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The Expectations Regarding Aging and Ageism Perspective between Nurses and Caregivers in Long-term Care Facilities

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Article Info

Abstract

Background: Ageism negatively impacts older adults' health, especially in long-term care facilities (LTCFs), where healthcare workers often hold unfavorable views of them. Understanding these perspectives is vital for combating ageism and improving LTCF quality. Yet, comprehensive studies on healthcare workers' attitudes toward ageism are lacking, hindering targeted interventions. Therefore, grasping their attitudes and behaviors is crucial for addressing ageism in LTCFs and enhancing care for older adults.

Purpose: This study aimed to explore healthcare workers' expectations regarding aging and their perspective on ageism towards older adults in LTCFs.

Methods: This study was randomly conducted in sixteen LTCFs across Indonesia's five largest islands using a cross-sectional study with a comparative descriptive design. Participants included 56 nurses and 173 non-licensed caregivers. Data on aging expectations and ageism perspectives during the COVID-19 pandemic were collected. An online and offline self-administered questionnaires (i.e., participant's characteristics, the expectations regarding aging survey, ageism perspective in time of the COVID-19 pandemic) were conducted. Differences between nurses and caregivers were analyzed using chi-square and independent t-tests.

Results: Altogether, 56 nurses and 173 caregivers (with an average age of 39.9 years) participated in the study. Significant differences were observed between nurses and non-licensed caregivers in their expectations regarding physical health, mental health, and overall expectations regarding aging (p-value = <0.001, <0.001, <0.001, respectively). Non-licensed caregivers had higher mean scores for each item compared to nurses. Whereas, the perspective nurse and non-licensed caregivers were significantly different about older adults being more accessible to being infected with SARS-CoV-2, vulnerable population, prone to severity, easier to expose virus, low income, must isolated (p-value = 0.029, 0.007, 0.010, 0.033, <0.001, <0.001, respectively). The mean score of each item of nurses was higher than non-licensed caregivers.

Conclusion: The expectation regarding aging of caregivers was higher than nurses. In line, the nurses' scores have a lower attitude toward ageism during time COVID-19 pandemic. Exposure to ageism behavior and ageing conditions needs to be done for healthcare workers.

1. Introduction

Long-term care facilities (LTCFs) serve as vital support systems for older adults with diminished functional capacities, requiring extended care for their daily activities (Gaugler, 2014;

Lehnert et al., 2019). In these settings, healthcare professionals, notably nurses and caregivers, closely engage with older individuals, significantly contributing to their well-being (Eom et al., 2017). However, the pervasive presence of ageism, marked by discrimination, prejudice, and stereotyping based on age, poses a threat to the quality of care provided to older adults (Voss et al., 2018).

Numerous research studies have consistently documented instances of ageism within LTCFs (Herdman, 2002; Loy-Ashe et al., 2024; São José & Amado, 2017). These findings reveal patterns of negative stereotypes, differential treatment, and discriminatory attitudes towards older adults (Nelson, 2005; São José & Amado, 2017). Previous studies have highlighted the impact of ageism on the interactions and attitudes of employees in LTCFs towards older adults (Ben-Harush et al., 2017; Loy-Ashe et al., 2024). Ageism among healthcare workers affects the quality of treatment and the services that older adults receive (Courtney et al., 2000; Robb et al., 2002). Moreover, evidence suggests that ageism extends beyond professional boundaries, affecting various healthcare providers, including physicians, nurses, and social workers (Ben-Harush et al., 2017). Therefore, investigating ageism among healthcare workers is crucial to ensuring that older adults receive fair and impartial.

Understanding the expectations and attitudes of healthcare workers regarding aging is also imperative for effectively addressing ageism within LTCFs. Nurses and caregivers, as frontline caregivers, hold distinct perspectives that shape their interactions with older individuals (Kagan & Melendez-Torres, 2015; Nelson, 2005; Rhee et al., 2019). Exploring these expectations and examining the prevalence and manifestations of ageism among healthcare professionals offer valuable insights into the dynamics of ageism within LTCFs (Ben-Harush et al., 2017).

