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Perceptions of Geriatric Medicine and Care of the Elderly: An Exploratory Survey of Physicians from the Middle East and Africa

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Abstract

Background The number of older people is growing in the Middle East and Africa (MEA). We aimed to explore the attitudes of MEA's physicians toward the care of the elderly and nursing homes.

Methods We surveyed 137 doctors practicing in the MEA region in 2017 using an online questionnaire that included attitude scales of geriatrics and nursing homes.

Results Most respondents were senior (47.1%) or in middle grades (35.3%), in public facilities (77.4%), and practiced internal medicine and subspecialties. More respondents (86%) agreed with what was perceived as the most exciting and entertaining qualities of most older people in their accounts of their past experiences. Also, 69.0% of respondents disagreed that older people need/demand no more attention or love than younger people. At the same time, 43.6% of respondents were neutral on the question relating to older people's power in business and politics. Positive attitudes, that is, older people's willingness to continue working for as long as possible, and that wisdom with age scored 61.5% was supported by 85.1 and 61.5% of the respondents, respectively.

On the other hand, 53.7% of respondents agreed that older people could not adjust and change with changing circumstances, 70.9% disagreed that older people make neighborhoods less favorable. However, only 15.5% disagreed with the statement that older people cannot adjust and change with changing circumstances. Nearly two-thirds thought nursing homes were not well developed (63.0%) in the MEA region. Also, 59.8% said that the expected reimbursement is low, 57.7% were concerned about complicated medical problems, and 57.3% highlighted the deficits in training. There was low satisfaction with providing nursing home care despite agreeing that they may

Keywords
- elderly care
- geriatrics attitude scale
- doctors
- attitudes toward older people
- geriatrics education
- nursing home care
- Middle East
- Africa

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feel professionally satisfied providing nursing home care (49.5%). The respondents were neutral (47.3%) or somewhat agreed (42.9%) about enjoying nursing home care.
Conclusion There is a suboptimal attitude of practicing physicians to geriatrics that needs improvements.

Introduction

Population aging has been a global phenomenon in recent years. Between 2015 and 2050, the proportion of the world's population over 60 years will nearly double from 12 to 22%. Also, 80% of older people in 2050 will be living in low- and middle-income countries.[1] Increased life expectancy leads to a significant increase in the elderly population soon. The attitudes toward older adults may influence the physicians'practices when dealing with the health problems of the elderly. Studies that specifically investigate physicians'attitudes toward the elderly are scarce.

Advancing age leads to a decrease in the body's structure and function, decreasing maintaining homeostasis and more vulnerable individuals to trauma, drugs, and environmental changes.[2] By aging, many systems such as the cardiovascular and musculoskeletal systems lose their ability to supply the body's needs as individuals age. Chronic illnesses are also seen more commonly in aging individuals.[3] As the reality of living longer is realized globally, it becomes necessary to create a healthy aging environment to decrease the risks and prevent complications of chronic diseases from improving quality of life.

Nevertheless, few studies elicit the attitude of young healthcare providers and students toward the care of the elderly.[4] However, with limited formal recognition of geriatrics or gerontology as a designated specialty for older adults, the provision of healthcare services to the elderly in the Middle East and Africa (MEA) is performed either by the general practitioner(GP) in primary healthcare or internal medicine physician.[5–7] Consequently, elderly health education in medical faculty and nursing curricula becomes crucial. To this end, the determination of the attitude of healthcare providers toward the elderly is more critical for the initial assessment of current education programs and for planning future ones. There was not much information about the attitude of young GPs. Therefore, we aimed to explore a convenience sample of physicians toward the elderly population and the potential for establishing nursing homes in the MEA.

Materials and Methods

Setting and Design

This is a cross-sectional online survey of a convenience sample of physicians practicing in the MEA region. The survey Web site was open for the 3-month study period from July 1, 2017 to September 30, 2017.

Survey Management

A Web-based commercial survey management service (Survey Monkey, Palo Alto, California, United States) was used. All participants received an initial email that explained the rationale of the survey and what is required from the consented respondents, followed by six subsequent reminder emails during the study period. Each message included explaining the rationale and method of participation, full credentials, and contact details of the principal investigator, together with a unique email-specific electronic link to the questionnaire. The survey service automatically blocked repeated submissions from the same IP address. In the end, survey responses were collected and stored electronically for an anonymous analysis.

The Survey Questionnaires

The survey was based on two previously published surveys.[8,9] The survey included questions covering the demographic and professional profile of respondents. Respondents'attitudes to geriatrics using the "Geriatrics Attitude Scale - Kogan 34." It is a 34-item scale. Half of the items are negatively worded, half are positively worded. The scale uses a 5-point Likert scale (1, strongly disagree; 5, strongly agree). For this study, negatively and positively phrased questions were examined separately by only amalgamating options to three points. The original scale manifested good reliability, with Spearman–Brown reliability coefficients.[7] Furthermore, perception of nursing home care movement was assessed using previously published scales (►**Table 1**).

