

# NURSING CONTRIBUTION TO CHRONIC DISEASE MANAGEMENT

Semiha Akin

*Hamidiye Faculty of Nursing, University of Health Sciences Turkey, Istanbul, Turkey*

## ABSTRACT

Chronic diseases are a global problem worldwide. Chronic diseases are the major cause of early death. Cardiovascular diseases account for most deaths, followed by cancers, respiratory diseases, and diabetes, respectively. Nurses make a great contribution to optimizing the quality of health care services. Nurses have opportunities to build an effective, trustful and ongoing relationship with patients at primary, secondary and tertiary care settings. Nurses can contribute to high-quality care through the training and adopting innovative interventions for prevention and management of chronic diseases. Providing easily accessible and standardized healthcare services for better management of chronic diseases is critical. Management of chronic diseases typically requires multi-dimensional interventions. A comprehensive approach is needed to reduce the risks associated with chronic diseases, and promote interventions to prevent and control/manage them.

**Keywords:** *chronic diseases, nurse, management*

## INTRODUCTION

The world is facing multiple health challenges. In 2019, the World Health Organization reported that there are ten threats to global health that demand attention. These threats to global health are listed as:

1. Air pollution and climate change;
2. Non-communicable diseases (chronic diseases);
3. Global influenza pandemic;

4. Fragile and vulnerable settings (drought, famine, conflict, and population displacement);
5. Antimicrobial resistance;
6. Ebola and other high-threat pathogens;
7. Weak primary health care;
8. Vaccine hesitancy;
9. Dengue, a mosquito-borne disease that causes flu-like symptoms;
10. HIV/AIDS (1).

### *Chronic Diseases*

Chronic diseases (CDs) are a global problem worldwide. Chronic diseases are the major cause of early death. It is estimated that 71% of all deaths occur due to chronic diseases (or 41 million people). In 2018, the World Health Organization reported that 15 million people die each year. Cardiovascular diseases account for most deaths, followed by cancers, respiratory diseases, and diabetes, respectively (1,2,3). In Turkey, circulatory system diseases caused 38.4% of all deaths, neoplasms ranked second

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#### **Address for correspondence:**

Semiha Akin  
University of Health Sciences Turkey  
Hamidiye Faculty of Nursing  
Mekteb-i Tibbiye-i Sahane (Haydarpaşa) Kulliyesi  
Selimiye Mah. Tibbiye Cad. No:38  
34668 Uskudar, Istanbul/Turkey  
e-mail: [semiha.akin@sbu.edu.tr](mailto:semiha.akin@sbu.edu.tr)

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as a cause of death (19.7%), and respiratory diseases ranked third as a cause of death (12.5%) (4).

The high incidence and mortality rate of chronic diseases poses many challenges not only for high-income countries but also for many low and middle-income countries. Chronic conditions are considered as a key barrier for development (5).

The common chronic diseases are heart disease, hypertension, stroke, cancer, diabetes, respiratory diseases, arthritis, obesity, and oral diseases. Chronic diseases are driven by five major risk factors: tobacco use, physical inactivity, the harmful use of alcohol, unhealthy diets, and air pollution (Fig. 1) (1).

- ◇ *Socio-demographic changes and economic resources:* Chronic diseases have become serious problems to tackle due to globalization, aging population, and the high increase in prevalence, urbanization, and lack of sufficient economic resources (6).
- ◇ *Profile of risk factors and nature of chronic diseases:* The other challenges that countries face due to chronic disease can be listed as differences in the profile of risk factors, lengthy duration and trajectory of chronic diseases (6).

### Effects of Chronic Diseases on Quality of Life (QOL)

Although most chronic diseases are preventable, chronic diseases continue to affect the overall health and cause long-term disability. Chronic diseases limit the daily life activities, resulting in negative economic, psychological and social impacts. People with chronic diseases suffer due to limitations, complications and reduced quality of life. Due to effects on the quality of life, the people with long-term conditions miss work time and lose productivity. Chronic diseases also result in premature loss of life, especially between the ages of 30 and 69. This group of diseases can also lead to frequent hospitalization, burden on the family and the health care system (1,5,7).

