Part 1

Ageing and gerontology

1 What is ageing?

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Learning objectives

After reading this chapter you will be able to:

1. Define ageing in the context of caring for older adults.
2. Outline how the multidimensional theories of ageing link to the characteristics of old age.
3. Explain how the science of gerontology builds a body of knowledge and competence in gerontological nursing.
4. Describe future trends in ageing and gerontological nursing.

Introduction

In developing a personal and professional **philosophy** of ageing, we essentially build on our personal experience and this is common to all of us. For nurses in practice reflecting on the ageing experience and developing the capability to care for older people in the context of the human **lifespan** is instrumental to providing holistic, person-centred care. **Holistic care** is described as a system of comprehensive patient care that considers the multidimensional physical, emotional, social, economic and spiritual needs of the person; his or her response to illness; and the effect of the illness on the ability to meet self-care needs. **Person-centred care** is described as the treatment and care provided by health services that places the person at the centre of their own care and considers the needs of the older person's carers (C. Brown, 2010).

The International Council of Nurses (2010) addresses these concepts by describing the discipline of nursing as follows:

> 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.

Philosophy The values and beliefs of a discipline.

Lifespan The period between birth and death.

Holistic care A system of comprehensive patient care that considers the physical, emotional, social, economic and spiritual needs of the person; his or her response to illness; and the effect of the illness on the ability to meet self-care needs.

Person-centred care Treatment and care provided by health services that places the person at the centre of their own care and considers the needs of the older person's carers.

In Australia, although the development of specialised care of older people, termed 'gerontological nursing', has been relatively recent, **gerontology** knowledge and models of care are drawn from international core nursing values and principles, including health promotion and protection, prevention and treatment of disease, and improving quality of care within current clinical practice guidelines (Tabloski, 2010).

Gerontology
The study of ageing.

The scope of gerontological nursing involves using comprehensive **geriatric** evaluation to fully understand the needs of the older person, particularly when transitioning between clinical contexts such as acute, subacute, rehabilitation, community and residential care (Tabloski, 2010). This comprehensive evaluation is multidimensional and involves professionals from other disciplines such as geriatricians and psychiatrists, social workers, psychologists, physiotherapists and occupational therapists. The focus for nurses is on assessing functional capacity in the physical, social and psychological domains (Tabloski, 2010). The multidimensional approach to the provision of care will be examined further in Chapter 2.

Geriatric
The clinical practice of medicine that encompasses the gerontology, pathology and complexities of ageing.

Whilst theoretical frameworks and models of care will be presented that relate to contemporary nursing practice, the overarching framework used within this textbook is strengths-based nursing. This framework is described in detail in Chapter 3. Where relevant, reference to the professional codes of conduct developed by the Australian Nursing and Midwifery Council and Nursing Council of New Zealand will also be made.

What is ageing?

Ageing is very simply described as the process of growing old and occurs universally as a natural part of all life and experience of living. For human beings ageing is described as a multidimensional process and is viewed from both the subjective or humanistic, and objective or scientific perspectives, beginning at birth (Hunter, 2012). As human life expectancy and the human lifespan continue to increase in the 21st century, nursing care will involve a higher proportion of older people, making it increasingly important for nurses to understand the multidimensional impacts of ageing and how we define 'old age' (Australian Institute of Health and Welfare, 2007). This multidimensional approach includes all aspects of how people age from chronological, biological, physiological, biomedical, psychological, social, cultural, spiritual and economic perspectives.

Chronological age

Chronological age is defined as the length of time that has passed since birth (Hunter, 2012). Since the beginning of the 20th century chronologically 65 years and older continues to be a measurement of being 'old' (P. Brown, 2010; Staab & Hodges, 1996). However, there have been a number of significant changes during the last century that have resulted in the need for us to rethink this socially determined notion of 'old age'. Generalisations about all people who are 65 years and older are likely to be an inaccurate indicator of a person's well-being, physical fitness and mental capability (Butler, Lewis & Sunderland, 1998; Moschis, 1996). Firstly, the average length of time human beings can expect to live, or **life expectancy**, has increased as a result of fewer deaths in childhood and early adulthood, improved drugs and medical technology, and better disease prevention (Touhy & Jett, 2012). Secondly, as a result of both humanistic and scientific research we have a greater understanding of the **human lifespan**, or how long the human species can potentially live, with current estimations at around 116 years (Fillit, Rockwood & Woodhouse, 2010; Hunter, 2012). Many factors, however, interact to ensure that most people die well short of this theoretical maximum limit, including genetic traits and disorders, behaviour and lifestyle, environmental and social settings, accidents and injuries, infections, coexisting conditions, social support, disease management, and health care quality and accessibility (Anstey et al., 2010).

Life expectancy
The number of years that an individual is expected to live as determined by statistics.

Human lifespan
How long a member of the human species can potentially live.

In summary, whilst the dramatic change in chronological life expectancy has fuelled the examination of human ageing from a lifespan (or death) end point, this does not take into account the complexities of the experience for each individual as they age, or the tensions for nurses and health professionals between maximising an individual's lifespan versus that person's **quality of life** (Fillit et al., 2010).

