

Geriatric Care Competencies for Undergraduate Medical Curriculum: a Scoping Review Protocol

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Abstract

Background: Rapid demographic change and aging population demand that health professional's especially general physicians need to be better competent around older adults' care and managing multiple conditions of them. Evidence shows that the current gap in health care professionals' skills and the lack of medical school training for caring well the aging population. Therefore, health professions need to improve geriatric competencies in the curriculum to care for and met older adult's preferences.

Objective: The objective of this scoping review is to identify core competencies relevant to geriatric care in the undergraduate medical curriculum.

Methods: This scoping review protocol is based on the Arksey and O'Malley framework and further developed by Levac et al. Four databases including PubMed, ERIC, Scopus, and Web of Science will be searched. Citation searching for identifying additional studies, through reference lists checking of studies and reviews will be applied. Studies in English and Persian language, published from 01/01/ 2015 to 12/31/2020, will be included. Data will be extracted based on ACGME (Accreditation Council for Graduate Medical Education) Core Competencies Framework. Selected studies will be reviewed and data extracted by two independent reviewers, and presented in table or chart, and synthesized in thematic format.

Conclusion: All analyses in this study will be based on the previously published papers. The present scoping review will provide evidence-based information on core competencies for revising the undergraduate medical curriculum related to geriatric care.

Introduction

Improvements in the conditions of nutrition, hygiene, and healthcare have led to an increase in the life expectancy and lifespan of humans in recent decades and subsequent aging of the population(1). Population aging is a recognized outcome known as the "demographic shift" outcome. Declining birth rate and mortality and increased life expectancy can be named as the most important factors in the aging of the population(2), which has resulted in a change in the population structure of various countries, including Iran(3, 4). In 1909, when the term "geriatric medicine" was first defined, the life expectancy of the people was about 48 years(5), but in the 21st century, the global life expectancy index has passed 66 years. The aging of the population is more rapid in higher-income countries than in low- and mid-income countries. According to forecasts, the over 65 years old population in Iran will be around 9 million by 2030, and in 2050, 31% of the Iranian population (more than 29 million people) will be over 60 years old. According to these forecasts, 22% of the population (more than 20 million people) will be over 65, and 3.8% will be over 80 years old(3).

Because of technological advances and the increase in life expectancy, the trend of simultaneous affliction by several diseases and multiple drug therapy in the elderly is on the rise(6). Besides, because of physiological and pathological changes, the elderly is more prone to various diseases than other age groups, and at least 90% of all elderly people suffer from at least one chronic disease(7). Because of

these problems, the elderly has more needs in terms of care(8). As a result of the declining function, the capability of self-care usually decreases in this age group, and hospitalization, acute problems, and simultaneous affliction by multiple diseases usually worsen the decline in their function. Thus, the elderly requires multi-faceted care in terms of health, treatment, and rehabilitation(9).

The lack of communication between the specialists providing health, treatment, and rehabilitation services to the elderly results in the exacerbation of their problems and an increase in medical errors in their care and treatment(10). Thus, the phenomenon of the increase in the number of the elderly is one of the most important economic, social, and health challenges of the 21st century(11), which has developed into one of the major population-related issues in various countries of the world. As an example, in some states of the US, the shortage in the number of faculty, insufficient clinical experience, inadequate and changing academic curricula, and the shortage of advanced educational opportunities had hampered geriatrics training, and therefore, in 2008, The American Medical Association declared: "Prepare America for aging"(12). Thus, having a positive attitude and adequate knowledge and capabilities regarding the care of the elderly patients are determining factors affecting the health and well-being of the elderly, and providers of primary medical care and hospital care need to possess adequate skills, knowledge, and capabilities for rendering service to this age group(13).

Past studies showed that medical students and residents do not possess sufficient knowledge for the management, diagnosis, and treatment regarding various aspects of geriatric medicine such as the management of complicated diseases, dementia and delirium, hospital discharge, general services, and motor and sensory disturbances. Furthermore, evidence shows that medical students do not have the necessary theoretical and practical competence to care for the elderly patients and are not enthusiastic about looking after these patients and, in some instances, even provide less service to them(12, 14). Despite all this, geriatric medicine education has fostered positive attitudes in medical students towards caring for elderly patients and equipped them with an adequate aptitude for providing these services(15).

