

Issues and Challenges of Older Persons and Research and Health Facility-based Assessors in the Conduct of Comprehensive Geriatric Assessment in the Philippines: A Descriptive Study

Angely P. Garcia, RN, MPH,^{1,2} Jan Michael M. Herber, RN,¹ Eunice U. Mallari,¹
Kerry Joana P. Ong¹ and Shelley Ann F. Dela Vega, MD, MSc^{1,3}

¹*Institute on Aging, National Institutes of Health, University of the Philippines Manila*

²*College of Nursing, University of the Philippines Manila*

³*College of Medicine, University of the Philippines Manila*

ABSTRACT

Background and Objectives. The comprehensive geriatric assessment (CGA) is a multidimensional and multidisciplinary evaluation and management process to identify and address the needs of an older person (OP). However, there are several challenges faced in its implementation which limit its full potential and utility to promote healthy aging. This paper aimed to describe the issues and challenges of those involved in the conduct of the traditional paper-based CGA, specifically older persons and the research and health facility-based assessors.

Methods. This is a descriptive convergent parallel mixed-methods study utilizing both quantitative and qualitative data from the UP Manila Wellness Initiative for Seniors and Elders research program. Mixed methods of data collection were conducted online, namely survey and focus group discussions (FGD). Purposively recruited OPs aged 60 years and above who previously underwent CGA served as online survey respondents. Similarly, purposively recruited healthcare professionals (HCP) who conduct research-based and facility-based CGA participated in the FGDs. STATA and NVivo PRO Plus were used to analyze the quantitative and qualitative data, respectively. Descriptive statistics were used namely frequencies, percentages, mean, standard deviation, and median. Guided by the interpretivist paradigm, thematic analysis was conducted. Triangulation of results was done by the multidisciplinary team.

Results. A total of 30 OPs with mean age of 67.1 years (SD±5.7) responded to the online survey. A total of 10 healthcare professionals, mostly geriatricians, participated in two separate FGDs.

Most (83%) liked the comprehensiveness of the CGA. However, OPs had difficulties with the following: follow-ups (43%), sensitive questions (40%), and recall (23%). Thirty percent (30%) rated the CGA as long to too long. HCP assessors' challenges were related to the participants/patients, assessors, and operational factors. Participant/patient-related factors include health conditions, follow-up issues, language, sensory impairment, and familiarity with the tools. Assessors-related factors include competency, missing information, illegible handwriting, and asking sensitive questions. Operations-related factors include the length of the questionnaire and process, physical set up, fragmented system, data storage and protection, and inadequate human resource.



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Corresponding author: Angely P. Garcia, RN, MPH
Rm 211 Institute on Aging
NIH Bldg., UP Manila
623 Pedro Gil St., Ermita, Manila, 1000, Philippines
Email: apgarcia@up.edu.ph
ORCID: <https://orcid.org/0000-0003-1022-1862>

Conclusion. The common issues and challenges identified by the older persons and healthcare professional assessors in the conduct of paper-based CGA include the length of the CGA, sensitive questions, and follow-up issues. Addressing these issues and challenges is necessary to maximize the utility of the comprehensive geriatric assessment in promoting healthy aging. With the advent of technology, digitizing the paper-based CGA is a promising approach to address these challenges.

Keywords: *geriatric assessment, healthcare professionals, older persons, Philippines*

INTRODUCTION

The global population is rapidly aging, and this implies increasing demand for specialized services due to the multidimensional and complex needs of this specific population. Aging and its impact on the health system, economy, and society is realized through the inclusion of the Sustainable Development Goal 3 of 'Ensuring healthy lives and promoting wellbeing for all at all ages'¹ and the United Nations declaration of 2021-2030 as the Decade of Healthy Ageing².

Along with the other parts of the world, the Philippines is also aging with 8.5% of its total population aged 60 years and above in 2020.³ In line with this, the Healthy and Productive Ageing Program or also known as the national Health and Wellness Program for Senior Citizens (HWSPSC) was established by the Department of Health (DOH).⁴ Anchored in this program is the conduct of the comprehensive geriatric assessment (CGA) as supported by the following policies; Primary Health Care Guarantees for All Citizens-Benefit Packages for All Life Stages (DOH AO 2016-012)⁵, PhilHealth Circular 2018-0017⁶, and Policy Guidelines on the Standards of Care for Older Persons in All Healthcare Settings (DOH AO 2017-001)⁷.

The CGA is a multidisciplinary evaluation and management process in which the needs of older persons (OPs) are identified and addressed.⁸ It is the gold standard of practice to meet the needs of OPs.⁹ It is a more intensive multidisciplinary diagnostic and management process that identifies various aspects of a frail OP to develop a coordinated plan to maximize overall health with aging.¹⁰ CGA is different from general medical care as it includes additional specialist knowledge about OPs' problems, a systematic application of 'comprehensive' assessment extending beyond the narrow focus of medical diagnosis and management, and effective interaction between the multidisciplinary team which highlights that assessments and decisions are made as a team.¹¹

The Filipino CGA form was developed by the Committee on Aging of the UP-NIH in 2005, translated into Filipino and pretested, and was further refined with the help of the Philippine College of Geriatric Medicine and the Department of Health.¹² It contains questions on socio-

demographics, occupational history, financial resources and adequacy, social and physical activities, health specifically family medical history, medical illness, medications, immunizations, fall history, lifestyle and self-care, healthcare consultations, self-rated health, review of systems, physical examination, and other screening tests measuring frailty, activities of daily living (ADL), instrumental activities of daily living (IADLs), quality of life, cognitive functioning, dentition, and nutritional status. The developed paper-based CGA form is being used in various settings (e.g., hospitals, research, academe) and by various groups such as medical students, nurses, residents, specialists, and other government agencies (e.g., DOH and DOST-FNRI).

