Title page

a) Title:

Leave No One Behind: A Global Survey of Current State of Geriatric Oncology Practice by SIOG National Representatives

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Abstract, mini-abstract, and key words

a) Abstract (348 words <=| 350 words)

Introduction

The Sustainable Development Goals of the United Nations include a commitment to "leave no one behind" as a universal goal. To achieve this in geriatric oncology (GO) worldwide, it is important to understand the current state of GO at an international level. The International Society of Geriatric Oncology (SIOG) has several National Representatives (NRs) who act as SIOG's delegates in their respective countries. The NRs took part in this international survey exploring the state of GO practice, identifying barriers and solutions.

Materials and Method

The NRs answered open-ended questions by email from February 2020 to October 2022. The questionnaire domains included the demographic information of older adults for their countries, and the NRs' opinions on whether GO is developing, what the barriers are to developing GO, and proposed actions to remove these barriers. The demographic data of each country reported in the survey was adjusted using literature and database searches.

Results

Twenty-one of thirty countries with NRs (70%) participated in this questionnaire study: 12 European, 4 Asian, 2 North American, 2 South American and 1 Oceanian. The proportion of the population aged ≥75 years varied from 2.2% to 15.8%, and the average

life expectancy also varied from 70 years to 86 years. All NRs reported that GO was developing in their country; 4 NRs (18%) reported that GO was well developed. Although all NRs agreed that geriatric assessment was useful, only 3 reported that it was used day-to-day in their countries' clinical practice (14%). The major barriers identified were the lack of (i) evidence to support GO use, (ii) awareness and interest in GO, (iii) resources (time, manpower, and funding). The major proposed actions were to (i) provide new evidence through clinical trials specific for GO patients; (ii) stimulate awareness through networking; (iii) deliver educational materials and information to healthcare providers and medical students.

Discussion

This current survey has identified the barriers to GO and proposed actions that could remove them. Broader awareness seems to be essential to implementing GO. Additional actions are needed to develop GO within countries and can be supported through international partnerships.

b) Key words

Geriatric oncology, SIOG, National Representatives, Barriers, proposed actions

Main text (2,973 words <=| 3,500 words)

1. Introduction

The world's population is aging. [1] [2] Since the incidence of cancer rises dramatically with age, cancers are more prevalent in older adults. Recent studies have projected a worldwide doubling of new cancers diagnosed in adults aged 65+ and a tripling in those aged 80+ in the next decades, with significant variation across regions and countries. [3] [4] [5] Unfortunately, the increase in the number of older adults with cancer has not been mirrored by a proportional increase in public awareness of the burden, or by investments in the health services required to respond to the unique needs of this group. [6]

The International Society of Geriatric Oncology (SIOG), along with other organizations such as the American Society of Clinical Oncology (ASCO), are working to improve care quality through the advocacy for and advancing of Geriatric Oncology (GO). [7] [8] In 2011, SIOG released the SIOG 10 Priorities Initiative, identifying key areas for improving the care of older adults with cancer globally. This initiative involved conducting surveys among representatives from various countries to gather diverse perspectives and insights. In 2021, SIOG updated their priorities, which areas include education, clinical practice, research, and expanding collaborations and partnerships. [9] [10] These findings have significantly contributed to the development of GO; however, applying these practices widely requires considerable time, manpower, and financial resources, presenting challenges in its realization. Each country faces unique challenges and sets different priorities. Therefore, not every country might be able to allocate adequate resources to GO. On the other hand, the Sustainable Development Goals (SDGs)

of the United Nations include a commitment to "leave no one behind" as a universal goal. [11] To achieve this in GO worldwide, it is important to understand the current state of GO in clinical practice at an international level.

There are some national and international surveys that explore clinical activity of GO in the world. A SIOG Task Force on the Organization of the Clinical Activity of Geriatric Oncology conducted an international survey of GO clinical services among its members to understand what the clinical activity of GO was in each country. [12] The ASCO's Geriatric Oncology Task Force conducted a survey of providers to assess practice patterns and barriers to Geriatric Assessment (GA) usage. [13] [14] GA involves the use of validated tools that help assess the vulnerability of older patients and so predict prognostic outcomes. However, these studies focused on special fields such as GA and frailty, [15] or focused on their own countries' development of GO, instead of a global perspective. [16] In addition, those studies were conducted with general healthcare profession, not with representatives from each country. Thus, these studies had to use internet surveys with semi-structured questionnaires, which may have missed important opinions.

