulic Eng. & Late Smt. Shanta V. Deshpande, high school teacher) moved to Maharashtra in 1980 to pursue her specialization in advertising, but being passionate about Human Psychology, shifted her focus to clinical psychology in the year 1997. Changing her entire academic stream from IT Multimedia to Philosophy, Clinical Psychology, Mental Health Law & Human Rights, Neuropsychology and recently into Medical Neuroscience.....the journey was full of enthusiasm and discovery!

She presented her first research paper in USA in 2011 by combining visual effects technology with philosophy and psychology, titled “Using visual effects technology for treating psychiatric problems”, presented in the “17th International conference organized by “Society for Philosophy and Technology, University of North Texas, Denton, USA.....this global golden opportunity was a successful step into future mental health research!.....and the untiring mission in mental health began.

Various projects and research papers presented by the researcher in various countries could be found on the website as follows -

Website: www.mentalhealthaims.com

Dedicated work in neurological disability (Diagnostics & Neuro-Rehabilitation)

Looking at the number of elderly population affected by Alzheimer’s and various types of Dementia at present based on the global statistical studies it is necessary to understand corresponding clinical aspects to treat the special population. The more concerned clinical features regarding memory and cognitive impairments are specifically found in the majority of neurologically disabled population that has no age criteria. Proper treatment and neuro-rehabilitation for such growing number of population around the globe is the biggest challenge for the clinical world.

The purpose for reaching to the concerned professionals is to introduce the detailed research work regarding development of a diagnostic tool **(UMACE)** and **“BrainNext - Neuro-rehabilitation Kit”**.

UMACE tool is to assess memory and cognitive impairment in all population excluding persons with IQ below 70. This tool is currently in use by the researcher for various applications as below –

- ***Early detection** for memory and cognitive impairment in adults above 18 years (the 18 years + population includes persons with different neurological disabilities such as Migraine, Epilepsy, Post Trauma, Brain diseases, Drug addiction and persons attempted suicide)
- ***Neuropsychiatric evaluation** for pre and post epileptic surgery for adult population above 18 years
- ***Some of the UMACE subtests** are applicable for persons at the age of 15 years for pre and post neuropsychiatric evaluation

The diagnostic results are satisfactory

Brief introduction to UMACE *(New dimensions in understanding memory and cognitive impairment in all population)*

Universal Memory And Cognitive Exam (UMACE) a diagnostic tool for Memory and Cognitive impairment

Background

With a growing concern regarding an increase in the number of people affected by Alzheimer's & Dementia in India with an alarming 10 million + patients by the year 2020. There is an estimated 46.8 million people worldwide living with dementia in 2015 and this number will almost reach to 74.7 million in 2030 and 131.5 million in 2050.

The development of UMACE started in June 2011 when it raised the need for an instrument that could be used to detect cognitive impairments in the illiterate population while developing a technology based therapy for dementia. The therapy research work was carried out using available MMSE test with minimal number of participants and the research paper titled: "Cohesion of Cognitive and Technological inference for treating Dementia" was presented in - The Fifth International congress of the Asian Society Against Dementia, Jointly organized by - Asian Society against Dementia, The Chinese Dementia Research Association, The Hong Kong College of Psychiatrists— Hong Kong, Nov. 2011

UMACE (Universal Memory and Cognitive Exam) has been tested on more than 350 samples comprising normal (literate and illiterate), psychiatric and neurological patients rendering substantial quantitative and qualitative data. This project concluded in mid-2014 and was accomplished in three phases.

- * **First phase** – Development of items with a diagnostic tool kit with verbal and non-verbal tasks with the statistical assessment for tool validity, comparing UMACE with MMSE with two Normal sample groups (Literate and Illiterate N=78).

The research paper based on these studies was presented in Australia 2012. Title - "Using a Multicultural Model to develop an Universal Diagnostic Tool for Cognitive and Memory Impairments" International Psychogeriatric Association International Meeting, Cairns, Australia, 7-11 September, 2012

- * **Second phase** - The UMACE testing was performed for a group of 35 male and female patients with varied psychiatric disorders in private psychiatric clinics using the original UMACE item structure and was compared with MMSE with a group of 35 male and female Normal population (N=70)

- * **Third phase** - In the third phase different neurological disorder groups were administered in a private neurology clinic (total 7 groups- Vertigo, Migraine with and without aura, Epilepsy & Seizure disorder, Stroke, Parkinson, Brain diseases, Other neurological disorders) for 205 neurological disorder patients. This study excluded the patients previously diagnosed with Alzheimer's & Dementia.

The additional test assessment functions are added in the third phase to assess the patients with Stroke or similar disorders having disability in speech and motor coordination.

The above mentioned UMACE diagnostic tool research work has been carried out by the researcher through her own expenses owing to the lack of funding opportunities in India. At the final stage the researcher was awarded AUD 3500, through "Capacity Australia", an NGO run by experienced and eminent psychogeriatricians in Sydney, Australia. Through these funds, the researcher could complete statistical procedure and research documentation with the help of two Australian authors in 2015. The paper will be presented in "**The 26th Annual Conference of Alzheimer Europe**", Denmark, Oct-2016

UMACE – Statistical analysis combining three research phases

Statistical analysis: ROC curve analysis assessed the utility of 12 item UMACE as a cognitive screen compared with the 11 item MMSE.

