

The effect of narrative-based ethics education on ageism and the preservation of human dignity in older adults' care among nursing students: a quasi-experimental study

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Title: The effect of narrative-based ethics education on ageism and the preservation of human dignity in **older adults'** care among nursing students: a quasi-experimental study

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Abstract

Background: The increasing proportion of older adults in today's societies has created a growing need for specialized and ethical nursing care. One of the main challenges in geriatric care is ageism and the neglect of human dignity, both of which can compromise the quality of care. Providing ethics education, especially through interactive and reflective approaches such as

storytelling can enhance nursing students' awareness and sensitivity toward the values and rights of older adults.

Methods: This quasi-experimental study was conducted on 76 senior students divided into intervention and control groups. The intervention group participated in five two-hour educational sessions based on ethical storytelling, while the control group received only their routine internship training. Both groups completed the Ageism in Care Settings Scale and the Elderly Patients' Human Dignity Scale before, immediately after, and one month following the intervention. Data were analyzed using SPSS version 22, applying independent t-tests, chi-square tests, and repeated measures ANOVA at a significance level of 0.05.

Results: Before the intervention, no significant difference was found between groups in mean ageism scores ($p = 0.275$). However, significant differences emerged immediately after ($p = 0.012$) and one month later ($p = 0.009$). Similarly, there was no significant difference between groups in the "importance" dimension of dignity before the intervention ($p = 0.607$), while significant improvements were observed immediately ($p < 0.001$) and one month after ($p < 0.001$). Regarding the "observance" dimension of dignity, no significant difference was seen before ($p = 0.490$) or immediately after ($p = 0.069$), but a significant improvement was detected at one-month follow-up ($p = 0.002$).

Conclusions: Ethical education through storytelling significantly reduced ageism and enhanced nursing students' understanding and observance of human dignity in elderly care. Incorporating narrative-based ethics education into nursing curricula is recommended as a complementary approach to improve ethical competence and address challenges associated with population aging.

Trial registration: Registered at the Iranian Registry of Clinical Trials (www.irct.ir) with the number IRCT20250311065039N1 (Date 21.05.2025)

Keywords: Narrative Ethics, Ageism, Human dignity, **older adults**, Nursing students

Introduction

The increase in life expectancy and decline in fertility rates have led to a steady rise in the proportion of older adults in the global population, such that the growth rate of the elderly population now surpasses that of the total world population (1, 2). According to the World Health Organization (WHO), by 2050, the number of people aged 60 years and older will exceed two billion (3). Iran is no exception to this trend, with older adults expected to constitute approximately 22% of the total population by 2050, ranking the country as the third fastest-aging nation in the world (4). As the elderly population grows, the demand for health and medical care also increases, and given that older adults are among the most frequent users of health services, the role of nurses in delivering high-quality care to this group becomes increasingly vital (5–7). One of the main challenges in caring for older adults involves ethical issues related to how they are treated (8). Among these challenges, ageism—first introduced by Butler in 1969 as prejudice against individuals based on their age (9)—stands out as a pervasive yet often overlooked form of discrimination. Ageism is considered the third most common form of discrimination worldwide, following racial and gender discrimination (10). Such bias can foster negative attitudes toward providing health services to older adults, thereby diminishing the quality of care (11, 12). Discriminatory behaviors toward the elderly can lead to adverse outcomes, including disease exacerbation, increased care costs, reduced patient safety, hospital dissatisfaction, and even premature mortality (13, 14). Studies have shown that ageism is prevalent across various healthcare settings, especially in acute care, and that nurses are often unaware of their own ageist

behaviors (15–17). Ageism has also been reported among nursing students. Recent review studies have shown that nursing students hold varying attitudes toward older adults, ranging from positive to negative and neutral perceptions. These findings indicate that ageism remains a concern in nursing education and underscore the need for educational interventions during undergraduate training (18,19).

Ageism is closely related to the preservation or violation of human dignity among older adults (20). Dignity is a multidimensional concept encompassing respect, value, and recognition of the individual, and serves as the foundation of justice and humane care (21, 22). Maintaining human dignity is regarded as the essence of nursing care, and nurses play a pivotal role in this regard (23). However, numerous studies have reported discrepancies between patients' and nurses' perspectives on dignity preservation; nurses often perceive their performance in this area more positively than patients do (24–27). This underscores the need for greater emphasis on educating nursing students about human dignity during their academic training (28).