SIOG is the only global expert multidisciplinary organization and has 41 National Representatives (NRs) present in 32 countries around the world. [17] They act as intermediaries for SIOG in their respective countries; raising awareness about the improvements needed for better cancer care in older adults. The NRs work closely with the SIOG committees and meet regularly to share their information. They have firsthand experience of GO in their country which allows for a better overview of the global status of GO. To achieve the SDGs' central, transformative promise, "leave no one behind" in

GO worldwide, it is important to understand the current state of GO in clinical practice at an international level. Thus, the aim of this survey was to describe the GO approach of different countries, identify the barriers, and how they can be removed to better facilitate GO implementation globally.

2. Materials and methods

A Global Clinical Practice Working Group conducted an international survey to understand the current landscape of GO in global clinical practice among the NR members. [18] An open-ended questionnaire was used to avoid overlooking important issues. The questionnaire was developed by the Working Group members (T.M. and K.C.). The questionnaire included respondent characteristics (i.e., professional degree, primary professional role, department); the demographic information of older adults in their countries (i.e., total population, average life expectancy, level of population who are religious (high/medium/low), number of individuals over 65 years old, proportion of individuals over 65 years old per population, number of individuals with dementia); the NRs' opinions about current situation of GO in their countries (i.e., do you feel GO is developing in your country? In general, do physicians conduct the geriatric assessment (GA) in daily practice?); and the NRs' suggestions on how to remove challenges faced in incorporating GO in clinical practices (i.e., what are the preventive factors to spread GO? how to spread GO information in your country?). The questionnaire is appended in the Data Supplement (Appendix A).

A survey consisting of open-ended questions was sent out by email to the NRs appointed by SIOG on February 2020 (37 NRs from 30 countries at the time) to gain

insight into GO practices in their countries (Appendix B). Those who completed the survey had the option to do so independently and email their answers back centrally, or to go through the questions in an interview format. When the reviewers thought the answers required some clarification, the NRs were interviewed by the primary investigator (T.M.). Originally, the NRs had to answer these questions from February 2020 to July 2021. However, because of a shortage of responses due to the spread of COVID-19, the deadline was extended from July 2021 to October 2022.

Once the survey window had closed, the answers were compiled into an Excel master document. The demographic data of each country was reported by the NRs. However, the sources used by NRs when reporting their country's demographic data were unclear and so have been omitted from this paper. The demographic data presented was reported by the Working Group member (J.A.) using literature and database searches as of January 20th, 2023. [19, 20] [21] [22-25] [26] [27-29] [30] That data was presented as a number and percentage, or median and range, where appropriate. Summary descriptive analyses were conducted for the subjective data, such as the NRs' opinion. The Working Group members (T.M. and J.A.) carried this out separately and the interpretations were compared. If there were disagreements, a third author (K.L.) was referred to for any conflicting views.

This study was exempt from institutional review board approval because no patient information was collected.

3. Results

a) Demographic Data of the Countries with the NRs

Twenty-one of 30 countries with NRs (70%) participated in this study: two countries from North America (Canada and the United states (the USA)), two countries from South America (Brazil and Chile), four from Asia (Hong Kong, India, Japan, Singapore), 12 countries from Europe (Armenia, Belgium, Denmark, France, Germany, Greece, the Netherlands, Portugal, Spain, Switzerland, and the United Kingdom (the UK)), and one from Oceania (Australia). As there are currently no NRs in Africa, the status of GO for that continent has not been represented in this study.

The demographics of the responding countries are listed in Table 1. The proportion of the population aged >65 years varied from 6.8% (India) to 29.8% (Japan) and aged >75 years, from 2.2% (India) to 15.8% (Japan). The proportion of patients with dementia also varied from 0.27% (India) to 3.3% (Japan). The median average life expectancy was 81.4 years, ranging from 70 years (India) to 86 years (Hong Kong). The number of oncologists could be counted by a database in all responding countries but the number of geriatricians was not reliably recorded.

b) Views of the NRs: Current State of GO

A total of 22 NRs (59%) out of the total of 37 NRs responded to the survey (USA had two NRs). The characteristics of responding NRs are listed in Table 2. Twelve (55%) of the responding NRs were medical oncologists and hematologist, three (14%) were surgical oncologists, five (23%) were geriatricians and geriatric oncologists, and two (9%) were educators/researchers.

According to responses from NRs, the definition of 'elderly' varied across countries; in most countries, it was defined as individuals aged 65 and older. However, for Indigenous Australians in Australia, the age threshold was 45 and older. In Armenia, Brazil, and India, it was 60 and older, in Denmark and France 70 and older, and in Belgium 75 and older.

