

Competency of a Graduate after MBBS in Practicing Geriatric Medicine

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Abstract

Background: There is an increase in geriatric population and the elderly people suffer from dual medical problems, i.e., both communicable as well as non-communicable diseases. There is deficiency felt in undergraduate geriatric training in spite of the longitudinal coverage of most of the content areas and a need for well trained interdisciplinary care of older persons. Gerontology in India is in a nascent stage and is not encouraged as a practice. The present study was undertaken to see the competency of a graduate after MBBS in practicing Geriatrics Medicine.

Methodology: This prospective study was conducted in from November 2014 to January 2015. All the participants had to fill in a questionnaire to assess the basic knowledge and level of competency regarding geriatric population and perception regarding geriatrics medicines.

Results: 50 participants completed the questionnaire, ten faculty members, 18 resident and 22 interns participated in the study. Majority participants felt the need for specialist training programs for geriatric medicine and special short module for day to day practice. The majority of participants were either quiet competent to a little bit competent in dealing with geriatric medicines or the interns found them quite incompetent in dealing with geriatric patients.

Conclusion: Most of the participants felt the need of specialist training programs for geriatric medicine and special short module for day to day practice.

Key Words: Geriatric medicine, faculty, interns

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Introduction

“Geriatrics is a branch of General medicine that is concerned with the clinical, preventative, remedial and social aspects of illness in old age” as

defined by The Royal College of Physicians (London).¹

The number of “elder” people in India (60+ years) has increased by 54.77% in the last 15 years², and the old age dependency ratio, stands at 0.132, projected to cross over 0.20 by 2050.³ This sudden increase in geriatric population is as a result of declining fertility rates and increasing life expectancy, the population of India has undergone a major demographic change, the overall age dependency ratio now stands at 0.584.⁴

In India, the elderly people suffer from dual medical problems, i.e., both communicable as well as non-communicable diseases, further compounded by impairment of special sensory functions

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like vision and hearing, as well as decline in immunity leading to an increased burden of diseases in elderly. The prevalence of tuberculosis is higher among the elderly than younger individuals.⁵ A WHO sponsored study has revealed that there was a high prevalence of diseases like diabetes mellitus, hypertension and other old-age ailments among the senior citizens and there is an urgent need for having a separate Geriatric Department.⁶

A worldwide survey conducted by WHO showed that only 41% of the curricula mention geriatrics in some way and only 24% had an independent unit for geriatric medicine.⁷ The WHO advocates the need for well trained interdisciplinary care of older persons, and universities to incorporate geriatric training programmes into medical curriculum.⁸⁻⁹ The American Geriatrics Society's Education Committee has recommended the core competencies of health care providers for the care of older persons¹⁰, British Medical Council also emphasized the need to equip them for the special needs of older people.¹¹ But there is deficiency felt in under-graduate geriatric training in spite of the longitudinal coverage of most of the content areas.⁶

Gerontology in India is in a nascent stage. The incidence of conditions specifically associated with old age such as falls, cognitive impairment, vision impairment, hearing impairment, delirium, dizziness and frailty, is increasing. Geriatric medicine is not encouraged as a practice. Internists, without being specially qualified to assess and treat geriatric conditions attend to such patients. Therefore, the average geriatric medical condition goes under/untreated and the total burden in the population of such conditions is always underestimated. With increasing life spans, elders in India are commonly facing conditions which were considered rare two generations back.⁴

The present study was undertaken to see the competency of a graduate after MBBS in practicing Geriatrics Medicine.

Methodology

This prospective study was conducted in Department of Pharmacology, GSMCH, Patiala from November 2014 to January 2015 after approval from Institutional Ethics Committee (IEC). After written informed consent, the interns, residents and faculty members were enrolled in the study. All steps were taken to maintain the confidentiality of the participants. All the participants had to fill in a questionnaire to assess the basic knowledge and level of competency

regarding geriatric population and perception regarding geriatrics medicines. The questionnaire was given to the participants and he was given time to fill it up, the same was collected from the participants after ensuring that he had filled it up.