Furthermore, expectations regarding the aging of healthcare workers can significantly impact their interactions with older generations in care settings. Negative expectations of older adults persist within the healthcare community across various professional disciplines and care environments (Ayalon, 2018). Healthcare workers' expectations of older adults play a crucial role in shaping the quality of care provided (Kagan, 2020; Kagan & Melendez-Torres, 2015). In this study, expectations regarding aging refer to specific criteria or parameters used to measure individuals' beliefs, attitudes, or anticipations about the aging process and its outcomes (Breda & Watts, 2017). Additionally, the COVID-19 pandemic has exacerbated existing challenges, including ageism, across different contexts (Ayalon et al., 2021; Kagan, 2020; Silva et al., 2021). Ageism, rooted in age-based categorization and divisions, perpetuates harm, disadvantage, and injustice, undermining intergenerational solidarity (Kessler & Bowen, 2020; World Health Organization, 2021). The increasing age is invariably linked with higher death prevalence during the COVID-19 pandemic. Although evidence for the direct relationship between age and health outcomes of COVID-19 is correlational (Yanez et al., 2020), it potentially adds to the complexity of attitudes toward older adults' group (Swift & Chasteen, 2021).

In this study, ageism perspective refers to the specific criteria or parameters used to evaluate individuals' attitudes, beliefs, and behaviors towards older adults (Marques et al., 2020). The pandemic's impact on healthcare professionals' perceptions of older adults is particularly noteworthy, given that ageism transcends professional boundaries (Courtney & Walsh, 2000; Shaw et al., 2022). Hence, examining healthcare professionals' perspectives on older adults during the COVID-19 pandemic is crucial for understanding the nuances of ageism in this context.

This research holds significant implications for enhancing the quality of care provided to older adults in LTCFs. By deepening our understanding of healthcare professionals' expectations and attitudes toward aging, healthcare workers can take steps to address ageism, foster age-friendly care environments, and bolster the well-being and dignity of older individuals receiving care in these settings (São José & Amado, 2017; São José et al., 2019). However, comprehensive studies on healthcare workers' perspectives regarding ageism are lacking (Loy-Ashe et al., 2024), hindering the development of targeted interventions. Understanding their attitudes and behaviors is essential for effectively addressing ageism in LTCFs and enhancing the care quality for older adults. This study aims to shed light on aging and ageism expectations among nurses and caregivers in LTCFs. By investigating their ageism perspectives, the study seeks to identify the prevalence and manifestations of ageism within these professional groups and assess its potential impact on the care provided to older adults. Additionally, the study explores nurses and caregivers' perceptions of older adults during the COVID-19 pandemic, providing insights into ageism during this challenging period.

2. Methods

2.1. Research design

This study employed a cross-sectional design with a comparative descriptive approach, utilizing self-administered questionnaires to gather data from participants. The comparative descriptive design allowed for the examination of differences and similarities across various factors of interest, providing valuable insights into the study variables within the sampled population.

2.2. Setting and samples

This study was conducted on LTCFs in Indonesia from five biggest islands (Sumatera, Java, Borneo, Sulawesi, Bali). These islands have diverse cultures, which may lead to variations in participant characteristics, thereby representing Indonesian cultural diversity. The inclusion criteria for LTCFs were that they had been established before November 2019 and employed at least one nurse. The COVID-19 pandemic influenced the ageism experience. We included the LTCFs and staff who were established and worked before the COVID-19 pandemic, so it would enhance the similar experience before and after the pandemic. About the LTCFs, we randomized 20 LTCFs in a computer-based random number generator. Research team applied approval for data collection from the Indonesian government. Sixteen LTCFs approved to participate in this study. The principal investigator explained and applied for approval from the principal authorities of LTCFs.