In response to the question of whether it is possible to discuss death, eight countries (Armenia, Brazil, Chile, Greece, India, Italy, Japan, and Spain) reported that it is difficult or impossible to have such discussions, six countries (Australia, Canada, Hong Kong, the Netherlands, Switzerland, and the UK) stated that they can discuss it openly, and the remaining seven countries indicated that it depends on the time and circumstances.

In response to the question of whether cancer treatment should be administered to older adults with cancer who have severe dementia, representatives from all countries agreed that symptom control is necessary.

All responding NRs answered that GO was developing in their country; 10 NRs stated that development was slow but 4 NRs (Belgium, Canada, France, and Spain) reported that GO was well developed. The main providers of care for older adults with cancer in their countries were oncologists or haematologists (50%), geriatricians (14%), and GO teams (36%). Of these, four countries (Australia, Canada, Denmark, and Singapore) had nurses actively participating in the practice.

All NRs agreed that GA was useful, but only France answered that GA was used in daily clinical practice, implementing Comprehensive Geriatric Assessment (CGA). Two countries (Italy and the Netherlands) answered that screening tools were used in their daily practice: G8 screening tool[31] was most commonly used, and the Vulnerable

Elders-13 (VES-13) [32] and the Dutch Safety Management System (VMS) [33] were also used.

Eleven countries (Australia, Belgium, Brazil, Canada, Denmark, France, Italy, Spain, the Netherlands, and the USA) had GO specified education systems (e.g., France had 5 post-graduate training courses for GO in geriatrics and oncology, Brazil had GO postgraduate courses, the Brazilian Society of Geriatrics and Gerontology and the Brazilian Society of Clinical Oncology support development with questions covering GO). The learning opportunities reported included GO specific curriculum at undergraduate and postgraduate levels, dual GO training posts and fellowships. Those with nothing official in place reported that steps are being taken to address this gap. Eight countries (France, Germany, Italy, Japan, the Netherlands, Spain, the UK and the USA) had specific GO guidelines, and most countries used the National Comprehensive Cancer Network guideline.

Clinical research for older patients with cancer was periodically conducted in 17 countries (77%) by a mixture of professionals: academics, physicians, and clinical trials cooperative groups. Seven countries (Brazil, Canada, Denmark, France, Japan, Spain and the USA) had cooperative groups for the clinical research of older adults with cancer. France and Denmark had academic centers for the clinical research of GO.

c) Views of the NRs: Barriers and Proposed Actions to Develop GO

The most common barriers to developing GO that had been raised by NRs were the lack of a robust evidence of GO, of awareness and interest in older patients with cancer, of geriatricians to cooperate with in GO practice, of time and staff for GO, of national

support, of funds, and of education in GO [Figure 1]. Less commonly raised barriers included discrimination against older adults (ageism), difficulties accessing health care institutes, higher priority issues than GO, lack of support from companies, medical costs, and undervaluing collaboration with Nursing and Allied Health (NAH) professions.

The most commonly proposed actions to remove the barriers mentioned by the NRs were holding GO conferences, stimulating awareness through networking (i.e., SNS), developing educational systems of GO in medical school, collaborating with specialists (i.e., bridging the gap between oncologists and geriatricians), conducting clinical research specific for older adults with cancer and establishing GO specific organizations [Figure 2]. The less commonly suggested actions were utilizing national leaders in GO to communicate with policy makers, providing new GA tools, developing GA specific guidelines in their own countries, forming country specific sub-working groups within organizations like SIOG such as SIOG's UK-based group, and setting up GO pilot clinics and nurturing stronger oncologist-geriatrician partnerships.

4. Discussion

This was an international and interdisciplinary survey of the NRs: investigating whether GO is developing in the world, what the barriers are to developing GO in their countries, and what the proposed actions are to remove the barriers. Countries were taking steps to improve its implementation, but the rate of improvement varied between countries and was slow in the majority. The survey has identified barriers and proposed actions by which they can be removed. Curriculums can be designed to include GO in the training of healthcare professionals throughout the course of their education, starting at

an undergraduate level. This will increase awareness as well as the number of trained professionals available to provide services. Continuing to advocate for GO through conferences, networking, and talks are all effective ways of raising awareness, interest, and action to improve GO. SIOG has demonstrated this efficacy through its activities and collaborations to date. The survey findings will help raise awareness and interest, improve funding, and rapidly advance this specialty globally in the future.