There is no single MEA regional medical society with a membership list at the study that can define a study population. Therefore, the target population was identified from a list of electronic mails pooled from Continuous Professional Development delegates, speakers, authors, or members of various scientific groups or forums in various parts of the MEA region. Consequently, several questions were added to the survey to help define the demographic and professional profiles of the respondents and their practices similar to previously published studies from the MEA region.[10–14]

Data Analysis

Summary statistics were calculated for responses to each question. Since not every participant answered all questions, the percentage of respondents providing a given answer was calculated individually for each question, using the number of respondents in the denominator. The online survey tools were used to calculate the summary of the results.

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Table 1 Perception of nursing home care movement

Introduction: Nursing home care is not widely available in our region. You may answer this set of questions based on recent and past experience or learned knowledge that lead you to formulate an opinion. Please indicate how you agree or disagree with these statements: [Strongly disagree, Disagree, Neutral, Agree, Strongly agree]
Q1. Perceived obstacles to including nursing home care in the current (established doctors) or future (residents) practice: Lack of time: "Time considerations," "Time out of daily schedule" Limited reimbursement: "Compensation," "Money," "Reimbursement" Negative nursing home environment: "I can't stand the smell and usually inadequate treatment of residents in the nursing home," "Most nursing homes provide a level of care that I do not want to be associated with" Unclear opportunities: "Depends on location," "I don't know how I would find out about openings" Deficits in training: "I don't know much about how physicians perform nursing home care," "I need further training," "Little experience" Medical problems too complex: "Too many medical problems," "Complexity of care," "Polypharmacy" Depends on their practice: "Fitting this in with office-based practice" Plan to limit practice and will not include geriatrics: "Sports medicine," "Plan outpatient integrative health," "Interested in maternity care" Too sad and depressing: "Nursing homes are depressing environments," "Sad to have patients die," "Depressing to see such incredible people with incredible histories living in an environment like a hospital" No interest: "Doesn't seem very interesting" Nursing homes are not at all well developed in the Country/Region
Q2. Perceived incentives to including nursing home care in the current (established) or future (residents) practice: More money: "Better reimbursement," "Increased compensation" Better training/more experience: "More time in residency doing this," "Follow a geriatrician for a week," "What is the best way to work efficiently, and what are the keys to enjoying your time there," "I would like to do this but need to learn more about how to integrate this into my practice" Adequate time: "Protected time away from practice" Better nursing homes: "A high-quality facility that gives excellent care—they are hard to find," "If they were cleaner, not as foul-smelling, and the patients received better care," "Better trained staff"
Q3. Current or anticipated satisfaction with providing nursing home care practice. Please indicate how do you agree or disagree with these statements: Feel professionally satisfied providing nursing home care Enjoy nursing home care Satisfied with the financial compensation from my nursing home work

Results

Demographic and Professional Profile

Of the 137 responses received, 93 (67.9%) lived and practiced in the Middle East and 44 (32.1%) in Africa. There were 76 males (56.7%) and 58 females (43.3%). Their age groups (136 responses) were stated as follows 19 (14.0%) were 21 to 30 years, 23 (16.9%) were 31 to 40 years, 27(19.9%) were 41 to 50 years, 41(30.1%) were 51 to 60 years, and 26 (19.1%) were over 60 years of age. The career grades are 64 seniors (47.1%); 48 middle grades (35.3%) and 21 juniors (17.6%). Of the respondents, 52 practiced in tertiary level care (38.0%), 27 in secondary level care (19.7%), 43 in primary health care (31.4%), and 15 in other facilities (10.9%). The type of clinical practice was mostly public for 106 (77.4%) and mostly private for 31 respondents (22.6%). The majority have been in clinical practice for over 20 years (56.3%), between 11 and 20 years (20.0%), and the remainder for 10years or less (23.7%). Only 3 are geriatric specialists (2.9%). The majority are either practicing general internal medicine/acute medicine (28.2%), internal medicine subspecialties (26.2%), or family medicine/general practice (32.0%). The best practices were in obstetrics and gynecology (6.8%), occupational medicine (2.9%), and general surgery (1.0%). Just over a quarter received formal training in geriatric medicine at some stage of their career, but not the majority (73.9%). The respondents reported the proportion of patients over 65 years of age in their practices as <20%by 33.0% of respondents, between 21 and 50%by 49.2%, between 40 and 75%by 15.7%, and over 75%by 2.9% of respondents only.

