In Lebanon, the proportion of older adults (over 65 years) is on the rise. This rise is associated with increased morbidity rates and the need for age-specific medical and nursing care. The number of nurses specializing in geriatric care remains very small despite the increased need for this specialty. The nursing curriculum at the Hariri School of Nursing at the American University of Beirut (AUB) has integrated gerontological content in both undergraduate and graduate programs as an essential step to prepare future nurses for the care of the growing population of older adults and consequently to support the health care system. In line with the essential competencies proposed by the American Association of Colleges of Nursing (AACN), the school of nursing at AUB is preparing entry level and advanced practice nurses to care for the geriatric population. Furthermore, developing specialists in the field of gerontology and launching an interdisciplinary graduate program on ‘Care of the Older Adult’ is more and more becoming a desired development for the future.

Keywords: gerontology, nursing care, Lebanon

INTRODUCTION

According to the United States Institute of Medicine (IOM), older adults constitute the highest number and proportion of consumers of health care services when compared to younger persons; they visit physicians’ clinics more often, have more prescriptions, and constitute a large percentage of all hospital stays [1]. Yet, the care provided to older adults is inadequate and the number of nurses specializing in geriatric care remains very small despite the increased need for this specialty. Very few nursing students in the United States enroll in geriatric nursing programs at the graduate level, which contributes to the lack of specialists providing care to high-risk older persons with complex care needs.

In Lebanon, the proportion of older adults (older than 65 years) is on the rise; it was estimated to be 7.5% in 1995, and 8.5% in 2000. It is projected that, by 2025 and 2050 this percentage will increase to 10.2 and 19.3 respectively. During the same period, the proportion of the older adults aged 80 years and above is projected to quadruple from 0.9% to 4.3% [2]. The mortality and morbidity patterns of the Lebanese older adults was found to be similar to more industrialized countries, with cardiovascular diseases and cancer accounting for about 60% and 15%, respectively, of underlying causes of death [2-6]. This is in addition to relatively high levels, more than 50%, of depression and dementia [7]. Moreover, it has been found that older adults in Lebanon suffer from poor nutritional conditions whether living at home or in institutions. Most problems were related to weight, anemia, electrolyte and vitamin deficiencies [8]. This increased morbidity among older adults is also leading to an increase in the consumption of health care services and costs. On average, each older adult in Lebanon makes 6.2 outpatient visits and is prescribed eight to nine drugs per year [9]. Yet, to date, the number of healthcare institutions that provide targeted care for older adults in Lebanon is insufficient and there are few geriatric physicians. In the year 2001, the number of geriatricians in Lebanon was reported to be only seven [3] and increased to around 12 in 2012 [10].

In addition to the shortage of geriatric physicians,
nursing homes for older adults are understaffed and, most of the time, these health care providers have inadequate levels of training for appropriate care provision that senior citizens deserve. In 2001, there were approximately 36 nursing homes in Lebanon, with a total of 6,000 beds [3]. In 2008, the Lebanese Ministry of Social Affairs reported that there were around 160 institutions providing partial healthcare services to the older adults, of which only 49 facilities provide inpatient long-term care for approximately 4,200 disabled older patients. Thus, existing facilities serve about 1.4% of the older population. These institutions are distributed across the country with 57% in Mount Lebanon, 20% in the North, 14% in Beirut, 6% in Bekaa, and 2% both in South Lebanon and Nabatieh [11]. With the exception of a few nursing homes that offer comprehensive services including rehabilitative, preventive, and curative services [3], most facilities are understaffed and do not provide interdisciplinary services.

This limited number of institutions that provide holistic care for older adults requires attention from health care professionals at all levels since studies showed that, with increasing life demands, the support that families used to offer seniors in the comfort of their own home is decreasing. Nasser et al. stated that an increasing number of older adults have been living in nursing homes in Lebanon over the last ten years [12].

The increasing number of older adults in Lebanon and the scarcity of specialized geriatricians demand prompt attention to address the need to incorporate gerontology in nursing school education at the national level. In this paper, we first delineate models for integrating comprehensive gerontological care into nursing school curricula in the United States. Second, we describe how the curriculum at the American University of Beirut’s Hariri School of Nursing has incorporated gerontology training into its undergraduate and graduate nursing education.