There are already some international surveys that have explored the current status of GO worldwide. Monfardini et al. conducted a survey with the general SIOG membership regarding their thoughts on GO practice and clinical trials. [12] In this study, approximately 60% of respondents performed GA in their daily practice and 47% had a GO educational system. This data was better than our study's, but need to beware that the survey response rate was low (26.8%) and the data may have been biased as the responders were particularly enthusiastic. Also, this survey was conducted in 2007 and may not reflect the current situation. Additionally, some studies have investigated whether GAs are being implemented worldwide; William et al. conducted an internet survey on GA among approximately 1,300 members of the general ASCO membership. [13] The study revealed that the barriers to GA implementation in daily practice included lack of time, lack of staff, lack of GA training and knowledge, and indifference to GA tools. Although this study was limited to GA only, the barriers were very similar to those in our study. Perhaps this similarity is because GA is not only one area of GO, but one of its core parts. The barriers identified were similar as well. The next step is determining how these barriers can be removed.

The current study showed that delivering educational materials and information to

healthcare providers is integral to developing GO. There are several places to disseminate information on GO such as SIOG, ASCO, and the European Society for Medical Oncology [34]. For example, the ESMO/ASCO have established the universal guidelines with a global perspective for the clinical training of medical oncologists worldwide, which also encompasses the field of geriatric oncology. [35] However, it is necessary to devise ways to better convey such information to the general medical community. More use of networks, including conferences and social networking, is needed. In France, [36] Canada, [37] [38]Denmark, [39] Germany, [40] Japan, [41, 42] [43] India, [44] and Portugal, [45] there are organizations dedicated to GO, from which information can be disseminated to the general medical community. Some of these were established by researchers, indicating that it is possible to create GO-specific organizations without government support. In addition, including GO in medical education is a good way to deliver educational materials and information. Half of the responding countries had GO-specific education systems, including France, [46] Brazil, [47] and Denmark, [48] where GO was integrated into medical education. Countries aiming to include GOs in medical education could take inspiration from these countries.

As the current study used an open-ended questionnaire, it could collect some cutting-edge opinions of NRs that may be overlooked or not collected in a general online survey. For example, some NRs commented that the barriers included ageism, which is a valuable opinion that may have been missed in a structured questionnaire survey. [49] [50] Ageism refers to age discrimination, especially prejudice, negative stereotyping and discrimination against the elderly viewing them as useless, or less able. [51] A systematic review showed that in 85% of 149 studies, age determined who received certain medical

procedures and treatments. [52] In the current study, a lack of interest in GO was a disincentive to GO, but ageism may lie behind this. The Clinical Oncology Society of Australia is working against age discrimination in cancer treatment. [53] Such efforts may increase interest in GO.

Undervaluing collaboration with NAH professionals is a minority but important opinion. In GO societies, most authorities are medical doctors, and only a few are NAH professionals. However, it is obvious that the NAH team could play a key role in the implementation of GO and in improving care for older adults with cancer in each country. [54] [55] [56] A position statement with the collaboration of the International Society of Geriatric Oncology Nursing and Allied Health Interest Group (SIOG NAH), the Canadian Association of Nurses in Oncology & Aging Special Interest Group (CANO OA SIG), and the European Oncology Nursing Society (EONS) was published to help nurses advocate to improve care for older adults with cancer.[57] While health care systems and oncology nursing care vary from country to country, it is strongly recommended that all national nursing organizations use this position statement and tailor it to their jurisdictions to advance the care of older adults with cancer.

Although this study does offer some valuable insights, there are some limitations. Firstly, the majority of this study was based on the personal opinions of the NRs, and these opinions may not accurately reflect the current situation in each country. The NRs are the professionals of GO with the best understanding of the current situation in each country, and their opinions can be trusted to some extent as expert opinions. However, the NRs may have limited reach within their respective countries depending on the size of the country, and so may not give a full picture of the status of GO there. This suggests

the need for further research into the GO landscape.

Another limitation of the current study is the survey design. A formal qualitative method, such as thematic analysis would have been ideal to identify and interpret themes deeply, and we initially considered using thematic analysis for our study. However, this method faces difficulties when dealing with very broad and diverse topics like geriatric oncology practices worldwide, especially considering linguistic and cultural challenges in interpreting data from various countries. Due to the complexity, wide scope, and language considerations of our topic, we chose summary descriptive analysis instead. Moreover, our survey was conducted with open-ended questions only, which resulted in a lot of variation in responses, making data interpretation difficult. It may have also deterred some from answering certain questions due to uncertainty over how to best answer. For future studies, we believe conducting semi-structured interviews with representatives from different countries on specific topics could offer a more in-depth understanding of the key challenges in this field. Moreover, a translator may help addressing the linguistic issues.