Attitudes to Geriatrics

The individual responses are shown separately to the two subgroups of the responses, that is, positivelyphrased and negativelyphrased responses (►**Tables 2** and **3**). Responses to the positively phrased questions revealed that 86.6% perceived most older adults'most exciting and entertaining qualities as their accounts of their past experiences. On the contrary, only 6.3% thought that one seldom hears older adults complaining about the younger generation's behavior. Also, of note that 69.0% of respondents disagreed with the statement that older people need/demand no more attention or love than younger people. Whereas 43.6% of respondents were neutral on the question relating to older people's power in business and politics, the lowest neutral response was related to older people's past experiences scoring 7.4%. Among other positively phrased questions with a high number of responses that agreed with the statement were questions related to older people's willingness to continue working for as long as possible, with 85.1% of the respondents agreeing with it and wisdom with age scoring 61.5%.

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Table 2 Responses to the positive statements in the Geriatrics Attitude Scale

Statement	Disagree/ Strongly disagree	Neutral	Agree/ Strongly agree
One of the most interesting and entertaining qualities of most old people is their accounts of their past experiences	8 (5.9%)	10 (7.4%)	117 (86.6%)
Most old people would prefer to continue working just as long as they possibly can rather than be dependent on anybody	10(7.5%)	10(7.5%)	114 (85.1%)
It is evident that most old people are very different from one another	27 (20.0%	21 (15.6%)	87 (63.5%)
People grow wiser with the coming of old age	17(12.6%)	35(25.9%)	83 (61.5%)
When you think about it, old people have the same faults as anybody else	32 (24.1%)	23 (17.3%)	90 (58.7%)
Most old people are very relaxing to be with	14 (10.6%)	41 (30.8%)	78 (58.6%)
Most old people seem quite clean and neat in their personal appearance	18 (13.4%)	40 (29.9%)	76 (56.7%)
It would probably be better if most old people lived in residential units with younger people	33 (24.7%)	32 (23.9%)	69 (51.5%)
Most old people can generally be counted on to maintain a clean, attractive home	25 (18.8%)	40 (30.1%)	68 (51.2%)
You can count on finding a nice residential neighborhood when there is a sizeable number of old people living in it	23 (17.5%)	49 (37.1%)	60 (45.5%)
Most old people are really no different from anybody else; they're as easy to understand as younger people	52 (39.7%)	24 (18.3%)	55 (42.0%)
Most old people are capable of new adjustments when the situation demands it	45 (33.6%)	34 (25.4%)	55 (41.0%)
Most old people are cheerful, agreeable, and good-humored	39 (28.9%)	43 (31.9%)	52 (39.2%)
Old people should have power in business and politics	29 (21.8%)	58 (43.6%)	46 (34.6%)
Most old people tend to keep to themselves and give advice only when asked	57 (42.2%)	44 (32.6%)	34(25.2%)
Most old people need no more love and reassurance than anyone else	91(69.0%)	12 (9.1%)	29 (22.0%)
One seldom hears old people complaining about the behavior of the younger generation	67 (49.6%)	46 (34.1%)	22 (16.3%)

Note: Responses are organized in decreasing order of frequency of affirmative response to the "agree/strongly agree" options. Results are expressed as frequency (percentage).

Looking at the negatively phrased statements, we noted that 53.7% of respondents agreed that older people could not adjust and change with changing circumstances. The least number of respondents agreed with a statement that older people need to pay more attention to their appearances, and 70.9% of respondents disagreed with the statement that older people make neighborhoods less favorable. In contrast, only 15.5% disagreed with the statement that older people cannot adjust and change with changing circumstances. Among the neutral responses, 40.7% were undecided on a statement suggesting that all older adults are alike. Only 14.8% were neutral on a statement suggesting that older people should live in residential units with people of their age.

Among the highest scores in both positively and negatively phrased responses, the respondents'statements included issues related to the significance of past experiences, inability to adapt to changing times and talking about good old days, and complaining about younger peoples'behavior, are just some examples of the typical stereotypes commonly encountered in our society which could have affected the respondents'responses (►**Tables 2** and **3**).

Perception of Nursing Home Care Movement

►**Fig. 1** depicts the detailed summary of 94 responses to the perceived obstacles, including nursing home care in the current (established doctors) or future (residents) practice. The qualifying behavior to each question is shown in ►**Table 3**. Added together, responses, as to agree or strongly agree, were highest for nursing homes being not at all well-developed (63.0%), limited reimbursement (59.8%), medical problems being too complex (57.7%), and deficits in training (57.3%).

Perceived Incentives to Nursing Home Care

►**Fig. 2** depicts the respondents'perceived incentive to include nursing home care in their practices. The qualifying explanations to each question are shown in ►**Table 3**. Over half (56.7%) agreed on more money as an incentive, followed by 22.2% being neutral. Better training and more experience were agreed by 56.7%, but 20.0% strongly agreed with this statement and slightly less, 18.9%, were neutral. Again, over half (55.8%) of respondents agreed on an adequate protected time, but 26.7% were neutral to this option. However, better nursing homes were agreed by 53.9%, but 21.3 and 20.2% agreed strongly or were neutral, respectively.