The staff of LTCFs participating in this study were healthcare workers (nurses and non-licensed caregivers) who worked before the COVID-19 pandemic. In this study, non-licensed caregivers refer to individuals who work for older adults with remunerate but they do not have a formal caregiver licence. Currently, Indonesia does not have a formal caregiver licence for healthcare purposes. Meanwhile, nurses are licensed healthcare workers with formal education. Nurse for this study are remunerated workers. We used total sample for the sample size. The sample size was also calculated using a power analysis (Hunt, 2012). The minimum sample size is 108 (nurses and caregivers) with an effect size of d = 0.5 (Ref. study: d = 0.5, α = 0.05, power = 0.80).

2.3. Measurement and data collection

The data collection for this study took place between March and November 2021. Both online and offline methods were utilized, with online surveys being the primary approach. Upon obtaining approval from LTCF facilities, we sent a cover letter explaining the study purpose and providing assurance regarding the voluntary and confidential nature of their responses. The URL and paper copies of the questionnaire were sent to the principal authorities of the LTCFs. The LTCFs were given the option to choose between online and offline questionnaire formats. Self-administered questionnaires were then distributed to the LTCFs, accompanied by the research explanations and informed consent information, both online and offline. For the offline method, the authors collected the study results from the principal authorities or designated individuals at the LTCFs. These authorities then disseminated the information to the nurses and caregivers within the LTCFs.

The online survey was created using a paid Google Forms account to ensure the security of the data. This method of using Google Forms made it convenient for participants as they did not require an account to access, complete, or submit the questionnaire. Basic computer and phone literacy were sufficient for accessing, filling, and submitting the form. To prevent participants from getting lost on a lengthy page, the questions were divided into ten sequential screens with a progress indicator. The Google Form was structured into five sections. Participants could click directly on the first section, which provided information about the purpose of the study, the research team, research ethics considerations, questionnaire contents, estimated completion time, and a statement of consent. The second section focused on gathering information about the participants' characteristics. The details of the questionnaire were explained in the subsequent section. Notably, all questions were optional, and participants had the flexibility to navigate back and forth between the screens.

All surveys utilized in this study were conducted in the Indonesian language (Bahasa). We implemented a forward–backward translation process into Indonesian following the standard (Tyupa, 2011). This translation procedure consisted of two phases. Initially, an experienced

healthcare professional proficient in both English and Indonesian, specializing in gerontological nursing and possessing a deep understanding of Indonesian culture, conducted the initial forward translation. Subsequently, three panel experts meeting specific criteria (such as having a background in geriatric nursing, expertise in LTCF studies in Indonesia, and proficiency in English) performed the reverse translation. Following this, the research team validated the translations to ensure accuracy. The questionnaire underwent translation considering cultural adaptation principles (Guillemin et al., 1993). We used a translator who understands Indonesian culture.

2.3.1. Expectation regarding aging

To measure the expectation of older adults, we used the Expectations Regarding Aging Survey (ERA) short version (ERA-12) (Sarkisian et al., 2005). The ERA-12 survey contained 12 items representing three scales: expectations regarding physical health, mental health, and cognitive function. The ERA-12 confirmed the consistent content to measure expectations regarding aging (Sarkisian et al., 2016). The responses for each question were obtained on a fourth-point Likert scale that measured the expectation from; 1= definitely true to 4 = definitely false. We calculated within the total and subscale scores of ERA-12. For the total score, the sum number for items 1-12. For the total score, we summed the number for items 1-12 then multiplied by 25 and divided by 9 to come up with the 0-100 range score. Higher scores indicate higher overall expectations regarding aging. Whereas for the subscales score, we summed the number of each subscale's items (e.g., expectations regarding physical health = 1-4) then multiplied by 25 and divided by 3 to come up with the 0-100 range score. Higher scores indicate higher expectations regarding aging in each domain. The internal consistency reliability of the total scale and of the individual subscales was acceptable for questionnaires of expectation regarding aging with range of Cronbach's alpha coefficient were 0.67–0.79.