Quality of life
An individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns.

Biological and physiological ageing

In recent times our knowledge about human biological ageing has developed as a result of describing and cataloguing ageing changes at a cellular level in more short-lived species such as nematodes, fruit flies and mice (Fillit et al., 2010).

Scientists describe biological ageing from a biological perspective as an exceedingly complex process of physiological change (Hunter, 2012). Scientists now know that once people have reached and passed maturity in their 20s and early 30s there is an increasing likelihood that these physiological ageing changes may become detrimental to health. The transition from maturity to this next life stage of physiological ageing is known as **senescence** (Fillit et al., 2010).

Senescence
Physiological progressive deterioration of body systems that can increase mortality risk in an older person.

The physiological ageing changes or degree of senescence experienced by each person's body system associated with ageing differs for each individual across the human lifespan. It is important for nurses to understand that physiological changes and ageing are not simply associated with deterioration. For many older people the normal changes associated with ageing may be described as beneficial or neutral (Fillit et al., 2010; Tabloski, 2010). However, as a person ages, they are increasingly at risk of injury, illness and death (Fillit et al., 2010). These risks are further discussed in Chapter 2, p. 19 and p. 24.

In the context of normal physiological changes of ageing it is important for nurses in practice to understand that chronological age is just one major **risk factor** for development of most age-related pathologies or illnesses. It is also important to understand that, physiologically, human maturity and ageing starts during young adulthood, and premature ageing may be caused by many damaging but modifiable influences, such as smoking, diet and exercise (Tabloski, 2010). One way to distinguish chronological age from physiological age is to understand the normal changes of ageing. In practice older clients will have some evidence of normal physiological changes of ageing, as described in Table 1.1. However it is important to remember that increasing chronological age is just one of the major risk factors for development of most age-related pathologies or illnesses.

Risk factor(s)
Behaviour(s) that increase risk of disease.

Multidimensional ageing frameworks and theories

As discussed in the previous section, from both scientific and humanistic perspectives it is almost impossible to understand the complexities of ageing by simply linking the physiological changes of ageing to a person's chronological age. In order to assist our understanding of these complexities we will examine the development of ageing frameworks and theories within the sociological, nursing, medical and psychological disciplines.

TABLE 1.1 *Normal physiological changes of ageing*

ORGAN OR ORGAN SYSTEM AFFECTED	AGEING CHANGES
Heart	Heart muscle thickens affecting maximum pumping rate and body's ability to extract oxygen from blood.
Arteries	Arteries become less elastic. The older heart beats harder to supply energy to propel blood forward.
Lungs	Maximum breathing capacity may decline by about 40% between the ages of 40 and 70 years.
Brain	Brain loses some of the axons and neurons that connect with each other.
Kidneys	Kidneys gradually become less efficient at removing waste from the body.
Bladder	Bladder capacity declines.
Body fat	Weight tends to decline due to loss of muscle and fat. Fat is redistributed to deeper organs from skin, increasing vulnerability to heart disease.
Muscles	Without exercise muscle mass declines from age 40 to age 70. Exercise can slow this rate of loss.
Bones	Bone mineral is lost throughout life. Loss outpaces replacement for women at about age 35 and is accelerated at menopause.
Sight	Deterioration begins in the 40s. At age 70 ability to distinguish fine details begins to decline.
Hearing	With middle age it becomes more difficult to hear higher frequencies. Older adults may have difficulty distinguishing vowels and understanding speech. Hearing deteriorates more quickly in men than women.
Personality	Personality usually does not change radically, however older people who experience health problems, chronic illness and pain are at risk from depression and social isolation.

Source: Adapted from Tabloski, 2010, p. 18

The development of sociology and ageing

The discipline of sociology arose as a mode of knowledge concerned with the moral problems of modern society. In the context of ageing it focuses on the social and environmental realities of older persons (Butler et al., 1998).

Ageism A set of beliefs, attitudes, norms and values used to justify age-based prejudice and discrimination.

With the increase in older persons in society comes the issue of implicit **ageism**, in which ageing stereotypes are unconsciously triggered and associated with social isolation, physical and mental burden, and death (Hunter, 2012; Levy, 2001; Minichiello, Browne & Kendig, 2000). Models of healthy ageing have been developed to counteract this 'ageing anxiety' and to clarify myths about age-related psychosocial and functional

changes (Hunter, 2012). Such models that emphasise optimising physical, mental and social well-being and function have provided the framework for social and economic government policies including 'Healthy Ageing' and 'Successful Ageing'. However it is argued that these policies tend to promote societal values based on lifestyle and consumption choices with very little reflection on ethical and cultural considerations integral to providing comprehensive nursing care for adults in practice (Cardona, 2008).

From a sociological perspective, therefore, socially constructed moral categories may create a tension for nurses in practice between traditional values associated with older people such as wisdom and disengagement and modern negative constructions of old age such as inactivity and dependence (Butler et al., 1998; Katz, 2002).