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Table 3 Responses to the negative statements in the Geriatrics Attitude Scale

Statement	Disagree/ Strongly disagree	Neutral	Agree/ Strongly Agree
To maintain a nice residential neighborhood, it would be best if too many old people did not live in it	95 (70.9%)	21 (15.7%)	18(13.4%)
Most old people tend to let their homes become shabby and unattractive	94 (69.6%)	24(17.8%)	17 (12.6%)
Most old people should be more concerned with their personal appearance; they're too untidy	93 (69.4%)	29 (21.6%)	12 (9.0%)
Most old people would prefer to quit work as soon as pensions or their children can support them	89 (66.4%)	25 (18.7%)	20 (14.9%)
Most old people are irritable, grouchy, and unpleasant	92 (69.2%)	27 (20.3%)	14 (10.5%)
It would probably be better if most old people lived in residential units with people their own age	83 (61.5%	20 (14.8%)	32 (23.7%)
Most old people make one feel ill at ease	77 (57.5%)	39 (29.1%)	18 (13.4%)
Most old people spend too much time prying into the affairs of others andgiving unsought advice	66 (49.6%)	40 (30.1%)	27 (20.3%)
It is foolish to claim that wisdom comes with age	63 (47.7%)	40 (30.3%)	29 (22.0%)
Most old people make excessive demands for love and reassurance than anyone else	57 (42.2%)	34 (25.2%)	44 (32.6%)
Most old people bore others by their insistence on talking "about the good old days"	55 (41.0%)	32 (23.9%)	47 (35.0%
There are a few exceptions, but in general most old people are pretty much alike	52 (39.1%)	37 (27.8%)	44 (33.1%)
If old people expect to be liked the first step is to try to get rid of their irritating faults	51 (37.8%)	53 (39.3%)	31 (23.0%)
There is something different about most old people; it's hard to find out what makes them tick	49 (36.3%)	55 (40.7%)	31 (22.9%)
Old people have too much power in business and politics	47 (35.1%)	46 (34.3%)	41 (30.6%)
Most old people are constantly complaining about the behavior of the younger generation	35 (25.9%)	44 (32.6%)	57 (41.5%)
Most old people get set in their ways and are unable to change	21 (15.5%)	41 (30.6%)	71 (53.7%)

Note: Responses are organized in decreasing order of frequency of affirmative response to the "Agree/strongly agree" options. Results are expressed as frequency (percentage).

Satisfaction with Providing Nursing Home Care

►**Fig. 3**depicts the detailed current and anticipated satisfaction with providing nursing home practice (details of the questions are shown in ►**Table 1**). The respondents reported feeling satisfied with providing nursing home care (49.5 and 12.1%, respectively).The majority were neutral (47.3%) about enjoying nursing home care, and 42.9% did either agree or strongly agree. Finally, whether they were satisfied with the financial compensation from nursing homework, more were neutral (51.4%) and 19.8% either disagreed or strongly disagreed. However, 28.6% responded as agreed or strongly agreed.

Discussion

There is an exponential rise in individuals above 65 years of age in many societies as life expectancy increases, leading to high healthcare services demands.[3] Trained teams should provide health care services for the elderly with medical knowledge and comprehensive skills in geriatric medicine.[1] In addition, all professionals involved in the care of older adults must exhibit a positive attitude to the health of the elderly and their unique needs, including those in residential and nursing homes. Therefore, several groups evaluated physicians'attitudes at different career stages in hospitals in general.[14–16] Also, some evaluations were made of geriatric attitudes in potentially relevant specialties such as neurology, emergency medicine (EM), and family medicine.[17–19] In addition, some studies even evaluated the geriatric attitudes of medical students to establish their likelihood to undertake geriatrics as a career.[20–23] However, studies from the MEA region are limited.[24,25] Growing concerns have been expressed on the unmet needs of older adults in the region.[6,26] Health professionals'knowledge about aging and attitudes toward older people need to be culturally appropriate. We have used two established geriatrics attitude scales. However, we are cognizant of their limitations due to their use in different populations, time frame, or social circumstances.[8,9] As an exploratory study, we used the more extended version of the geriatrics attitude scale for

