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EMPOWERMENT OF COMMUNITY HEALTH CENTER PROVIDERS ABOUT SCREENING MULTIDIMENSIONAL FRAILTY

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ABSTRACT

The increasing number of elderly people in Indonesia underscores the need for knowledge about the vulnerabilities and health issues affecting the elderly population. Furthermore, the lack of skills among carers and the healthcare system to provide adequate, preventive, and dignified care makes it essential to initiate action. The main goal is to disseminate the research results and introduce the multidimensional frailty assessment questionnaire to healthcare providers in Community Health Centres. The procedures commenced through collaboration with the Dinas Kesehatan Kota Bandung. The participatory action technique was employed to incorporate research findings into community service activity through joint planning. Two phases of the program: workshop and follow-up. Discussion, demonstration, and re-demonstration within peer groups were utilized for workshops, with site visits to obtain feedback from participants randomly. 12 Community Health Centres participated in this community service initiative. Six sites were designated for research, while six other sites are situated near Bandung Kulon. Each Community Health Centre was invited to send two representatives, including the principal and the individual responsible for geriatric polyclinics (n=24). This study utilized the Wilcoxon Signed-Rank Test and Interpretative Phenomenological Analysis. The results showed that the workshop effectively improved the knowledge and skills of most healthcare workers, with a p-value of 0.001 (<0.05). Furthermore, the follow-up phase involved exploring healthcare providers' perspectives on the use of frailty screening for elderly patients at Community Health Centres, which yielded three main themes: Theme 1, Tools and Instruments Used in Screening; Theme 2, Challenges in the Screening Process; and Theme 3, Optimization and Adaptation of the Screening Process. This workshop demonstrated an improvement in critical thinking, problem-solving, and other cognitive skills among healthcare workers. Additionally, the perspectives of primary healthcare providers regarding the implementation of frailty screening for elderly patients at Community Health Centres emphasized the importance of multidimensional frailty assessment for elderly visitors to the centres.

Keywords: Community Service Program, Knowledge, Practice, Workshop

1. INTRODUCTION

A multitude of nations, including Indonesia, are witnessing a significant rise in their elderly population. Between 2015 and 2050, the proportion of adults aged 60 and older is anticipated to nearly double, rising from 12% to 22% of the global population. The World Health Organization (WHO) forecasts that by 2050, 80% of the senior population will inhabit emerging nations (World Health Organization, 2024). This demographic transformation exacerbates the pressure on families, communities, and healthcare systems, especially in rural or underprivileged areas.

The Ministry of Health of the Republic of Indonesia designates elderly folks as individuals aged 60 years and above. Indonesia's senior population is increasing, with forecasts indicating that this demographic will represent 21.3% of the global population by 2050, up from 9.2% in 1990 (Isdijoso et al., n.d.). Furthermore, it is alarming that one in five elderly individuals in the community suffers from physical frailty associated with functional impairments, dietary vulnerabilities, depression, a history of falls, previous hospitalizations, and polypharmacy (Setiati et al., 2021).

Older adult care encounters substantial obstacles, including physical frailty, nutrition, polypharmacy, chronic illness, and inadequacies in caregiving (Cha et al., 2025). Multidimensional frailty is characterized by a decline in physical function, psychological distress, and social restriction (Tallutondok et al., 2022). Polypharmacy, defined as the concurrent use of many drugs, increases the likelihood of adverse drug responses, interactions, and other consequences (Pazan & Wehling, 2021). Insufficient support for the elderly can result in social isolation, depression, and adverse health consequences for both demographics (Fakoya et al., 2020).

On the other hand, the formal caregivers at community health centers, including nurses, midwives, and general practitioners, often exhibit deficiencies in both structured knowledge and practical skills related to caring for older adults, particularly in addressing frailty (Huang et al., 2025). Behind this issue, the lack of equipping community health center (CHC) providers to assess multidimensional frailty encompasses the absence of standardized training and knowledge, restricted access to or comprehension of screening instruments, a necessity for enhanced interdisciplinary collaboration, inadequate time and resources, and challenges in incorporating frailty care into standard primary care practices.