Since the aging population is expanding faster than the general population and it is forecasted that the number and share of the elderly will grow in the coming years, the need for prospective planning for the control of the problems of this segment of the population gains prominence. Besides, the global increase in number of the elderly people poses an important and major challenge for healthcare providers and members of the families and communities the elderly live in.

Therefore, to meet this demographic challenge, it is essential to draw the necessary social and economic plans for providing high-quality services to this age group, including in the fields of health and treatment. For this reason, providing high-quality health services to the elderly is one of the topics that has a very special place in geriatric medicine, and it is necessary to identify the problems of the elderly, taking into account the existing statistics on the age distribution of the population in Iran, and design the geriatric curriculum based on the needs of the elderly to provide suitable solutions for the improvement of the services offered to this human population. However, many medical schools still do not offer specific courses on geriatric education or geriatric medicine is not among their main subjects. Therefore,

considering the inversion of the population pyramid in Iran and growth of the number of the aged people in the near future of the country and the deficiency in the knowledge, skills, and attitudes to deal with elderly patients, we decided to identify necessary competencies in the field of geriatrics for medical students and draw a competency-based curriculum for general medicine taking into account aspects of social responsibility.

Methods

Protocol Design

A scoping review according to Arksey and O'Malley framework(16) will be conducted. A scoping review aimed to map key concepts, types of evidence and specially refine the gaps in previous research. Scoping studies unlike systematic reviews, commonly do not require a formal quality assessment. Based on the framework by Arksey and O'Malley five stages of scoping review that include of five steps a presented below. these stages are stated linearly, a visualized figure was developed to fill any potential overlap (Fig. 1).

Identifying the research question

The research question was clarified through several discussion meetings between the research team. This review has designed to answer the following questions:

- 1) What are the best evidence-based core competency in the undergraduate medical curriculum related to the care of people aged 65 years and older?
- 2) What educational interventions have been lead to promote active and healthy aging?
- 3) Which ACGME core components are needed to be considered for geriatric care more?

The search strategy was developed under a medical librarian supervision and consultation (AAT). It will cover terms related to three main concepts including geriatrics, competency and curriculum. Table 1 presents search strategy for all databases. The databases to be searched including PubMed, Scopus, ERIC, and Web of Sciences. Only English-language papers will be considered that their publishing is 01/01/2015 to 10/31/2020. (Table 1)