There are multiple agencies involved in the provision of services for older persons, with several records containing health information of OPs. Furthermore, the current health information systems including the CGA are characterized by fragmentation, multiple resources, and inaccessibility. Only a few of the identified Geriatric Centers in the Philippines conduct CGA for all their geriatric patients. The commonly reported reasons for not administering CGA to all OPs in hospitals include the lack of manpower, inadequate trained personnel, and the length of the paper-based assessment.¹³

Evidence on CGA has proven its implementation for OPs with frailty both in hospital and other settings.¹⁴ CGA is conducted by a range of healthcare professionals (HCPs) based on services and health settings. Although, it is not available in all settings due to issues related to the time requirement for the evaluation, need for coordination of multidisciplinary specialties, and lack of access to some disciplines (e.g., outpatient social work, pharmacy, and nutrition) in some practices.¹⁰ HCPs who conduct the CGA highly regarded the value of the CGA tool in taking care of the OPs and believed in allotment of dedicated time for the conduct of the CGA.¹¹ HCPs also approach the CGA based on the "older person's own problems, needs, and priorities at the forefront".¹⁵ The challenges faced by providers in operationalizing and optimizing CGAs were identified as barriers to the implementation of CGA.¹⁶

A comprehensive assessment and care plan is an important element of an integrated care for older persons to promote healthy aging.¹⁷ However, there are several challenges faced in the conduct of CGA which limit its full potential and utility to promote healthy aging. Hence, this paper aimed to describe the issues and challenges of those involved in the conduct of the traditional paper-based CGA, specifically the older persons and research and health facility-based assessors.

METHODS

Study Design

The study utilized a descriptive convergent parallel mixed-methods design performing simultaneously both the quantitative and qualitative data collection and afterwards,

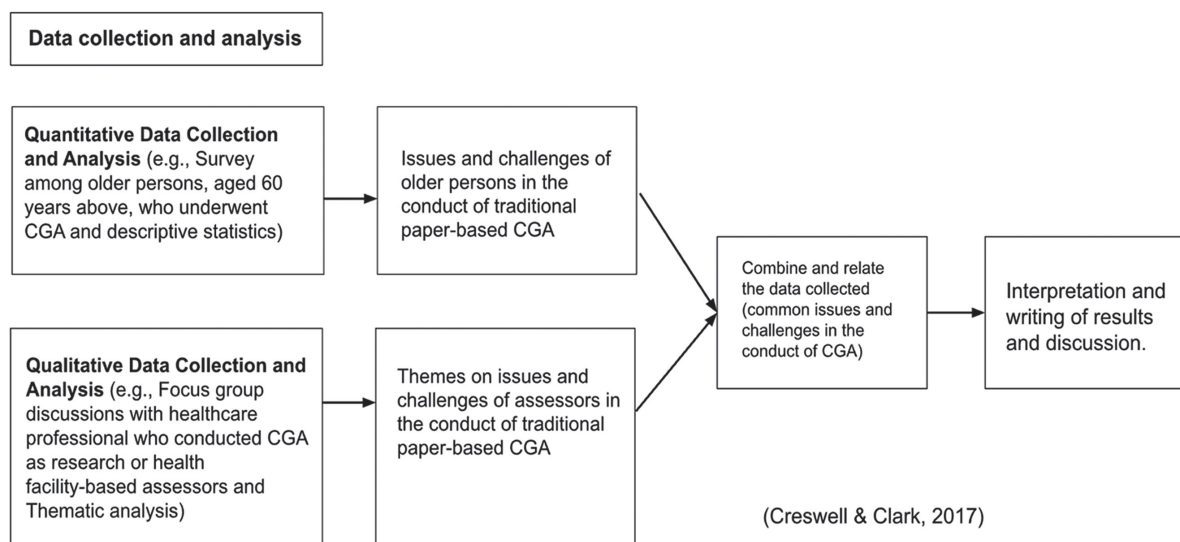


Figure 1. Conceptual framework of the study.

analyzing the data, and combining and relating the results for interpretation.¹⁸ Mixed methods of data collection were conducted namely survey and FGD. The survey and FGDs were conducted online to describe the issues and challenges faced by older persons and healthcare professionals, respectively, in the traditional paper-based CGA process. Figure 1 presents the conceptual framework outlining the approach utilized in this study.

This paper was derived from the Project 3 Digitization of the Comprehensive Geriatric Assessment which forms part of the bigger University of the Philippines Manila Wellness Initiative for Seniors and Elders (UPMWISE) research program (OVPA-EIDR-C09-09). Project 3 aimed to improve the measurement, monitoring, and research on healthy aging by digitizing the CGA through developing a user-friendly interface web- and mobile-based application. It followed the human-centered design (HCD) approach which is a structured and iterative process which involves the end-users throughout the process of innovation. The quantitative and qualitative data presented in this paper was part of the HCD approach. The findings of Phase I, focused on understanding the needs and challenges of the potential end users, are presented in this paper. In the subsequent phases, more participants were involved.

Study Population

Older persons aged 60 years and above served as the online survey participants. A recruitment poster was distributed and disseminated through email and the official social media page of the Institute on Aging. Invitations and follow-ups were sent through text messages. Those who were interested expressed it by accomplishing the eligibility form through Google survey form. The form contained questions relevant to the inclusion criteria for the research team's evaluation. OP responses to the eligibility form were evaluated

by the research team. OPs were purposely sampled using the following inclusion criteria: 1.) previous participant who completed CGA, 2.) with device and ICT skills to accomplish the survey, and 3.) willing to participate in the online survey. Those who did not meet the above criteria and were unable to provide consent were excluded in the online survey.