Caregiver gaps reflect disparities or unmet needs in the care provided to individuals, often associated with healthcare, support services, or activities of daily living (Seah et al., 2025). These gaps may result from multiple circumstances, such as inadequate access to suitable services, limited expertise, or the caregiver's inherent limitations. Addressing these shortcomings is crucial for improving the quality of life for both the care recipient and the caregiver. This signifies the need for standardized training programs for healthcare workers in evaluating multidimensional frailty.

A previous study described that education and training of healthcare providers are essential for healthcare services (Avgerinou et al., 2021,while workshops for training community health practitioners improve early detection and enable prompt intervention and can address this deficiency by offering specialized, practical training to enhance caregiver skills (McAtee et al., 2021). Enhancing community involvement in shared responsibility through education and capacity building improves the sustainability and

accessibility of elder care. Furthermore, interdisciplinary teamwork has enhanced evaluations and care for fragile patients; an increased allocation of specialized personnel may be associated with a higher frequency of comprehensive assessments conducted.

The program is consistent with governmental and WHO goals for healthy aging, universal health coverage, and community health empowerment. It facilitates the attainment of the Sustainable Development Goals (SDG 3: Good Health and Well-being; SDG 17: Partnerships for the Goals). Workshops not only enhance skills but also foster attitudinal transformations, cultivating empathy, respect, and inclusive methodologies toward aging populations.

The urgency of this program stems from the widening disparity between the aging adult population and the limited capabilities of caregivers and health systems to deliver sufficient, preventive, and dignified care. Workshop-oriented community initiatives offer a pragmatic and sustainable approach to empowering communities and enhancing the well-being of the elderly at the grassroots level. This workshop activity serves as a means of disseminating the findings of dissertation research and introducing the multidimensional frailty assessment form to health care providers at Community Health Centers (CHCs) in Bandung Kulon. Therefore, the purpose of this study was to disseminate the research results and introduce the multidimensional frailty assessment questionnaire to healthcare providers in Community Health Centres through a workshop.

2. PROBLEM AND RESEARCH QUESTIONS

The study revealed that 63% of community-dwelling older individuals (n = 433) in Bandung Kulon were classified as frail, according to the Tilburg Frailty Indicator in 2022. The prevalence of cognitive frailty (28.85%) and pre-frailty (40.6%) was correlated with verbal fluency deficits, as measured by Word List Memory Immediate Recall and the Mini-Mental State Examination, in Jakarta (Handajani, Widjaja, & Turana, 2020). In Indonesia, the prevalence of frailty was reported at 8.5% across 27 provinces in 2014–2015 (Pengpid & Peltzer, 2019), with subsequent increases to 18.70% for individuals with frailty and 66.20% for those with pre-frailty. Factors associated with frailty include functional dependence, malnutrition or the risk thereof, depression, a history of falls, hospitalization, and polypharmacy (Setiati et al., 2021).

The high prevalence of pre-frailty among the elderly is due to the lack of frailty prevention interventions, which is linked to insufficient knowledge and skills among nurses in frailty assessment, as well as healthcare providers at CHCs. Additionally, most CHCs do not have specific frailty measurement tools and rely only on the Comprehensive Geriatric Assessment (CGA) conducted annually. Only about 8% of CHC in the Bandung Kulon area are familiar with the frailty assessment instrument (I_TFI), while 92% have not been exposed to it nor received related training. CHC has yet to provide dedicated frailty services or possess frailty measurement tools in both CHC and the outreach nursing service (Posbindu Lansia). With the growing elderly population and the high prevalence of frailty, the Primary Health Office (DKK) Bandung needs to enhance nurses' knowledge and skills to conduct proper frailty assessments in primary healthcare facilities.