Questionnaire (Annexure 1)

The questionnaire consisted of two parts: the first section consisted of four questions that had to be answered in either yes or no. The questions in this section were dealing with the aspect of training/ special courses in geriatric medicine.

The second section consisted of 28 questions that were designed to know the perception of doctors about Geriatrics teaching, training and competency of a graduate after doing M.B.B.S. The response to each question varied from "not at all" to "completely competent" and was graded from a to d. The response was as follows: a: not at all; b: a little bit; c: quite a lot; and d: completely competent.

Statistical Analysis

The data assembled was presented as mean \pm SD. Results were analyzed with the help of appropriate parametric and non-parametric tests like students t-test, chi-square test, ANOVA, Mann Whitney test. The results with p value of <0.05 was considered as statistically significant.

Results

A total of 150 interns, residents and faculty members were given the questionnaire out of which only 50 participants completed the questionnaire and gave written informed consent to participate in the study. Ten faculty members, 18 resident and 22 interns completed the questionnaire and were included in the result analysis. As shown in Figure 1, 68% of participants responded that they did not come across any teaching module in their MBBS curriculum on Geriatrics, although 52% responded that they were aware of special courses or training programs in India. Majority (66%) participants felt the need for specialist training programs for geriatric medicine and special short module for day to day practice. There was no significant ($p>0.05$) difference in the response based on designation.

The Knowledge aspects of participants are presented in Figure 2 and Table 1; this component had 28 questions and each question had four options varying from "not at all" to "completely competent". The responses of the faculty and resident participants have shown majority believed they were quiet competent to explain the impact of

age related changes on drug selection and could identify the medication that has to be avoided, although the intern thought they were only little competent with both the aspects. Majority of the respondents felt they were little competent with identifying the complete medication list, compare clinical presentation, formulate differential diagnosis, urgently initiate diagnostic work up, perform and interpret cognitive assessment, develop a management plan, assess functional abilities, and develop a preliminary management plan, with residents and faculty member having significantly higher competent skills as compared to interns.

identify psychological changes and with residents and faculty member having significantly higher competent skills as compared to interns.

The responses of the participants have shown majority believed they were quiet competent to present palliative and explain risk, indication and alternatives, although the intern thought they were only little competent with both the aspects. Majority of the respondents felt they were little competent with identifying potential hazards of hospitalization, communicate the key components, conduct a surveillance exam, suspect abuse, and were familiar with laws, with residents and faculty member having significantly higher competent skills as compared to interns.