**NURSING EDUCATION IN GERONTOLOGY**

Similar to the United States [13], in Lebanon few nurses are adequately prepared to care for older adults’ unique needs. This is caused, in part, by the limited attention paid by nursing educators to incorporate basic geriatric nursing principles into undergraduate programs [14]. Despite past shortcomings, nursing educators must equip entry-level nurses with the essential competencies (American Association of Colleges of Nursing [AACN], 2000) to care for the geriatric population [15]. Increasing gerontological content in all undergraduate-nursing programs is highly recommended to address the current and future health needs of a growing older population [16].

There is now consensus in geriatric nursing and medicine as to what constitutes “best practice” in the care of older adults. The newly developed competencies (see Box 1) by the American Association of Colleges of Nursing and the Hartford Institute for Geriatric Nursing (2010) have addressed principles, core curriculum, and objectives for entry-level professional nurses in this area to ensure best clinical practice [15]. These new developments have contributed to the increased attention of professional nursing education on integrating the care of the healthy and frail older adults in all nursing curricula. A total of 19 gerontological nursing competencies have been identified by the American Association of Colleges of Nursing (AACN) and the Hartford Institute for Geriatric Nursing (2010) [15] and are deemed essential for providing high-quality care to older adults and their families.

These competencies provide a base for the development and implementation of a gerontological program within baccalaureate nursing curricula. They address competencies related to the clinical, physical, mental health, ethics, and communication aspects. Moreover they set the stage to focus on the outcomes expected of the graduates of nursing programs that adopt these competencies and ensure that quality nursing care will be provided for the growing older adult population [15].

Competencies, content, and teaching strategies can be incorporated into specific, stand-alone courses or integrated in the curriculum. According to the AACN, stand-alone courses and integration of the gerontological content within the curriculum is the ideal situation; however if a stand-alone course is not feasible, for instance increased number of credits, the integration of these competencies becomes a requirement. The inclusion of adequate content to meet all competencies is dependent on a curriculum infusion and the availability of faculty prepared in gerontological nursing. The AACN report states that the course objectives, theory and clinical component should clearly reflect these competencies throughout the curriculum. In particular, courses that address communication, group dynamics, and psychiatric mental health offer opportunities to address these competencies.

**CURRICULUM AT AUB SCHOOL OF NURSING**

In order to meet the standards of the Commission on Collegiate Nursing Education (CCNE), the accrediting body of the AACN, during the academic year of 2005-2006, the faculty at the Hariri School of Nursing at the American University of Beirut (AUB) unanimously agreed that integrating gerontological content in the curriculum of both undergraduate and graduate programs is crucial. A stand-alone course was not feasible because of the increased number of credits (total number of credits 109) and the lack of faculty qualified in gerontology. Therefore, this integration was essential to prepare future nurses for the care of the growing population of older adults in Lebanon and to fill the gap in the health care system.

At present, as part of the Bachelor Science of Nursing (BSN) program, the gerontological content is incorporated in the curriculum in every course throughout the program. Integration starts with beginner courses such as fundamentals of nursing care and health assessment, continues in midlevel courses such as medical-surgical nursing,
Every undergraduate and graduate level course addresses few of the AACN competencies throughout the curriculum; for example the AACN competency # 1 (see Box 1), “Incorporate professional attitudes, values and expectation about physical and mental aging in the provision of patient centered care” is connected to the learning outcome of Nursing Care of the Adult I and II courses (Nursing 300 and 302, see Table I), “Integrate knowledge from nursing and related disciplines in implementing a comprehensive plan of care to meet the needs of the adult and older adult clients”. Through lectures and clinical rotations, knowledge about physical and mental aging is discussed in class and in clinical areas. Older adult patients are assigned to nursing students in the clinical area; students are expected to integrate this knowledge in the delivery of care under their instructor’s supervision. Similarly, competency # 2, “Assess barriers in receiving, understanding and giving of information” is linked to the learning outcome of advanced health assessment course (Nursing 303, see Table I), “The student will be able to identify potential barriers to reliable history taking in the elderly population and techniques to overcome them.” Through lectures, video on functional assessment and clinical rotation, the students are assigned older adult patients on whom they are expected to perform comprehensive health assessment independently in the outpatient units then discuss their findings in the report presented to their clinical preceptors.