One of the most effective strategies to counteract ageism and promote dignity is through the education of ethical principles among nurses (29). Nurses frequently encounter complex ethical dilemmas in their daily practice, and sound decision-making in such situations requires ethical knowledge and moral reasoning (30). Although various methods exist for teaching professional ethics, traditional lecture-based approaches often have limited impact on clinical behavior (31, 32).

Importantly, educational strategies such as intergenerational contact, reflective discussion, simulation, and narrative-based learning have been reported to reduce ageist attitudes and promote more respectful perceptions of older adults among health professions students (33–35).

Recent educational research suggests that more interactive and experiential learning strategies can significantly improve nursing students' attitudes toward older adults and enhance ethical competence in clinical care. For example, simulation-based learning has been shown to increase empathy and improve students' understanding of the complex needs of older patients. Similarly, reflective learning and intergenerational educational programs have demonstrated positive effects on reducing ageist attitudes and strengthening respectful care toward older adults. These findings highlight the importance of adopting innovative educational approaches that actively engage students and promote deeper ethical reflection in geriatric care (36-38).

Educational interventions that encourage reflection on real clinical situations and patient narratives may help students better understand the lived experience of older adults and translate dignity-related values into practice (23, 39-40).

Narrative ethics is a contemporary pedagogical approach that employs stories or real-life situations to teach ethical concepts (41). By stimulating empathy and engaging both cognitive and emotional dimensions, this method fosters deeper and more lasting learning (42). Research indicates that nursing students who learn through narrative-based approaches are better able to connect theoretical concepts with clinical practice (43, 44). Furthermore, studies integrating narrative reflection, storytelling, and patient narratives report improvements in empathy, moral sensitivity, and ethical reasoning among nursing students, suggesting the potential of narrative ethics as an effective strategy for care of older adults (45-51).

Given that nursing students represent the future nursing workforce, addressing age-related attitudes during undergraduate education is particularly important. Attitudes formed during professional training may persist into clinical practice and influence future interactions with older adults. As nurses play a central role in the delivery of geriatric care and the preservation of

dignity among older adults, educational interventions implemented during nursing education provide a valuable opportunity to reduce ageism and promote respectful, person-centered care before students enter professional practice (52).

A review of both national and international literature indicates that while diverse interventions—including education on aging, biographical approaches, mindfulness, and cognitive-behavioral techniques—have addressed ageism among nurses and nursing students, the researchers found no studies focusing on professional ethics education as a strategy to reduce ageism (53-56).

Additionally, while narrative-based interventions have been widely applied to variables such as moral sensitivity, empathy, nursing advocacy, and patient privacy, there is a lack of intervention studies using narrative-based approaches to address the concept of human dignity within the scope of this review (51, 57-59). Therefore, considering the growing elderly population, the ethical challenges in caring for this group, the impact of ageism on human dignity, and the relative limitations of traditional ethics education methods, the present study aimed to determine the effect of teaching moral principles through a narrative method on ageism and the maintenance of human dignity in providing care to older adults by nursing students.

Methods

Study design and setting

This study was quasi-experimental research with a pre-test, post-test, and one-month follow-up design, conducted with intervention and control groups in the 2025 academic year (first and second semester) at the School of Nursing affiliated with Shiraz University of Medical Sciences, Iran. All stages of the study were carried out in the formal educational environment of the nursing school.

Sample size and participants

The sample size was calculated using G*Power 3 software with $\alpha=0.05$ (Type I error), $\beta=0.20$ (Type II error), a 95% confidence level, and 80% power based on data from a similar study (60). The estimated sample size was 68 participants, which was increased to 76 (38 in each group) to account for a potential 10% attrition rate (Fig.1).

Participants were eighth-semester undergraduate nursing students enrolled at Hazrat Fatemeh (S) School of Nursing and Midwifery, Shiraz University of Medical Sciences. Samples were selected through convenience sampling and assigned to intervention and control groups based on their year of university entry to prevent information exchange between the groups.

Inclusion criteria included: being an eighth-semester undergraduate nursing student and willingness to participate in the study.

Exclusion criteria included: psychological disorders, absence from at least one educational session, and prolonged leave of absence or transfer to another university.