Healthcare professionals such as doctors, nurses, nutritionists, and other allied medical professionals with experience in the conduct of the CGA served as FGD participants. A personal invitation letter was sent via email to the research- and facility-based assessors through the network of the investigators. HCPs were purposely sampled using the following inclusion criteria: 1.) Professional Regulation Commission-certified healthcare professional who has conducted CGA in actual patient/research participants, 2.) accomplished a traditional paper-based CGA form, and 3.) willing to participate in the online FGD. Those who did not meet the above criteria and were unable to provide consent were excluded as FGD participants.

The number of OPs in the Philippines who underwent CGA at least once in their lifetime is not available. Similarly, no information on the number of HCPs who conducted CGA was collected. With this and since this paper is part of the pilot study on digitization of CGA, sample size was not computed. A total of 30 older persons for the online survey and 10 HCPs for the FGDs were targeted.

Study Site

The office of the Institute on Aging of the National Institutes of Health, University of the Philippines Manila served as the study site. This is where online activities such as the creation of the survey form, focus group discussions, and data management were conducted. The Institute had enough computers and stable internet connection to complete the research activities.

Data Collection

Survey

An online survey was conducted among select OPs who underwent the traditional paper-based CGA to obtain feedback with focus on the issues and challenges during the CGA process. A personal email invitation along with the copy of the informed consent form and link to the online survey form was sent to the OPs who expressed interest and found to be eligible to participate. The online survey form also contains a section for the certificate of consent that was required to be read and clicked by the respondents prior to proceeding to the survey questions.

A Google survey form was utilized in the conduct of the online survey from May 31, 2022 to August 20, 2022. The form contained the following sections: introduction of the project, certificate of consent, description of the CGA, and photos of the CGA process to remind them or facilitate recall of their experience, and questions related to the CGA. The questions pertained to the year they underwent CGA, number of visits for them to complete the process, rating of its length, things they liked the most and least about the CGA, issues and difficulties they encountered, suggestions for improvement, rating of their overall CGA experience, and other comments.

Focus Group Discussions

Focus group discussions were conducted via Zoom meeting on June 6 and June 9, 2022 to describe how HCPs conduct the traditional paper-based CGA and their issues and challenges related to the CGA process. A separate discussion for research-based and health facility-based CGA assessors was conducted, with the first author as the moderator. Prior to the conduct of the FGD, a signed informed consent was obtained from all the invited participants via email.

Each group consisted of five HCPs who agreed to participate. Those who agreed were asked about their available schedule. Participants were informed and attended the Zoom meeting during the agreed schedule. The flow of the session started with the overview of the project, review of the informed consent form, and actual discussion. The participants were asked about their specific role in the CGA process, their training and years of experience in doing the CGA, how they conduct it, things they liked the most and least about CGA, issues and challenges they encountered, and suggestions for improvement. The questions for the assessors were centered on the nature of the CGA they conduct, whether research- or health facility-based. The questions are modified depending on the group. For example, for the research-based group, questions were asked and emphasized in the context of CGA for research and not about CGA in the clinical setting. The guide questions are presented in Table 1.

Table 1. FGD Guide Questions for Healthcare Professionals (CGA Assessors)

Topic	Questions
Role in the CGA	What is your major role in the comprehensive geriatric assessment (CGA)?
CGA experience	Have you undergone CGA training? How long have you been doing a CGA? Do you conduct CGA alone?
CGA process	How do you conduct the CGA? Mode of administration: online or face to face or combined? <ul style="list-style-type: none"> • Format: digital or paper-based • Setting: where? type of facility? • Who are the members involved? • How frequently do you do CGA? • What is the workflow of the CGA in your research? • How long does it usually last? Do you follow any guidelines in the conduct of CGA? If yes, what are these? How many visits would a participant or older person take to complete the CGA?
Characteristics of CGA	What are the things you like the most? What are the things you like the least?
Issues and Challenges	What are the issues and challenges you encountered in conducting CGA? How do you resolve or how do you adjust with the issues and challenges you encountered in conducting CGA?
CGA participants	What do you think your participants perceive about their CGA experience? <ul style="list-style-type: none"> • Do they think it's too extensive and time-consuming? • Are they reluctant or cooperative? • Do they appreciate the CGA?
CGA Improvement	What type of support do you need to improve the conduct of CGA? What is the ideal image of how the CGA for older person should be conducted? <ul style="list-style-type: none"> • If you would be given a chance to improve the current system of conducting the CGA, in what aspect? What are your perspectives and/or what are your thoughts in implementing a web-based or mobile app CGA? Do you have any additional comments or suggestions that you would like to share with the group?

The online FGDs lasted for 81.5 minutes on average and were recorded through Zoom built-in audio and video recording feature. Notes were also prepared by the moderator and research assistants during the discussion for cross-checking and validation of the participants on their respective responses.

Data Management and Analysis

STATA 17 and NVivo PRO Plus 12 were used to analyze quantitative and qualitative data, respectively. A statistician was hired for data management and analysis. She performed data checks and cleaning of the raw data file. Results of the survey were analyzed through descriptive statistics (frequencies, percentages, mean, standard deviation, and median).

A research assistant transcribed the FGDs. Transcription and cleaning of transcripts proceeded after each discussion. Prior to the analysis, the transcripts were reviewed and cleaned by the first author who was present and served as the moderator of the two FGDs. This was to ensure the correctness of the transcription and that no personal information was reflected in the transcripts.

The cleaned versions of the FGD transcripts were then placed into the NVivo PRO Plus 12 qualitative software by a trained research assistant. A template for the coding was created based on the FGD guide questions. This template served as a guide on how these transcripts will be coded. A thematic analysis approach was then used guided by the interpretivism research paradigm.

