



Biomedicine & Prevention

An Open Access Transdisciplinary Journal

Nursing Science and Prevention

Ercole Vellone

From the University of Rome "Tor Vergata", Division of General and Applied Hygiene, Department of Biomedicine and Prevention, Italy

In the middle of the 1900s, the concept of health changed deeply. In fact, while at the beginning of the last century, health was defined as the "absence of disease", in 1946 the World Health Organization defined health as "a state of complete physical, mental and social well-being". Prevention plays a key role in improving well-being because it impedes diseases from affecting people or attempts to reduce the burden of disease.

Prevention is not extraneous to the definition of nursing as given by the International Council of Nurses:¹ "Nursing encompasses autonomous and collaborative care of individuals of all ages, families, groups and communities, sick or well and in all settings. Nursing includes the promotion of health, prevention of illness, and the care of ill, disabled and dying people. Advocacy, promotion of a safe environment, research, participation in shaping health policy and in patient and health systems management, and education are also key nursing roles". This definition is also in accordance with the definition of health promotion given by the World Health Organization: "the process of enabling people to increase control over, and to improve, their health" (WHO, 1986).

Historically, nursing science is strongly connected with prevention. Since Florence Nightingale, considered the founder of modern nursing, the goals of nursing have been to plan, evaluate and achieve public health. Florence Nightingale's environmental theory focused on preventive care for populations. She suggested that diseases were more prevalent in poor environments and that health could be promoted by providing adequate ventilation, pure water, silence, warmth, light and cleanliness.²

However, the increase of chronic-degenerative diseases has led to a change in the meaning of prevention. In fact, when we speak about prevention, we generally mean primary, secondary and tertiary prevention. Nurses are deeply involved in each of these prevention levels, and several studies have been conducted by nurses showing how they can effectively produce patient outcomes.

Primary prevention is aimed at preventing diseases or injuries before they occur. In this field, nurses play a critical role in educating people about the adoption of healthy lifestyles characterized by good nutrition, no smoking, physical activity and stress reduction. It has been shown that about 30% of all cancers and cardiovascular diseases could be avoided if people maintain healthy diets and do not smoke. An example of a nursing study demonstrating the importance of nurses in primary prevention was the study by Cicolini et al.,³ who showed that a simple nurse-

led email reminder program was effective in reducing obesity by 16%, total cholesterol by 40%, uncontrolled hypertension by 61% and low fruit consumption by 24%. The authors commented that this program required less than 20 minutes per day in addition to the normally implemented practices.

Secondary prevention is aimed at reducing the impact of diseases and injuries when they have already occurred but are still silent. Many diseases can be detected early, especially cancer, and this is another field into which nurses have put a lot of their efforts. For example, Lee et al.⁴ conducted a randomized controlled trial to increase breast cancer screening among Korean Americans. In the intervention group, a 30-minute DVD on breast cancer screening was used to improve husband support. At 6 and 15 months post-intervention, the intervention group showed statistically significant increases in mammography uptake compared to the control group.

Tertiary prevention is aimed at softening the impact of an ongoing illness or injury that has lasting effects. This type of prevention is very timely for nurses because of the high prevalence and incidence of chronic-degenerative diseases. These diseases are mainly due to the global ageing of the population and represent a burden for all societies. In fact, chronic-degenerative diseases last for many years, have a significant impact on the quality of life of patients and their families, and require an enormous investment of public money. In this type of prevention, nurses have been conducting many studies to improve self-care in patients and their families. For example, Hendriks et al.⁵ showed that nurse-led care based on self-care education was more effective than the usual care in improving cardiovascular hospitalizations and mortality in patients with atrial fibrillation. The same intervention was also effective in reducing hospital costs and improving patients' quality of life.⁶

Nurses are certainly well equipped to provide preventive nursing care to patients. Nurses are required to help patients cope with their diseases but also to help patients maintain their health. With public health educational intervention, nurses can sensitize large groups of people to engagement in healthy lifestyles that result in longer, more independent lives. Most conditions that affect people, such as cardiovascular diseases, cancer, and diabetes, require lifestyle changes, and nurses can help people to make these changes. Nurses, by virtue of their education and training, are skilled at patient- and family-centered interventions. *Nursing* means to be ready to protect, promote and optimize the health and wellness of people across the world.

References

1. International Council of Nurses. Definition of nursing. 2009; <http://www.icn.ch/definition.htm>. Accessed October, 12, 2015.
2. Nightingale F. *Notes on nursing*. New York: D. Appleton and Company; 1860.
3. Cicolini G, Simonetti V, Comparcini D, Celiberti I, Di Nicola M, Capasso LM, et al. Efficacy of a nurse-led email reminder program for cardiovascular prevention risk reduction in hypertensive patients: a randomized controlled trial. *Int J Nurs Stud*. 2014;51(6):833-43.
4. Lee E, Menon U, Nandy K, Szalacha L, Kviz F, Cho Y, et al. The effect of a couples intervention to increase breast cancer screening among korean americans. *Oncol Nurs Forum*. 2014;41(3):E185-93.
5. Hendriks JM, de Wit R, Crijns HJ, Vrijhoef HJ, Prins MH, Pisters R, et al. Nurse-led care vs. usual care for patients with atrial fibrillation: results of a randomized trial of integrated chronic care vs. routine clinical care in ambulatory patients with atrial fibrillation. *Eur Heart J*. 2012;33(21):2692-9.
6. Hendriks J, Tomini F, van Asselt T, Crijns H, Vrijhoef H. Cost-effectiveness of a specialized atrial fibrillation clinic vs. usual care in patients with atrial fibrillation. *Europace*. 2013;15(8):1128-35.