Instruments

Data collection tools consisted of three questionnaires: a demographic information questionnaire, the Ageism in Care Settings Scale, and the Human Dignity of Older Patients from Nurses' Perspective Questionnaire.

Demographic information questionnaire

This questionnaire was developed based on the study objectives, a review of relevant literature, and expert opinions. Expert validation was obtained through consultation with a panel of nursing and gerontological nursing faculty members who reviewed the content for relevance, clarity, and appropriateness for the study population. Their feedback was incorporated to refine the final version of the questionnaire. The selection of demographic variables was informed by previous

studies examining ageism, gerontological nursing education, and ethical care among nursing students (61-64).

It included questions about age, gender, place of residence, cohabitation with an elderly person, and overall grade point average. The questionnaire was completed by participants prior to the intervention.

Ageism in Care Settings Scale

This scale was developed and psychometrically evaluated by Mehri et al. in Iran in 2022. It consists of 20 items across two dimensions: “self-directed” (6 items) and “other-directed” (14 items). Items are rated on a six-point Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree). Total scores range from 20 to 120, with scores of 20–53 indicating low ageism, 54–87 moderate ageism, and 88–120 high ageism in care settings. In the validation study by Mehri et al., the content validity ratio (CVR) was 0.62, Cronbach’s alpha was 0.90, and the intra-class correlation coefficient (ICC) was 0.98, demonstrating acceptable validity and reliability (65).

In the present study, the internal consistency reliability of the scale was recalculated, yielding a Cronbach’s alpha coefficient of 0.85, indicating acceptable reliability in our sample.

Human Dignity of Older Patients from Nurses’ Perspective Questionnaire

This instrument was developed and validated by Karimi et al. in 2019 and contains 41 items assessing both the perceived importance and observance of human dignity in elderly patients from nurses’ perspectives. Among the items, 27 address privacy (physical, informational, and psychosocial), 10 concern nurse–patient communication, and 4 address patient autonomy.

The “importance of dignity” subscale is rated on a five-point Likert scale ranging from 1 (very low) to 5 (very high), with scores below 160, between 160–175, 175–190, and above 190 representing low, moderate, high, and very high perceived importance, respectively.

The “observance of dignity” subscale is scored on a four-point Likert scale ranging from 1 (never) to 4 (always), with scores below 112, between 112–122, 122–132, and above 132 indicating poor, moderate, good, and very good observance of dignity, respectively. Items 1, 2, 3, 4, 5, 6, 7, 11, 12, 15, 17, 18, 19, 20, 24, 26, and 35 are reverse-scored. The content validity index (CVI) and content validity ratio (CVR) were reported as 0.84 and 0.88, respectively, and Cronbach’s alpha was 0.83, confirming the instrument’s validity and reliability (26).

Data were collected at three time points: pre-test (before the intervention), post-test (immediately after the intervention), and follow-up (one month after the intervention). Questionnaires were self-administered by the participants in the university setting.

In the present study, the internal consistency reliability of the scale was recalculated using Cronbach’s alpha coefficient. The “Importance of Dignity” and “Observance of Dignity” subscales demonstrated excellent and good internal consistency, with Cronbach’s alpha values of 0.94 and 0.82, respectively, indicating satisfactory reliability in the present sample.

Procedure

After explaining the study objectives and procedures, written informed consent was obtained from all participants. Subsequently, the study questionnaires including the demographic information form, the Ageism in Care Settings Scale, and the Human Dignity of Older Patients from Nurses’ Perspective Questionnaire were completed by all participants.

Since random assignment was not feasible, participants were divided into intervention and control groups based on their year of university entry. To prevent the exchange of information

between the two groups, data were first collected from the control group, and sampling for the intervention group did not begin until the process of sampling and data collection for the control group was fully completed. Subsequently, sampling and implementation of the educational intervention were carried out for the intervention group, and data for this group were collected. Educational sessions for the intervention group were conducted using a narrative-based moral education approach. The intervention consisted of five two-hour sessions held in person at the typical classroom in the School of Nursing, scheduled in coordination with the students. Given the interactive and discussion-based nature of the sessions and the need for active participation such as warm-up, brainstorming and question-and-answer, the training was implemented in small groups of 7–8 participants over a maximum duration of one month.