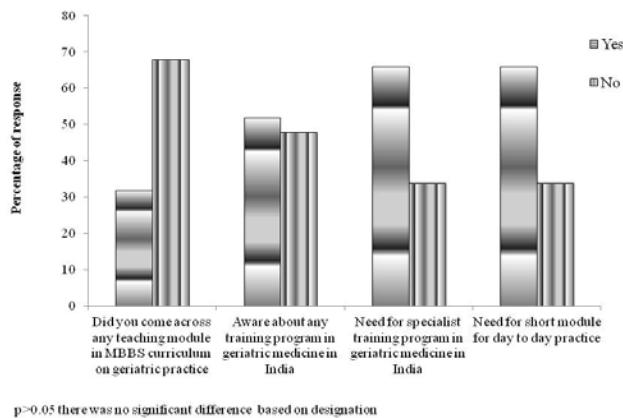


Figure 1. Response of participants in section I

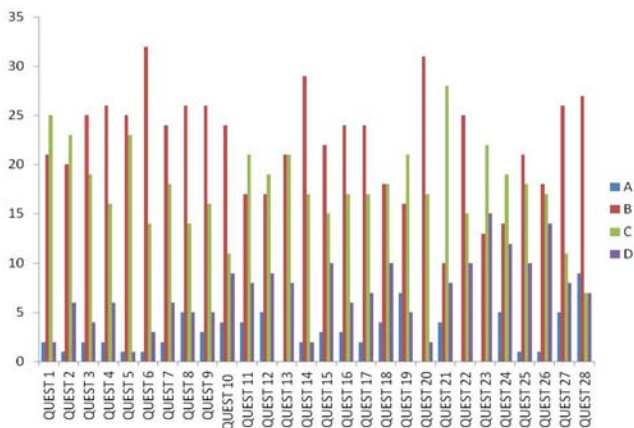


Figure 2. Responses of participants to Section II

The responses of the participants showed majority believed that they were quiet competent to assess the safety risk in home environment, about relevant history, construct a differential diagnosis, generate diagnosis based on presentation and provide initial pain management although the intern thought they were only little competent with both the aspects. Majority of the respondents felt they were little competent with identifying the code status, accurately identify clinical situation,

Discussion

With increasing population of elderly in our country, the demand of number of physicians trained and certified as geriatricians is not likely to be met.^{12,13} Primary care physicians and nurse practitioners will be increasingly expected to care for elderly patients and a negative attitude towards elderly persons may lead to lower quality care to their elderly patients.¹² Educational interventions designed to change attitudes and increase knowledge about older adults have provided evidence that such interventions may improve medical students' attitudes. Educational interventions can be designed to impart skills, improve attitudes and increase knowledge, and is possible that skills-oriented educational interventions may be more effective at improving student attitudes toward the elderly.¹⁴

The results of our study showed that most of the participants felt the need of specialist training programs for geriatric medicine and special short module for day to day practice. The majority of participants were either quiet competent to a little bit competent in dealing with geriatric medicines. The intern who had just completed their MBBS exam found them quite incompetent in dealing with geriatric patients.

The results of our study are similar to a study that hypothesized that knowledge of aging, attitudes toward the elderly, and interest in geriatric medicine was relatively low among Physician Assistant students and the data supported the increase of geriatric education and inclusion of exposure to well elderly in order to stimulate interest and optimally prepare students for professional careers in geriatric medicine.¹²

Table 1. Response of participants in Section II

Question (Response)	Faculty (n=10)	Residents (n=18)	Interns (n=22)	p Value
1 (A:B:C:D)	0:3:5:2	0:6:12:0	2:12:8:0	<0.05*
2 (A:B:C:D)	0:0:5:5	0:6:11:1	1:14:7:0	<0.05*
3 (A:B:C:D)	0:3:6:1	0:10:6:2	2:12:7:1	>0.05
4 (A:B:C:D)	0:2:3:5	0:11:6:1	2:13:7:0	<0.05*
5 (A:B:C:D)	0:1:9:0	1:10:6:1	0:14:8:0	<0.05*
6 (A:B:C:D)	0:5:2:3	0:11:7:0	1:16:5:0	<0.05*
7 (A:B:C:D)	0:2:5:3	0:11:5:2	2:11:8:1	>0.05
8 (A:B:C:D)	0:5:3:2	2:9:5:2	3:12:6:1	>0.05
9 (A:B:C:D)	0:2:6:2	3:7:7:1	0:18:3:1	<0.05*
10 (A:B:C:D)	0:2:2:6	2:10:4:2	3:14:4:1	<0.05*
11 (A:B:C:D)	0:1:5:4	1:6:7:4	3:10:9:0	>0.05
12 (A:B:C:D)	0:0:6:4	0:5:9:4	5:12:4:1	<0.05*
13 (A:B:C:D)	0:2:2:6	0:6:10:2	0:13:9:0	<0.05*
14 (A:B:C:D)	0:4:6:0	0:12:5:1	2:13:6:1	>0.05
15 (A:B:C:D)	0:2:3:5	1:9:6:2	2:11:7:2	>0.05
16 (A:B:C:D)	0:1:5:4	0:9:7:2	3:14:4:1	<0.05*
17 (A:B:C:D)	0:2:6:2	1:8:7:2	1:14:5:2	>0.05
18 (A:B:C:D)	0:1:3:6	1:7:6:4	3:10:8:1	<0.05*
19 (A:B:C:D)	0:1:7:2	2:7:8:1	5:9:8:0	>0.05
20 (A:B:C:D)	0:1:7:2	0:10:7:1	0:20:2:0	<0.05*
21 (A:B:C:D)	0:0:4:6	1:4:11:2	3:6:13:1	<0.05*
22 (A:B:C:D)	0:2:3:5	0:8:6:4	1:15:5:1	>0.05
23 (A:B:C:D)	0:1:4:5	0:3:8:7	0:9:11:2	>0.05
24 (A:B:C:D)	0:0:4:6	1:8:6:3	4:6:10:2	<0.05*
25 (A:B:C:D)	0:1:3:6	0:7:7:4	1:13:6:2	<0.05*
26 (A:B:C:D)	0:1:2:7	0:7:6:5	1:10:10:1	<0.05*
27 (A:B:C:D)	0:2:3:5	1:9:6:2	4:15:3:0	<0.05*
28 (A:B:C:D)	1:3:3:3	2:11:3:2	6:13:1:2	>0.05