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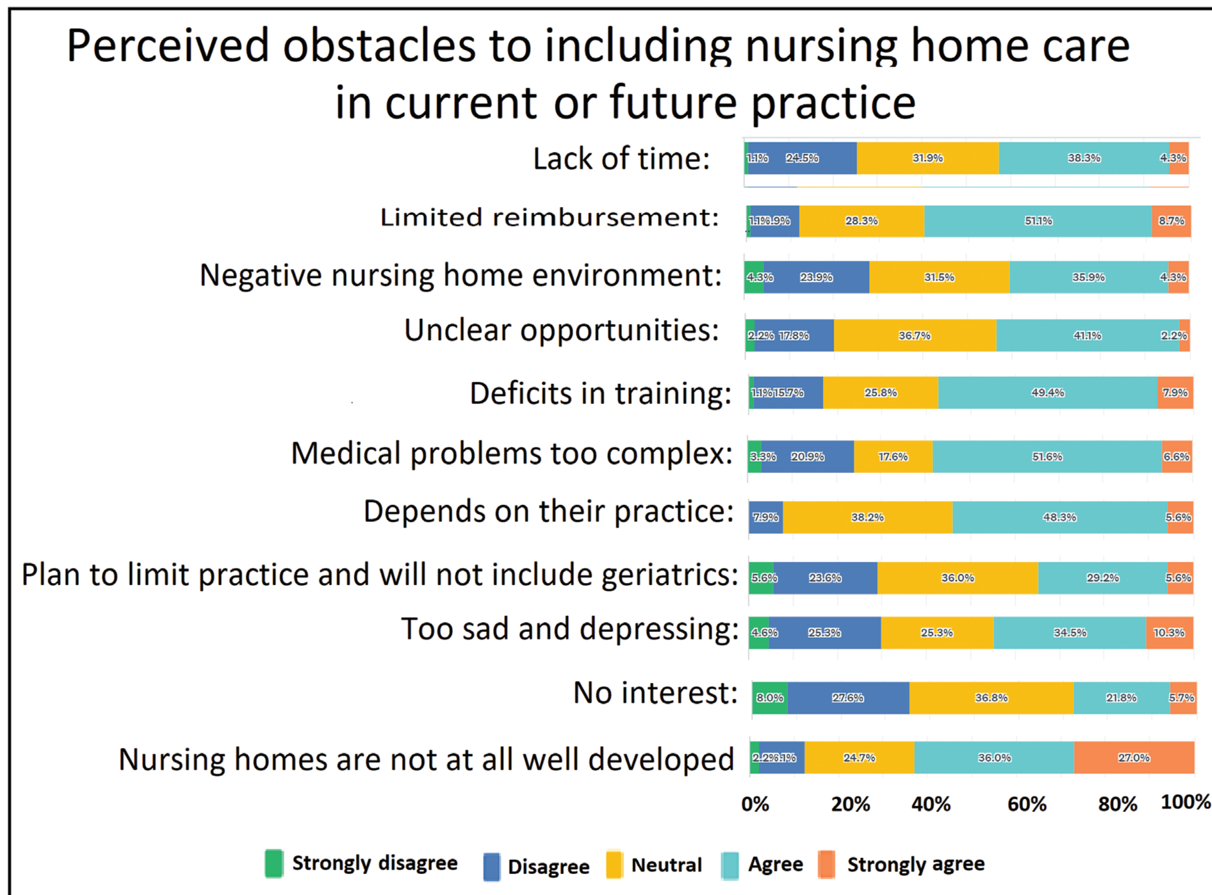

Fig. 1 Detailed summary of 94 responses on the perceived obstacles to including nursing home care in the current (established doctors) or future (residents) practice. The qualifying explanations to each question are shown in ►**Table 1**.

descriptive rather than numerical analysis.[8] The relatively small sample size prevented subgroup analysis. We made no direct comparisons as different methods were used in previous comparable studies.

The salient findings of our study are, first, individual responses to the two subgroups of the responses (positively-phrased and negativelyphrased responses) were analyzed separately. Affirmative responses to positive statements were documented from majority of respondents. Second, the responses, as to agree or strongly agree, were highest for nursing homes arenot at all well-developed, limited reimbursement, medical problems being too complex, and deficits in training. Third, over half of the respondents agreed on more money as an incentive, followed by one-fifth being neutral. Better training and more experience were agreed by over half but only one-fifth strongly agreed with this statement. Again over half of the respondents agreed on an adequate protected time. Fourth, feeling professionally satisfied by providing nursing home care was agreed by half and strongly agreed by one-eighth of the respondents. However, nearly half were neutral about enjoying nursing home care, and less than half did either agree or strongly agree. Finally, whether they were satisfied with the financial compensation from nursing homework, just over half were neutral, and one-fifth either disagreed or strongly disagreed. However, just over a quarter responded as agreed or strongly agreed.