Theories of ageing

In general it is **theory** development that provides new approaches to developing nurses' understanding of complex phenomena such as ageing, and to identifying frameworks for the development of new models of nursing practice (Meleis, 1991; Touhy & Jett, 2012). As with the sociological context it must be remembered that no ageing theory on its own can address the individual experience of ageing. Similarly biomedical theories alone may reduce a person to a biomedical entity, ignoring both individual variation and the multiplicity of factors that go into making a person.

Theory The search for an explanation.

Sociological theories provide a moral and ethical framework for person-centred care, which focuses on the strengths and uniqueness of the individual, on maintaining their dignity and self-esteem, particularly those with cognitive decline (C. Brown, 2010). This philosophy of care, based on the Kantian notion of personhood, forms the basis for the core ethical principles that guide nursing practice and decision making and the competency framework for professional practice (C. Brown, 2010). The role of this textbook is to move the notion of person-centred care forward and to concentrate on a strengths-based model of care as a way of promoting the older person's strengths and overcoming the notion of deficits being identified in relation to ageing.

The biological, biomedical and psychological theories of ageing are important for the nursing profession as they provide a foundation for planning best practice transitional care and interventions, and accentuating the influence of culture, family, education, roles, patterns of disease and community (Staab & Hodges, 1996).

Psychosocial theories of ageing, such as role theory, continuity theory and Maslow's hierarchy of needs, attempt to describe changes in roles and relationships in later life and provide an important backdrop for understanding late life development and the notion of self-actualisation (Touhy & Jett, 2012). In contemporary practice notions such as 'gerotranscendence', derived from Jungian theory and empirical observation, offer opportunities for nurses to identify ways in which older people can develop beyond the expectations we have of them across the lifespan, and to higher levels of acceptance of self (Touhy & Jett, 2012). This spiritual dimension takes us beyond ideas of development based on sociological ideas of 'success' that are often applied to the 'middle-aged' and the 'younger-old' and links to the process of transition into the more expanded concept of senescence (Wadensten, 2007). The implications of these psychosocial theories of ageing will be discussed in Chapters 7 and 9.

Ageing theories and cultural considerations

Ageing theories and the western concept of the human lifespan and life cycle are very different from those of other cultures, such as indigenous cultures in Australia and New Zealand, and have a profound impact on how life and the concept of 'self' is experienced (Butler et al., 1998). Added to this is society's increasing secularisation of religious and spiritual values, which produces a void around the subject of death itself, resulting in its denial and the forming of cultural differences and barriers around older people (Butler et al., 1998). These differences can also add to the language and cultural barriers for older people from non-English speaking countries despite evidence that they are in better health generally and have a higher life expectancy (Australian Institute of Health and Welfare, 2007).

In summary, ageing theories that address the multiple processes of ageing continue to provide new insights to the nursing body of knowledge in gerontology. The development of evidence-based models of care from a transitional approach to ageing attempts to explain the why and the how through **interdisciplinary** ageing theories (Bengtson et al., 2009). In nursing we are poised to articulate gerontological knowledge with clinical practice to provide best practice holistic frameworks for care. Relevant ageing theories are summarised in Table 1.2.

Interdisciplinary
Involving the scope of two or more distinct disciplines.

TABLE 1.2 *Ageing theories relevant to nursing practice*

AGEING THEORY	DESCRIPTION	FRAMEWORK
Biological ageing theories	Endocrine Theory – Biological clock acts through hormones to control pace of ageing.	Biomedicine
	Immunological Theory – Programmed decline in immune systems leads to higher risk of illness.	Pathology
	Wear and Tear Theory – Abuse or neglect of an organ or body system can stimulate premature ageing and disease.	Biomedicine
	Free Radical Theory – Accumulated damage from oxygen radicals causes cells and organs to lose function and organ reserve.	Biomedicine; pharmacy
	Cross-link Theory – Binding between glucose and protein causes malfunction of protein, resulting in ageing.	Biomedicine; nutrition
	Somatic DNA Damage Theory – Genetic mutations accumulate with increasing age causing cells to malfunction.	Biomedicine; genetics
Psychological ageing theories	Theory of Individualism – Shift from the external world (extroversion) towards the inner experience (introversion).	Jungian Theory (1960)
	Developmental Theory – Stage of life where the individual faces ego integrity versus despair.	Erikson's Eight Stages of Life (1966)
Sociological ageing theories	Disengagement Theory – Older person and society engage in mutual withdrawal.	Cummings and Henry (1961)
	Activity Theory – Older adults should stay active and engaged to age successfully.	Havighurst, Neugarten & Tobin (1963)
Psychosocial Theories	Person–Environment Fit Theory – Changes and changing environments associated with ageing are a source of stress and affect well-being.	Powell Lawton (1975)
	Role Theory – As one ages the changing roles from social and environmental influences cause role stress and role conflict.	Biddle & Thomas (1966)
	Theory of Gerotranscendence – Human ageing, when optimised, leads to a new and qualitatively different perspective on life.	Wadenstein (2007)

The development of gerontology

As a discipline gerontology is defined as the scientific study of the effects of time on human development, specifically the study of older persons (Touhy &