Once the templates were set in place, the trained research assistant read through the transcription. Statements encapsulating or answering the guide questions were then highlighted and eventually coded into the software accordingly. For guide questions with open-ended questions, a phrase or statement encapsulating the thought of the statement was added into the code set. For semi-structured questions, the responses elicited were assigned into the code set template appropriately. This procedure was done for each of the FGD groups.

Once each FGD transcription had been coded individually, the research assistant then incorporated all responses between the FGDs with common responses or themes being joined to identify emerging themes. The analysis of the FGD transcripts was conducted from July 4-29, 2022.

Thematic analysis was then performed by the research assistants. These emerging themes were then further described to provide more context unless they were self-explanatory. To ensure the trustworthiness of the analysis, various layers of member checking were performed. Themes and codes endorsed by the research assistants were reviewed by the first author prior to the discussion with the project team. Clarifications were relayed and addressed through a shared Google document. Two (2) online meetings with the project and program team members via Zoom were conducted to review the survey results and discuss the FGD themes. During these meetings, a matrix containing the data

source and results was developed and guided the team in the triangulation of results. The common issues and challenges of older persons and healthcare professionals in the conduct of CGA were identified.

The research team managed the research-related data and documents through UP Manila's Google Suite, specifically Google Drive. Only the members of the research team permitted by the Principal Investigator/Program Leader had access to the stored research data through their @up.edu.ph email addresses. Backup files are saved in an external drive, protected by a password, and stored in a safety cabinet with lock and key.

Ethical Considerations

The study was approved by the UP Manila Research Ethics Board (UPMREB 2022-0093-01). All members of the research team followed the guidelines of the Philippine Health Research Ethics Board and Philippine Data Privacy Act of 2012. The study involved older persons as survey respondents. Involving OPs was a form of avoiding ageism and promoting age-inclusive research for health. The project did not aggravate any vulnerability of the participants (e.g., financial, privacy).

A personal email invitation with the informed consent form was sent to OP respondents. Respondents were instructed to read first the attached informed consent form and ask questions or any clarifications prior to accomplishing the actual online survey form. Aside from this, the online survey form contains a certificate of consent which was required to be accomplished by the respondents prior to proceeding to the next section or the survey questions.

For the FGD participants, a personal invitation letter and informed consent form was sent via email. The moderator went through the details of the consent form prior to the start of the discussion. The participants were encouraged to ask any questions or clarifications. Once the participants agreed to proceed with the discussion, permission to record the session was also obtained.

As a token of appreciation and considering the possible expenses incurred for their online participation, FGD participants were given a token amounting to PhP 500 and PhP 150 for the online survey participants.

Unique codes were assigned to the online survey respondents and FGD participants respectively, to maintain data privacy and confidentiality. All data of the study participants were anonymized, stored in a cloud-based drive accessible only to the research team, protected by password, and was used for research purposes only.

Researchers' Flexibility and Potential Biases

The research team consisted of professionals with health sciences backgrounds namely geriatric medicine, public health, nursing, and statistics. The multidisciplinary research team was composed of one medical doctor, two nurses, one statistician, and one policy health researcher with relevant

experience in conducting qualitative and quantitative research on aging. All the team members had training in quantitative and qualitative data analysis.

Potential Bias

The identified potential biases include participant and recall bias. Some of the surveyed respondents participated in previous studies of the Institute where CGA served as the main data collection method. They were encouraged to provide their honest feedback on the traditional paper-based CGA as highlighted in the consent form. In addition, some FGD participants who had experience in conducting CGA have been involved in previous research projects of the implementing Institute. Their previous engagement has no potential influence on the actual implementation and conclusions of the research.

Another potential bias was recall. OP respondents might not be able to recall their CGA experience clearly.

As an effort to address this bias, sample images of the CGA process in the actual online survey form to facilitate recall were provided.

RESULTS

Profile of the Study Participants

Online Survey

A total of 30 (85.7%) of the 35 older persons, who accomplished the eligibility form and who were invited, completed the online survey. The age of the respondents ranged from 60 to 80 years old with a median of 66 years. Majority of the survey respondents were females (80.0%) as presented in Table 2.

All survey respondents (n=30) were familiar with CGA as they had one prior to the online survey. Most of them had their CGA before the pandemic. According to almost half of the respondents, they had more than two visits to the CGA site before they completed the process. Some cannot recall how long ago their CGA was (30.0%) and unsure or also cannot recall how many visits it took them to complete it (20.0%).

Focus Group Discussions

A total of 10 healthcare professionals participated in the discussions (five research-based and five facility-based CGA assessors). Their FGD code, profession, sex, and affiliation are presented in Table 3.

The research-based assessors' group was multi-disciplinary which consisted of one geriatric specialist and four allied medical professionals. The experience of research-based assessors in conducting the CGA ranges from two months to seven years. Meanwhile, health facility-based assessors group consisted of three geriatric specialists and two nurses who usually work hand in hand in the care of older persons in the clinical setting. Their experience in conducting CGA ranges from 3-16 years.

