RESEARCH ARTICLE

REVISED Evaluation of the geriatric curriculum implemented at Shiraz University of Medical Sciences, Iran, since 2017: A qualitative study [version 2; peer review: 1 approved, 1 approved with reservations]

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Abstract

Background: Recently, there has been an increase in life expectancy due to improvements in nutrition, health, and sanitation. The aim of this study was to evaluate the geriatric curriculum in the field of general medicine at Shiraz University of Medical Sciences (SUMS), Iran to improve the quality of services provided to this population in the community.

Methods: This was a qualitative study. Six educational hospitals and ambulatory centers of Shiraz University of Medical Sciences participated in this study. Within these centers, 15 medical education faculty members and educational experts, 6 medical students, 6 elderly patients and 6 nurses working in the university related to the geriatric field were selected using purposive sampling. Data were gathered through semi-structured interviews, focus group discussion and field observations in the teaching hospital and ambulatory setting of SUMS from June 2017 to May 2018. Based on the qualitative research, the data underwent conventional content analysis and the main themes were developed from this.

Results: Three main themes were extracted from the data: effective clinical education, geriatrics curriculum challenges and promotion strategies for geriatric medicine. Subcategories that emerged were a competent curriculum teacher, a challenging program, management of resources, promotion of the program, and the revision required in the curriculum, which were related to other concepts and described in the real-world situation of the geriatric curriculum in the university, as observed in field observations.

Conclusions: This study identified three concepts as main themes that can be used to explain how to implement a geriatric curriculum in a medical university. The main contributing factor to different views of

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the participants was identified as the revision required to the curriculum for integrative care in a geriatric patient. This should be taken into consideration while planning any programs and decisions aimed at education of medical students on this topic.

Keywords

Geriatric Curriculum, Evaluation, Qualitative Research, General Medicine

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REVISED Amendments from Version 1

In this new version of the manuscript (version 2), we needed to consult a bilingual native speaker to help us in using the real concepts in the manuscript. Certainly, we consulted a native speaker in Iran, Prof. Nasrin Shokrpour, the chief editor and consultant of English articles in Shiraz University of Medical University and finally check grammar such as Grammarly. In addition, Data analysis was done manually and we revised the methodological issues and the data analysis sections. Conventional content analysis was used to analyze the data collected. In addition, details of field observations and their findings have been included in this article and add new table (Table 2). In addition to that, the social responsibility and social accountability were added to the article, based on your valuable comment. In addition, the words "problems of the building & hospital capacity" and "Intersection collaboration in different health sections" are replaced by "infrastructure problems" and "Interprofessional education & collaboration" respectively.

Any further responses from the reviewers can be found at the end of the article

Introduction

One of the issues that the medical profession has to face is prioritizing elderly care, as the number of older people suffering chronic illness and multiple comorbidities is on the rise¹. For example, in Ireland research shows that individuals aged 65 years and over make up 11.6% of the population in 2011, which is believed to reach 22% by 2041², while in Australia, it is predicted that the number of individuals aged 65 years and over will increase from 13% in 2007 to 23% in 2061¹. Aging population is on increase both in developed and developing countries³. According to evidence⁴, individuals over 65 years old make up nearly two thirds (65%) of those admitted to hospital in the UK^{4,5}; also, studies show that 34–59% of individuals over 75 years old take five or more drugs according to their medical backgrounds⁶. Most hospital beds are occupied by older patients and they have a lengthy stay (more than 30 days)³, functional decline, high re-admission rates, falls, and institutionalization².

Following the rise in life expectancy and medical advances, multi-morbidity and poly-pharmacy has increased recently; this trend has been very significant in the elderly⁶. Hence, the medical profession needs to handle these patients effectively^{1,7,8}. However, research conducted in the UK shows that medical undergraduate students have not been trained for treatment of these patients sufficiently, and it was also reported that less than two weeks of a five-year educational program had been dedicated to elderly health care^{1,9}. In Australia, medical students spend 78% of their clinical placement time in hospitals; however, only 0.5% this time is dedicated to residential aged care facilities¹. The number of geriatric fellowship-trained physicians (geriatricians), who provide appropriate care for older adults, is not expected to meet the needs of a growing aging population. As a result, many older adults will rely on general physicians for their care¹⁰.

The main challenge to which researchers and planners of community and health services in the twenty-first century face is a better quality of life. To reach this end, geriatric

medicine is recommended to be included in the curriculum of medicine.