Table 1
presents the search strategy for all databases

PubMed
(Geriatrics[tiab] OR Gerontology[tiab] OR "Geriatric Health Services"[tiab] OR "Health Services for the Elderly" [tiab] OR ("Health Services"[tiab] AND Geriatric[tiab]) OR "Geriatric Health Service"[tiab] OR ("Health Service"[tiab] AND Geriatric[tiab]) OR (Service[tiab] AND "Geriatric Health"[tiab]) OR (Services[tiab] AND "Geriatric Health"[tiab]) OR "Health Services for Aged"[tiab] OR "geriatric aspects"[tiab] OR "geriatric medicine"[tiab] OR "geriatric practice"[tiab] OR geriatry[tiab] OR sociogeriatrics[tiab] OR Aged[tiab] OR elderly[tiab] OR "senior citizen"[tiab] OR senium[tiab]) AND (Curriculum[tiab] OR "Competency-based education"[tiab] OR "integrated curriculum"[tiab] OR Curricula[tiab] OR "Short-Term Course"[tiab]) OR ("Short Term"[tiab] AND Course[tiab]) OR "Short Term Course"[tiab]) AND 2015/01/01:2020/10/31[dp]
Items Found = 3020
Scopus
TITLE-ABS-KEY(((Geriatrics OR Gerontology OR "Health Services for the Aged" OR "Health Services for the Elderly" OR (Health Service AND Geriatric) OR (Service AND Geriatric Health) OR "Health Services for Aged" OR "geriatric aspects" OR "geriatric medicine" OR "geriatric practice" OR geriatry OR sociogeriatrics OR Aged OR elderly OR "seniorcitizen" OR senium)) AND TITLE-ABS-KEY(Curriculum OR Curricul* OR "Competency-based education" OR "integrated curriculum" OR Curricula OR (Short-Term AND Course) OR ("Short Term" AND Course)) AND PUBYEAR > 2014 AND PUBYEAR < 2021
Items Found = 257
WOS
(TS=((((((((((((((((Geriatrics) OR (Gerontology)) OR ("Health Services for the Aged")) OR ("Health Services for the Elderly")) OR (((Health) (Service)) AND (Geriatric))) OR ((Service) AND ((Geriatric) (Health)))) OR ("Health Services for Aged")) OR ("geriatric aspects")) OR ("geriatric medicine")) OR ("geriatric practice")) OR (geriatr)) OR (sociogeriatrics)) OR (Aged)) OR (elderly)) OR ("seniorcitizen")) OR (sepium))) AND (TS=((((((((Curriculum) OR (Curricul*)) OR ("Competency-based education")) OR ("integrated curriculum")) OR (Curricula)) OR ((Short-Term) AND (Course))) OR ("Short Term") AND (Course))))
Items Found = 8257
ERIC
((Geriatrics OR Gerontology OR "Health Services for the Aged" OR "Health Services for the Elderly" OR (Health Service AND Geriatric) OR (Service AND Geriatric Health) OR "Health Services for Aged" OR "geriatric aspects" OR "geriatric medicine" OR "geriatric practice" OR geriatry OR sociogeriatrics OR Aged OR elderly OR "seniorcitizen" OR senium)) AND (Curriculum OR Curricul* OR "Competency-based education" OR "integrated curriculum" OR Curricula OR (Short-Term AND Course) OR ("Short Term" AND Course)) AND pubyear:2014 to 2020
Items Found = 380

Given the broad nature of a scoping review, a comprehensive inclusion/exclusion criteria as presented in Table 2.

Table 2
Inclusion and exclusion criteria for the scoping review

Inclusion criteria	Exclusion criteria
<ul style="list-style-type: none"> ■ Peer-reviewed original articles, including cross-sectional, case-control, and cohort RCTs, quasi-randomized trials, pre-experimental studies, Qualitative studies, Case studies/case reports ■ Prospective or Commentaries and opinion pieces published in peer reviewed journals ■ Date of publication: 01/01/2015: 10/31/2020 ■ Context: Any medical or paramedical setting. ■ Language: English, Persian 	<ul style="list-style-type: none"> ■ Books and book chapters ■ Conference proceedings, dissertations/theses and abstracts published in peer-reviewed journals ■ News/magazine articles ■ Protocol studies ■ Book reviews ■ Unpublished grey literature ■ Social media content ■ Full text unavailable ■ None English and Persian language

Study selection

All identified records will be imported into EndNote VX9 and duplicates removed. Two independent reviewer will screen the title and abstract of each study. Two reviewers will then independently review the full text of these relevant papers to determine which should be selected for data extraction. Reasons for exclusion of full text papers that do not meet the inclusion criteria will be recorded and reported in the scoping review. Disagreement between reviewers will be resolved with a third reviewer if necessary. The results of the search will be reported in full in the final scoping review and presented in a Preferred Reporting Items for Systematic Reviews and Meta-Analysis for scoping reviews (PRISMA-ScR) flow diagram.

Charting the Data

Data extraction will be conducted using a self-designed form. A preliminary charting table with indicators to be used to address the research questions is included the following items, if exist: author, year of publication, source, country, aim or purpose, population, methodology, outcomes, and key findings. The data extracted in the stated tool will be summarized through thematic content analysis, grouping findings in similar categories based on commonalities. The extraction form will be piloted by two independent authors (SG, SD) on eligible studies and relevant literature to adjust its sensitivity. Any disagreements will be resolved through the involvement of a third researcher (MN). It will also be analyzed to identify trends and the main research areas/topics that are being researched and published.