Collaboration enables various stakeholders to combine their diverse knowledge, resources, and experiences, resulting in more innovative and practical solutions to health problems. Collaboration facilitates the expansion of programs and services to a broader demographic, including individuals in remote or underserved areas, thereby advancing universal healthcare. Collaboration can raise awareness and foster political commitment at both national and international levels, as well as create a conducive environment for implementing health-oriented policies and initiatives.

The challenges of the at-risk older population are expected to increase, underscoring the urgent need to formulate comprehensive social care strategies to meet the needs of vulnerable older adults. Therefore, dissemination of research findings and the implementation of frailty assessment workshops are necessary to enhance the competence of healthcare workers, particularly nurses responsible for geriatric clinics at CHC under the supervision of the Primary Health Office (*Dinas Kesehatan Kota* Bandung).

Based on the problems above, research questions are involved: (a) How practical is the training in the workshop for improving healthcare workers' knowledge and skills regarding multidimensional frailty screening at CHC? (b) What challenges do healthcare workers face in implementing frailty screening at CHC? (c) What strategies can be adopted to optimize the implementation of frailty screening at CHC? and (d) How do primary healthcare workers perceive the importance of frailty screening for the elderly at the primary healthcare level?

This community service activity is conducted at 12 CHCs scattered across Bandung City. Six CHCs were selected as the primary research sites: Garuda, Pasirkaliki, Puter, Salam, Pagarsih, and Cibuntu, all located in the Bandung Kulon area, which has a significant elderly population. The other six CHCs were chosen based on geographic criteria and service capacity in the Bandung East and South regions. The following map illustrates the distribution of CHC participants in the activity, facilitating coordination and monitoring of the multidimensional frailty screening program implementation.

Figure 1. Location Map of Community Service Activities

3. LITERATURE REVIEW

Frailty is primarily defined as a phenomenon associated with aging, characterized by significant physiological decline and heightened susceptibility to adverse health outcomes (Doody et al., 2023). Vulnerable elderly patients frequently exhibit a heightened symptom burden, encompassing weakness and weariness, medical intricacies, and diminished tolerance to medical and surgical procedures (Kunz et al., 2024). Recognizing frailty and its related risks for adverse health outcomes can enhance care for this particularly vulnerable group of patients. Several factors can accelerate the onset of frailty, including specific demographic characteristics, as well as other mediating factors such as depression, well-being, and social activity (Tallutondok et al., 2022). While a definitive standard for frailty detection is lacking, various frailty screening instruments have been created and employed for risk assessment and epidemiological research.

4. METHODS

a. A participatory action approach was employed to integrate research findings into community service through collaborative planning. The program consisted of two phases: a workshop and a follow-up session.
b. Participants invited to the workshop included CHC leaders and those in charge of geriatric clinics, totaling 24 people.
c. The implementation of service programs began with a cooperation agreement with the Bandung Health Office (Dinas Kesehatan Kota Bandung) and permits from the local government. The activities consisted of two sessions: the workshop and follow-up. The workshop was held at the educational and training facility of *Rumah Sakit Khusus Ginjal* (Kidney Hemodialysis Hospital) in Bandung on December 19, 2024. The workshop disseminated research results to all participants and continued with discussions, demonstrations, and peer group re-demonstrations about screening frailty for older adults at CHCs. Only 21 participants completed paper-based pretests and post-tests. The follow-up of the program at CHCs randomly used the semi-structured interview to ask about the implementation of screening frailty in the CHC and to know what the obstacles to implementing it. The follow-up assessment was conducted on April 28, 2025.