A couple of studies explored the unmet healthcare needs of older people in the MEA region. An analysis of the weaknesses of elderly care and obstacles to reform was conducted in Lebanon.[6] These included the stigma of old age, inefficient health care system, lack of geriatric specialists and social/volunteer services, and inadequacies in nursing homes. They suggested an urgent need to counter the negative perception of aging, promote social welfare, refurbish nursing homes, and enhance volunteer services. Also, semi-structured interviews to deduce the most common problems facing older patients in outpatient clinic settings were conducted in Egypt.[26] They identified a lack of follow-up services, fractional treatment by the health providers, and the absence of internal complaints mechanisms. They suggested focusing on improving the communication skills of healthcare providers and establishing continuity of the care system. Inevitable improvements in the clinics'services include establishing a geriatric clinic with a multidisciplinary clinical team, enhancing communication and education with the elders, negotiating to arrive at the best care options, and fostering motivation and skills needed for self-care. To combat this, the Tunisian Geriatric Society has been organizing international postgraduate courses in geriatrics to help improve the care of the elderly for family doctors.[27]

Our survey results are similar to what was found by authors in other geographical regions. Leung et al found

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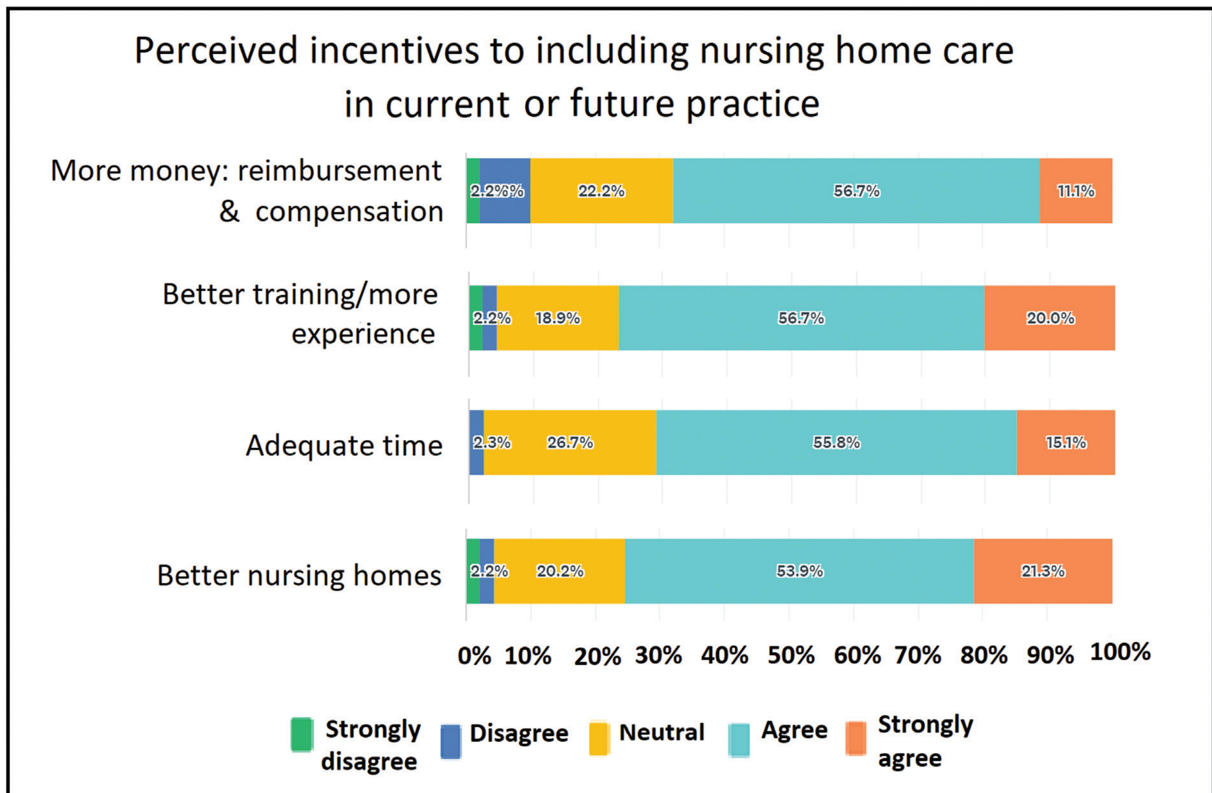

Fig. 2 Views of the respondents' perceived incentive to include nursing home care in their practices. The qualifying explanations to each question are shown in ►**Table 1**.