At the graduate level, the care of the older adult has become, as well, part of the current Masters of Science in Nursing degree curriculum at AUB. The advanced practice nursing courses in adult care, psychiatric and mental health nursing, and community and public health nursing have specific learning outcomes addressing the care of the older adult. For instance, the advanced pathophysiology course content addresses various pathophysiologic phenomena experienced by patient populations across the life span to guide advanced practice nurses in identifying age specific variations in clinical manifestations of diseases. Similarly, at the end of the advanced health assessment course, nurses are expected to learn to utilize an individualized approach in the health assessment that reflects contextual, cultural and developmental variations of the patients with emphasis on gerontological findings. In psychiatry, dementia is addressed both in undergraduate and graduate programs; along with most common neurological disorders related to old age. Emphasis is placed in the advanced psychopathology course

**Box 1 • GERONTOLOGICAL NURSING COMPETENCIES**

1. Incorporate professional attitudes, values, and expectations about physical and mental aging in the provision of patient-centered care.
2. Assess barriers in receiving, understanding, and giving of information.
3. Use valid and reliable assessment tools to guide nursing practice.
4. Assess the living environment as it relates to functional, physical, cognitive, psychological, and social needs.
5. Intervene to assist older adults to achieve personal goals, based on analysis of the living environment and availability of community resources.
6. Identify actual or potential mistreatment (physical, mental or financial abuse, and/or self neglect) and refer appropriately.
7. Implement strategies and use online guidelines to prevent and/or identify and manage geriatric syndromes.
8. Recognize and respect the variations of care, the increased complexity, and the increased use of healthcare resources inherent in caring for older adults.
9. Recognize the complex interaction of acute and chronic co-morbid physical and mental conditions and associated treatments.
10. Compare models of care that promote safe, quality physical and mental health care for older adults.
11. Facilitate ethical, non-coercive decision making by older adults and/or families/caregivers for maintaining everyday living, receiving treatment, initiating advance directives, and implementing end-of-life care.
12. Promote adherence to the evidence-based practice of providing restraint-free care (both physical and chemical restraints).
13. Integrate leadership and communication techniques that foster discussion and reflection on the extent to which diversity (among nurses, nurse assistive personnel, therapists, physicians, and patients) has the potential to impact the care of older adults.
14. Facilitate safe and effective transitions across levels of care, including acute, community-based, and long-term care for older adults and their families.
15. Plan patient-centered care with consideration for mental and physical health and wellbeing of informal and formal caregivers of older adults.
16. Advocate for timely and appropriate palliative and hospice care for older adults with physical and cognitive impairments.
17. Implement and monitor strategies to prevent risk and promote quality and safety (e.g., falls, medication mismanagement, pressure ulcers) in the nursing care of older adults with physical and cognitive needs.
18. Utilize resources/programs to promote functional, physical, and mental wellness in older adults.
19. Integrate relevant theories and concepts included in a liberal education into the delivery of patient-centered care for older adults.
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<th>Undergraduate Content Subject</th>
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<td><strong>Nursing 202 (2cr): Health Assessment</strong>&lt;br&gt;Learning outcome: At the end of the course students will be able to perform a comprehensive health assessment on older adults. <strong>Implementation:</strong>&lt;br&gt;• One hour lecture entitled: Special consideration when performing health assessment: assessment of older adults.&lt;br&gt;• In the clinical component of the course students are expected to perform health assessment on older adults at different inpatient units at AUBMC.&lt;br&gt;• Special considerations related to older adults’ findings such as the patient dementia, hearing impairment etc., are discussed with clinical instructor.</td>