### Prevention and Management of Chronic Diseases

Providing easily accessible and standardized healthcare services for better management of CDs is critical. Management of chronic diseases typically requires multi-dimensional interventions. Social and medical support should be integrated. A comprehensive approach is needed to reduce the risks associated

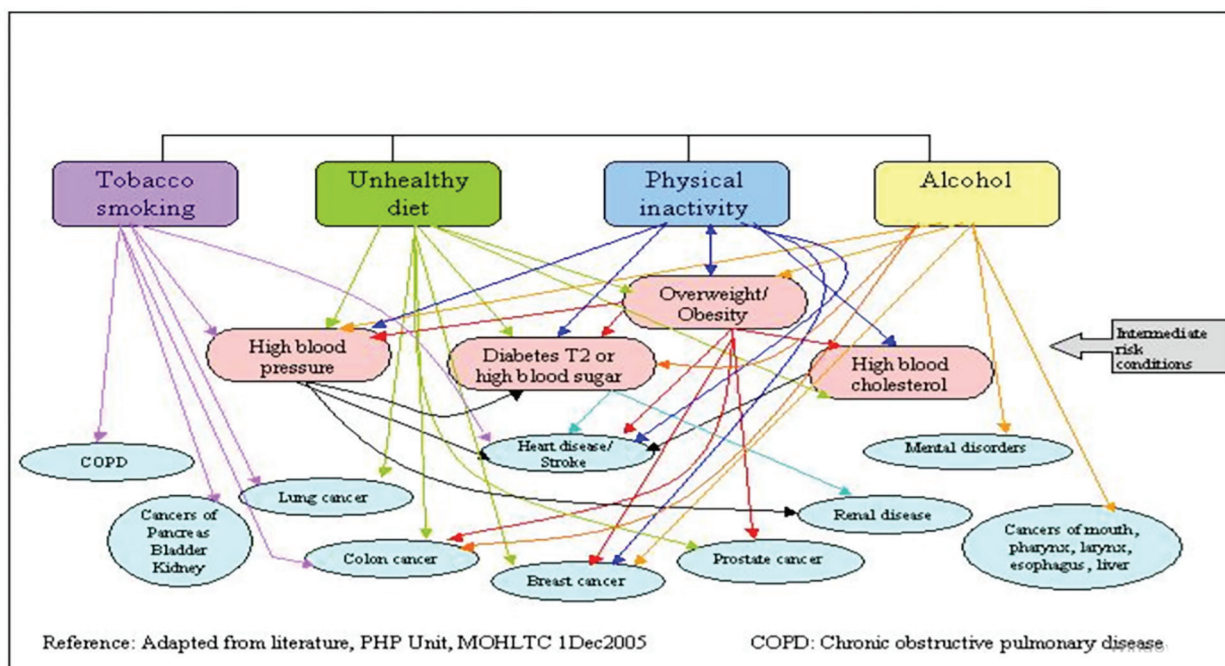


Fig. 1. Chronic disease risk factors are common to many conditions

(2) Reference: Preventing and Managing Chronic Disease: Ontario’s Framework. Ministry of Health and Long-Term Care May 2007; page 5.

with CDs, and promote interventions to prevent and control/manage them (1,2,3).

Management of chronic diseases can be organized into three groups:

1. Prevention of CDs
2. Management of CDs includes detecting, screening and treating CDs
3. Providing access to palliative care for people with CDs

### *Nursing Contribution to Chronic Disease Management*

Nurses do not focus only on saving and extending human life, but also on its quality (8). Nurses make a great contribution to optimizing the quality of health care services. Nurses are the largest workforce in health care (6). Nurses have opportunities to build an effective, trustful and ongoing relationship with patients at primary, secondary and tertiary care settings. The nurses' can contribute to high-quality care through the training and adopting innovative interventions for prevention and management of chronic diseases.