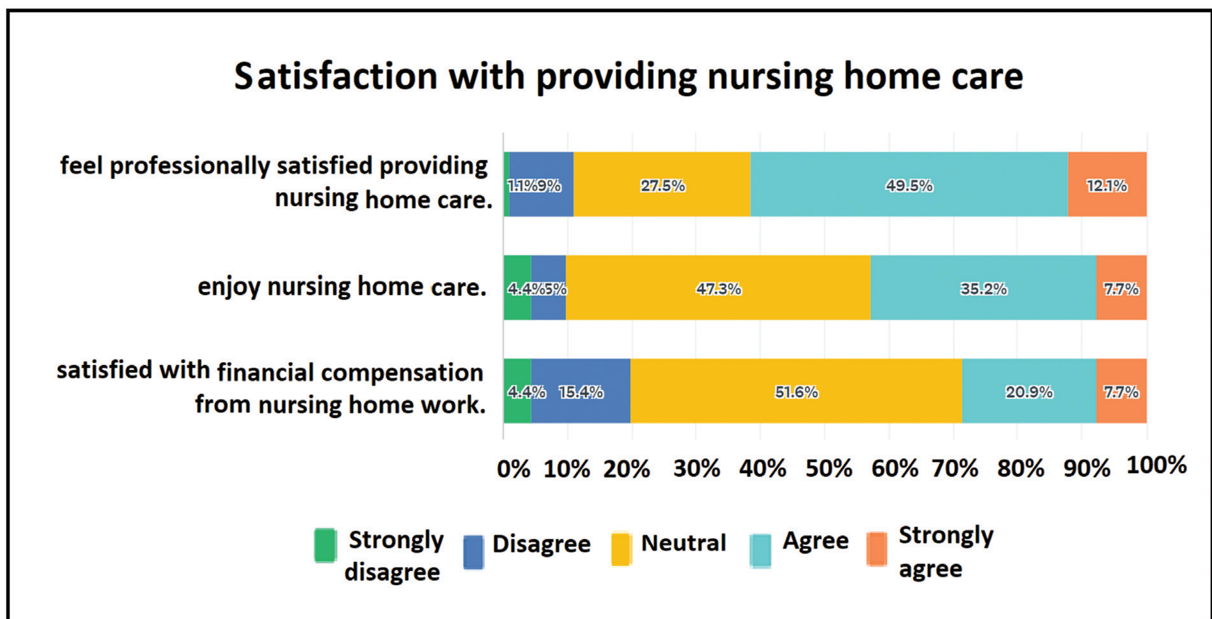

Fig. 3 Detailed summary of 91 responses to the current or anticipated satisfaction with providing nursing home care practice. The qualifying explanations to each question are shown in ►**Table 1**.

that hospital doctors of different demographic features and background characteristics display different attitudes toward older people.[15] These are important to inform the future development of undergraduate and postgraduate medical curricula and form the basis for future studies on the effectiveness of these interventions in improving doctors'attitudes. GPs' knowledge of aging and attitudes toward older people in China was evaluated by Yang et al.[19] They found that education interventions for GPs regarding aging knowledge provide evidence to guide the future development of continuing medical programs for this group of medical doctors. Likewise, Caliskan et al[4] demonstrated

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that young doctors in Turkey interested in the elderly showed a more positive attitude. However, the older and who worked longer had less favorable attitudes, somewhat in contrast to the findings of Seferoğlu et al.[17] It seems crucial to understand and prevent this unfavorable attitude by introducing formal education about elderly healthcare during residency training programs. Helton and Pathman[9] found that nearly all residents (92.1%) planned to care for geriatric patients in their offices to explore these concepts further. However, over two-thirds (68.1%) anticipated that older people would comprise a significant percentage of their practice. Interns were more interested than residents in care for the elderly. Furthermore, most residents did not anticipate being professionally or financially satisfied with nor enjoy nursing home care. Only 26.1% planned to provide care in nursing homes. Time constraints and financial concerns were often cited as obstacles to nursing home care. These findings emphasized that family medicine residents have limited interest in nursing homes care and may generally underestimate the influence of an aging society on their future practice. Meeting the health care needs of an aging society requires innovations in reimbursement, health care delivery systems, and residency curriculum. An evaluation was of 101 internal medicine and family medicine residents were reported from Saudi Arabia.[24] The majority (87%) of the residents were not interested in geriatric medicine as a specialty due to the unavailability of a local geriatric training program (59.5%). In contrast, the patients'cognitive capacity was the slightest barrier chosen by the residents (4.8%). Based on these findings, most participants had no training in geriatrics, which necessitates early exposure to geriatric training in medical schools and the need to integrate this type of training within the major postgraduate training programs. Also, an evaluation of the attitude of 400 Egyptian physicians toward geriatric medicine was made using a self-administered questionnaire.[25] They found that junior physicians had less favorable attitudes toward geriatrics. They suggested that geriatrics in the undergraduates and postgraduate training may provide more geriatric medicine orientation and more favorable attitudes.

Although our sample was biased toward general physicians and endocrinologists, this should not invalidate our results. Assessments of closely related specialties such as neurologists, emergency doctors, and primary care physicians may be critical and reported by previous workers.[14,17,18] Seferoğlu et al[17] found that neurologists with positive attitudes tended to be older than negative ones. Surprisingly, participants with a history of living with an older adult relative had lower rates of positive attitudes, which is difficult to explain. Independent factors associated with positive attitudes were a history of geriatrics education and older age. Negative items of the attitude scale were associated with the natural course and behavior of the common diseases in neurology practice. Thus, generalizing geriatrics education may translate into a better understanding and improved care for older patients.