<td><strong>Nursing 503 (3cr): Advanced Health Assessment</strong>&lt;br&gt;Learning outcome: At the end of the course, students will utilize an individualized approach in the assessment that reflects contextual, cultural and developmental variations.&lt;br&gt;Upon completion of this session, the student will be able to:&lt;br&gt;• Identify potential barriers to reliable history taking in the elderly population and techniques to overcome them.&lt;br&gt;• Discuss special considerations in the physical examination of older adults.&lt;br&gt;• Identify key aspects for assessment of the elderly: cognitive function, functional status&lt;br&gt;<strong>Implementation:</strong>&lt;br&gt;• Two hours lecture on advanced health assessment of older adults.&lt;br&gt;• Video on functional assessment of the older adult is used.&lt;br&gt;• In the clinical component of the course students spend more time dedicated to advanced health assessment and are expected to perform health assessment on older adults at AUBMC in- and outpatient units.&lt;br&gt;• Older adults’ physical and psychosocial related findings such as mental status exam and functional status are addressed in their report to their clinical preceptor.</td>
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<td><strong>Nursing 300 &amp; 302 (5cr each): Nursing Care of Adults I &amp; II</strong>&lt;br&gt;Learning outcome: &lt;br&gt;• Discuss selected Medical/Surgical alterations in adult and older adult clients.&lt;br&gt;• Relate the physiological and socio-cultural theories to the nursing process when discussing the adult and older adult client.&lt;br&gt;• Discuss principles of teaching-learning processes as they relate to the adult/older adult client.&lt;br&gt;• Utilize health assessment skills in determining the physical, psychosocial, spiritual, and learning needs of adult/older adult clients.&lt;br&gt;• Discuss scientifically based rationale for performing diagnostic procedures, outcomes and nursing interventions related to adult and older adult client care.&lt;br&gt;• Integrate knowledge from nursing and related disciplines in implementing a comprehensive plan of care to meet the needs of the adult and older adult clients.&lt;br&gt;• Demonstrate sound decision-making and competence when providing comprehensive nursing care to adult and older adult clients.&lt;br&gt;• Formulate a comprehensive plan of care for adult and older adult clients based on the nursing process. <strong>Implementation</strong>&lt;br&gt;• All course lectures addressing different body systems, gerontological considerations are discussed.&lt;br&gt;• During the clinical rotations students are assigned older adult patients with various conditions to implement, under clinical instructor’s supervision, appropriate nursing care.</td>
<td><strong>Nursing 505 &amp; 506 (4cr each): Advanced Practice in Adult Care I &amp; II</strong>&lt;br&gt;Learning outcome: Upon the completion of the course, students are expected to include considerations in the management of older adults including variations in common illnesses.&lt;br&gt;<strong>Implementation:</strong>&lt;br&gt;• Two hours lecture on Geriatric consideration in adult care&lt;br&gt;• Students who are interested in pursuing specialized career in gerontology do their clinical rotations and residency in older adults institutions under the supervision of a geriatrician.</td>
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**TABLEAU I** EXAMPLE of GERONTOLOGICAL CONTENT INTEGRATION in UNDERGRADUATE and GRADUATE COURSES
and advanced mental health assessment on the assessment of older adults in addition to the pharmacological dosage related to old age. The advanced psychotherapy course contains a full section devoted to address therapy of older patients with chronic medical illnesses and problems such as hospital-induced psychosis, advanced stage dementia and confabulations of old age and others. Pharmacological issues such as polypharmacy often found in older adult patients are also addressed in the advanced pharmacology course.

With a primary focus on identifying patterns of successful aging, both undergraduate and graduate nursing students explore how to help older adults maintain functional and productive lifestyles through various health promotion and risk reduction nursing interventions. Most courses aim to provide students with an interdisciplinary perspective on aging issues by including knowledge about the medical management, nutritional, psychosocial support and pharmacological therapies related to diseases and specific gerontological considerations. Students are also assigned readings that relate to different health scenarios in older populations.

The gerontological nursing content emphasizes the theoretical knowledge base and clinical practice applications of the care of older adults. It covers theories of aging, common geriatric problems, assessment instruments, successful aging versus pathological aging and best gerontological nursing practices. When these concepts, practices, and issues are brought forward in the curriculum, there is potential for nurses to feel more confident when caring for this population throughout various environments of care. It has actually been noted by the clinical faculty that as students progress through the levels of the nursing program, their attitudes toward older adults shift positively; they become more comfortable in their level of communication and nursing care process.