Results: The UMACE demonstrated utility in the detection of cognitive impairment in all samples. In the largest sample (including 20% illiterate subjects) a cut-off of 28.5 out of 40 had an AUC 92.5% (95% CI 88.9% to 96.2%), a sensitivity of 89.7% and specificity of 77.0%.

In 2015 the existing UMACE diagnostic tool was improved to analyze memory and cognitive impairment of the **visually impaired population** named as **UMACE-VIP** with added features which is applicable around the globe.

About the UMACE-VIP tool

India shoulders the largest burden of global blindness, about 15 million across the country (around 38 million visually impaired populations worldwide), with 30,000 new cases being added each year. The 75% of these cases are of avoidable blindness, but India has acute shortage of optometrists, while India needs 40,000 optometrists, it has only 8,000 (<http://www.netradaan.com/blind-statistics-india.php>).

One out of every three blind people in the world lives in India (Anugraha Drishtidaan, 2013, <http://www.anugrahadrishtidaan.org/Blindness-Global-&-Indian-Scenario.htm>)

Research work using UMACE-VIP 2015-16

In 2015, a group of 25 (ages 18 years and above) visually impaired adult populations has been tested (National Association for Blind, Nasik div.) with UMACE-VIP tool and the results are satisfactory. Further research work is in progress for the sample below 18 years.

In the clinical settings the UMACE-VIP tool proves to be useful for understanding memory and cognitive impairments in the Indian Army population posted at high altitude battle zones such as Siachen Glacier, above 6500 meters. There is documentation that the extreme weather conditions with low temperature below -50 degrees Celsius causes neuro-biological complications in otherwise healthy population (Usui et al., 2004, Shiota et al., 1990, Javier et al., 2006). Still there is lack of study regarding impaired function at high altitudes with evidence of indicating motor, perceptual and behavioural deficits in adults (Javier et al., 2006).

Research work for **Army population with the UMACE-VIP** will be carried out in future to understand the audio-olfactory-visual and spatial impairment developed in a short time duration of deployment at high altitude.

*****Based on the above diagnostic tool research data and clinical data of more than 450 patients a brain exercises kit "BrainNext" was developed.**

Considering the utmost need for Neuro-rehabilitation for the neurologically disabled populations around the globe the **"BrainNext"** brain exercises kit has been developed **comprising 18 sets with 500+ exercises**. This kit can be useful to detect subtle changes in children below 6 years ages as many mild cognitive dysfunctions are ignored that are observed to be severe as the age advances.

*Timely precautions could be taken with the help of **"BrainNext"** kit for normal children, ages below 5 years.

The need for the development of the **"BrainNext"** brain exercise kit emerged from present limitations for cure of neurodegenerative diseases such as Alzheimer's and various forms of Dementia, developmental disorders in children and a variety of neurological disorders among all age groups. Considering the neural complexities of brain functions it is desirable to nourish the human brain with continuous sensory input to keep the neurons as active as possible for the entire life span after the person has been diagnosed with certain neurological disability.

The children who suffer from developmental disorders such as Autism spectrum, ADHD and various other clinically significant cognitive deficits regarding attention, general concentration, seizures, trauma and various degrees of mentally challenged population need long term cognitive rehabilitation.

While dealing with the clinical neurological population the researcher has identified the need for specially designed brain exercise kit for long term rehabilitation support (concept based on **"Synaptic plasticity"**). These specific exercises have been designed to create, enhance and supply sensory nourishment for the less affected neurons to enable the affected brain to continue to be normal as long as possible cultivating multidimensional approach for better quality of life for the neurologically affected population.

The **"BrainNext"** kit comprises total 18 sets and any single set can be purchased individually or can be purchased as a single unit of 18 sets together.

The **"BrainNext"** neuro-cognitive rehabilitation kit will certainly create positive impact for all populations around the world and relief for the caregivers by enhancing the quality of life of an affected individual.

Expression of gratitude by the researcher

* First and foremost heartfelt gratitude to the participants and clinical patients involved in the research and development of "UMACE" diagnostic tool and "BrainNext" brain exercises kit for their kind cooperation, faith and patience; without their invaluable contribution the work could not be accomplished.

* My deepest gratitude to Dr. Anand Diwan DNB (Neurology), Mumbai, MRCP (UK) Neurology SCE, Dr. Pranav Shide MD Medicine, Mumbai, DM Neurology and Dr. Rahul Baviskar MD Medicine, DM Neurology, eminent neurologists of Nasik city for supporting me with the clinical and research work to develop "UMACE" and the "BrainNext" kit.

* I sincerely thank Dr. BSV Prasad & Dr. Jayant Dhake (Psychiatrists, Nasik), Dr. Mandar & Dr. Chandratre (Physiotherapists), Dr. Karandikar (Neorusergeon), Dr. Suhas Patil (Neurophysician) for helping me with the clinical patients that contributed to the development of "UMACE" and "BrainNext" kit.

