

SPACE LIFE SCIENCES SYMPOSIUM (A1)
Behaviour, Performance and Psychosocial Issues in Space (1)

Author: Dr. Susan Jewell
The Mars Society, United States, drjewellmd@gmail.com

INTEGRATIVE COMPLEMENTARY MEDICINE FOR SPACE EXPLORATION: A QUALITATIVE
SELF OBSERVATIONAL PROJECT TO EXPLORE INTEGRATION OF YOGA AND MEDITATION
AS COUNTERMEASURE MITIGATION STRATEGIES FOR MAINTAINING PSYCHOLOGICAL
HEALTH IN MARSCREW134

Abstract

Living in isolated confined and remote settings like MDRS necessitate developing countermeasures to mitigate possible negative problems that could arise under such conditions from increase tensions, anxiety or conflicts within the crew. The main objective was to explore the integration of complementary medicine, such as, meditation and yoga, as possible mitigation countermeasures into the daily schedule of MarsCrew134 analogue astronauts at MDRS. Seven highly qualified scientists were selected to conduct a total immersion Mars analogue simulation. They volunteered to participate in this project. The long-term aim was to develop “tools” for maintaining psychological health and wellness of crews living in extreme environments and during long duration space missions.

Participants were introduced to several “familiarization” sessions for the meditation sessions and basic yoga exercises prior to start of simulation. An initial “baseline” status was determined for crew.

MEDITATION: The project used the online pre-programmed audio guided meditation programs from Mindful Awareness Research Center (MARC) during the meditation sessions. MARC is a partner of the Norman Cousins Center for Psychoneuroimmunology within the Semel Institute for Neuroscience and Human Behavior at UCLA, California. Mindful awareness has shown to be an excellent antidote to stressors and users can be trained to stop, breathe, observe, and connect with the person’s internal experiences. The daily 20 minute sessions were conducted in the evenings and led by a crew medical officer.

YOGA A crew member experienced in yoga was assigned to lead the daily morning sessions. Each session lasted 30 minutes.

Crewmembers completed daily questionnaires after each session to document subjective feedback and self-evaluation and data was collected for analysis. Separate crew video interview recordings were obtained at the end of the mission. The information gathered were qualitative, nonsystematic, voluntary subjective reflections. The anecdotal observations could provide the basis of future systematic studies in longer duration analogue simulations. The long-term objective are to develop and expand the project into a more comprehensive research study to include modalities such as Tai Chi, Reiki and collation of quantitative data measurements. The importance for integrating complementary medicine as mitigation strategies into long duration space missions for astronauts psychological health cannot be overemphasized. We cannot just address the biomedical, physiological and technological challenges of crew health. As humans we are complex organisms with socio-psychological challenges. We must address the components that truly make up the whole person, ie, Body, Mind and Spirit. Therefore, an integrative approach for space exploration is needed.