

## DOTTORATO DI RICERCA IN SCIENZE INFERMIERISTICHE E SANITA' PUBBLICA

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Titolo tesi: Quality of Life in Osteoporosis Progetto Guardian Angel® - Severe osteoporosis patient

management

## **ABSTRACT**

Background. Osteoporosis is a global health problem and it represents one of the main causes of morbidity and mortality in industrialized countries. In Italy, it is estimated that about 18.5% of women and 10% of men suffer from osteoporosis and it is expected that the number of osteoporotic patients will increase by 25% in the next 20 years. The clinical relevance of osteoporosis is represented by the bone fractures that occur as a result of increasing bone fragility. Fragility fractures cause permanent disability in 30% of people and deterioration in the quality of life with consequences in terms of health and social costs. Furthermore, a prior fragility fracture is a significant risk factor in determining future fractures. The majority of individuals who have had an osteoporosis-related fracture is treated medically for the fracture but does not receive adequate interventions to improve self-care behaviors in order to change lifestyle and improve quality of life. In literature, several instruments have been developed to evaluate the quality of life in postmenopausal osteoporotic women with fragility fractures, but not for postmenopausal osteoporotic women who have suffered a fragility fractures others than vertebral fractures, such as femur, humerus, pelvis, foot. This is one of the reasons that led to the development of a study project named the Guardian Angel®. This tailored educational intervention conducted by the nurse, led patients be able to take proper behaviors of self care and improve their quality of life.

Aim. Therefore, the objectives of this PhD are: to evaluate the effectiveness of a tailored intervention conducted by nurses to improve self-care maintenance and quality of life in postmenopausal women after a fragility fracture others than vertebral fractures; to develop and validate an instrument to measure quality of life related to the traumatic event in postmenopausal osteoporotic women with fragility fracture others than vertebral fractures and to test its psychometric properties; to promote the development of nursing skills in order to plan, manage and evaluate therapeutic education interventions targeted for the primary and secondary prevention of post-menopausal women.

Methods. This is quasi-experimental, longitudinal and multicentric study, that was promoted by the Department of Biomedicine and Prevention of the Tor Vergata University of Rome. The target population consisted of post-menopausal osteoporotic women in both inpatients and outpatients of several healthcare institutions throughout the Italian country. The inclusion criteria was menopausal condition and the exclusion criteria were the presence of severe renal failure and the presence of previous or current neoplastic pathologies. In the Guardian Angel® study protocol a convenience sample and different survey tools were used, such as questionnaires and telephone follow-ups at 7, 30, 60, 90, 180 days. The several instruments have been used to collect variables, such as socio-demographic questionnaire, risk factors questionnaire, Self-Care of Osteoporosis Scale, educational barriers questionnaire, adherence to guidelines questionnaire and Quality of Life in Osteoporosis Scale-Minor Fractures. In particular, the QoLOS-MF scale is comprising of 23 items that measures the quality of life in postmenopausal osteoporotic women with a fragility fracture others than vertebral fracture.

Results. The analysis of the data presented in this contribution, has helped to outline the clinical-care profile of patients who can be included in therapeutic education programs for the reduction of risk factors, adherence to treatments and improvement of lifestyle and quality of life. This study is the first study that reported psychometric properties and



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usefulness of the QoLOS-MF in postmenopausal osteoporotic women with a fragility fracture others than vertebral fracture. With this information, holistic care and effective treatment can be provided to optimize the QoL of osteoporosis women with minor factures. We found that QoLOS-MF is a unidimensional quality of life scale with high reliability and high validity to assess the quality of life in patients in postmenopausal osteoporotic women with a fragility fracture others than vertebral fracture. Construct validity of the QoLOS-MF was supported with exploratory and confirmatory factor analysis.

Conclusions. The aging and the rise of chronic diseases, such as osteoporosis, requires that the health care professionals reconsider approaches to treatment and care, paying attention to the quality of life. This tailored educational intervention can reduce the risk of fractures and complications. The results of this doctoral project will be supported both by the culture of nursing science, both the community of professional practice and the health services rather than those assisted. Furthermore, the QoLOS- MF can be used for professional practice by nurses working in different care settings for the management of postmenopausal osteoporotic women.