5. RESEARCH RESULTS AND DISCUSSION

The participants in the workshop consisted of nurses (48%), general practitioners (38%), and midwives (14%). Nurses and midwives are people in charge of the geriatric clinic at CHCs, while general practitioners (GPs) are the heads of CHCs. Nurses, midwives, and general practitioners are essential human resources for delivering direct patient care, treating chronic illnesses, promoting health, and serving as a conduit to other healthcare services at CHCs (Aune et al., 2021; Moola et al., 2020). In addition, the community nurse's role is to assist families and communities in addressing health issues by enhancing their capacity to meet the needs of elderly healthcare (Tushe, 2025). Moreover, the community nurses served as coordinators and health supervisors, managing program operations across

various disciplines, providing consultancy for problem resolution, and delivering vital nursing care to the elderly and communities in need (Mazarina Devi et al., 2024).

The teamwork between staff at geriatric clinics and general doctors ensures that frailty checks at community health centers are complete, long-lasting, and smoothly integrated into regular healthcare. It enhances early detection, optimizes resources, and improves outcomes for elderly individuals. We can attain several substantial advantages, including enhancing capacity, disseminating knowledge, and fortifying community-based frailty management. Therefore, the attendance of the head of CHCs and the individuals responsible for the geriatric clinic at CHCs during the workshop is anticipated to facilitate the development of an effective strategy for executing frailty screening policies at CHCs.

Workshops and practical experience enhance both proficiency and dedication among CHC personnel, resulting in increased knowledge, favorable attitudes, and more efficient frailty screening services for aged clients. The empowerment of healthcare providers encompasses (1) equipping them with pragmatic strategies to incorporate frailty screening into chronic disease management; (2) promoting collaboration between staff at community health centers and community health workers to enhance continuity of care; and (3) motivating providers to advocate for healthy aging initiatives within their communities. Ultimately, augmenting information and skills, together with refining viewpoints and attitudes, is essential (see Tables 1, 2, and Theme).

Table 1. Descriptive statistics of pretest and post-test (n=21)

	N	Mean	Med	SD	Min	Max
Pre	21	85.38	87.00	6.874	73	93
Post	21	93.10	93.00	5.621	73	100

Table 2. Wilcoxon Signed Ranks Test of pretest and post-test (n=21)

		N	*Mean Rank*	*Sum of Ranks*	*P value*
Post- Pre	Negative Ranks	0[a]	0.00	0.00	0.001
	Positive Ranks	14[b]	7.50	105.00	
	Ties	7[c]			
	Total	0[a]	0.00	0.00	

a.Posttest < Pretest; b. Posttest > Pretest; c. Posttest = pretest

Table 1 indicates that the average score increased by 7.72 points, which is an improvement following the workshop. The distribution of scores exhibited a slight reduction, indicating an increase in consistency among the scores. The lowest score remained unchanged, suggesting that at least one participant showed no progress. In contrast, the highest score indicates that a perfect post-test score has been attained.

Table 2 presents the results of comparing two related samples—specifically, pretest and post-test scores. Fourteen participants

demonstrated an increase in post-test scores relative to their pre-test findings, while none showed negative ranks. All individuals achieved post-test scores that were equal to or better than their pre-test results. Seven subjects had uniform ratings on both evaluations (no deviation). P-value equals 0.001: The *p-value* is less than 0.05, indicating that the improvement from pretest to post-test is statistically significant. A statistically considerable improvement in scores was noted from pretest to post-test, Z-value not displayed, p = .001. This result demonstrates that the intervention effectively improved participant performance. All subjects showed no decline, with most exhibiting enhancements, confirming the effectiveness of the intervention.

The observed changes indicate that the workshop successfully enhanced the knowledge and skills of most participants. While some participants demonstrated significant knowledge gains after the session, others showed no improvement or negligible improvement. This variation may indicate disparities in foundational knowledge, learning modalities, degrees of engagement, or external influences such as cognitive tiredness or environmental distractions (Brod, 2021) Moreover, Broad mentioned that numerous factors influence the extent and way prior information impacts learning, such as (1) the activation of prior knowledge (i.e., retrieval of information from memory), (2) its relevance to the current learning task, and (3) its congruence or incongruence with the topic to be learned.