A specific geriatrics curriculum has been designed and implemented in Shiraz University of Medical Sciences, Iran since June 2017. The purpose of this study is to evaluate this curriculum. Educational evaluation aims to determine the effectiveness, quality of a program, processes, goals and the curriculum itself. Today, the medical graduates are expected to be liable and responsive to future problems of the elderly. Responsiveness and accountability are two important features for evaluation of the medical curricula in general practice¹¹. Today, due to the significant changes that have emerged in educational systems, evaluation is one of the most widespread and important components of curriculums through which we can find out the achievement levels of specific goals of the curriculum and also deficiencies in its design. If necessary, the educational activities can then be improved or revised^{12,13}. Using curriculum evaluation as a determinant of economic, cultural, social and educational development is very common¹². However, in evaluation of education, quantitative approaches which contribute to understanding the educational process are usually used; however, the main goal of educational evaluation is improvement of the conditions of educational contexts, and this cannot be assessed using quantitative research¹⁴.

Since Shiraz University of Medical Sciences designed and implemented the geriatrics curriculum from 2017 the aim of this study was qualitative evaluation of this curriculum using a content analysis method. Furthermore, dissatisfaction of graduates, faculty members and students to the curriculum and concerns of educational staff about general medicine educators were also assessed in this study.

Methods

Since the main objective of this study was to evaluate the geriatrics curriculum, a content analysis approach was applied for data collection. Therefore, the present study is a qualitative research using content analysis which focuses on systematic human experiences and human science paradigms¹⁵. In fact, this method attempts to clarify the structure or nature of an experience in order to describe a phenomenon correctly¹⁶. Therefore, in this study we used the participants' experiences, perceptions and interpretations of geriatric issues and the associated problems, aiming to detect new perspectives to be used in educating medical students in this regard.

Research environment

In the present study, the settings for the delivery of medical services related to geriatric medicine, including clinics, hospitals and public and teaching centers, in Shiraz were selected as the research environment.

Sampling methods

In qualitative research, the participants are selected based on purposive sampling so that the individuals selected have experience of the topic being assessed¹⁷ and their experiences serve as the data¹⁸.

For this reason, in this study the participants were selected from the medical students of various levels in clinics, clinical professors involved in the geriatrics curriculum, elderly patients, clinical nurses and key informants who were involved in curriculum planning and needs analysis.

These participants were introduced to the education development center of the university. At first, they were selected by purposive sampling to encompass a maximum variation in work experience, and field of experience. Sampling was continued to data saturation, resulting in selection of six medical students undergoing training courses in hospitals and teaching clinics of Shiraz University of Medical Science, six elderly patients (four admitted patients, and two outpatients), 15 faculty members and health education experts, and five employed nurses.

Data collection

Three observation methods were used in the study for data collection: observation with no participants (field observations), and semi-structured interviews and focus groups with participants.

Semi-structured interviews. At first, the interviews started with a general question; however, in the process of the interviews more specific questions were asked based on initial interviews and the development of the main themes alongside the research purposes. After the general question, exploratory and more in-depth questions were asked based on the participants' responses. The interviews were audio recorded and downloaded verbatim, and key points were noted. Each interview lasted for 50 to 75 minutes. Any ambiguous responses during interviews were followed up in order to be clarified, or if clarification was required after the interviews were finished, the participants were asked to be interviewed again in order to clarify the point and delve further into the issue.

Field observations. The observations were also made in the field determined and the evidence of curriculum and individuals and training staff's interaction with each other and the elderly was considered.

Focus group discussions. A focus group session was held after interviews by participation of representatives from educational groups in two meetings of educational centers. The participants' statements were completely recorded and noted. All of the interviews and observations and the results of the focus group were typed and analyzed.

A written invitation was sent to all selected participants. A conference room of a study center with a U-shape table was considered for the meeting and the participants were reminded to take part in the session the day before. In the first meeting, a central group discussion began with presentation of a 5 minute movie of clinical subjects, then the subjects were discussed by the participants. In the second session, the previous discussion was continued after a summary of the first day discussion was provided. The discussions were recorded. In order to

prevent data bias, the data were reviewed several times and noted by two researchers (L.B & F.J). Focus group questions can be found in [Supplementary File 1](#).

Data analysis

Conventional content analysis was used to analyze the data collected. Only the data gathered from the focus group and interviews through meaning association were analyzed and we didn't used the data from the direct observations. Data analysis began reading transcripts repeatedly until a complete overview was achieved¹⁹.