2.3.2. Ageism perspective in time of the COVID-19 pandemic in LTCF

To explore perception toward older adults during the COVID-19 pandemic, we developed the questions based on the literature (Ayalon et al., 2021; Graf & Knepple Carney, 2021; Vale et al., 2020). The content of the questions was about the perception of LTCF's staff regarding the older adult population and the COVID-19 pandemic. After a literature review, ageism perspective in time of the COVID-19 pandemic was categorized into dimensions. There are three dimensions: older adults' vulnerability (e.g., older adults are most vulnerable to being infected with the SARS-CoV-2) with three questions, underestimate of older adults (e.g., older adults have a lower immune system) with three questions, and negative perception (e.g., adults have to stay at LTCFs ultimately to help the health system from collapse) with three questions. All responses were elicited on a 4-point Likert scale, "strongly agree" to "strongly disagree." A higher score indicated higher ageism in the time of COVID-19 pandemic. The content validity of the adherence assessment items was assured by a panel of LTCFs researchers and practitioners (five people). Due to time and resource limitations, the validation process took place through online discussions with experts and no pilot studies were conducted.

2.4. Data analysis

The participant characteristics of nurses and caregivers in the healthcare sector were analysed using descriptive methods. To compare the differences between these groups, a Chi-square test and an independent t-test were conducted. In order to determine the significance of the differences, effect sizes were calculated using Cohen's d for the independent sample t-test, where a small effect size was defined as d = 0.2, medium as d = 0.5, and large as d = 0.8. For the chi-square tests, the phi coefficient was used to measure the effect size, with small defined as φ = 0.1, medium as φ = 0.3, and large as φ = 0.5 (Wolverton et al., 2016). To investigate the variations in expectations regarding aging and perspective ageism between nurses and caregivers, independent sample t-tests were performed. The threshold for determining statistical significance was set at $p<0.05$ (two-tailed). The statistical analysis was conducted using IBM SPSS Statistics Version 26.0, developed by SPSS Inc., an IBM company based in Chicago, IL.

2.5. Ethical considerations

The participants were provided with a description of this research along with the questionnaires. Both the online and offline versions of the questionnaires were accompanied by a research explanation and informed consent statement. In the online questionnaire, participants were provided with a checklist option to indicate their agreement to participate. In the paper-based version, participants could physically sign to signify their agreement. It was explicitly stated that by completing and returning the questionnaires, they would be giving their consent to participate. The study adhered to the principles outlined in the Declaration of Helsinki and received ethical approval from the Universitas Airlangga's committee (approval number 2377-KEPK) for the involvement of human participants.

3. Results

3.1. Characteristic of participants

The participants of this study were 56 nurses and 173 caregivers (Table 1). A total of 20 LTCFs of five biggest islands in Indonesia were contacted to participate. Sixteen LTCFs agreed to participate. The mean age of the participants was 33.1 years. Forty-two percent of them were male. Among all participants, approximately 93% of nurses graduated with a bachelor's degree or higher, while 31% of caregivers had graduated from university. Around 80% were married, and most participants reported good to excellent health.

About the LTCFs' condition, the mean number of beds was 82%, and 75% was public LTCFs (e.g., government facilities for older adults). There was no significant different between nurses and caregivers in about report of response of LTCFs with pandemic COVID-19 to protect older adults.