Table 2. Profile of Online Survey Respondents, 2022

Profile	Frequency (%)
Age, years	
mean \pm SD	67.1 \pm 5.7
median (range)	[66 (60-80)]
Sex	
Male	6 (20.0)
Female	24 (80.0)
Previously had CGA	30 (100.0)
How long from last CGA	
Within the last year	0.0
1-2 years ago (pandemic)	0.0
3-5 years ago (pre-pandemic)	21 (70.0)
Cannot recall exact year	9 (30.0)
Number of visits to complete CGA	
1	0.0
2	10 (33.3)
More than 2	14 (46.7)
Unsure / cannot recall	6 (20.0)

Table 3. Profile of FGD Participants

Focus group	Participant code	Profession (Sex)	Experience in conducting CGA	Affiliation
Research-based CGA assessors	HCPa_001	Occupational therapist (Female)	6 months	Philippine Academy of Occupational Therapists, Inc. (PAOT)
	HCPa_002	Physical therapist (Male)	3 years	Department of Health (DOH)
	HCPa_003	Geriatrician (Female)	7 years	Philippine College of Geriatric Medicine (PCGM)
	HCPa_004	Nutritionist (Male)	3 months	Department of Science and Technology-Food and Nutrition Research Institute (DOST-FNRI)
	HCPa_005	Physical therapist (Male)	2 months	National Telehealth Center (NTHC)
Facility-based CGA assessors	HCPb_006	Geriatrician (Female)	13 years	Eastern Visayas Medical Center (EVRMC)
	HCPb_007	Geriatrician (Male)	16 years	National Center for Mental Health (NCMH)
	HCPb_008	Registered nurse (Male)	6 years	National Center for Mental Health (NCMH)
	HCPb_009	Geriatrician (Male)	14 years	The Medical City-Ortigas (TMC)
	HCPb_010	Registered nurse (Female)	3 years	Bicol Region General Hospital and Geriatric Medical Center (BRGHGMC)

Health-facility based assessors had more experience in conducting CGA. There were more males who participated in the FGDs (6 vs 4). The FGD participants are affiliated with various health institutions mostly government in nature. Only one participant is affiliated with a private health institution and one represents a professional organization.

Specific Issues and Challenges of Older Persons in the Conduct of CGA based on Survey

The OP survey respondents rated the length of the CGA and described the things they liked the least and the specific issues they encountered in the conduct of CGA. Aside from these, the respondents also described the things they liked the most about the CGA. A big majority (66.7%) rated the length of the CGA as just right while 30% rated it as long to too long as presented in Table 4.

Most of the respondents (83%) liked the comprehensiveness of the CGA but there were few who disliked the length of the interview (13%).

Almost half of the respondents (43%) had difficulties with follow-ups. Since the CGA process required multiple visits to complete, these follow-up issues are related to the failure to attend the scheduled CGA clinic visits and challenges in going to the venue/CGA clinic. Recalls were also a major challenge for older persons, with 23% encountering it as a difficulty during the actual interview. Only two of the respondents claimed privacy issues during the assessments.

Majority of the respondents (63%) had no trouble with CGA questions but among those who did, questions relating to medications were the most troublesome followed by questions on diseases (13% and 10%, respectively). Questions in the CGA regarding medications (including nutritional and herbal supplements) taken in the past two weeks were asked specifically the name, dosage, and frequency of intake. Questions on diseases were related to past medical history, family history, and current medical problems. Remembering dates and memory-recall cognitive assessments were also hard for the older person respondents.

Half of the OP respondents had no issues regarding sensitive questions while the others considered the questions on sexual activity (33.3%) and diseases (6.7%) as sensitive. Some respondents (26.7%) rated the CGA questions as sensitive to too sensitive.

In general, almost all the OP respondents (90.0%) rated the CGA positively, from average to excellent. When asked about their suggestions to improve the conduct of the CGA through an open-ended question, two respondents agreed with the following: adding more questions for further details, making the administration of CGA easier, and having an option to get the questions in advance for them to retrieve the needed information.

Others suggested finishing the CGA in one day with short breaks in between (1), improving the logistics of the examination (1), shortening the waiting time (1), more frequent assessment (1), conducting face-to-face interviews

(1), and utilizing Zoom (1). More than half (60.0%) had no suggestions for improvement.

Specific Issues and Challenges of Healthcare Professionals in the Conduct of CGA based on FGDs

The specific issues and challenges of healthcare professionals were related to the participants/patients, assessors, and operations which are summarized in Figure 2.

Table 4. Issues and Challenges of OPs in the Conduct of CGA, 2022

	Frequency (%)
Rating of the length of CGA	
1 (too short)	0.0
2	1 (3.3)
3	20 (66.7)
4	8 (26.7)
5 (too long)	1 (3.3)
Things you like the most about CGA	
Comprehensiveness	25 (83.3)
Uniqueness	5 (16.7)
Things you like the least about CGA	
Requiring recall	9 (30.0)
Length of interview	4 (13.3)
Other – waiting for one's turn	1 (3.3)
None	16 (53.3)
Issues/difficulties encountered during CGA	
Follow-up	13 (43.3)
Recall	7 (23.3)
Privacy	2 (6.7)
None	8 (26.7)
Issues relating to questions specifically to	
Medications	4 (13.3)
Diseases	3 (10.0)
Dates	2 (6.7)
Memory recall questions	2 (6.7)
None	19 (63.3)
Sensitive questions	
Sexual activity	10 (33.3)
Disease	2 (6.7)
None	15 (50.0)
Can't recall	3 (10.0)
How sensitive	
1 (not sensitive)	11 (36.7)
2	3 (10.0)
3	8 (26.7)
4	6 (20.0)
5 (too sensitive)	2 (6.7)
CGA rating	
1 (Poor)	0.0
2 (Below average)	0.0
3 (Average)	3 (10.0)
4 (Above average)	16 (53.3)
5 (Excellent)	11 (36.7)