Finally, the proportion of responding countries was 70%, which may not have been sufficient. Since the number of NRs was 37 at the time the current study began, it is possible that repeated reminders could have brought the response rate closer to 100%. However, the timing of the survey coincided with the COVID-19 pandemic, so repeated reminders had to be avoided. Although the deadline for the survey was extended, the busyness of the NRs did not change, and the collection rate did not increase much. Thus, it should be noted that the NRs who cooperated with the current study have expert interests in GO and the results of the current study may contain enthusiasm bias.

In conclusion, the current survey has identified the barriers and proposed actions in which they can be removed. There were several barriers and proposed actions to develop GO that some NRs might not be aware of. It would be good for all NRs to take a fresh look at these proposed actions. It is very important to remember the SDG's commitment, "leave no one behind" and "no one" certainly includes our older adults with cancer. Additional actions should be taken to develop GO within countries and through international partnerships.

5. Appendices

Appendix 1: The questionnaire used in the survey

Appendix 1: List of the SIOG National Representatives (responder only)

6. Conflict of interest

All the contributing authors declare no conflicts of interest.

7. Author contributions

Conception and Design: TM, KLC

Data Collection: YH, HL, LD, TK, MP, OC, TJ, RB, UW, AK, WC, JB, CF, TM, BL, VF, RK, RS, VC, KC, AN, AS

Analysis and Interpretation: YH, HL, LD, TK, MP, OC, TJ, RB, UW, AK, WC, JB, CF, TM, BL, VF, RK, RS, VC, KC, AN, AS, VM, JA, NM

Project administration: NM

Manuscript Writing: TM, JA

All authors have read and approved the final manuscript.

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Figure legends

Figure 1: The NRs' view: Barriers to develop geriatric oncology

Displays the barriers identified by those National Representatives (NRs) who presented their views on what is preventing the spread of Geriatric Oncology in their home country. Twenty-two NRs shared their views and the number of NRs in agreement for each barrier is presented as a percentage.

Figure 2: The NRs' view: Proposed actions to develop to develop geriatric oncology

Displays the proposed actions to remove the barriers identified by the NRs who presented their views on what is preventing the spread of Geriatric Oncology in their home country. Twenty-two NRs shared their views and the number of NRs in agreement for each proposed action is presented as a percentage.

Tables

Table: Demographic information of responded National Representatives' countries

Countries with a NR response	Population (per 1,000)	Average Life expectancy (yrs)	Percentage population 65+ (%)	Percentage population 75+ (%)	Percentage of population with Dementia
Armenia	2,821	75.55	12	4.9	1.13
Australia	25,921	85.94	16.6	7.4	1.35
Belgium	11,611	82.17	19.4	9.1	1.64
Brazil	214,326	76.57	9.6	3.3	0.86
Canada	38,155	82.96	18.5	7.9	1.54
Chile	19,493	80.74	12.7	5.2	0.90
Denmark	5,854	81.4	20.3	9.4	1.40
France	64,531	83.01	21.3	9.9	1.86
Germany	83,409	81.88	22.2	11.4	2.03
Greece	10,445	82.80	22.5	11.2	1.98
Hong Kong	7,413	85.29	19.6	7.9	1.40
India	1,407,564	70.42	6.8	2.2	0.27
Italy	59,240	84.01	23.7	12.0	2.51
Japan	124,613	85.03	29.8	15.8	3.30
The	17,502	82.78	20.0	8.7	1.58

Netherlands					
Portugal	10,290	82.64	22.6	11.0	1.95
Singapore	5,941	84.07	14.1	4.1	0.82
Spain	47,487	83.99	19.9	9.9	1.74
Switzerland	8,691	84.25	19.0	9.3	1.64
The United Kingdom	67,281	81.77	18.9	8.9	1.35
The USA*	336,998	79.11	16.7	6.8	1.56