Furthermore, Hogan et al[18] observed that EM residents showed an overall positive attitude toward older adults. However, they noted a longitudinal hardening of social values, which are more harmful in successive levels. Similarly, Lee et al[14] examined the attitudes of 177 primary care residents and 61 geriatric fellows in an academic medical center. Both groups showed significantly positive attitudes across the dimensions and times, except for residents, who had near-neutral attitudes. Residents'mean attitude scores were lower than those of fellows over time. Residents and fellows showed different change patterns in attitudes over time. Personal experience strongly predicted residents'attitudes toward older patients. Also, residents' scores were associated with ethnicity, academic specialty, professional experience, and career interest in geriatrics.

Several authors identified the lack of a formal multidisciplinary curriculum due to young physicians'poor attitudes to elderly care. Krain et al[16] examined geriatrics knowledge and attitudes of nonprimary care house officers before and after a multidisciplinary faculty development program. They reiterated the notion that formal specialized training may help improve young physicians'attitudes toward elderly care, and they suggested involving more faculty and using comprehensive curriculum-specific assessments. Tufan et al conducted a cross-sectional questionnaire study in internal medicine clinics of six hospitals that provide education in geriatrics.[28] They found that 83.6% had positive attitudes toward older people. A multivariate analysis of a geriatrics rotation during the residency was the only independent factor associated with positive attitudes toward the elderly. A geriatrics course in the medical school was associated with positive attitudes in the univariate analysis. The authors proposed that the generalization of geriatrics training in developing regions may translate into a better understanding and improved care for older adults. Residency in physical medicine and rehabilitation may not contain a formal curriculum in geriatric care. Faulk et al[29] described a multidimensional geriatric curriculum for physical medicine and rehabilitation residents to enhance knowledge and attitude toward geriatrics. Implementing this geriatric curriculum improved geriatric training in physical medicine and rehabilitation residents. Wlodarczyk et al[30] examined the effects of a computer-based educational intervention designed for GPs to promote active aging. The study consisted of a baseline questionnaire, implementation of an intervention, and a repeat questionnaire administered 1month after the intervention. A total of 151 primary care facilities and 503 GPs agreed to participate in the baseline assessment. The final study group of 225 GPs participated in threestudy components. GPs participating in e-learning demonstrated a significant rise in their perception of older patients'expectations for disease explanation and the perception of the motivational aspect of older patients'attitudes toward treatment and health compared with other groups. Although they did not achieve all expected effects of the intervention, both its forms seem promising in enhancing doctors'competencies in communication with and activating older patients.

To foster interest in geriatric care, a geriatrics preclerkship observership program was initiatedandenrolled 42 preclerkship medical students.[31] Participants were paired with a

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resident and attending physician for a 4-hour weekend observership on an inpatient geriatric rehabilitation unit. Students positively received the observership program. Structured preclerkship observations may be a feasible method for increasing exposure to geriatric medicine. This was supported by Haque et al,[32] who assessed the impact of a geriatric clinical skills day on medical students'attitudes toward geriatrics. The course consisted of one large and four small interactive, interprofessional geriatric medicine workshops facilitated by various health professionals. Note that 42.1% of the students indicated an interest in geriatrics, 26.3% in geriatric psychiatry, and 63.2% in working with elderly patients. Both pre-andpostscores indicate a positive attitude before and after the intervention, but the differences were not significantly different in the mean total scores. However, Mathew et al[33] assessed the effect of a cocurricular introductory workshop on knowledge and attitude toward the elderly among medical students in Ajman, United Arab Emirates. They found that the introductory cocurricular workshop made no significant change in the knowledge on geriatric health or attitude of fourth-year medical students. However, they reported it as a very enriching experience.

Conclusion

Care of the elderly requires a specific well-designed infrastructure that incorporates multidisciplinary care. Older individuals tend to have complex and multiple medical comorbidities, which psychosocial aspects may compound. Unless specifically trained, most physicians, particularly younger ones just setting off in their careers, would be inclined to shy away from geriatric practice. Geriatrics attitude studies occured in different geographic regions and various medical subspecialties. The overlying theme contributing to the poor attitudes is a lack of structured curricula in geriatric medicine. The geriatrics clinical skills day did not alter preclerkship students'attitudes toward geriatrics. The present study adds to geriatric medical education research in our region and warrants further investigation in a larger, multicentered trial.

Authors' Contributions

S.A.B. and S.H. proposed the study; S.A.B. adopted the questionnaires and managed the survey process. All authors examined the data, revised the manuscript for intellectual content and presentation, and approved its final version.

Compliance with Ethical Standards

The study was approved by the Institutional Review Board of Sheikh Khalifa Medical City, Abu Dhabi, UAE. Participants provided informed consent to participate before they could access the survey questions. All data were analyzed anonymously.

Funding and Sponsorship

None.

Conflict of Interest

None declared.

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