During the workshop, the implementation of a demonstration helps health professionals to improve critical thinking, problem-solving, and diverse cognitive skills. Related to screening multidimensional frailty, participants may capitalize on these advantages by engaging in opportunities to execute activities, further solidifying their understanding and proficiency. Moreover, it emphasizes the importance of demonstration learning in enhancing the competence and confidence of adult learners (Deiglmayrc et al., 2021). Furthermore, healthcare providers are willing to provide frailty screening independently in CHCs.

Healthcare professionals at Community Health Centers encounter difficulties associated with knowledge deficiencies, time constraints, insufficient resources, limited awareness, inadequate integration, and feeble systemic support in executing frailty screening. Moreover, frailty screening is frequently not integrated into standard operations, rendering it an additional duty. Poor collaboration among physicians, nurses, dietitians, and community health workers may hinder follow-up care.

Optimization requires staff training, the incorporation of frailty screening into standard processes, the use of efficient instruments, the promotion of interdisciplinary collaboration, community engagement, effective resource allocation, and the endorsement of system-level policies. These efforts not only enhance patient outcomes but also foster a culture of continuous improvement within healthcare organizations. By prioritizing these strategies, institutions can better meet the diverse needs of their populations while maintaining high standards of care. Enhancing capacity and education, integrating services into standard Community Health Center practices, fostering interdisciplinary cooperation, involving the community and families, and improving resource and workflow efficiency are essential.

This study looked at what important healthcare providers think about using frailty screening for older adults at CHCs, leading to four main themes:

(1) Importance of frailty screening and sub-theme is seen as essential for early detection, (2) Workload concerns and sub-theme is Seen as an additional burden, (3) Knowledge and skills and sub theme is lack of training in frailty tools, and (4) System support and sub-theme is lack of clear policy of referral.

Theme 1: Importance of frailty screening

The community care staff saw the screening as an important tool to detect early problems in the elderly.

R4 - Head of CHC:

"This frailty screening better describes the fragility of the elderly compared to the screening usually done in health centers. Many elderly people have experienced muscle weakness."

According to the head of CHC (R4), this frailty screening is more accurately characterized as a measure of frailty than the assessments typically conducted in health centers. This suggests that existing routine examinations at primary care facilities may inadequately reflect the subtle physical deterioration observed in older individuals, especially concerning muscular strength and overall functionality. This aligns with previous studies, which have shown that regular screenings primarily focus on the specific issue of frailty (Topcu et al., 2024). Moreover, by recognizing that frailty screening "more accurately characterizes frailty," R4 endorses the incorporation of these instruments into standard geriatric evaluations at the community level. However, standard health screenings of multidimensional frailty typically encompass signs including physical, psychological, and social domains (Tallutondok et al., 2022). Implication for practice: It supports the screening of older adults for frailty and elderly care generally.

The implementation of frailty screening presents both practical and contextual challenges (Theme 2). The person in charge of the geriatric clinic (R1) and the head of CHC (R5) demonstrate a responsive and patient-centered approach to modifying screening protocols according to the individual circumstances and capabilities of each older adult at CHCs. Participants underscored the necessity for flexibility and personalized adaptation in the evaluation process.

Theme 2: Workload concerns

This theme explains some burdens which perceived as concerns related to the screening implementation.

R1– person in charge of the geriatric clinic:

"…we will independently implement necessary modifications for each patient as needed…. We already handle comprehensive health assessments for older adults.

R5 - Head of CHC:

"When doing screening, make modifications according to the patient's condition. …some patients do not want to because of the long examination."

R7 – person in charge of the geriatric clinic:

"…utilize an integrated, paperless system whenever feasible, ensuring that screening data is directly loaded into the system."

