

Biomechanical health and well-being of professionals during eutocic delivery

Armando David de Sousa¹, Maria Helena Presado², Mario Cardoso², Cristina Lavareda Baixinho³
and Fátima Mendes Marques⁴

¹Unit of Research and Development in Nursing (UI&DE) of Escola Superior de Enfermagem de Lisboa.
armandodav@gmail.com ;

²Department of Maternal and Obstetrical Health and Unit of Research and Development in Nursing (UI & DE) of Escola Superior de Enfermagem de Lisboa, Portugal. mhpresado@esel.pt ; mmcardoso@esel.pt ;

³Department of Nursing Fundamentals and Unit of Research and Development in Nursing (UI & DE) of Escola Superior de Enfermagem de Lisboa, Portugal. crbaixinho@esel.pt ;

⁴Department of Rehabilitation Nursing and Unit of Research and Development in Nursing (UI & DE) of Escola Superior de Enfermagem de Lisboa, Portugal. fmarques@esel.pt .

ABSTRACT

BACKGROUND: Work-related musculoskeletal disorders (WMSD) are the main labour problem referred by nurses, with an incidence 76.24% higher when compared with other professional groups^[1]. The work process, the high physical demands, the environment, the underlying stress and the emotional component are some of the factors that contribute to its prevalence, ranging from 71.85% to 84%^[2]. This reality is especially evident in the daily clinical practice of nurses who specialize in maternal and obstetric health (EESMO); however, their underlying risks^[3]. **OBJECTIVE:** To analyse the factors that contribute to the difficulty in adoption of biomechanics' principles by EESMO, during parturient care, on the second and third stages, in horizontal births; **METHODS:** Study with mixed method, using qualitative analysis of 25 births, and quantitative analyses of 21 activities, developed by EESMO during delivery. The REBA (Rapid entire body assessment) scale was applied to determine the risk and the videotapes of the deliveries that were recorded were analysed, after the authorization of the parturient. Study approved by ethics committee. **RESULTS:** We identified 11 activities that required rapid intervention, given the achievement of a high-risk score for WMSD, and two activities requiring immediate intervention, given the very high-risk score for MSD; these last were: manipulation of the facial area of baby (facial expression to release secretion) (score 11.3), and release of the baby's anterior shoulder (score 10.4). During the second and third stage of labour, 62% of EESMO activity presents high to very high risk of developing MSD, classifying the moment of delivery as very critical one in the professional exercise of EESMO. In the analysis of the videos, it was verified that due to the nature of the professional activity, the EESMO spent long periods of time adopting body positions that are not aligned, with flexion of the head, elevation of the shoulders, misalignment of the trunk and vertebral column. **CONCLUSIONS:** It is essential that the EESMO reflect on its clinical practice, analysing

not only the care provided, but also its biomechanics in the course of its execution. The principles of ergonomics should be adopted, since they largely contribute to the well-being of the professional, as well as to ensure that the care is productive, safe, efficient and of quality, for both professionals and patients.

Keywords: *biomechanical, musculoskeletal disorders, nurse-midwives, obstetric delivery*

References:

- [1] Chung YC, Hung CT, Li SF, Lee HM, Wang SG, Chang SC, Pai LW, Huang CN, Yang JH. Risk of musculoskeletal disorder among taiwanese nurses cohort: a nationwide population-based study. BMC Musculoskelet Disord. 2013; 23;14: 144. doi: 10.1186/1471-2474-14-144.
- [2] Ellapen TJ, Narsigan S. Work Related Musculoskeletal Disorders among Nurses: Systematic Review. J Ergonomics. 2014; S4: 003. doi:10.4172/2165-7556.S4-003.
- [3] Tsekoura, M, Koufogianni, A, Billis, E. & Tsepis, E. Work-related musculoskeletal disorders among female and male nursing personnel in greece. World Journal of research and review. 2017; 3(1): 8-15.
- [4] Baixinho CL, Presado H, Marques FM, Cardoso M. Biomechanical safety in the clinical practice of nurses specializing in maternal health and obstetrics. Rev Bras Promoç Saúde. 2016; 29(Supl): 36-43. DOI: <http://dx.doi.org/10.5020/18061230.2016.sup.p36>.



**Health & Well-Being
Intervention**

INTERNATIONAL CONGRESS

May 31st and June 1st 2019

Instituto Piaget
University Campus of Viseu

Organization