At the beginning of each session, an introduction to the targeted ethical principle was provided through a PowerPoint presentation, followed by presentation of narratives derived from real-life clinical situations related to elderly care and aligned with the study variables (ageism and human dignity). Students were given time to read the narrative and reflect on it as well as on the questions provided at the end of each narrative. Then, they engaged in discussion and interaction regarding the presented narrative, and a question-and-answer exchange was conducted between the researcher and the students based on the narrative. The students expressed their views on the questions posed at the end of each narrative, and finally, the researcher provided a summary and delivered the final feedback for each session.

Questionnaires were completed at three time points: before the intervention, immediately after the intervention, and one month after the intervention. The control group completed the same questionnaires at corresponding intervals but did not receive any intervention.

It is noteworthy that both groups had previously completed a formal course in nursing ethics during their third semester, based on the official curriculum approved by the Ministry of Health and Medical Education of Iran.

To ensure ethical considerations, after the study was completed, the educational materials provided to the intervention group were also provided to the control group.

Educational session content

- **Session 1:** Introduction to the course, concepts of aging, the phenomenon of population aging, and the importance of ethics in elderly care.
- **Session 2:** The principle of respect for autonomy (related narrative).
- **Session 3:** The principle of beneficence (related narrative).
- **Session 4:** The principle of non-maleficence (related narrative).
- **Session 5:** The principle of justice (related narrative).

An example of the narrative scenarios used in the educational sessions is provided in the Supplementary Materials (Supplementary File 1).

The educational content and narratives were developed based on reputable nursing ethics sources (66,67). The clinical narratives were further reviewed for ethical accuracy, educational appropriateness, and realism by a faculty member of the Department of Medical Ethics at Shiraz University of Medical Sciences, and necessary revisions were made based on expert feedback to ensure their suitability for educational use.

Data analysis

After data collection, responses were entered into SPSS software version 22 for statistical analysis. Questionnaires with incomplete responses were excluded from the final data analysis to ensure the accuracy and completeness of the dataset.

Quantitative variables were described using mean and standard deviation, while qualitative variables were summarized using frequency and percentage.

To assess baseline homogeneity of demographic characteristics between the intervention and control groups, the Chi-square test was used for categorical variables, and the independent t-test was applied for continuous variables.

To evaluate the main study objectives comparing changes in mean scores of ageism and human dignity between the intervention and control groups at three time points (pre-intervention, immediately post-intervention, and one-month follow-up) independent t-tests and their nonparametric equivalents were used when normality assumptions were not met.

Within-group changes in ageism and human dignity scores over time were examined using repeated measures analysis of variance (Repeated Measures ANOVA).

All statistical tests were performed at a significance level of $p < 0.05$.

Results

The mean ($\pm$ SD) age of participants in the intervention and control groups was 23.6 ± 2.27 and 23.45 ± 1.92 years, respectively. There were no significant differences between the two groups in terms of age ($p = 0.77$), gender ($p = 0.56$), place of residence ($p = 0.45$), living with an older adult ($p = 0.63$), or overall grade point average ($p = 0.06$) (Table 1).

Table 1: Demographic characteristics of participants in the intervention and control group

Variables		Intervention group		Control group		p
		Frequency	Percent	Frequency	Percent	
Age	Mean $\pm$ SD	23.69 $\pm$ 2.27		23.45 $\pm$ 1.92		0.77
Grade Point Average	Mean $\pm$ SD	16.68 $\pm$ 1.37		16.12 $\pm$ 1.12		0.06
Gender	Female	18	51.4%	17	44.7%	0.56
	Male	17	48.6%	21	55.3%	
place of residence	Home	14	40%	12	31.6%	0.45
	Dormitory	21	60%	26	68.4%	

Living with older adult	Yes	9	25.7%	8	21.1%	0.63
	No	26	74.3%	30	78.9%	

Table 2 presents the mean, standard deviation, significance level, and effect size of ageism and human dignity scores before the intervention, immediately after the intervention, and at the one-month follow-up in both groups.

Before the intervention, no significant difference was observed between the two groups in mean ageism scores ($p = 0.275$). However, after the intervention and at the one-month follow-up, the difference between the two groups became statistically significant ($p = 0.012$ and $p = 0.009$, respectively).