The findings align with existing evidence suggesting that participation in screening may be hindered by time constraints, physical or cognitive difficulties in older people, and insufficient provider training (Ludlow et al., 2023). Moreover, the necessity for procedural change suggests that standard

screening processes may not be consistently practical in real-world contexts without sufficient adaptability (Swales et al., 2023). Furthermore, ensuring transparent communication, comfort, and reassurance throughout the screening process can enhance participation and diminish refusal rates (Danaher et al., 2023). The implications for practice are the need for integration into existing workflows.

This theme underscores the necessity of reconciling consistency with adaptation to guarantee the validity and practicality of frailty screening in community healthcare environments, which is in line with theme 3 as follows:

Theme 3: Knowledge and skills

This theme shows that community healthcare staff lack training in using the frailty tools.

R1 – person in charge of the geriatric clinic:

"I am not sure how to use the scoring system."

R5 - Head of CHC:

"… we should adjust the screening process based on the patient's condition."

The findings align with existing evidence suggesting that participation in screening may be hindered by time constraints, physical or cognitive difficulties in older people, and insufficient provider training (Ambagtsheer et al., 2020). Furthermore, the necessity for procedural change suggests that standard screening processes may not be consistently practical in real-world contexts without sufficient adaptability. This theme emphasizes the necessity of balancing uniformity with adaptability to ensure that frailty screening is both valid and feasible in community healthcare settings. The implication for practice is that training should continue, and both training and a simple job aid are necessary.

Theme 4: System support

This theme states more to the uncertainty of the staff regarding the policy or referral of the assessment.

R2 - person in charge of the geriatric clinic:

"We do not know what to do after identifying frailty."

Absence of a defined referral policy. The absence creates annoyance among staff and may diminish their motivation to do screenings due to ambiguity around the follow-up protocols. Ambiguous referral guidelines lead to disjointed care, causing patients to transition among community health centers, hospitals, or specialists without continuity. Currently, numerous primary care systems prioritize therapeutic interventions, such as those for hypertension and diabetes, above integrated geriatric care. The absence of frailty-specific referral policies indicates a significant deficiency in healthy aging and geriatric service planning within primary care. Vulnerable older adults face an increased risk of adverse outcomes when care pathways, such as the Prolanis program implemented monthly at Community Health Centers, are not effectively optimized. The absence of appropriate referrals may lead to the deterioration of frail patients, necessitating hospitalization, hence increasing costs and exacerbating the burden on caregivers. An effective referral policy can enable timely interventions, including nutrition, physiotherapy, and psychosocial support, thus mitigating the progression of impairment. The lack of a defined referral policy presents a considerable obstacle. This absence induces frustration

among staff and may diminish their motivation to do screenings due to ambiguity around follow-up processes. Ambiguous referral guidelines lead to disjointed care, causing patients to transition among community health centers, hospitals, or specialists without continuity.

Currently, numerous primary care systems prioritize therapeutic interventions, such as those for hypertension and diabetes, above integrated geriatric care. The absence of frailty-specific referral policies indicates a significant deficiency in the policies on healthy aging and geriatric service planning within primary care. Vulnerable older adults face an increased risk of adverse outcomes when care pathways, such as the Prolanis program implemented monthly at Community Health Centers, are not effectively optimized. Therefore, periodic monitoring in community health centers on using frailty screening should be established. Furthermore, follow-up education and training using frailty screening would improve staff's knowledge and improve the quality of care of the elderly.

6. CONCLUSION

We expect that the tools and experiences from this workshop will enhance understanding and perspectives on frailty screening services for elderly adults visiting CHCs. This workshop demonstrated improved critical thinking, problem-solving, and other cognitive abilities among healthcare professionals. Furthermore, healthcare practitioners were empowered to conduct frailty assessments independently at the CHCs. The perspectives of primary healthcare practitioners on the implementation of frailty screening for senior patients at the CHCs highlight the importance of a multidimensional frailty evaluation for older individuals visiting the CHCs.

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