Collating, summarizing and reporting the results

Data will be categorized, synthesized, and reported according to the six ACGME core competencies including: patient care, medical knowledge, interpersonal and communication skills, professionalism, system based practice and practice-based learning and improvement(17). The data will be grouped based on their similarity and homogeneous in the mentioned themes. The extracted data will be visualized in diagram and table format according to the objective of this scoping review. A narrative summary will present results and will also describe how the results relate to the review questions. The first analysis will be conducted by one author (SD) and another author (SG) validated the analysis.

Results

Progress to date comprises study selection step. Electronic databases searches were done in December 2020. Search strategies involved the Medical Subject Headings [MeSH], Emtree) also the use of text words related to geriatric care, competency, and curriculum. As mentioned in step 2 of this document, research results from PubMed, Scopus, and ERIC, Web of Science, and Cochrane library were downloaded. A total of 15011 results were retrieved, of which 1560 were recognized as duplicates. As of Jan 2021, title and abstract screening were completed and the extracted data is ongoing. Three to Five steps of the scoping review will be finished by July 2021.

Discussion

Increasing in the life expectancy and lifespan of humans lead to population aging recognized as the “demographic shift” outcome(18). According to forecasts, the over 65 years old population in Iran will be around 9 million by 2030, and in 2050, 31% of the Iranian population (more than 29 million people) will be over 60 years old(3, 4). According to these forecasts, 22% of the population (more than 20 million people) will be over 65, and 3.8% will be over 80 years old. However, many medical schools still do not offer specific courses on geriatric medicine(3, 4). Medical students and residents do not possess sufficient knowledge for the management, diagnosis, and treatment regarding various aspects of geriatric medicine such as the management of complicated diseases, dementia and delirium, hospital discharge, general services, and motor and sensory disturbances(14).

Considering the inversion of the population pyramid in world and growth of the number of the aged people in the future and the deficiency in the knowledge, skills, and attitudes to deal with elderly patients. On the other hand, there is not comprehensive evidence about core competencies that medical student acquiring in the line of geriatric medicine. We decided to identify necessary competencies in the field of geriatrics for medical students and draw a competency-based curriculum for general medicine taking into account aspects of social responsibility. It is hoped that present study will provide useful information for educational health policy for revision of medicine curriculum.

Strengths

In this scoping review search in all databases will be under medical librarian supervision (AAT) the relevant and included studies will be selected independently by 2 authors (SG, SD), and the third author will be involved in case of disagreement, for ensuring the validity and reliability of the review.

Limitations

The first limitation of this scoping review is related to gray literature, since; many of core competencies for geriatric care might be in curriculum which not published in scientific data bases. The second limitation is related to the language, we consider only English- and Persian-language studies and relevant literature published in other languages will not include. A potential limitation of the scoping review is the lack of quality appraisal step for included studies.

Conclusion

The purpose of this scoping review will be to extract the best evidence-based information related to geriatric care by medical doctor's especially general physicians. Given that older adults are more likely to experience several conditions and complex health status at the same time, it's necessary that the next generation of general physicians aligning with the needs and preferences of older persons. Thus, this review will aggregate a full range of competencies that medical doctors need to care for older adults comprehensively from published and documented available literature. The message of this research will disseminate through several channels, for example, holding meetings with key stakeholders, publish evidence-based reports and papers.

Declarations

Ethics approval and consent to participate

Although research ethics approval is not required for this scoping review because the study will not include human or animal participants, the study was submitted for Ethics approval to the Iran University of Medical Sciences Research Ethics Committee, and provisional approval was received (IR.IUMS.REC.1399.1115).

Consent for publication

Not applicable

Availability of data and materials

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Competing interests

None of the investigators involved in this study have a conflict of interest.

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Author Contributions

SG developed the research questions and drafted the manuscript. SD and AAT developed the search strategy and the detailed search syntax, and reviewed the manuscript. MN and SG developed the study conceptualization, critically reviewed and edited the manuscript.