Similarly, the mean score of importance of human dignity showed no significant difference between the intervention and control groups at baseline ($p = 0.607$), whereas post-intervention and at follow-up, significant differences were found between the two groups ($p < 0.001$ for both).

In terms of preservation of human dignity, there were no significant differences between the two groups before and immediately after the intervention ($p = 0.490$ and $p = 0.069$, respectively).

However, at the one-month follow-up, the difference in mean scores between the groups became statistically significant ($p = 0.002$) (Table 2, Fig.2, Fig.3, Fig.4).

Table 2: Mean of ageism and human dignity scores before intervention, after intervention, and one-month follow-up in the intervention and control groups

Variables	Group	Pre-test Mean $\pm$ SD	Post-test Mean $\pm$ SD	Follow-up Mean $\pm$ SD	p-value	Effect size
Ageism	Intervention	63.31 $\pm$ 13.55	53.31 $\pm$ 14.30	52.82 $\pm$ 14.75	<0.001	0.517
	Control	60.02 $\pm$ 11.97	61.55 $\pm$ 12.90	61.31 $\pm$ 12.39	0.123	0.055
p-value Between groups		0.275	0.012	0.009		

Human Dignity						
Importance of dignity	Intervention	163.97±23.36	182.02±19.78	180.88±18.15	<0.001	0.462
	Control	167.78±18.58	161.42±21.29	161.28±18.70	0.015	0.122
p-value Between groups		0.607	<0.001	<0.001		
Observance of dignity	Intervention	116.62±11.88	121.91±15.14	123.37±13.70	0.003	0.153
	Control	118.68±13.29	115.63±13.95	113.78±11.63	0.016	0.106
p-value Between groups		0.490	0.069	0.002		

The results of the Repeated Measures ANOVA indicated that the main effect of group on ageism ($F(1) = 1.33$, $p = 0.368$), importance of human dignity ($F(1) = 2.31$, $p = 0.268$), and preservation of human dignity ($F(1) = 1.77$, $p = 0.315$) was not significant (Table 3). This suggests that, regardless of time, there were no overall differences between the groups.

Likewise, the main effect of time was not statistically significant for ageism ($F(2) = 0.58$, $p = 0.634$), importance of human dignity ($F(2) = 0.22$, $p = 0.822$), or preservation of human dignity ($F(2) = 0.04$, $p = 0.962$), indicating that, irrespective of group assignment, no significant change occurred across the three measurement points.

However, the group $\times$ time interaction was statistically significant for ageism ($F(2) = 4.65$, $p = 0.011$), importance of human dignity ($F(2) = 8.68$, $p < 0.001$), and preservation of human dignity ($F(2) = 3.70$, $p = 0.026$). These results indicate that the pattern of change in these variables over time differed significantly between the intervention and control groups.

Table 3: One-Way Repeated Measure ANOVAs, F-Ratios, P Values, and Partial Eta Squared

Measures	F(df)	p <	η^2
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Group			
Ageism	1.33(1)	0.368	0.399
Human Dignity			
Importance of dignity	2.312(1)	0.268	0.536
Observance of dignity	1.767(1)	0.315	0.469
Time			
Ageism	0.578(2)	0.634	0.366
Human Dignity			
Importance of dignity	0.216(2)	0.822	0.178
Observance of dignity	0.040(2)	0.962	0.038
Time $\times$ Group			
Ageism	4.651(2)	0.011	0.042
Human Dignity			
Importance of dignity	8.681(2)	< 0.001	0.075
Observance of dignity	3.70(2)	0.026	0.034

Discussion

This study aimed to determine the effect of teaching moral principles through a narrative method on ageism and maintaining human dignity in providing care for older adults by nursing students. The findings of this study indicate a clear pattern of improvement following the intervention. No significant differences were observed between the intervention and control groups prior to the intervention across ageism and dignity-related dimensions. However, after the intervention and at one-month follow-up, significant improvements emerged in the intervention group, reflected in reduced ageism scores and increased perceptions of both the importance and observance of human

dignity. Notably, while improvement in the importance of dignity was observed immediately after the intervention, enhancement in the observance of dignity became significant only at follow-up, suggesting a delayed translation of ethical understanding into practice.

The findings demonstrate that narrative-based ethics education can meaningfully reduce ageist attitudes while strengthening students' ethical sensitivity toward older adults.