* The USA: The United States of America

Table 2: Characteristics of NRs and demographic information of their countries

Primary professional role	**N=22**	**Details**
Medical oncologist	11	Belgium, Denmark, Germany, Greece, Italy, Japan, Portugal, Singapore, Spain, Switzerland, Hong Kong
Surgical oncologist	3	the Netherlands, the UK, the USA*
Haematologist	1	Armenia
Geriatrician	4	Australia, Chile, France, India
Geriatric oncologist	1	Brazil
Researcher	2	Canada (RN), the USA*
Main Questions	**N=22**	**Details**
Is GO developing in your country?		
YES	22	Slowly in 10 countries (Big development in Belgium, Canada, French, Spain)
NO	0	
Who is involved in GO?		
Oncologists or hematologist	11	Hong Kong, Japan, Armenia, Germany, Greece, Italy, Portugal, Spain, Switzerland, the USA*, the USA*
Geriatricians	3	Chile e, the UK
Multidisciplinary team	8	Singapore, Belgium, Denmark, France,

		India, the Netherlands, Canada, Brazil, Australia
Do physicians use GA in daily practice?		
YES	1	France (CGA)
YES but screening tool only	2	Italy, the Netherlands
NO or unsure	19	
Do you have a GO educational system?		
YES	11	Australia, Belgium, Brazil, Canada, Denmark, France, Italy, Spain, the Netherlands, the USA*
NO	11	

* the United States of America had two NRs

Appendix

Leave No One Behind: A Global Survey on the Current State of Geriatric Oncology Practice by SIOG National Representatives

Appendix 1: The questionnaire used in the survey

1. Basic information about the NR
   - Country
   - First name
   - Last name
   - Title
   - E-mail address
   - Primary professional role
   - Location of professional activities/practice
   - Department

2. Basic information about your country
   - Total population
   - Average life expectancy (male and female)
   - Number of physicians per population
   - Number of oncologists
   - Number of geriatricians
   - Proportion of average out-of-pocket medical expenses
   - Level of population who has a religion (high/medium/low)

3. Statistics on the elderly in your country
   - Definition of the elderly in regulations
   - Number of individuals over 65 years old
   - Proportion of individuals over 65 years old per population
   - Number of individuals with dementia
   - Support for geriatric assessment in terms of medical expenses from government

4. Your opinion about geriatric oncology in your country
   - Do you feel geriatric oncology is developing in your country? (e.g., In Japan, geriatric oncology is developing but too slowly.)
   - Who is primarily involved in geriatric oncology?
   - Is it easy to talk about death with patients and their families?
     Please describe the view of life and death in your country (e.g., I think death is something to hide in Japan.)
   - In general, do older patients with cancer want to prolong their life?

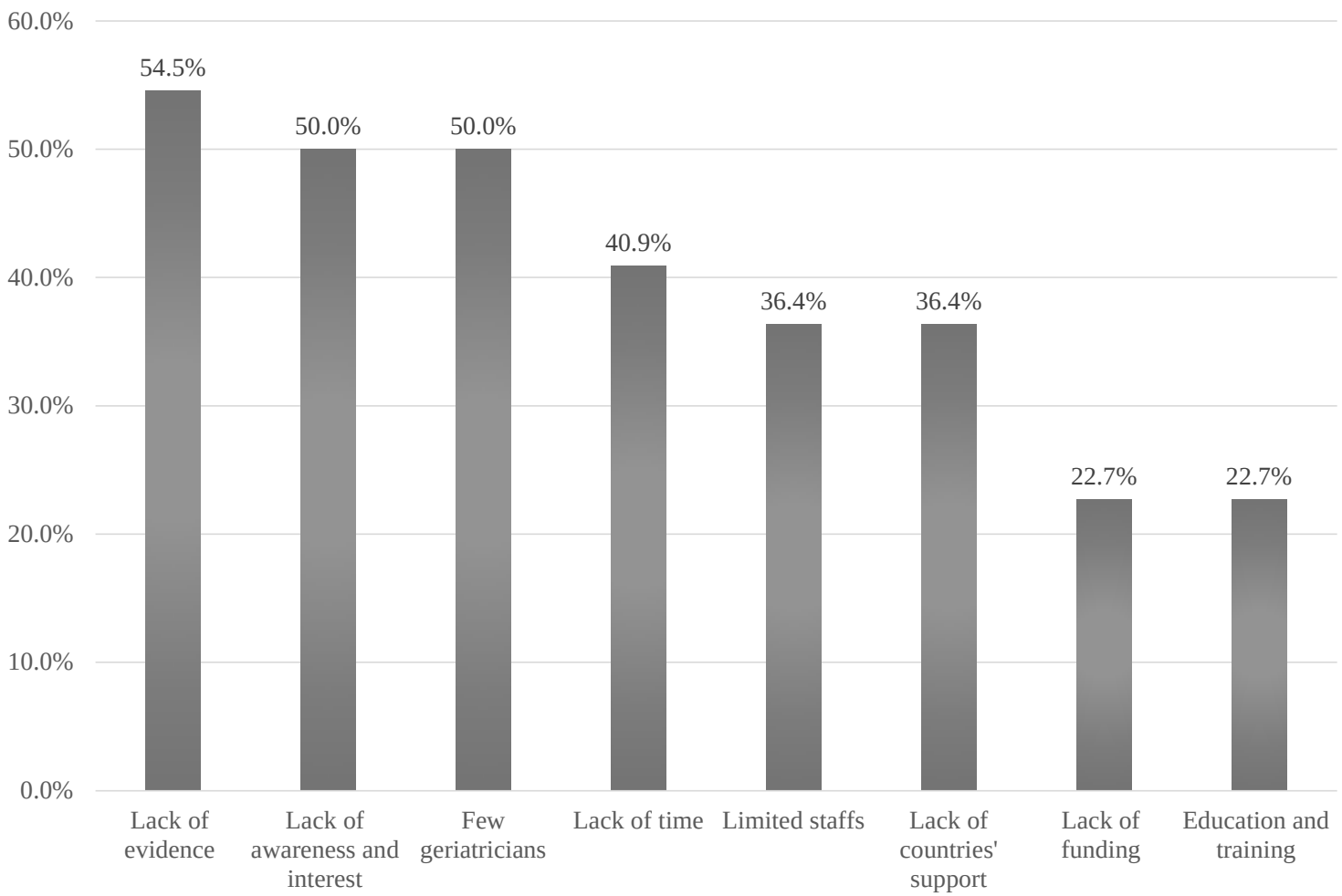
Do you intend to only prolong the life of older patients with cancer?