Table 1. Participant's characteristics

Characteristics	n (%) or Mean±SD						p-value	Effect size
	Total (n=229)		Nurse (n=56)		Caregiver (n=173)			
Individual factors (n=229)								
Age (years) (Mean±SD)	39.9±10.3		33.1±7.8		42.1±10.0		<0.001	0.162[a]
Sex (men)	97	(42.4)	14	(25.0)	83	(48.0)	0.004	0.200[b]
Education level (university)	105	(45.9)	52	(92.9)	53	(30.6)	<0.001	0.537[b]
Marital status (married)	185	80.8)	44	(78.6)	141	(81.5)	0.254	0.133[b]
Self-rated health (good-Excellent health)	221	(96.5)	56	(100.0)	165	(95.4)	0.022	0.183[b]
LTCF factors (n=16)								
Unit size (number of beds) (Mean±SD)	81.6±31.7							
Place of LTCF (island)*	5	(100.0)						
Status of LTCF (public facility)	12	(75.0)						
Staff who reported LTCF factors								
Experience of COVID-19 in LTCF	-	-						
Staff reported any older adults LTCF confirmed COVID-19 in LTCF (yes)	140	(61.1)	42	(75.0)	98	(56.6)	0.022	0.162[b]
Response of LTCF with COVID-19 ‖	-	-						
Soon (one month after pandemic)	200	(87.3)	50	(89.3)	150	(86.7)	0.758	0.091[b]
Fast (after two months after pandemic)	24	(10.5)	5	(8.9)	19	(11.0)		
Slow (after 3-4 months after pandemic)	1	(0.4)	0	(0.0)	1	(0.4)		
Late (after 4 months pandemic)	2	(0.9)	1	(1.8)	1	(0.6)		
No response until now	2	(0.9)	0	(0.0)	2	(1.2)		

Notes:
LTCFs: Long-term care facilities, SD: standard deviation
* This study was conducted on the 5 biggest islands in Indonesia. The percentage was counted from 5 biggest islands in Indonesia.
‡ This feeling was reported by participants from the choice bad health, enough health, good health, and very good health.
‖ This was a response from the participant overview of LTCF's response
[a] Differences were compared using the student t-test; the corresponding effect size is Cohen's d (0.2: small, 0.5: medium, and 0.8 large)
[b] Differences were compared using the Chi-square test; the corresponding effect size is Phi coefficient (0.1: small, 0.3: medium, and 0.5 large)

3.2. The expectation regarding aging

For the expectation regarding aging (Table 2), nurses and caregivers have significant different on expectation regarding physical health (p=<0.001), expectations regarding mental health

(p=<0.001), and total score or global expectations regarding aging (p=<0.001). The mean scores of caregivers were higher than nurses.

Table 2. The expectations regarding aging among nurse and caregiver (n=229)[a]

Items	Nurse Mean±SD	Caregiver Mean±SD	p-value
1. When people get older, they need to lower their expectations of how healthy they can be.	1.5±0.7	2.3±1.0	<0.001
2. The human body is like a car: When it gets old, it gets worn out.	1.3±0.6	1.6±0.7	0.002
3. Having more aches and pains is an accepted part of aging.	1.5±0.6	1.8±0.9	0.001
4. Every year that people age, their energy levels go down a little more.	1.3±0.5	1.3±0.5	0.743
5. I expect that as I get older, I will spend less time with friends and family.	1.6±0.7	2.1±1.0	<0.001
6. Being lonely is just something that happens when people get old.	1.5±0.5	1.7±0.7	0.094
7. As people get older, they worry more.	1.3±0.5	1.5±0.6	0.096
8. It's normal to be depressed when you are old.	1.6±0.6	1.9±0.8	0.006
9. I expect that as I get older, I will become more forgetful.	1.6±0.5	1.6±0.7	0.441
10. It's an accepted part of aging to have trouble remembering names.	1.5±0.5	1.8±0.7	0.020
11. Forgetfulness is a natural occurrence just from growing old.	1.4±0.5	1.5±0.6	0.150
12. It is impossible to escape the mental slowness that happens with aging.	1.5±0.7	1.5±0.7	0.892
Expectations regarding physical health	46.1±14.0	58.2±18.8	<0.001
Expectations regarding mental health	49.4±12.3	59.4±19.4	<0.001
Expectations regarding cognitive function	50.0±13.6	53.5±16.4	0.113
Global expectations regarding aging	48.5±9.9	57.0±14.8	<0.001

Notes: [a] The expectations of LTCF's staff regarding older people was measured using the Expectations Regarding Aging Survey (Catherine et al., 2005). The score range between 0-100. Higher scores indicate higher expectations regarding aging.

