



Study Protocol

Physical Activity Level and Quality of Life of Filipino Community-Dwelling Older Adults during the COVID-19 Pandemic: A Cross-Sectional Study Protocol

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Abstract

Background: Due to the Coronavirus (COVID-19) pandemic, lockdown protocols for older adults were implemented globally to reduce their risks of contracting the virus. These restrictions could affect their physical activity (PA) and Quality of life (QoL). **Objectives:** This study aims to describe and to determine the association between the physical activity level and quality of life of Filipino community-dwelling older adults during the COVID-19 Pandemic in the Philippines. **Methods:** An analytic observational cross-sectional study will be conducted. 126 Filipino community-dwelling older adults aged 60 years or above in the Philippines will be conveniently sampled and recruited through online platforms. They will be asked to answer three questionnaires: 1.) a sociodemographic information survey for screening, 2.) the Physical Activity Scale for the Elderly in Filipino (PASE-F) to measure physical activity level, and 3.) the Short-Form 36 Version 2 Philippines (Tagalog SF-36v2) to measure the quality of life. Data will be summarized using standard descriptive statistics, and the association will be assessed using the Pearson Correlation Coefficient Test. A $p < .05$ will be considered significant. **Expected Results:** There will be an association between the QoL and PA level of Filipino community-dwelling older adults during the COVID-19 Pandemic in the Philippines. This can guide healthcare professionals in formulating interventions and policies to improve older adults' PA, QoL, and rehabilitation in the Philippines. The tools used in this study have very high reliability and validity scores, which may help future studies with similar topics.

Key Words: Older adults, Physical activity, Quality of life, COVID-19

INTRODUCTION

The Coronavirus (COVID-19), which was declared a global pandemic on March 11, 2020, by the World Health Organization (WHO), left a devastating impact on people's health all over the world.¹ Older adults over the age of sixty are one of the most vulnerable populations to COVID-19 infection.² The chance of death increases with age, particularly for those with chronic illnesses, accounting for more than 60% of all deaths.³ Symptoms are often more severe in this demographic, especially if they have existing diseases of the lung or heart or anything that compromises their immune system.³ Lockdown protocols for older adults were

implemented worldwide to minimize their exposure to the virus.⁴

Because of the lockdown protocols, older adults' physical activity and quality of life are affected.⁵ Physical activity (PA) is defined as any bodily movement produced by skeletal muscles that require energy expenditure.⁶ Generally, PA declines with age due to muscle mass and strength loss, decreased endurance, and overall functional capability.⁷ During quarantine, older adults' PA further declined, contributing to an increased risk of developing frailty when confined to their homes.⁸ On the other hand,

Quality of Life (QoL) is defined as a multidimensional concept that includes perceptions of physical and mental health, socioeconomic status, cultural aspects, values, and spirituality.⁹ The imposed lockdowns and social restrictions caused an increased level of loneliness and lack of social support, which is associated with a reduced QoL, depressive symptoms, development of unhealthy behaviors, and other adverse health outcomes such as physical inactivity, insomnia, and dementia. Lockdowns could also cause undue stress from work, home, or financial pressure.¹⁰

On March 16, 2020, the Philippines declared a state of calamity and enforced an enhanced community quarantine to contain the virus' spread. Those over sixty and those with comorbidities must stay home at all times.¹¹ Before the pandemic, only 35% of community-dwelling older adults met the recommended minimum PA level,¹² which is at least 150 minutes of moderate-intensity activity a week; not achieving this could lead to an increased risk for non-communicable diseases.¹³ This is important to note since the PA level could be much lower due to imposed lockdown restrictions during this pandemic. Minimizing the negative consequences of physical inactivity on older people is a serious concern during protracted lockdowns.¹⁴ In terms of the QoL, many older adults in the Philippines report good overall health, community participation, financial security, and religious practice.¹⁵ However, during the lockdown, many older Filipinos became anxious about their future, and those who suffered from chronic medical ailments hoped that nothing unexpected would happen to them.¹⁴

Currently, research findings suggest that PA is strongly associated with QoL.^{5,16} PA can influence multiple aspects of QoL and benefit an individual both in social and emotional aspects, which serve as the chief motivation to engage in PA.¹⁶ Recent studies regarding the relationship between PA and QoL of older adults during the pandemic were done in other countries.^{5,17} A study completed in Spain has proven that PA could increase older adults' QoL and overall well-being, especially during the pandemic.⁵ Another study in Japan reported that engaging older adults in PA regularly amidst the pandemic has reduced

the risk of acquiring a lower state of subjective wellbeing.¹⁷ However, given the differences in cultures regarding aging in place and lockdown protocols, these findings cannot be implied in the Philippine setting as there are currently no studies on the association between PA and QoL among Filipino older adults during the pandemic. Therefore, this study aims to describe the PA level and QoL of Filipino community-dwelling older adults and to determine the association between these two health parameters during the COVID-19 Pandemic in the Philippines. With this, physical therapists and other healthcare professionals working with geriatric populations could use this basis to develop programs that will improve their PA and QoL.