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Figures

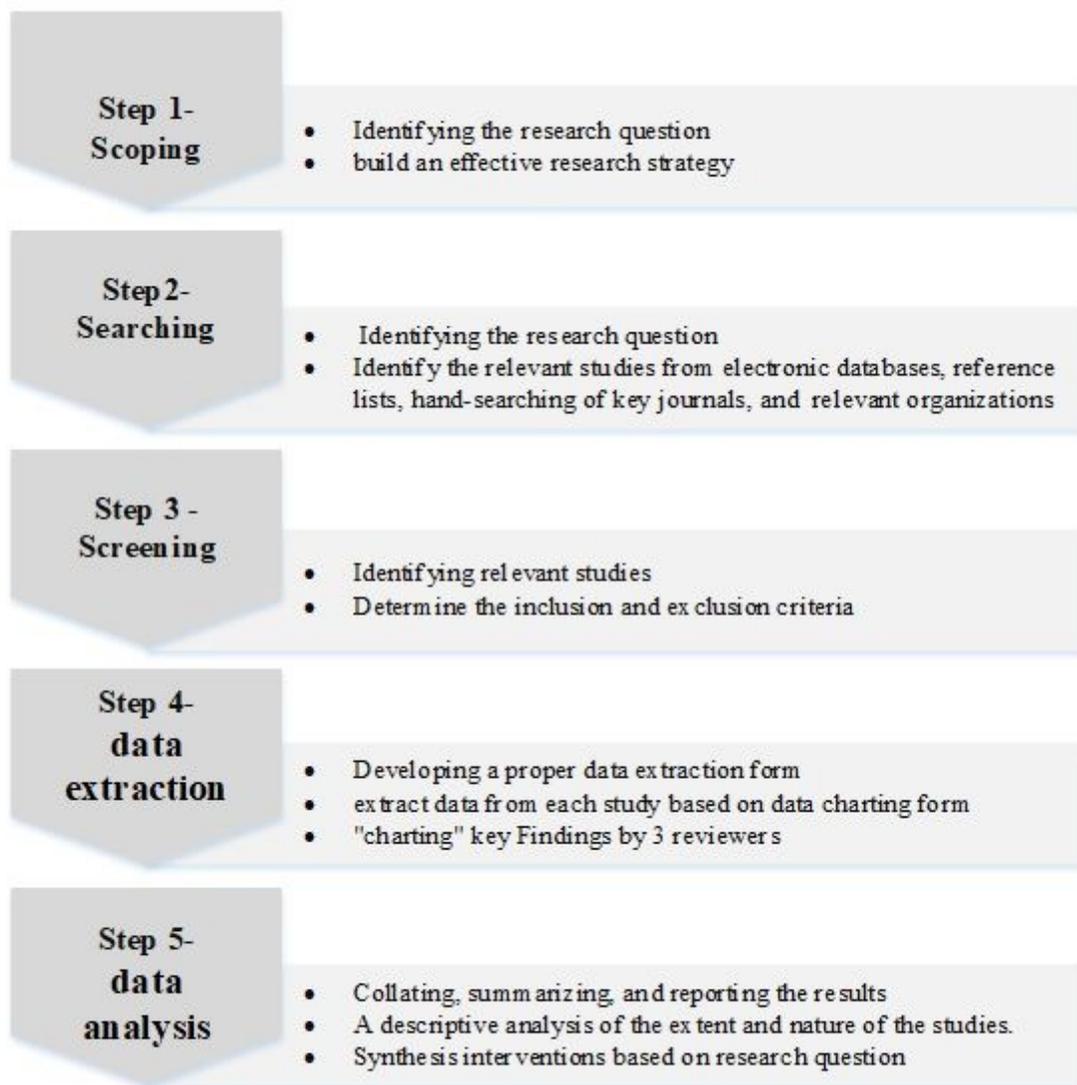


Figure 1

The Arksey and O'Malley Steps for scoping review