3.3. The perspective ageism in time of pandemic COVID-19

In perspective of ageism (Table 3), we analyzed the issue of ageism which is often mentioned during the COVID-19 pandemic. The mean score of each item of nurses has higher score compare to caregivers. It implie that nurses have a lower attitude toward ageism in time of the COVID-19 pandemic than caregivers. The significant different was observed on older adults being infected with SARS-CoV-2 (p=0.029), vulnerable population (p=0.007), prone to severity (p=0.010), easier to expose virus (p=0.033), low income (p=<0.001, and older adults must be isolated (p=<0.001).

4. Discussion

We explored the expectation regarding aging and ageism during the COVID-19 pandemic at LTCFs from the perspective of healthcare workers, especially nurses and caregivers. To our knowledge, this study is the first study to investigate expectations regarding aging and ageism during the COVID-19 pandemic in LTCFs. The present study found a significant difference between nurses and caregivers in LTCFs regarding their expectations concerning aging and ageism during the COVID-19 pandemic. Nurses exhibited lower expectations regarding aging and held a lower attitude toward ageism during the COVID-19 pandemic compared to caregivers.

Among nurses and caregivers, the expectation regarding aging was significantly different on global expectation, mental health, and physical health, where the nurse's score was lower than the caregiver. This result aligns with the attitude toward older adults, where the nurse's score is lower than the caregiver's score. Overall and subscale scores of nurses and caregivers in this study were lower than in another study among clinicians in primary care (Davis et al., 2011). The lower scores among nurses and caregivers in our study signal a need for targeted interventions to address ageism and enhance the quality of care for older adults in LTCFs. Older adults in LTCFs are at a high risk of becoming agist and neglected (Band-Winterstein, 2013). Ageism in LTCFs is pervasive among health and care workers whose propensity has low qualifications, wages, intention to stay,

and self-esteem (Bettio & Verashchagina, 2010; Eltaybani et al., 2018; São José et al., 2019). Therefore, studies on ageism in LTCF facilities still need more attention to improve care and satisfaction for health and care workers (Aloisio et al., 2021). Further research and interventions are essential to foster supportive environments and promote person-centered care in LTCFs.

Table 3. The perspective of ageism in time of the COVID-19 pandemic[b]

Items	Nurse	Caregiver	*p*-value
	Mean±SD	Mean±SD	
1. Older adults are most vulnerable to being infected with the SARS-CoV-2	3.9±0.4	3.8±0.5	0.029
2. Older adults are the most vulnerable population during pandemic Covid-19	3.8±0.5	3.6±0.6	0.007
3. Older adults have several comorbidities so they are prone to severity when infected SARS-CoV-2	3.8±0.4	3.6±0.5	0.010
4. Older adults have a lower immune system, they are easier to expose with SARS-CoV-2	3.7±0.5	3.5±0.6	0.033
5. Older adult has a low income to provide adequate nutrition	3.6±0.5	2.9±0.9	<0.001
6. Older adults have to stay at LTCF completely to help the health system	3.6±0.7	3.0±1.0	<0.001
7. Family should not visit the older adults in LTCF	3.1±0.7	3.0±0.9	0.507
8. Older adults should be avoided to visit health facilities during pandemic Covid-19	2.7±0.7	2.6±1.0	0.463
9. Community health services should be closed during pandemic Covid-19	2.7±0.7	2.7±0.9	0.675

Notes: [b] Ageism in time of pandemic COVID-19 was explored using developed questionnaire based on the studies: (Ayalon et al., 2021; Graf and Knepple Carney, 2021; Vale et al., 2020). The responses were elicited using 4 Linkert scale. Higher score indicated higher attitude on ageism in time pandemic COVID-19.