METHODS

Ethical Considerations. This study abides by the Declaration of Helsinki, Good Research Practice of the Philippines, and the Data Privacy Act of 2012 (RA 10173). The Ethics Review Committee reviewed and approved this study (Protocol Number: SI-2021-024-R1).

Study Design. The study design will utilize an analytic observational cross-sectional study. Cross-sectional studies determine its prevalence by collecting and analyzing population data at a single point in time.¹⁸ It can also be used to associate variables that can be explored further in other research, such as cohort or randomized controlled trials; however, it cannot prove causation because the study design's nature cannot establish a temporal sequence and account for all of the other unavoidable and immeasurable variables that may be causing the outcomes.¹⁸ This research design is appropriate for examining the relationship between the physical activity (PA) levels and the Quality of life (QoL) of older adults amidst the COVID-19 Pandemic in the Philippines. This study protocol was registered in the Philippine Health Research Registry (PHRR) with the Registry ID: PHRR220207-004312.

Participants. The participants who will be included based on the following criteria: 1) Filipino community-dwelling older adults (male or female) aged ≥ 60 years, 2) living in the Philippines during the COVID-19 pandemic from January 2020 to December 2022, 3) were able to

perform basic ADLs and household ambulation independently with or without assistive devices prior to the pandemic, 4) have an active lifestyle before the pandemic, 5) able to give informed consent, and 6) are accompanied by a legally authorized representative (LAR), relative, or caregiver who is familiar with the application and device to be used.

"Older adults" is defined as individuals who belong to the age group of ≥ 60 .¹⁹ Community-dwelling is defined as unrelated individuals living in a commonplace, not part of an institution residence, who can perform basic ADLs independently.²⁰ The participants should have had an active lifestyle before the pandemic; this pertains to having 150 minutes of moderate-intensity activity with 3.0 to 6.0 Metabolic Equivalent Tasks (METs) per week, for example, brisk walking at 1.34 m/s, doing moderate housework, and actively playing with grandchildren, and muscle-strengthening activities on two or more days a week.²¹ This ensures that the participants' PA levels will not be compromised by external causes or will already be influenced prior to the study's commencement.

The researchers will exclude the participants with the following characteristics: 1) living in long-term care facilities, nursing homes, and home-for-the-aged, 2) having recent hospitalizations or operations since January 2020, 3) with existing conditions that could affect PA levels, 4) presence of medical conditions that hinders them from standing and walking independently such as severe cardiovascular dysfunctions and terminal illnesses, 5) confined in bed or wheelchair, and 6) severe cognitive impairment defined by a Mini-Mental State Examination (MMSE) score of ≤ 17 since they could give unreliable information deeming the informed consent invalid.²²

Considering that older adults comprise 8.6% of the Philippine population in 2019,¹⁹ with a 95% confidence level and margin of error set at 5%, the required sample size for this study is 126. The study will utilize convenience sampling as it is the most appropriate given the Philippines' quarantine protocols. It is a sort of sampling in which the study uses the first accessible primary data source without further constraints.²³

Instruments. The study comprises the following tools: 1) Sociodemographic information survey, 2) Physical Activity Scale for the Elderly in Filipino (PASE-F), and 3) Short-Form 36 Version 2 Philippines (Tagalog SF-36v2).

The sociodemographic information survey is a self-administered questionnaire to screen the participants for inclusion. The obtained information from the questionnaire includes the participant's demographics, contact information, lifestyle, health status, and guardian's information.

