Participatory dental ergonomics as a model for integrated programmes to prevent chronic disease in a dental health care hospital

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Musculoskeletal disorders (MSD) among dental workers are very common. The MSDs are described as soft-tissue injuries that can affect the nerves, tendons, muscles, joints, and cartilage in the limbs, neck, and lower back. According to the CDC (Centre for Disease Control) and NIOSH (National Institute of Occupational Safety and Health), they are brought on by prolonged or abrupt repetitive movements, vibration, force, and awkward positions. The most frequent cause of disability at work is MSDs in various occupational tasks. Such occupations' physical effects have been identified as a risk factor for MSDs.

Objective: The objectives of the teaching in ergonomics were formulated as follows: (1) raising the awareness of the need for knowledge and the practice of ergonomics in dentistry as a tool to achieve productivity and improve the quality of life; (2) improving attitudes for identification and the avoiding of risk factors in the dental practice through self-assessment of the working posture and a critical view on the overall organisation of the working process; (3) implementing (at the UG, PG and faculty level) a positive interest in establishing an ergonomically friendly learning clinical setting; and (4) the design of an educational module of dental ergonomics giving sound essential knowledge and tools for efficient and injury free work.

To discuss the importance of participatory techniques for effective workplace health promotion (WHP) programmes and the significance of participatory ergonomics (PE) for the Total Worker Health (TWH) project in a dental health care setting.

Methods: To discuss the importance of participatory techniques for effective workplace health promotion (WHP) programmes, and in particular, the significance of participatory ergonomics (PE) for the Total Worker Health (TWH) project in a dental health care setting.

Results and Conclusions: Occupational health hazards due to dental practice among dental professionals are continuously rising, resulting in a significant negative impact on the overall quality of life. Dentists tend to assume stressful body positions due to work restrictions and to obtain better access and visibility to the operating site ending up with Work-related musculoskeletal disorder (WRMSD). Ergonomics is the Science that fits the job to a person’s anatomical, physiological, and psychological characteristics in such a way that it enhances human efficiency and well-being (International Ergonomic Association). Injuries caused by WRMSD, or similar cumulative trauma disorders can be reduced or prevented by applying ergonomics through at-sight monitoring and correcting posture, dental equipment, and instrument design concepts, providing a synergistic approach to the dental practice for more efficient delivery of dental care and increased productivity.

Participatory ergonomics is pertinent to WHP because: (1) psychosocial stress influences chronic diseases and individual health behaviours; (2) job stress cannot be addressed without employee involvement in hazard identification and solutions; (3) the interaction of multiple levels within an organisation necessitates attention to needs and constraints at all levels, just as the social-ecological model addresses higher-level determinants of and constraints on individual health; and (4) the interaction of multiple levels within an organisation requires attention to needs and constraints at all levels.

About Our Speaker:

Meenakshi S

Meenakshi S is an Assistant Professor at the Department of Prosthodontics, JSS Dental College and Hospital, JSS Academy of Higher Education and Research, Mysore, Karnataka, India. She has disseminated research knowledge through scientific publications in various National and International peer-reviewed indexed journals. Meenakshi has represented the university in various scientific deliberations at various National and International conferences through Scientific papers and Poster presentations, and in a couple of guest lectures at the State and National levels.

She has completed an ergonomics course from RECOUP Health, Bangalore, and has attended various Research workshops to upgrade, enrich and share knowledge. Meenakshi completed her PhD in the Faculty of Dentistry in 2020 and received a DBT research grant for her PhD thesis- Development and evaluation of polyherbal formulation for anti-fungal activity in geriatric denture wearers and completed ICMR-funded research topic Meta-analysis of nasality assessment and developing a computational module: Acoustic and perceptual judgment and standardisation as Co-PI. She also has to her credit ICMR approved project: postural evaluation and development of an ergonomic paradigm for dental professionals; A longitudinal cohort study. She has been the pioneer to initiate the value-added certificate program on Combine Cognitive Dental Ergonomics to UG and PG students of JSSDCH to combat work-related disorders and to deliver quality care to patients.

She has to her credit two patents - the development of polyherbal emulgel and Denture cleansing tablet published which has received appreciation from Group Pharmaceuticals for further commercialisation of the products. Her areas of interest include candida-associated biofilms, Phytochemicals, drug development, Geriatrics, and biomaterials, and actively involved in collaborative research.