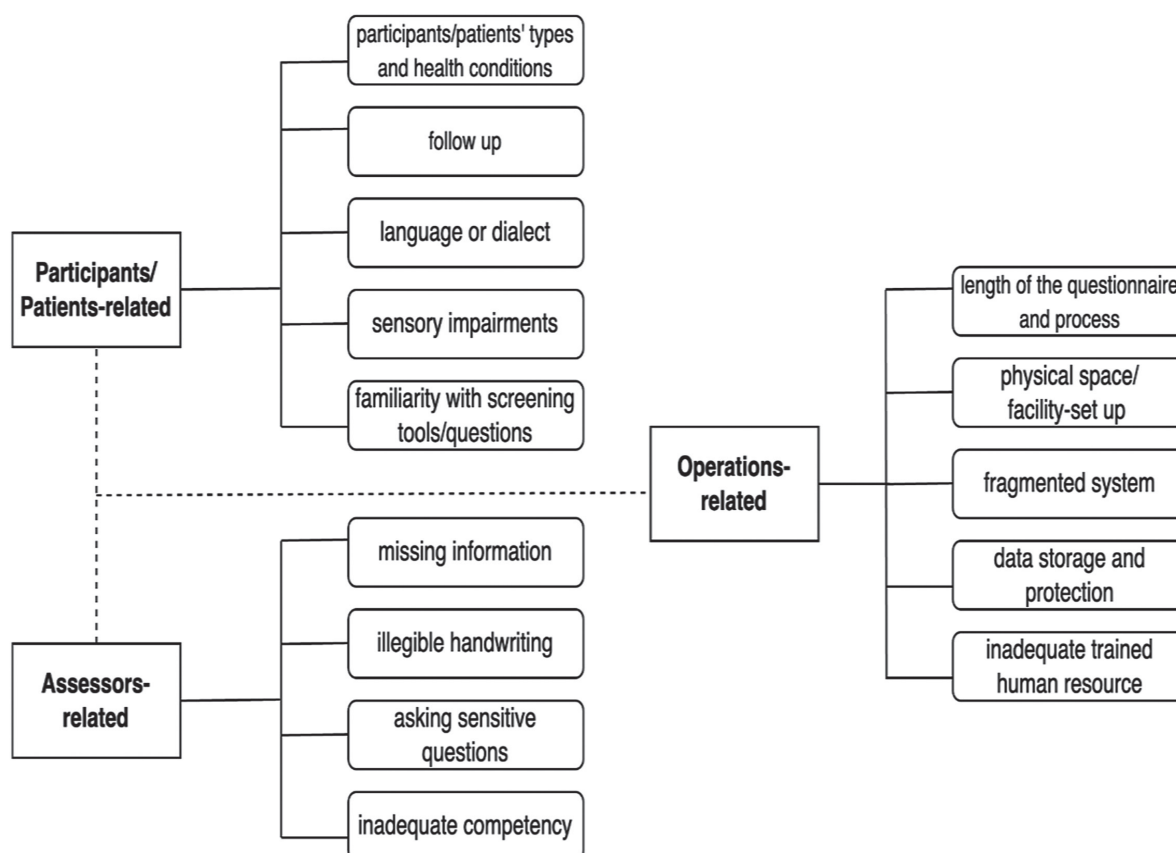


Figure 2. Issues and challenges of HCPs in the conduct of CGA.

Participants/patients-related issues identified include their health conditions that affect their ability to actively participate in the conduct of the comprehensive assessment (e.g., behavior problems, hearing impairment), follow-up, language or dialect, and familiarity with screening tools or questionnaires (e.g., cognitive test). HCPs described their difficulty in conducting and completing the CGA due to the above-mentioned issues. Below are some of the quotes related to the participants/patients-related issues.

"But it's the difficulty in doing the CGA. Mostly, patients that are being seen here are usually with aggressive behavior, mentally disturbed. It is very hard to conduct CGA in these sets of patients. Just like how HCPb_008 mentioned it, it's very hard." – HCPb_007

"Like what HCPa_003 has mentioned earlier, it depends how robust or frail the patient is. If he/she understands what we are saying, we ask. Considering we have patients or participants coming from Visayas. We know that their dialect is different. Other participants have difficulty understanding Tagalog while there are really those who cannot understand Tagalog. And sometimes, the help of a barangay health worker is needed." – HCPa_004

"There was one point that I really lost my voice during the CGA. The reason I lost my voice at that time was because I had many [CGA] participants. And a lot of them have difficulty hearing. And then I have to repeat questions several times." – HCPa_001

"The concern is especially for the assessment, the issue of familiarity. Some patients receive a CGA tool, it can be such that they know the answer to some of the assessment tools already so they were able to mask the problems. That's one of the caveats of CGA. If you're using it frequently with patients, they have a tendency to have an acceptable response." – HCPb_009

Since multiple assessors accomplish the CGA form to complete the process, the inability to complete the information in the form is challenging for the next assessor. Furthermore, the illegible handwriting makes it difficult especially during the encoding process. Aside from these difficulties, asking sensitive questions (e.g., illicit drugs) to the older persons generate a feeling of discomfort for the assessor. Since CGA is medical-focused, the inadequate competency in terms of physical examination was also described as a challenge for the non-medical doctor assessors.

"It's really [not] about the questionnaire, but more of its uncomfortability [discomfort] in asking. There are questions that are taboo or something. For example, if we ask na "Have you ever used illicit drugs?" they seemed to panic. But it's hard to handle, especially if we don't have an idea on the local scenario." – HCPa_004

"I had difficulties deciphering some of the words that my teammates put, especially those [questions] without tick boxes. Some of our teammates also forgot checking the tick boxes that needed to be answered. So, we had difficulty there. But for some of the doctors, we have work as a team. I had difficulty encoding the words they put in the form. We had to contact them [to clarify]." – HCPa_005

"I think a challenge for the CGA, but coming from the group that are not medical doctors, we are allied professionals, we conduct CGA. In the review of systems, there are questions on various symptoms. For example, "In the past 3 months, have you had a cough?" So, for us, we encountered one where we have to send the participant for a swab test and check. Because even if we ask if the participant had fever in the past or something, we don't know if he/she has mucus in the lungs and the doctor heard something." – HCPa_004

Given the nature of CGA as a multidisciplinary and multidimensional evaluation of older persons, the length of the questionnaire and the CGA process itself was identified as the main operations-related issue. Participants/patients and assessors-related issues also affect the length of the CGA process. Physical structure, fragmented system (e.g., referrals), concern on data storage and protection of the physical copy of the CGA form, and inadequacy of trained personnel (e.g., nurses) were also described by the HCPs as the issues and challenges in the conduct of CGA.