The use of content analysis contributes to the recognition of overt and covert meaning of the factors. To this end, we first read the sentences precisely and frequently, and through familiarization, we made an attempt to understand them better. In the next stage, we identified a thematic framework, and extracted, conceptualized and codified the important themes from the interviews. The primary codes which were related and could form a potential theme were categorized in a group. Then, all the potential themes were reviewed while adapting them with the participants' views, and the final themes were determined.

To determine the trustworthiness of the data, which a very important feature of the qualitative research, we used Lincoln and Guba's criteria of credibility, transferability, dependability and confirmability. We also tried to avoid any bias about the subject under the study both before and after the interviews. Ongoing review of the data, allocation of sufficient time to recognize the data, establishment of relationships, review of the codes and extracted themes were done by two of the colleagues as the auditors who agreed on the selected codes and categorized the themes. In the case of disagreement, they discussed the issue and reached a conclusion. In the review process using peer review, level 1 codes were approved by some of the participants. Member check, search to find the opposite data and analysis of negative data in each participant and among all of the subjects were performed^{18,19}.

One of the researchers (FJ) based on his perception and understanding of the text, wrote an initial analysis in order to create preconditions for emerging codes and themes. The themes that emerged were categorized based on their similarities and differences. This categorization was performed by organization and categorization of codes in meaningful clusters. Subsequently, considering the quality of the relationship between subcategories, the researchers could reduce the categories by combining and organizing subcategories.

In order to increase the reliability, revision of the themes was done in two stages, one after completion of 10–50% of categorization and the other at the end of categorization. Then the researcher (FJ) prepared a report according to the themes identified for the requirements, problems and strategies needed to help elderly health care, which was arranged as a table and discussed and reviewed by the participants in the focus group meeting.

Ethical statement

This study was approved by the Ethics Committee of Shiraz University of Medical Sciences (approval number IR.sums.med.rec.1396.s316). In addition, verbal and written information about the study (the purpose of study, how to cooperate, advantages and disadvantages of participating in research and data records, the role of researchers and participants, and optional participation in the study were presented to the participants, and participants provided written consent to participate.

Information including name, interview tapes and texts were kept confidential and a specific code was used instead of the participants' names. Participants were ensured about the confidentiality of their conversations. The researcher provided an opportunity for participants to inform the researcher about withdrawal of their participation at any of the research stages by giving the phone number and e-mail of the lead investigator. Participants were ensured that if they requested, their results would be presented to them in a group.

Results

The results include key terms that were categorized into different levels. From the analysis, 428 initial codes were extracted. The codes were then categorized into six themes and three themes based on similarity and analogy. The main themes of the curriculum include effective clinical education, geriatrics curriculum challenges and promotion strategies for the geriatric medicine (Table 1).

Based on experience of the participants, having an effective curriculum and the authority's supervision on its implementation is the first stage of effective education. Meanwhile, flexible planning in performance, concept-oriented evaluation, continuous emphasis by professors, student preparation after

entering the department, appropriate relations between the student and professor, content coverage of the elderly headings, support and supervision at higher levels for the description of effective teaching were used. A popular faculty member in this area of practice said

"...Training at the patient's bedside for all cases such as medical care for the elderly requires planning. However, the quality of the program and whether the professor is acquainted with the issue is very important. Having an elderly program reminds me, the professor, to have more emphasis on the round or training..." (Participant N.3)

The research findings indicated that all participants of the study somehow experienced model training and a range of appropriate models for training. The professional behavior of the professor is among the participants' experiences in this realm. A student participant stated:

"...When I see the professor's behavior, and how respective he/she is towards the elderly, always calling them mother, father.... we have a duty to fulfill for you. In fact, I, as a student, am reminded that I should have the same attitude towards the elderly in the future..." (Participant N.11)

In expressing the participants' experience, effective clinical education is one of the most important and extensive issues that emerged. Most of the participants had experienced one or more points of geriatrics curriculum practically and emphasized the importance of paying attention to the geriatric population. This theme was composed of two subthemes: effective curriculum and competent training staff (Table 2).

According to the participants' experiences, a structured program and accurate explanations of the students' duties are effective

Table 1. Categories and themes of the geriatrics curriculum evaluation.

Themes	Categories
Effective clinical education	Effective curriculum
	Competent training staff
Geriatrics curriculum challenges	Curriculum challenges
	Environmental and educational facilities
Strategies for promotion of geriatrics curriculum	Developing guidelines
	Revision in structure of context

Table 2. Themes and themes of the Effective clinical education.