#### **a. Prevention of Chronic Diseases and Nurses' Contribution**

Chronic diseases can be prevented or delayed. It is well known that prevention of CDs is cost effective. Prevention of major chronic diseases should focus on controlling the biological and behavioral risk factors and other key challenging barriers in an integrated manner using a multidisciplinary approach. Nurses have crucial roles in the prevention of chronic diseases and health promotion. Nurses' roles and responsibilities for the prevention of chronic diseases can be listed as follows:

- ◇ Increasing awareness of people and community about health promotion and prevention of chronic diseases;
- ◇ Counseling for smoking cessation, healthy eating habits, and a physically active lifestyle;
- ◇ Community screening for risk groups in terms of modifiable behavioral risk factors (physical inactivity, tobacco use, unhealthy diet and harmful use of alcohol), and metabolic risk factors (hypertension, overweight/obesity, hyperglycemia, hyperlipidemia);

- ◇ Motivational interviews for behavior change in groups at high risk in terms of CD;
- ◇ Implementing evidence-based interventions for reducing the risk factors associated with these diseases;
- ◇ Advocating for increased investment in health promotion and preventive care;
- ◇ Advocating for increased access to health promotion and preventive care;
- ◇ Conducting research for the effectiveness of nurse-led prevention programs;
- ◇ Strengthening the partnerships between health users and health providers;
- ◇ Playing a leading role in the design of new models of care to meet the needs of the local community;
- ◇ Working in scientific organizations and societies for developing recommendations and guidelines for nutrition and physical activity;
- ◇ Working with parents and schools for helping the children adopt healthy nutrition and increasing the physical activity;
- ◇ Taking part in establishing national health policies and strategies for prevention of CDs (2,6,9,10,11).

Nurses can implement preventive strategies for the management of biological risk factors (hypertension, high blood cholesterol, obesity) and behavioral risk factors (smoking, unhealthy eating, sedentary lifestyle). There are many examples of research about nurse-led prevention interventions. Systematic reviews and studies showed that lifestyle interventions delivered by nurses in primary health care settings have been shown to affect positive changes in outcomes associated with the prevention of chronic disease. Lifestyle interventions delivered by nurses improved the management of risk factors such as weight, blood pressure, cholesterol, dietary and physical activity behaviors. Nurse-led lifestyle interventions also improved patient satisfaction, readiness for change and quality of life (12,13,14), improvement of well-being, biochemical values and body mass index (12), reduction in emergency/unplanned readmission costs (15), and reduction in hospital stay (16).

## b. Management of Chronic Diseases and Nurses' Contribution

Nurses use a more individualistic approach for the assessment or improvement of quality of life (8). The nurses provide culturally sensitive care for the patient, family, and community. Nurses develop a care plan, and interventions for improving the physical, cognitive social, emotional, and spiritual aspects of quality of life. Nurses are expected to ensure the continuity of care aimed at an appropriate trajectory through all levels of health care (from primary, secondary, tertiary, and quaternary care) (6). Nurses' roles and responsibilities for the management of chronic diseases can be listed as follows:

- ◇ *Detecting, screening and treating CDs:* Risk groups should be monitored (elderly, poor & alone, poorly educated, people without health insurance, minorities, or immigrants, etc.). Risk groups should be screened regularly in terms of risk factors of chronic diseases.
- ◇ *Providing person-centered care and improving self-management in patients with chronic conditions:* Patients should be encouraged to engage in their care to optimize their health status. Patients need to be informed that it is their right to have access to care. The self-management interventions identified as skill building, tools and resources, education and behavioral counseling and overcoming structural barriers. There are many important components for self-management in chronic diseases such as education, motivational interviewing, self-monitoring, care plans, and patient-held records, etc. (Fig. 2) (17). Nursing and health care must dem-



Fig. 2. Continuum of strategies to support self-management

(17) Reference: *Effectiveness of Registered Nurses and Nurse Practitioners in Supporting Chronic Disease Self-Management. A Public Health Agency of Canada Funded Project. March 2012.*

onstrate changes in QOL in a positive direction (18). For example, a systematic review revealed that nursing interventions influenced the QOL of patients positively (18).

A systematic review showed that lifestyle interventions delivered by nurses to patients with a chronic disease determined that support of self-management results in significant improvements, predominantly for diabetes and hypertension (19). Another study reported that enhancing self-management skills in the elderly in regard to chronic diseases improved healthcare referrals, and maximized resource utilization efficacy (20). Another systematic review showed that counseling, patient education, cognitive-behavioral techniques, and exercise were successful in increasing the quality of life in elderly patients, patients with cancer, cardiovascular, pulmonary, and rheumatic, HIV/AIDS, and mental illness (18). Similarly, in another study, psychological interventions were shown to improve self-care in congestive heart failure (CHF) patients without clinical depression and cognitive impairment (21).