"CGA is great. It's just too long." – HCPb_008

"What I don't really like about it is CGA, by nature it is multidisciplinary. So, you have referrals. And then, this is where it is emphasized how fragmented our healthcare system is. Sometimes if you refer, the patient is lost and will no longer return [for follow up]." – HCPb_006

"Ideally, when you conduct the CGA, your area should be silent wherein you can do it in a very exclusive area. The problem is the setup right now especially here in a government [facility], there are many patients and it's very hard to understand the patient so it takes a long time to conduct. We don't have a special area for the conduct of CGA." – HCPb_007

"It was very rainy and very muddy. But thinking about it, if it was a home patient, or home participants, and if we are bringing folders, that means to be kept confidential. It could have been compromised." – HCPa_001

Common Issues and Challenges in the Conduct of CGA

Length of the CGA

Based on the results of the survey, 30% of the OP respondents rated CGA as long to too long and 13.3% said its length is the thing they liked the least about the CGA. The length was also one of the identified issues and challenges in the conduct of CGA which was highlighted in the quotes below:

"I think the main issue or concern universally is the length of CGA. It needs commitment. If you are just a patient, commitment is difficult." – HCPa_002

"The usual perception here in our area is that they [patients] will be delayed in their travel. If they see or perceive that it [CGA] will take long, their usual concern is that they will be late in their travel to go back to their residence. That's all. Because we are a referral hospital [in a province in Visayas]. We really have patients coming from far-flung areas. That's the usual concern mostly is if it will cause a delay. Especially we adapted the 14-page CGA form. We know how long and tedious it is. But if explained well and they were given health care trained staff, chances are there won't be much delay on that administration. Unless the patient refuses it." – HCPb_006

Sensitive Questions

Asking (assessors) and answering (OPs) sensitive questions were also identified as challenges. OPs considered the questions on sexual activity and diseases as sensitive. Some of them (26.7%) rated the CGA questions as sensitive to too sensitive. Discomfort in asking such questions was also a challenge to the healthcare professionals.

"It's really [not] about the questionnaire, but more of its uncomfortability in asking. There are questions that are taboo or something. For example, if we ask na "Have you ever used illicit drugs?" they seemed to panic. But it's hard to handle, especially if we don't have an idea on the local scenario." – HCPa_004

Follow-up Issues

Almost half of the respondents (43%) had difficulties with follow-ups. This was supported by the data from the FGDs with the assessors.

"But it's big, I think the dropout rate [of research participants] was 20-30%. So commitment is really difficult." – HCPa_002

"Sometimes if you refer, the patient is lost and will no longer return [for follow up]." – HCPb_006

"What I don't like is the follow through, specifically regarding the patients. In my case, it is not immediate since we're waiting for patients to be cooperative. You cannot address the things you need to address immediately." – HCPb_008

"Moderator, in terms of drop out, in our experience, the different level of pandemic. Its role is really big. We encountered various challenges such as vaccination and campaign period. But the very challenging is the drop out. And of course, others are afraid to go outside especially if they see someone in a scrub suit." – HCPb_004

DISCUSSION

Various issues and challenges were described by those who are involved in the conduct of the traditional paper-based comprehensive geriatric assessment. Although almost all older person survey respondents rated the CGA positively, they had challenges related to follow-up, sensitive questions, length of the interview, recall, and privacy. On the other hand, the healthcare professionals described issues and challenges related to the participants/patients, assessors, and operational factors.

The common issues and challenges identified by OPs and HCPs in the conduct of paper-based CGA include the length of the CGA, sensitive questions, and follow-up issues.

Consistent with this study, other studies also identified various challenges or barriers to CGA implementation. These include guideline factors, professional factors, patient factors, professional interactions, incentive and resources, capacity for organizational change, and social, political, and legal factors.¹⁴ CGA is difficult to implement because guidelines do not always translate well between trial and real-world settings and between different clinical settings. Other specific factors include the awareness and understanding of carers on CGA, reluctance to use the service, effective means of delivering team-based care, costs of implementation, reorganization around the principles of CGA, and awareness of policymakers on the challenge to health and social care systems posed by OPs.¹⁴ Moreover, the lack of partnership alignment and feedback, and poor acceptance of preventive work were identified as barriers to CGA implementation in a systematic review.¹⁶ In a hospital setting, organizational and relational factors positively and negatively influence CGA practices and processes.¹⁹

There were published local studies which utilized CGA and notably, low response and significant dropout and attrition rates were identified as the limitations of the studies.²⁰⁻²² This is consistent with the findings of this paper where follow up issues (e.g., dropouts) were identified as one of the common challenges in the conduct of CGA. To address

these, a mechanism to make the process more efficient and older participant- friendly is needed.

The study's findings on sensitive questions are consistent with another study which highlighted that primary care physicians may be hesitant to discuss sexual health-related issues with their older patients. Meanwhile, their older patients may not initiate this because of discomfort and embarrassment.²³ Conversely, most missed topics from the patients' point of view include sexuality.²⁴ In addition, questions about alcohol consumption or illicit drug use are not a routine part of CGA but some authors recommend their inclusion.²⁵ In the country, questions related to these are included in the various screenings applicable to OPs which are outlined in the Philippine Periodic Health Examination.²⁶ Screenings for mental health and substance use, lifestyle-related factors such as smoking and alcohol use, and sexually transmitted infections are included in the guidelines for adults including the OPs. Considering these sensitive topics, proper training on communicating and establishing rapport with older persons should be ensured.