PASE-F will measure the PA level of the participants. PASE-F, a local version of the original PASE, consists of 12-item self-reported work-related, household, and leisure activities done within a week. The original PASE has shown significant reliability for assessing PA of older people (test-retest reliability coefficient (Pearson correlations) = 0.75, 95% CI = 0.69-0.80),²⁴ while the PASE-F has presented adequate validity measuring PA of older adults in the Philippines ($p = 0.84$).²⁵ Multiplying the activity weights by the frequency values of each activity type and adding the products for all 12 activities will yield the total PASE scores. The scores range from 0 to 793; higher scores signify greater PA.²⁴

Tagalog SF-36v2, an adaptation of the original Short-Form 36 (SF-36), will be used to assess the QoL of the participants during the COVID-19 Pandemic. The Tagalog SF-36v2 is a 36-item questionnaire with two main domains: physical and mental health. Each domain has four sub-domains that assess eight health dimensions. Physical components include physical functioning, role limitations due to physical health, bodily pain, and general health, while mental components consist of vitality, social functioning, role limitations due to emotional health, and mental health. The original SF-36 has shown significant reliability for measuring community-dwelling older adults' QoL (Cronbach's $\alpha > 0.80$, except social functioning, $\alpha = 0.79$),²⁶ while Tagalog SF-36v2 has presented adequate content validity (item-scale $r > 0.40$, except bathing in physical functioning subscale, $r = 0.31$), and reliability (Cronbach's $\alpha > 0.70$, except general health, $\alpha = 0.62$; vitality, $\alpha = 0.51$; and social functioning, $\alpha = 0.54$) for assessing health status among Filipinos.²⁷ Adding the

responses for each scale will give the raw scores, transformed to dimension scores ranging from 0 to 100; higher scores indicate better QoL.²⁸

Data Gathering Procedures. Data gathering procedures obtained ethical approval from the Ethics Review Committee. The data-gathering period will commence after ethical approval in four (4) months from April-July 2022. Participant recruitment will be done online using the following methods: researchers send postings about the study to the partner communities in Binangonan, Rizal, social media platforms, senior citizen organizations, family, and friends. The researchers will screen participants for the sociodemographic data and administer MMSE from May to August 2022 with no follow-ups needed; questions will be read aloud to the participants, and the participants are asked to answer verbally. Screened participants who meet the inclusion criteria will be given a Filipino version of the informed consent form and complete the Tagalog SF-36v2 and PASE-F while they will be administered through phone calls or online platforms limited to Zoom, Google Meet, or Facebook Messenger. The platform used is based on the participant's preferences; however, the researchers will utilize phone calls as an alternative means of communication in cases of technical difficulties with the said platforms. The researchers will use Google Forms to encode the participants' data. Google Forms offers privacy settings that are easy to set according to one's preference. With this feature, the researchers can control and limit who has access to the information encoded in the forms, ensuring the participants' confidentiality.

Data Analysis. The data will be encoded and analyzed in IBM SPSS Statistics 27.0 using Microsoft Excel 2019 MSO (Version 2110 Build 16.0.14527.20234). The researchers will set the significance level at $p = 0.05$ and use descriptive statistics such as frequency and proportion, central tendency measures, and dispersion measures to summarize the participants' sociodemographic, PASE-F, and Tagalog SF-36v2 scores. The parametric Pearson Correlation Coefficient Test will be used to establish an association between the PA level and the QoL since the scores for these variables fall under the ratio level of measurement.

EXPECTED RESULTS

The study expects to see an association between the PA level and the QoL of community-dwelling older adults during the COVID-19 pandemic in the Philippines. This can guide healthcare professionals in developing interventions to improve older adults' physical health and QoL. This will be useful for older adults to be more aware of their PA level and QoL during this pandemic and to adapt appropriate exercise programs to improve their condition, given its lockdown limitations. This may also help to promote geriatric and community-based physical therapy in the Philippines and to create potential policies regarding the importance of PA levels and QoL during home isolation. The validity and reliability of the tools used in this research also make it a prominent candidate in being an adjunct for future research that will involve the gathering or data analyses of PA and QoL of older adults.

Individual Author's Contributions

D.L., M.R.; Conceptualized the study and study design and critically revised the manuscript. K.C., C.F., D.K., E.L., J.M., R.P, M.S., C.V., A.Y.; Drafted the manuscript. D.L., M.R., K.C., C.F., D.K., E.L., J.M., R.P, M.S., C.V., A.Y.; All approved for the final version and agreed to be accountable for all aspects of the manuscript.

Disclosure Statement

No funding was received for this paper.

Conflicts of interest

D.L. is an Associate Editor of the Philippine Journal of Allied Health Sciences (PJAHS). The other authors declare no conflicting interests.

Supplementary Materials

[Supplementary Material A. STROBE Checklist](#)

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