Themes	Subtheme	code
Effective clinical education	Effective curriculum	- flexible practical curriculum, problem-center evaluation, repeated emphasis on professors, preparation of the students at the time of department admission, appropriate ratio of professors to students, coverage of the topics, support and supervision at high levels. Competent teaching staff: high potential of professors in education, appropriate patterns for education, professional behavior of professors
	Competent training staff	

in education at all levels. Problems arise due to lack of related authorities' awareness regarding new programs and their goals. Based on the experience of the participants, programs remain neglected because they are not evaluated and adequately presented and some people's standpoint in this regard is due to their lack of information about the philosophy and goals of the program. One of the administrators stated in this regard:

"...I was not aware of the medical care for elderly program and this was because there was no opportunity to think about the curriculum of the general medicine course. It is not right to have all types of expectations from the professor and expect everything to go well..." (Participant N.11)

Theme 2: Geriatrics curriculum challenges

Lack of facilities and infrastructure problems are among common problems stated by all participants of this study. Infrastructure problems and management structure of the training hospital along with problems of numerous students in addition to lack of educational facilities, such as infrastructure problems, hinder the administration of educational programs. Thus, this program was carried out in a way that students came to the patient's bedside in big groups, and this not only improves the services delivered and satisfaction of the elderly, but also is effective in the student's educational quality. Regarding the facilities, one of the professors stated:

"... The hospital is very non-standard; I myself slipped a few times on the stairs and fell down; now if this happens for an elderly what will come upon them? What will remain of them... first you should think of doing something about this devastating hospital..." (Participant professor N.15)

Or another professor on a similar note:

"... the atmosphere and environment should be prepared for training, if the attitude of everyone with the elderly

is degrading, what the professor says alone is not sufficient in order for the students' perception to change in regard to the elderly patients...." (Participant N.5)

Challenges of the geriatrics curriculum were also composed of two subthemes: curriculum challenges and management and facility challenges. Each of these subthemes consisted of subthemes (Table 3).

Developing a guideline will facilitate a number of educational problems. However, developing a guideline included a range of requests, from developing a guide for taking care of the elderly to physicians and also insurance companies.

"...Insurance companies need guidelines themselves; all of our rehabilitation and healthcare demands will be facing problems. Thus, the only solution to carrying out guidelines accurately is to have more powerful insurances..." (Participant professor N.2)

Educating society, families and the elderly is among the facilitating programs in carrying out medical training for the elderly and modifying the structure of the elderly healthcare.

"...You must educate them regarding how to react to our problems. It's not only related to medicine. All individuals should become aware of laws and science in order to have appropriate behavior and adequately care for the elderly..." (Participant N. 9)

As to modifying the structure, the participants suggested issues such as modifying processes of providing healthcare services, determining service priorities given to the elderly, enhancing nursing services, elderly welfare facilities, designing software to help the elderly, adequate facilities in clinics and setting up screening for the elderly. In this regard, one of the participants stated that:

Table 3. Themes and subthemes of geriatrics curriculum challenges.

Theme	Themes	Codes
Geriatric curriculum challenges	Curriculum challenges	Ambiguity in student assignments in the department; contradiction in participant's statements about the curriculum; lack of attention to the elderly in final evaluation checklist; inadequate student and staff communication skills; confronting work conflicts; special circumstances of older patient; lack of specialty in geriatrics
	Management and facility challenges	Management of human communication; non-professional behaviors of staff; insecure and non-standard care environment; decayed building of hospitals; poor facilities of departments, lack of examination room and classroom in clinical departments, resources and facilities; lack of hospital beds; lack of insurance support; socioeconomic problems; ineffective referral system; higher costs of older patients; high number of decision-making centers; incompatibility of authority and responsibility in teaching hospitals; lack of transparency of the role and duties of teaching managers; working with experienced human resources; loss of clarity of rules and organizational process; loss of clarity of hospital evaluation indicators

“Society should be prepared to deal with problems; we are not ready, what services exist to provide health-care to the elderly? If the nurses are not trained about this technology, how can they provide adequate services in today’s world?” (Participant N.12)

Another participant said in this regard:

“In the coming years, we will be facing an outburst of the elderly people; we have insufficient hospitals and healthcare centers to respond to these future needs. If so, how are we to take care of the elderly who cannot benefit from family care? Care should be given in a place where their dignity is maintained.” (Participant N.6)

Theme 3: Approaches for improving geriatrics curriculum

How to improve the geriatrics curriculum was one of the most important themes that were extracted from the participants’ experiences. This theme is made up of two sub-themes of facilitating programs for implementing geriatrics and revising the structure of context. (Table 4).