In the field of geriatric medicine, consensus on the CGA had been established and incorporated in practice since 1988.⁸ This provides a possible explanation why the FGD participants, mostly geriatricians/geriatric specialists, from the health-facility based assessors' group had longer experience in conducting CGA compared with the research-based assessors. Furthermore, at the local context, the CGA form for research was only introduced in 2015.¹²

In the Philippines, aside from various DOH administrative orders and PhilHealth circular that support the conduct of CGA, the HWPSC Manual of Operations for Local Implementers indicated that all senior citizens ages 60 to 74 should undergo geriatric screening at least once a year, and that CGA should follow for those with identified risk at least once at age 75.²⁷ Its implementation will be challenging since aside from the challenges identified in this study, the lack of manpower, inadequacy of trained personnel, and length of the assessment were also identified as the common reasons why CGA is not administered among geriatric patients in DOH regional hospitals.¹³

The CGA is a systematic application of 'comprehensive' assessment and effective interaction between the multidisciplinary team. The DOH, PCGM, and UPM approved paper-based CGA form already considered the core domains or important parameters that should be evaluated during the process. Since CGA is not only an evaluation or assessment or diagnostic process but also a management process, it cannot be completed in one sitting. For CGA teams providing longitudinal assessment and care, the overall care rendered can be divided into six steps namely data collection, discussion among the team (including the patient and/or caregiver as a member of the team), development of the treatment plan, implementation, monitoring the response, and revising the treatment plan.¹⁰

Aside from the common issues and challenges identified, this paper also highlighted the operational issues on fragmented healthcare systems, inadequacy of physical spaces for the conduct of CGA, and limited human resource, especially trained nurses. These findings are consistent with the FITforFrail study where multiple agencies are involved in the care of OPs, only 52% of the DOH Geriatric Centers conduct CGA, and that there are only 100 DOH-certified geriatric nurses and 140 geriatric specialists across the country in 2019.²⁸ The service delivery and human resource in the care of OP should be strengthened. In relation to the discussed challenges, administrative support, and proactive infrastructure planning to address scheduling, referrals, and provider communication are critical to the effectiveness of the CGA.⁹ Furthermore, HCPs in the community should ensure meaningful involvement of OPs and their families or caregivers in the CGA process.²⁹

From the three-decade review of CGA by Pilotto et al., CGA has been applied to different health settings and the health workers who are part of the CGA team are moving towards *virtual team*.³⁰ There are several attempts to integrate CGA in the geriatric care and to design and develop the CGA into digital format. The initiatives mostly come from the high-income countries that are advanced in terms of technology and health services. Many high-income countries have been implementing the digitization of CGA as part of their geriatric care or health services. CGA has been successfully implemented and integrated in various settings or health services^{31,32} such as in primary care^{11,32-35}, emergency department³⁶, specialized cares like cancer,^{9,37,38} community setting,³⁹⁻⁴¹ oncology,^{42,43} cardiology or cardiac patients,⁴⁴ and nursing homes⁴⁵.

A digital CGA platform will make it easier for older persons to participate in research and for researchers to collect data efficiently. Issues and challenges related to the conduct of traditional paper-based CGA such as data inconsistency, missing information, lengthy assessment, and follow-up issues will also be avoided. However, the operational challenges such as fragmented system and inadequate human resource cannot be addressed by digitization alone. It requires a whole-of-government approach.

Scope and Limitations

This paper presented the qualitative and quantitative components of the UPMWIS Project 3 which informed the development of a technology. Other components, such as the process of technology development and testing of the system were not covered. Older person respondents, mostly community-dwelling, were previous participants who underwent previous research-based CGA conducted in various regions in the country. Older persons who underwent CGA in hospitals and nursing homes were not covered in this study. Furthermore, given the limited number of online survey respondents, this paper may not reflect the issues and challenges of all older persons in the country who

underwent CGA. Hence, these affect the generalizability of the findings from this study.

The healthcare professional assessors who served as FGD participants were from different institutions who had experience in conducting the CGA. Participants were from Luzon and Visayas. There was no FGD participant from any institution in Mindanao. Furthermore, only one participant was from a private health institution. Based on the limited number of participants, their issues and challenges described may not reflect the experience of other HCPs who conduct CGA in other parts of the country. Furthermore, given the number of FGD conducted per target group and participants, data saturation was not ensured. The FGDs are crucial as part of Phase I, understanding the needs and challenges of the target population, of the human-centered design approach utilized by the project.

Given these limitations, the interpretation of the study findings requires caution. The issues and challenges in this study do not reflect all those involved in the CGA. Similar studies and relevant evidence based on the local or cultural context should be taken into account.

CONCLUSIONS

Given the comprehensiveness and multidisciplinary nature of the CGA, positive feedback was obtained from older persons and healthcare professionals. However, various issues and challenges faced by OPs and HCP assessors in the conduct of CGA were described. Follow-up, sensitive questions, length of the interview, recall, and privacy issues were challenging for older persons.

Meanwhile, the length of the CGA, sensitive questions, and follow-up issues were identified as the common issues and challenges faced by those involved in the conduct of the CGA. Addressing these issues and challenges is necessary to maximize the utility of the comprehensive geriatric assessment in promoting healthy aging. With the advent of technology, digitizing the paper-based CGA is a promising approach to address these challenges.

Further studies are recommended to identify the issues and challenges in various models of care and settings (e.g., CGA for long-term care, geriatric ward). With healthy aging as the goal, developing innovative solutions to address the identified challenges is also recommended.

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All authors certified fulfillment of ICMJE authorship criteria.

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