*p<0.05, significant difference in response based on designation using Chi-Square Test

ANNEXURE 1:

NAME..... AGE/SEX.....

DEPARTMENT/DESIGNATION.....

QUALIFICATION..... YEAR OF PASSING MBBS.....

Section A

1. Did you come across any teaching module in your MBBS curriculum in relation to Geriatrics/Geriatrics Medicine/ Geriatric Pharmacology/ Geriatrics Physiology/etc? **(Yes) / (No)**
2. Are you aware of any special courses/ Training Program in Geriatrics running in any medical institute/ hospital in India? **(Yes) / (No)**
3. Do you feel the need for specialist training program for Geriatrics medicine in medical institutes/ hospitals in India? **(Yes) / (No)**
4. Do you feel need of special short module for Geriatric training for medical graduates to help general physicians in day to day practices? **(Yes) / (No)**

Section B

Following questionnaire is designed to know the perception of doctors about Geriatrics teaching, training& competency of a graduate after doing M.B.B.S

Rate the following statements accordingly:

A: Not at all; B: A little bit; C: Quiet a lot; D: Completely competent

For Question 1-27 can a MBBS graduate?

S. No	Question	Rating (A, B, C, D)
1	Explain impact of age-related changes on drug selection and dose based on knowledge of age-related changes in renal and hepatic function, body composition, and Central Nervous System sensitivity.	
2	Identify medications including anticholinergic, psychoactive, anticoagulant, analgesic, hypoglycemic, and cardiovascular drugs that should be avoided or used with caution in older adults and explain the potential problems associated with each.	
3	Document a patient's complete medication list, including prescribed, herbal and over-the-counter medications, and for each medication provide the dose, frequency, indication, benefit, side effects, and an assessment of adherence.	
4	Compare and contrast among the clinical presentations of delirium, dementia, and depression.	
5	Formulate a differential diagnosis and implement initial evaluation in a patient who exhibits delirium, dementia, or depression.	
6	Urgently initiate a diagnostic work-up to determine the root cause (etiology) in an older patient with delirium.	
7	Perform and interpret a cognitive assessment in older patients for whom there are concerns regarding memory or function.	
8	Develop an evaluation and non-pharmacologic management plan for agitated demented or delirious patients.	