Important Note: UMACE, BrainNext

These products will be available soon
For further information please contact us-
Website: www.mentalhealthaims.com
email: info.mentalhealthaims@gmail.com

Research work accomplished and ongoing project work by the researcher

***October 2016- The research paper titled - "Excellence in diagnosis in culturally diverse settings: the development of Universal Memory and Cognitive Exam (UMACE)"** will be presented in "The 26th Annual Conference of Alzheimer Europe" which will take place in **Copenhagen, Denmark from 31 October–2 November 2016.**

***2015 – 2016 Ongoing project work for "Profession specific Dementia awareness raising program"** – first successful project was carried out for Nasik Police at the time of "Kumbh-Mela-2015"

***July-December 2015 - "Dementia Awareness raising lecture series program on the occasion of Kumbh-Mela"** for Nasik Police (15 lecture series for all Nasik Police Stations, Riot Control squad & Traffic Police) and feedback collection

***July 2015 – ongoing project for "UMACE-VIP Cognitive test tool for Visually Impaired"** (sample collection phase), **"National Association for Blind", Nasik branch**

***2015 - Campaign "UMACE-VIP Cognitive test tool for Visually Impaired"** launched on **Indiegogo Crowd funding** website between 14th April 2015 to 16th May'15

***2011-2015 - Research project** for the Memory and cognitive exam for Neuropsychological assessment, the development of a diagnostic tool - **"Universal Memory And Cognitive Exam (UMACE)"**

***2011-2012 – Project: Comparative study of Stress and Personality Traits among Alcoholic and Non-Alcoholic**

Assessment of Alcohol abuse/dependent population for personality traits and stress done in the **De-addiction center** (private psychiatrist)

***2011-2012 – Project: Understanding International laws, National laws and human rights with respect to the forensic psychiatric population**

Assessment of Central Jails in Maharashtra State (project completion for International Diploma in Mental Health law & Human Rights, **WHO Geneva and ILS law college, Pune**)

***Research project presentation Symposium – October 2014**

Title: "CAPACITY, RISK AND ABUSE: A symposium of the capacity taskforce shared interest forum (Capacity and abuse in elderly Indian population-case studies)" In the "2014 International Meeting (IPA) International Psychogeriatrics Association" Organized by: IPA in collaboration with Peking University Institute of Mental Health, Psychogeriatric Interest Group, Chinese Society for Psychiatry Beijing, **China 23-26 October, 2014**

***Research project presentation – September 2014**

Title: "Understanding Mental Health Issues and Abuse in elderly Indian population" 1st Annual International Capacity Conference "Capacity, ethics and the Prevention of Abuse" Organized by Capacity Australia and The Federation of Medical Societies of Hong Kong, **H K - 20 Sept. 2014**

***Research project presentation – March 2014**

Title: "Coercion in Geriatrics - Are we ready to handle?" II Indo European Symposium on Coercion" Organized by: Department of Psychiatry, **Mysore Medical College & Research Institute, India 24-25 March 2014**

***Clinical professional research presentation --- September '12**

Title: "Using a Multicultural Model to develop an Universal Diagnostic Tool for Cognitive and Memory Impairments" Organized by – International Psychogeriatric Association International Meeting, Cairns, **Australia, 7-11 September, 2012**

***Professional social work presentation - Jan. 2011**

Title: "A Techno-Cognitive approach to cultivate a Mentally Healthy society", XXX Annual National Conference of Indian Society of Professional Social Work Organized by - National Institute of Mental Health and Neurosciences (**NIMHANS**) **Bengaluru, India - Jan.'2012**

***Clinical Research presentation - Nov.' 2011**

Research concentration--- Cognitive Psychology and Technology
Title: "Cohesion of Cognitive and Technological inference for treating Dementia"

The Fifth International congress of the Asian Society Against Dementia, Jointly organized by- Asia Society against Dementia, The Chinese Dementia Research Association, The Hong Kong College of Psychiatrists— **Hong Kong, Nov. 2011**

***Academic-Professional Research presentation - May' 2011**

Research concentration--- Humanities, Medicine and Technology
Title: "Using visual effects technology for treating psychiatric problems"
"17th International conference organized by "Society for Philosophy and Technology, **University of North Texas, Denton, Texas, USA, May 2011**

Researcher and Clinical Professional

Dr. Mangal Kardile

MPSychClin, MPhil, PGDipPsychClin & IDMHL&HR
Medical Neuroscience by Duke University on Coursera.
(Clinical Psychology)
Research/Work attention: Neuropsychology

Member:

- * IPA (International Psychogeriatrics Association)
- * "Asia Consortium" (with auspice under the Capacity Taskforce and IPA),
- * ARDSI (Alzheimer's & Related Disorders association of India)
- * Editorial board member - "International Journal of Health Sciences and Research"

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BrainNext

Neuro-rehabilitation
Memory & Cognitive Brain exercises
(Clinically recommended)

18 sets - 500+ exercises
for mild to severe cognitive impairments all ages

Diagnostics

UMACE

Universal Memory And Cognitive Exam
(Standardized)

UMACEVIP

Universal Memory And Cognitive Exam
(for Visually Impaired)