The result of the study reflects some suggestion for improving the outcome of the curriculum in our context in which they relate purposefully with barriers. In this regard, one of the students said:

“...An important issue which should be included in the curricula or is needed to be reviewed is the elderly care if we are to have an influential curriculum and be responsive to the needs of the society. The most important measures are designing a guideline for insurance hospital, and the elderly care and relationships...” (Participant N.10)

This study shows that contextual factors have a significant role in promoting the quality of elderly curriculum in general medicine. Participants in the study had some suggestions for revision in the structure of the context, so that we are able to implement a desirable curriculum. The recommendations include performing task analysis and role definition for physicians in the elderly medicine; reforming health care processes; prioritizing services for the elderly; reforming the nursing services, welfare facilities and remote

services to elderly patients at home; programming software to aid the elderly patients; providing adequate clinical facilities; and setting up screening facilities for elderly patients. Most faculties and students had these suggestions; one of the students said:

“...Health care system should value and respect the elderly and provide us with adequate facilities to deliver services to them. In case there is no facility, education is wasted; our curriculum is satisfactory and we have learned the elderly care theoretically...” (Participant N.18)

Another student said:

“...The duties of the physicians should be specified in the urban and rural areas as to the services to be delivered to the elderly and our roles should be defined in our future tasks.” (Participant N.8)

Discussion

In recent decades, with the growth in the elderly population, those aged 65 and older, constituting a larger portion of the population, geriatrics fellowship programs have been developed and physicians are trained so that they can provide specialized care for the elderly. The medical education system requires accredited geriatrics programs to evaluate the efficacy of the trainings provided²⁰.

This study evaluated the geriatrics curriculum implemented at the Shiraz University of Medical Sciences qualitatively using content analysis.

The themes that emerged from participants’ input in this study included “effective clinical teaching”, “challenges of geriatrics curriculum” and the approaches for improving geriatrics, which explained implementation of geriatrics in general medicine, such as strength points (opportunities, challenges) and practical approaches and improving geriatrics at university levels. Almost all participants in the study expressed and experienced one or more indicators of clinical teaching. This means that at present, geriatrics instruction at Shiraz University of Medical Sciences is implementing the above-mentioned points. In this regard, there are several studies that

Table 4. Themes and subthemes of improving the geriatrics curriculum.

Theme	Sub themes	Code
Approaches for improving geriatrics curriculum	Facilitating programs for implementing geriatrics	Task analysis and role definition for physician in elderly medicine Directing thesis to geriatrics; encouraging active students in this field (with credit); developing a guideline for home care or nursing homes for elderly patients; developing a guideline for insurance; teaching inter-professional communication skills; lifestyle modification; general teaching; developing a guideline for geriatric-friendly hospital
	Revision in structure of context	Reforming health care processes; prioritizing services for the elderly; reforming nursing services, welfare facilities and remote services to elderly patients at home; programming software to aid elderly patients; adequate clinical facilities; setting up screening facilities for elderly patients

improved geriatrics curriculum by emphasizing the mentioned items^{21,22}.

Sapieno *et al.* 2007 showed that the vertical integration program can improve knowledge and attitudes of medical students towards geriatrics²³. Also Denson *et al.* (2016) used a group teaching method for 15 courses of residency and fellowship and caused more effective teaching²⁴. According to the experiences of participants in the present study, the role of teaching staff and professors' competency are also critical in implementing geriatrics teachings in Shiraz University of Medical Sciences. Clinical professors are one of the three sides of the clinical teaching triangle and their input is essential in clinical teaching. Various studies have emphasized the importance of using the professors as role models in clinical teaching, especially in geriatrics^{25,26}. Despite the fact that the importance of physician-patient communication and attention to teaching it is known for everybody, in the present study most of the participants mentioned some weaknesses in the communication skills.

The study of Bazrafkan *et al.* is compatible with these results and shows that the main reason of complaint from physicians is lack of communication skills and showed the effect of teaching communication skills on patient's satisfaction²⁷.

The quality of the educational environment, unsafe and non-standard care environment, weakness of welfare in departments, lack of examination room and classroom in clinical departments, facing complications of work, special conditions of older patient, unprofessional behaviors of hospital staff, lack of resources and facilities and management of human relations were among the issues that were mentioned as the challenges of geriatrics curriculum and causing dissatisfaction of students, professors and elderly patients. In this regard Baker *et al.* used patient communication to evaluate teaching hospital care in Ankara, Turkey. The results showed that none of the hospitals evaluated could satisfy patients' expectations²⁸.

