

**XXX CICLO** - Anno Accademico 2017/2018

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**Titolo tesi:** The Guardian Angel Research Project: Self-Care in postmenopausal women who suffer from osteoporosis

### **ABSTRACT**

**Background.** Osteoporosis is a skeleton disease that is characterized by a decrease in bone mass, caused by an alteration of the bone tissue microarchitecture. Worldwide, more than 200 million individuals are affected by osteoporosis, 27.5 million in Europe and 5 million in Italy, and 80% of cases are postmenopausal women. The most insidious manifestation of the disease is represented by the fragility fracture and a prior fragility fracture increases the risk of future fractures. Women suffering from osteoporosis do not maintain safe habits because they are poorly adherent to drug therapy and healthy lifestyle. These behaviours causes an increased risk of fracture and recurrent re-hospitalizations. Adherence is an important element of self-care. Several studies have shown that tailored educational interventions direct to osteoporotic women are effective to improve their self-care behaviors related to adherence to medication and healthy lifestyle. Self-care is an unexplored topic in osteoporosis and though these studies were focused on specific self-care behaviors related healthy lifestyle or medication adherence, no study has considered self-care in its entirety.

**Aim.** The aim of this doctoral program was to study self-care in postmenopausal women who suffer from osteoporosis. Specifically (1) To identify educational interventions that improve osteoporotic women's adherence to medication and healthy lifestyles; (2) To write the clinical guidelines to promote improved diagnosis, prevention, and treatment of osteoporosis and its consequences; (3) To develop and test the psychometric properties of the Self-Care of Osteoporosis Scale (SCOS), a new instrument to measure self-care in postmenopausal women who suffer from osteoporosis.

**Methods.** A literature review was conducted to identify educational interventions that improve adherence to medications and healthy lifestyles in women that suffer from osteoporosis. Another review was conducted to retrieve instruments developed to measure self-care. Since no instruments were able to capture the self-care characteristics in women that suffer from osteoporosis were found, a second literature review was undertaken to grasp useful elements on which to draft the instrument. Particular attention was paid in the analysis of the existing international guidelines on osteoporosis. The items of questionnaire were generated by the expert panel in order to be consistent with the retrieved guideline and with clinical knowledge. Considering that diet and movement, medication adherence and the prevention of injuries are crucial aspects to improve health outcomes, the item data set was created to include all of these three aspects. Three focus groups were organized to evaluate relevance and clarity of the questions. At the end, the SCOS questionnaire was finally drafted.

**Result.** Educational interventions, based on relationship between health professional and patient, are more effective than standard information at improving the health outcomes in postmenopausal osteoporotic women. Nurses should encourage patients to stop smoking, ensure their diet includes the appropriate nutrition, avoid a sedentary lifestyle, take regular medication, and spend at least 10–15 min outdoors on sunny days. These are all behaviors that help the patient to adhere to medications and healthy lifestyles, improving self-care. SCOS is a tool with a good psychometric properties to measure self-care in postmenopausal women who suffering from osteoporosis.



Conclusion. This doctoral research program discovered the importance of self-care in postmenopausal women who suffering from osteoporosis. If women adopt adequate self- care behaviors, they can get best health outcomes. Further studies should be conducted with a follow-up of more than 12 months to clarify the causes of nonadherence. Moreover, the concept of adherence should be investigated in more detail because, although medication adherence is clearly described in the literature, adherence to healthy lifestyles is still inadequately researched. In order to implement appropriate educational interventions, there is a need for measuring the women's self-care levels through its accurate appraisal. SCOS, the new tool for measure self-care in postmenopausal women who suffering from osteoporosis has shown good psychometric properties.

Key words: postmenopausal, women, osteoporosis, self-care