- Some researchers state that the elderly is a population with few years remaining in their life, and others state that it is a population defined only by chronological age. Do you think the elderly should be defined based on chronological age?
  If not, please write your definition.
- Should we treat elderly cancer patients with severe dementia?
- Should we provide more medical resources for older patients?
- In Japan, the healthcare costs for the elderly is a major topic, as any drugs made be used with public insurance for older patients with cancer, who are currently becoming more prevalent. Can your government afford the medical expenses for older patients with cancer?
- In general, do physicians conduct the geriatric assessment (GA) in daily practice?
  If yes, who implements the GA in practice, and what tools do they use?
- In general, do physicians use screening tools, such as the Geriatric 8 (G8), in daily practice?
  If yes, who implements these tools, and which screening tools do they use?
- Does your government financially support physicians to conduct the GA?
- Who has conducted clinical trials focused on older patients with cancer in your country?
- Do you have a system of education and training for geriatric oncology?
- Do you have any specific guidelines for the treatment of older patients with cancer in your country?
- Please list the difficulties in treating older patients with cancer (e.g., limited data, high risk for severe toxicities and admission, and healthcare costs).
- What is your view on preventive factors to spread geriatric oncology?
- (e.g., In Japan, there are few specialists who treat older patients with cancer. Physicians are too busy. There is only little income to conduct GAs and interventions based on the results, only a few companies to support geriatric oncology trials, a limited population who is interested in geriatric oncology, and limited data for older patients with cancer.)
- What is your view about how to spread geriatric oncology information in your country?

Appendix 2: List of the SIOG National Representatives (responder only)

Country	Name	Professional role
Armenia	Yervand K. Hakobyan	Haematologist
Australia	Heather Lane	Geriatrician
Belgium	Lore Decoster	Medical oncologist
Brazil	Theodora Karnakis	Geriatric Oncologist
Canada	Martine Puts	Researcher
Chile	Oscar Calderon	Geriatrician
Denmark	Trine Lembrecht Jørgensen	Medical oncologist
France	Rabia Boulahssass	Geriatrician
Germany	Ulrich Wedding	Medical oncologist
Greece	Athanasios Karampeazis	Medical oncologist
Hong Kong, SAR China	Wendy Wing-Lok Chan	Researcher
India	Joyita Banerjee	Geriatrician
Italy	Cristina Falci	Medical oncologist
Japan	Tomonori Mizutani	Surgical oncologist
The Netherlands	Barbara van Leeuwen	Medical oncologist
Portugal	Vasco Fonseca	Medical oncologist
Singapore	Ravindran kanesvaran	Medical oncologist
Spain	Regina Gironés Sarrió	Medical oncologist
Switzerland	Vérène Dougoud-Chauvin	Surgical oncologist
The United Kingdom	Kwok-Leung Cheung	Researcher
The USA*	Arash Naeim	Researcher
The USA*	Armin Shahrokni	Surgical oncologist