- 9 Assess and describe baseline and current functional abilities in an older patient by collecting historical data from multiple sources, making sure to include instrumental activities of daily living and activities of daily living, and performing a confirmatory hearing and vision examination.
 - 10 Develop a preliminary management plan for patients presenting with functional deficits, including adaptive interventions and involvement of interdisciplinary team member's from appropriate disciplines, such as social work, nursing, rehabilitation, nutrition, and pharmacy.
 - 11 Identify and assess safety risks in the home environment, and make recommendations to mitigate these.
 - 12 Ask all patients > 65 years of age, or their caregivers, about falls in the last year, watch the patient rise from a chair and walk (or transfer), then record and interpret the findings.
 - 13 Construct a differential diagnosis and evaluation plan that addresses the multiple etiologies identified by history, physical examination and functional assessment in a patient who has fallen.
 - 14 Define and differentiate among types of code status, health care proxies, and provision where a patient can state instructions for his treatment choice in case he is not in a state to make a decision (advance directives) in the state where one is training.
 - 15 Accurately identify clinical situations where life expectancy, functional status, patient preference or goals of care should override standard recommendations for screening tests in older adults.
 - 16 Accurately identify clinical situations where life expectancy, functional status, patient preference or goals of care should override standard recommendations for treatment in older adults.
 - 17 Identify at least 3 physiologic changes of ageing for each organ system and their impact on the patient, including their contribution to homeostasis (the age-related narrowing of homeostatic reserve mechanisms.)
 - 18 Generate a differential diagnosis based on recognition of the unique presentations of common conditions in older adults, including acute coronary syndrome, dehydration, urinary tract infection, acute abdomen, and pneumonia.
 - 19 Assess and provide initial management of pain and key non-pain symptoms based on patient's goals of care.
 - 20 Identify the psychological, social, and spiritual needs of patients with advanced illness and their family members, and link these identified needs with the appropriate interdisciplinary team members.
 - 21 Present palliative care as a positive, active treatment option for a patient with advanced disease.
 - 22 Identify potential hazards of hospitalization for all older adult patients (including immobility, delirium, medication side effects, malnutrition, pressure ulcers, procedures, peri and post-operative periods, transient urinary incontinence, and hospital acquired infections) and identify potential prevention strategies.
 - 23 Explain the risks, indications, alternatives, and contradictions for indwelling (Foley) catheter use in the older adult patient.
 - 24 Explain the risks, indications, alternatives, and contraindications for physical and pharmacological restraint (measures to immobilize the patient so that he does not cause damage to self and others).
 - 25 Communicate the key components of a safe discharge plan (e.g., accurate medication list, plan for follow-up), including comparing/contrasting potential sites for discharge.
 - 26 Conduct a surveillance examination of areas of the skin at high risk for pressure ulcers and describe existing ulcers
 - 27 Suspect or identify physical, psychological or financial abuse of the elderly?
 - 28 Is familiar with the laws for the safety or to prevent the abuse of the elderly in terms of social/financial/physical aspect?
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Another study done to assess the effect of geriatric clinical skills training on the attitudes of medical students concluded that teaching that targets specific skills improved the attitudes of medical students towards elderly patients, though the improvement was slight and the addition of attitude-building elements may improve the effectiveness of future skills-oriented educational interventions. The results of this study are similar to our study where we found a low level of competency among physician towards geriatric medicine, although we did not go for clinical skill training.¹⁴

One more study done to seek input from medical students and internal medicine residents (“trainees”) on their perception of their needs for training in Geriatrics demonstrated that trainees identified gaps in skills and knowledge leading to frustration and potentially adverse outcomes in caring for elderly patients. They also felt the need for development of curriculum guidelines should include assessment of trainees’ perceived learning. The results of this study are quite similar to our study where the participants felt incompetent in taking care of geriatric medicine.¹⁵

There are certain limitations to our study: Firstly, the sample size was small and the limiting factor for this was the short duration of study. Secondly, a post-questionnaire training would have given more appropriate suggestion, but due to limited availability of specialist in Geriatric medicine this was not feasible.

To conclude most of the participants felt the need of specialist training programs for geriatric medicine and special short module for day to day practice. The majority of participants were either quiet competent to a little bit competent in dealing with geriatric medicines or the interns found them quite incompetent in dealing with geriatric patients.

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