Interprofessional education & collaboration in different health sections can provide a basis for proper care of elderly patients. Therefore an inter-professional curriculum can increase this interaction and increase student's interest in geriatrics. However, participating students in the present study didn't separate geriatrics from general medicine. Unfortunately, in some cases they consider addressing this issue a waste of time and explained that elderly patients have stereotypical problems and no specific teaching point exists in geriatrics. These findings are similar to those found by Maybom *et al.* (2015). In their study, about the effect of hidden curriculum in elderly care, the authors came to the conclusion that the students don't consider geriatrics and its problems as a challenging and instructive issue; they consider elderly behaviors stereotypical and unbearable²⁹. Therefore, the clarity of curriculum and attention to its aspects and components, such as the goals and methods of students' evaluation, affects the outcome of instruction; accordingly, if the students are not provided with the compiled curriculum and they are not informed about the expectations, they are unlikely to reach the teaching goals.

Furthermore, student-centered and problem-centered strategies are successful in medical education. Based on the current findings and other studies confirm this result that problem-centered education can satisfy the student and cause motivation and reinforcement of their perspectives^{30,31}.

Understanding elderly patient's problems and considering these clinical problems in different discipline curricula will lead students to gain enough competence in order to care for the elderly in the future. The present study shows that the medical students don't have enough competency in geriatrics. Most of the participants' responses related to the second theme that is challenges of implementing geriatrics, which are specialist and fellowship views that can't meet the needs of all elderly patients. In addition, the findings confirm that the geriatrics curriculum is required in order to integrate elderly care services. This finding confirms other studies that emphasize inter-professional and integrated care³².

The third theme of this study was to find improvement strategies for the geriatrics curriculum. For example, planning and revision of existing curriculum and reforming the proposed structure. Along with the results of this study, the study of Tian *et al* shows the importance of considering prospects and planning in order to provide elderly welfare and reduce future problems of this community³³.

Despite different cultures, most of the obtained data from present study overlaps with other studies in this context; other studies referred to the evolution of education to adapt with the needs of elderly patients to realities of telemedicine, telenursing and online teaching^{33,34}. Therefore, this shows that the view of health care providers of elderly patients expressed their readiness for reform in geriatrics teaching despite existing problems. In the study of Castel *et al.* the importance of awareness and teaching was highlighted for elderly patients. The findings of that study reveal that families' responsibility for providing elderly patients with health care is a well-established concept in the health care system and it is essential that the authorities have a plan for this service and help families³⁵.

Based on the results of this study, it is recommended that for efficient implementation of the curricula it is essential to revise the geriatrics courses in the MD curriculum and reform the rules and regulations as to the insurance, job descriptions, hospitals, clinics, and elderly care centers.

Conclusion

This study evaluated the geriatric curriculum that was implemented at Shiraz University of Medical Sciences in 2016. According to the findings of this study, the geriatrics curriculum has been successful practically, which was expressed by the experiences of the participants. The challenges of this curriculum that emerged were planning and management of resources, which resulted in incompetent teaching and consequently incompetent graduates. Proposing reform strategies can improve teaching in this field and improve students' competency

for general health of elderly patients. Considering common diseases of old age and taking them into account in the curriculum as integrated and comprehensive health care and ease of access to services is necessary for treatment of elderly patients. Using professors, students and elderly patients' experiences in curriculum reform are of particular importance and can provide comprehensive information to providers and decision makers of health care systems for future planning.

Ethical statement

This study was approved by the Ethics committee of Shiraz University of Medical Sciences (approval number, IR.sums.med.rec.1396.s316). Informed written consent to participate was obtained from all participants. The participants took part in the study voluntarily and their information remained confidential.

Supplementary material

Supplementary File 1: Focus group protocol.

[Click here to access the data](#)

Data availability

Transcripts of the focus group discussions (in Persian) are available on request from the corresponding author (bazrafcan@gmail.com).

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Reviewer Report 06 April 2020

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Cheryl A. Sadowski

University of Alberta, Edmonton, Canada

This study is addressing an important issue in geriatrics curriculum that is relevant in every country because of global aging. The authors have conducted a qualitative study to determine the success and challenges of geriatrics clinical clerkships.

Some areas to consider editing:

Abstract - The first sentence of the Background can be removed because this is universal.