When planning the clinical rotations of the nursing students, emphasis is placed on including opportunities for them to interact with older adults in different settings and older adults with various levels of functioning. In other words, the clinical experiences are designed to provide all graduate and undergraduate nursing students with interactions with older adults with a range of functional and cognitive impairments, from those who need minimal assistance with instrumental activities of daily living to those who depend on caregivers for all basic activities of daily living. Most of the courses clinical rotations take place at the AUBMC in- and outpatient units, with the exception of the community and mental health nursing where rotations are planned within the community such as nursing homes and mental health hospitals e.g.: Dar al Ajaza al Islamiya and Cross Hospital. The clinical experiences complement classroom learning and the practical skills are first introduced in simulation environment followed by clinical practice. The interplay of these components provides the opportunity to better integrate theory and practice.

In both undergraduate and graduate community health nursing courses, emphasis is placed on gerontology. The clinical sites where students rotate always include older institutions where older adults live or visit outpatient clinics and centers. These institutions often welcome the nursing students and facilitate positive activities with the older residents. These practica are designed to include increasingly complex nursing responsibilities related to the older adult, in order to prepare future nurses for a more comfortable and successful professional role. The more students have the opportunity to practice their nursing skills with older adults under the supervision and guidance of expert faculty members, the less erroneous views they will have about aging and the more positive their attitude will be towards older adults.

In summary, the current undergraduate and graduate nursing programs at the Hariri School of Nursing have already integrated to a great extent newly developed competencies addressed by the American Association of Colleges of Nursing (AACN). All aspects of gerontological nursing content are included in the curriculum in an integrated way as shown in table I. This table includes detailed examples of undergraduate and graduate courses learning outcomes and implementation.

However, the integration of the gerontological content in academia is not limited to the curriculum; it involves research as well in order to improve nursing practice and the nursing care of the older adult.

FUTURE DEVELOPMENTS AND RECOMMENDATIONS

Though gerontological experiences are incorporated at the school of nursing in its curriculum and research, based on the AACN guidelines and suggested competencies, this integration may not be sufficient. Schools of nursing must consider adding specific competencies needed by a gerontological nurse to the generic professional nursing preparation [17]. Therefore, a focused course on gerontology nursing versus integrating gerontology content into existing courses seems to be the next step, though it remains an area of debate for schools of nursing because of the extra credits this course will add to an already existing heavy curriculum [17]. An integrated curriculum infuses gerontology competencies throughout the curriculum, but one has to ensure that this approach does not dilute the content [18]. When planned carefully, a rich blend of a core course in gerontology infused throughout the curriculum has the potential to inspire students to pursue a career in gerontology. The faculty at Hariri School of Nursing will continue to embrace a strategy to prepare all practicing nurses with basic geriatric competencies as a way to ensure that older adults will receive age-appropriate nursing care.

In order to foster instructional reform, the development of faculty and the availability of resources are essential to the process. The appointment of faculty with expertise in geriatric nursing is an essential first step. Faculty workshops on how competencies can be inte-
grated in nursing courses need to be planned. The use of simulation technology and in particular the availability of scenarios addressing the older adult enhances this learning experience.

Courses on care of the older adult lend themselves very well for inter-professional education (IPE) which transforms the learning experience for all those concerned. An innovative method in IPE is the formation of student teams from medicine, nursing, and public health who are paired with a Health Mentor, usually an older adult with one or more chronic illnesses living in the community, as their teacher. Students learn about a chronic illness from the patient expert, they learn early on to work as a team, and are exposed to the value of openness and honesty when communicating with patients and families.

In view of the importance of this new development for health care in Lebanon, the School of Nursing at AUB will continue to put emphasis on the integration of these competencies in the BSN and MSN curricula, thus complying with accreditation standards. Furthermore, and in order to train specialists in this field, the development and launching of an Interdisciplinary graduate program on ‘Care of the Older Adult’ becomes a desired development for the future.

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