The ongoing COVID-19 pandemic affects older people, especially those living in LTCFs. This condition appears to have myriad implications for older persons and aging, such as elder abuse, depression, and health service (Arpino et al., 2020; Chang & Levy, 2021; Meeks, 2021). However, it not only affects older adults but healthcare workers also feel the tremendous impact (Bolt et al., 2021; Chutiyami et al., 2022; Maben et al., 2022). This heightened stress has contributed to the perception and manifestation of ageism among healthcare workers, with significant differences noted between nurses and caregivers in their perceptions of older adults' vulnerability, susceptibility to infection, comorbidity prevalence, immune system strength, income levels impacting nutrition, and strain on the healthcare system during the pandemic (Ben-Harush et al., 2017). Notably, nurses exhibit higher scores, potentially reflecting their greater access to information and advanced education, which may enhance their awareness of the challenges faced by older adults during crises such as COVID-19 (Abadio de Oliveira et al., 2019; Wakefield et al., 2021). Higher education and knowledge reduce ageism's prevalence and allow for better whole-person care (Holland et al., 1994). It is imperative that future research focuses on developing targeted educational programs for long-term healthcare workers to reduce ageism and enhance the provision of person-centered care for older adults in LTCFs.

Moreover, the "infodemic" accompanying the COVID-19 pandemic is spreading rapidly, potentially outpacing the spread of the virus itself (Chong et al., 2020). In response, many healthcare facilities have embraced digital care technologies to enhance healthcare delivery. However, the integration of digital technologies into healthcare settings may also influence healthcare professionals' attitudes towards older adults, potentially exacerbating negative and ageist perceptions (Mannheim et al., 2021). Consequently, the COVID-19 pandemic has the potential to significantly impact healthcare workers' perceptions of older adults (Lebrasseur et al., 2021), particularly within LTCFs.

After the COVID-19 pandemic is over, post COVID-19 pandemic has had significant implications for ageism, both in terms of exacerbating existing ageist attitudes and behaviors. The lower expectation regarding aging and perspective ageism during post pandemic COVID-19 can be increased age-based discrimination and longer impact on mental health of older adults (Ayalon

et al., 2021; Palmore, 2015). Those condition have highlighted the urgent need to combat ageism and promote intergenerational solidarity.

5. Implications and limitations

Based on this study, we could evaluate the level ageism on LTCFs among healthcare workers. This study can help raise awareness among healthcare workers especially nurses about the presence and impact of ageism within LTCFs. Nursing school should provide education and training programs that address ageism, promote age-inclusive care, and enhance their understanding of the unique needs and experiences of older adults. Nurses have a deeper understanding of the physiology of older adults' bodies, which leads to a more inclusive approach towards ageism. Additionally, nurses play a crucial role in creating a positive and supportive environment within LTCFs. For policymakers, there is a need to reevaluate age-related policies and healthcare systems, as the pandemic has highlighted the importance of equitable healthcare for all age groups.

This study has a number of limitations that should be taken into account when interpreting the results. The small sample size of nurse in each LTCFs and the nationwide distribution of participating LTCFs may impact the generalizability of the findings. At current condition, the number of nurses in each Indonesian LTCFs is limited. Therefore, future longitudinal studies should aim for larger sample sizes within each unit and incorporate the perspectives of older individuals.

6. Conclusion

In conclusion, there were significant difference on the expectation regarding aging and ageism during the COVID-19 pandemic between nurses and caregivers in LTCFs. Nurses have a lower expectation regarding aging and lower attitude toward ageism in time of the COVID-19pandemic. Furthermore, it is crucial for future research to determine whether healthcare workers exhibit ageism from the perspective of the older population themselves.

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Author contribution

DWS: Conceptualization, validation process, methodology development, formal analysis, research and investigation, project administration, data curation, funding acquisition, data visualization, writing original draft and review and editing process. EU and NVA: Conceptualization, methodology development, research and investigation, project administration, data curation, funding acquisition, writing process, including review and editing. NDK and GEA: Validation process, research and investigation, project administration, writing process, including review and editing. MNW: conceptualization, methodology development, data curation, providing supervision, writing process, including review and editing.

Conflict of interest

None declared.

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