Introduction

- Why is there reference to UK or Australia? Could reference international global data for all aging. No need for revision but rationale is not clear.
- Sentence: "... over 75 years old take five or more drugs" - remove "according to their medical background".
- "Most hospital beds are occupied by older patients and they have a lengthy hospital stay..." - is there a reference or evidence that they have lengthy stays? Most older adults are staying longer than 30d, just in Iran or other settings?
- "Hence the medical profession needs to handle..." - Suggest changing from "Medical profession" to note that all healthcare professionals need to be better prepared to provide care in geriatrics.
- "The main challenge ... is a better quality of life." I'm not following the thought in this sentence - are we assuming, without any references given, that geriatrics specialists improve quality of life, and by educating more people we will improve quality of life?
- "Furthermore, dissatisfaction..." - it sounds like this started out negatively, rather than saying that you were going to determine the level of 'satisfaction'.

Methods

- I was surprised that you included patients, as you state that you were including those who were involved in curriculum planning. Are patients usually involved in this?
- Semi-structured interviews - this is quite detailed and with the questions appended this much detail is not needed. But it is not clear from the appended list of questions if all were asked or which ones were definitely asked and which ones were optional depending on the dialogue.
- You note that the discussions were recorded - digitally or manually? - Minor edit.
- Focus groups - how were these groups selected? Pulled from the same people as the original participants? If the same provide rationale why you needed to survey them and do focus groups.
- Field observations - you describe this in Methods but then note in Results that you do not report this.
- Movies - why was there a short movie? How was the movie selected and how did it pertain to the study? It is not usual to show movies as part of a qualitative study, so please provide rationale.
- Data analysis - second paragraph is quite detailed and could be summarized in terms of following the general processes for qualitative research. No edits needed if word count is okay.
- "We also tried to avoid any bias..." - explain how you did this. Was it just mental focus, or was there a mechanism by having someone blinded? How did blinding take place - those who did the surveys and focus groups also did the coding of statements?
- For Methods, it may help to have more subheadings to guide this long section.
- Ethics - is it standard in Iran for the researcher to provide their phone number and email? This is fairly standard that anyone can stop being in a study at any time, so I think this does not need to be stated.

Results

- Some of the language may be challenging in the translation but overall this is reasonable.
- Table 1 is easy to follow and rational. Tables 2 and 3 could be set up so that the right hand column was in bullet points vs a long list that is hard to read.
- In the tables, note if there was a priority for some of the codes given - or are all equal?
- The quotes used throughout the text are quite informative but the subheadings don't seem to match. For example, the first few quotes make me think of "empathy" rather than effectiveness, but that could be partly a cultural interpretation.
- Some of the quotes, such as describing the setting or lack of resources, is that specific to

geriatrics, or would it apply to every situation, such as pediatrics, maternity units, etc?

- Please provide a short paragraph in the Intro or Discussion about the context of care in Iran, especially if this will be indexed internationally. Why is insurance described so often? Is there socialized healthcare? How does someone get admitted to a hospital? What is the current context in terms of number of geriatricians?

Discussion

- Some of the issues in the results appear to be ageism, which is in all cultures.
- "The present study shows that the medical students don't have enough competency in geriatrics." - I don't agree with this because that wasn't the objective or purpose of your study.
- Overall I find the Discussion is a bit long but fairly well written with reference to current literature and potential solutions for the problems identified.

Is the work clearly and accurately presented and does it cite the current literature?

Yes

Is the study design appropriate and is the work technically sound?

Partly

Are sufficient details of methods and analysis provided to allow replication by others?

Yes

If applicable, is the statistical analysis and its interpretation appropriate?

Partly

Are all the source data underlying the results available to ensure full reproducibility?

No source data required

Are the conclusions drawn adequately supported by the results?

Partly

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Geriatrics pharmacy practice.

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

Reviewer Report 08 October 2019

<https://doi.org/10.5256/f1000research.22189.r54558>

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Syed Jaffar Abbas Zaidi

Dow International Dental College, Dow University of Health Sciences (DUHS), Karachi, Pakistan

Kindly merge the two sentences into one:

- "Six educational hospitals and ambulatory centers of Shiraz University of Medical Sciences participated in this qualitative study."
- "Based on the qualitative research, the data underwent conventional content analysis for development of main themes."

In the data analysis section, kindly paraphrase the sentence:

- "while excluding data from direct observations".

Kindly write the reason as to why data was not used from direct observations for analysis.

Subsequently, considering the quality of the relationship between subcategories, the researchers reduced the categories by combining and organizing subcategories.

Is the work clearly and accurately presented and does it cite the current literature?

Partly

Is the study design appropriate and is the work technically sound?

Partly

Are sufficient details of methods and analysis provided to allow replication by others?

Partly

If applicable, is the statistical analysis and its interpretation appropriate?