* The USA: The United States of America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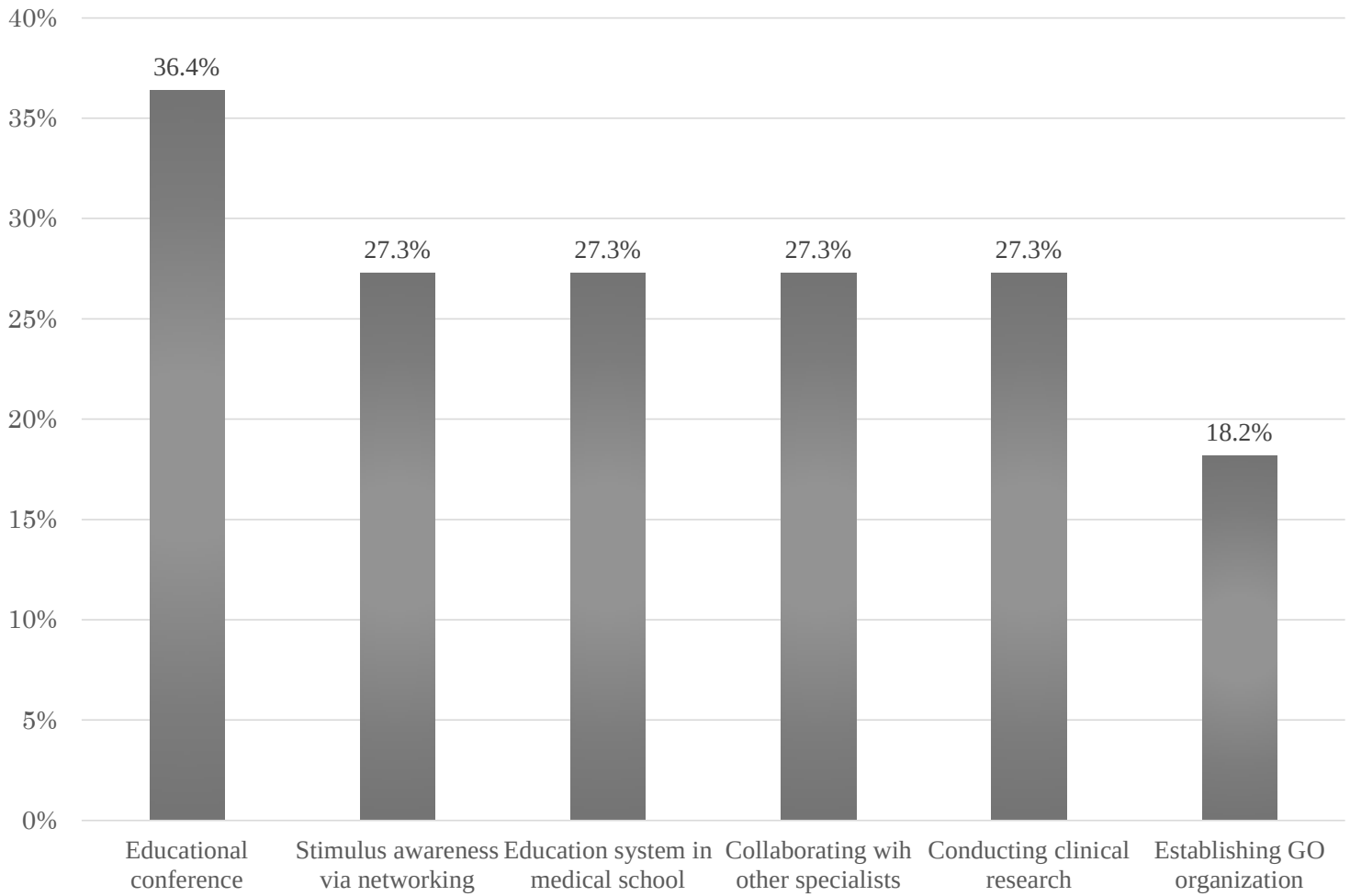
Lack of evidence
Lack of awareness and interest
Few geriatricians
Lack of time
Limited staffs
Lack of countries' support
Lack of funding
Education and training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Educational conference
Stimulus awareness via networking
Education system in medical school
Collaborating wih other specialists
Conducting clinical research
Establishing GO organization