### Challenges Related to the Management of Chronic Diseases

Identification of challenges will contribute to developing strategies to achieve an improved quality of care. Several challenges were identified with providing long-term care settings (6,11). Several challenges were identified with providing long-term care:

- ◇ **Limited access to preventive services, problems associated with standardization and continuity of chronic care:** The access to preventive services is limited. Health care institutions face difficulties in establishing continuity and standardizing care.
- ◇ **Lack of evidence-based intervention:** Management of chronic conditions requires establishing complex health care interventions for combat of chronic conditions. Integration of evidence-based interventions into health care practice is quite difficult to achieve.
- ◇ **Difficulty with integrating evidence-based interventions into health care practice:** The educational preparation for prevention and management of chronic conditions is limited. Organizational and administrative support is lacking. Transition-to-practice programs are not

available for nurses working at environments other than hospital settings for the care of patients with chronic conditions.

- ◇ **Weak organization leadership and resistance to change:** Lack of administrative support and limitations of chronic conditions on patients can negatively affect change in the provision of health care services.
- ◇ **Cultural differences and language barriers:** It is a key to be aware of the possible obstacles or cultural differences and language barriers that may occur between the health care team and patients.
- ◇ **Staffing issues:** High turnover rates or shortage of nurses in direct care or leadership positions can interfere with providing person-centered care in patients with chronic conditions. The turnover rates are high especially occurs among newly hired, younger, nurses with BSN degree.
- ◇ **Staff development and education:** The financial resources and transition programs for new graduate nurses are not sufficient for staff development and education. The nurses also do not have resources in care settings to use health informatics and computer technology in the care of patients with chronic diseases.
- ◇ **Lack of partnerships in prevention or management of chronic conditions:** The cooperation between nursing schools and health care facilities are very limited. There is a lack of grants for nurses to do research about the effectiveness of nursing interventions for the management of patients with chronic conditions. Nursing students do not have enough opportunities to do their clinical practice in long-term care facilities (2,10,11,22).

### *Strategies for Improving Management of Chronic Diseases*

It is crucial for nurses who working in primary, secondary, tertiary, and quaternary care settings to understand their roles and activities in chronic disease management.

- ◇ Nursing leadership for improving access to preventive services
- ◇ Providing organizational and administrative support to ensure efficient care for patients with chronic diseases
- ◇ Evidence-based knowledge and interventions should be integrated into practice
- ◇ Providing standardized, integrated and ongoing care delivery for patients with CDs
- ◇ Establishing information systems for exchanging of timely patient information with other providers
- ◇ Supporting partnership and communication between practicing nurses, research nurses and in different levels of management, and the academic world
- ◇ Establishing information systems for exchanging of timely patient information with other providers
- ◇ Taking a part in developing comprehensive and integrated public health action
- ◇ Dealing with their causes, including lack of education, poverty, and unhealthy environmental conditions
- ◇ Partnerships with community leaders, public health leaders, nongovernmental organizations, intergovernmental organizations, health policy-makers, and corporate partners
- ◇ Dealing successfully with high turnover rates or shortage of nurses in direct care or leadership positions
- ◇ Allocating financial resources for staff development and education
- ◇ Research grants for innovative nursing interventions or approaches
- ◇ Providing educational preparation for prevention and management of chronic conditions for nurses working at all health care settings
- ◇ Developing online educational programs
- ◇ Improving nurses' creativity and the skills for using computer technology and knowledge needed by health informatics and computer technology
- ◇ Planning and implementation of school health programs
- ◇ Disseminating information and advocacy
- ◇ Developing workplace health programs for the prevention, early detection, and management of chronic diseases

- ◇ Partnership with nursing schools and care facilities will support the nurses for providing high-quality care
- ◇ Providing practical opportunities in long term care facilities for nursing students
- ◇ Conducting multidisciplinary training in simulation laboratories
- ◇ Nursing schools may share their library resources and academics may collaborate with nursing on research (2,6,8,9,11,17,22,23).

## CONCLUSION

Nurses have critical roles and responsibilities for the prevention and management of CDs. Nurses should be updated regularly about the innovative approaches for the management of current health concerns. Partnership with different sectors will enhance the transfer of evidence-based knowledge and skills into clinical practice. Nursing leaders need to support partnerships between practicing nurses, research nurses and academic world and nurses in different levels of management.

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