Partly

Are all the source data underlying the results available to ensure full reproducibility?

Partly

Are the conclusions drawn adequately supported by the results?

Partly

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Qualitative research. Basic sciences research. Clinical sciences research

I confirm that I have read this submission and believe that I have an appropriate level of

expertise to confirm that it is of an acceptable scientific standard.

Version 1

Reviewer Report 17 June 2019

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Syed Jaffar Abbas Zaidi

Dow International Dental College, Dow University of Health Sciences (DUHS), Karachi, Pakistan

- This article has discussed the evaluation and feedback of geriatrics curriculum at Shiraz University of Medical Sciences. This article is based on thesis work and has been translated from Persian.
- The authors have not cited a landmark article by on the evaluation of geriatrics curriculum at 40 US Medical schools and its citation has been added for reference purposes (Anderson *et al.*, 2004¹). Furthermore, regional articles relating to qualitative evaluation of geriatric curriculum have not been referenced.
- The article suffers from verbosity, unnecessary repetition of words and inherent problems associated with literal translation. It needs to be edited preferably by a native English speaker so that its writing is more coherent and cohesive. There are many grammar mistakes in this article and I suggest the authors to use software to check grammar such as Grammarly to review this article. Please see my annotated copy of the article [here](#), where I have highlighted and commented on some of the sentences of the article that I have paraphrased.
- The authors have not discussed how they have categorized the data into themes. Whether they have software such as NVivo or have they done it manually?
- The authors have not mentioned the five steps of analysis of themes that include familiarization, identification of a thematic framework, indexing, charting, followed by mapping and interpretation.
- The authors have not suggested how curricular reforms can address the lack of integration of geriatric curriculum into the current general medicine curriculum. No details of field observations and their findings have been included in this article.
- One of the key features of curricular evaluation is social responsibility and social accountability and the authors have not mentioned these terminologies anywhere in this article.

- The words “problems of the building & hospital capacity” are not appropriate and should be replaced by “infrastructure problems”.
- The words “Intersection collaboration in different health sections” should be replaced with “Interprofessional education & collaboration”.

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Is the work clearly and accurately presented and does it cite the current literature?

Partly

Is the study design appropriate and is the work technically sound?

Yes

Are sufficient details of methods and analysis provided to allow replication by others?

Yes

If applicable, is the statistical analysis and its interpretation appropriate?

Yes

Are all the source data underlying the results available to ensure full reproducibility?

Yes

Are the conclusions drawn adequately supported by the results?

Yes

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Qualitative research. Basic sciences research. Clinical sciences research

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

Author Response 27 Aug 2019

somayeh delavari, Iran University of Medical Sciences, Tehran, Iran

Response to comment 1: Thank you for your comment. In this article, we needed to consult a bilingual native speaker to help us in using the real concepts in the manuscript. Certainly, we consulted a native speaker in Iran, Prof. Nasrin Shokrpour, the chief editor and consultant of English articles in Shiraz University of Medical University and finally check grammar such as Grammarly.

Response to comment 2: Data analysis was done manually.

Response to comment 3: Using your valuable comment, we revised the methodological issues and the data analysis sections. Conventional content analysis was used to analyze the data collected.

Response to comment 4: Your suggestion was completely right and done and add table 2.

Response to comment 5: The social responsibility and social accountability were added to the article, based on your valuable comment.

Response to comment 6: Your suggestion was completely right and done.

Response to comment 7: Your suggestion was completely right.

Thank you for your attention to this manuscript and valuable comments. We hope the new version meets your expectations.

Competing Interests: The authors declare that they have no competing interests.

Author Response 05 Sep 2019

somayeh delavari, Iran University of Medical Sciences, Tehran, Iran

- In this new version of the manuscript (Version 2), we needed to consult a bilingual native speaker to help us in using the real concepts in the manuscript. Certainly, we consulted a native speaker in Iran, Prof. Nasrin Shokrpour, the chief editor and consultant of English articles in Shiraz University of Medical University and finally check grammar such as Grammarly.
- In addition, data analysis was done manually and we revised the methodological issues and the data analysis sections. Conventional content analysis was used to analyze the data collected.
- In addition, details of field observations and their findings have been included in this article and add new table (table 2).
- In addition to that, the social responsibility and social accountability were added to the article, based on your valuable comment.
- In addition, the words “problems of the building & hospital capacity” and “Intersection collaboration in different health sections” are to be replaced by “infrastructure problems” and “Interprofessional education & collaboration” respectively.

Competing Interests: The authors declare that they have no competing interests.

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