These findings are consistent with several previous intervention studies examining narrative and experiential approaches in gerontological education. Hsu et al. (2022) reported that narrative-based education enhanced nursing students' willingness to care for older adults and challenged negative stereotypes toward ageing (45). Similarly, Morgan et al. (2025) found that incorporating older adults' life stories into geriatric education improved students' perceptions of older adults (68), while Park et al. (2021) and Sljivic et al. (2021) demonstrated that narrative and digital storytelling interventions reduced ageist attitudes and fostered empathy toward older adults (49,69). However, not all educational interventions have produced comparable outcomes. Kocak et al. (2025) found that a home-care educational program improved only the discrimination dimension of ageism without significantly changing overall attitudes toward older adults (70). Likewise, Yamashita et al. (2018) reported limited effects of documentary-based education on discriminatory attitudes (71), and Brown and Wang (2022) observed qualitative improvements in students' perceptions despite the absence of significant quantitative changes (72). These differences may be related to variations in educational content, degree of learner engagement, intervention intensity, and outcome measures. Taken together, the available evidence suggests that interventions incorporating personal narratives, reflection, and active learner participation may be more effective in reducing ageist attitudes than predominantly theoretical educational approaches.

From an explanatory perspective, the effectiveness of narrative pedagogy may lie in its ability to engage learners at cognitive, emotional, and moral levels simultaneously. These findings are also consistent with the work of Gazarian et al. (2016), who suggested that narrative pedagogy promotes compassionate and patient-centered care by engaging learners cognitively and emotionally with patients' experiences (73). Unlike conventional teaching, which often focuses on abstract principles, narrative methods situate ethical concepts within real-life contexts, enabling students to interpret, internalize, and apply them in clinical situations. This multidimensional engagement fosters critical thinking, reflection, and moral sensitivity, which are essential for addressing complex ethical challenges in geriatric care (74).

The findings of the present study also indicate that narrative-based ethics education improves students' understanding of the importance of human dignity. Importantly, this improvement was not limited to cognitive awareness but extended to a deeper appreciation of the role of dignity in caregiving relationships. This finding is supported by several previous intervention studies. Eyuboglu and Baykara (2025) demonstrated that case-based ethical analysis and digital storytelling improved nursing students' awareness of patient privacy as an important component of human dignity (59). Likewise, Beyg et al. (2022) reported that narrative ethics education enhanced nurses' understanding of privacy preservation across physical, informational, and psychosocial domains (75). Similar improvements in dignity-related awareness have also been observed following simulation-based geriatric education and dignity-focused educational programs, which were shown to strengthen learners' sensitivity to ethical issues in caring for older adults (76,77).

Overall, these findings suggest that integrating ethical concepts with experiential and reflective learning strategies is essential for fostering a sustained understanding of dignity in care.

In addition, our results showed a gradual improvement in the “observance of dignity” over time rather than an immediate effect. This pattern suggests that while awareness may develop rapidly, translating ethical understanding into practice requires time, experience, and reinforcement. Our finding regarding the delayed improvement in the observance of dignity is also supported by previous intervention studies. Vitorino et al. (2025) demonstrated that narrative-based education promoted more humanistic and dignity-preserving care behaviors among nursing students (78). Similarly, Guo et al. (2025) reported improvements in humanistic caring ability following interventions that combined digital storytelling, reflection, and group discussion (57). Studies by Ferstad and Rykkje (2023), as well as Doan et al. (2023), further suggest that engaging learners with older adults’ life narratives facilitates the translation of ethical values into compassionate and person-centered care practices (79,80).

One possible explanation for this delayed behavioral change is the gradual process of professional identity formation. Students may initially recognize the importance of dignity but require repeated exposure to clinical situations to integrate these values into their practice. Thus, narrative-based education may serve as a catalyst for a gradual developmental process leading to sustained behavioral change.

Another important finding was the decline in dignity-related scores in the control group over time. This suggests that clinical exposure alone, without structured ethical education, may not adequately support the preservation of human dignity and may even contribute to its decline. This finding underscores the necessity of integrating structured ethics education into nursing curricula, particularly during clinical training years.

Overall, the present findings, together with previous research, indicate that narrative-based ethics education is effective not only in improving attitudes but also in fostering more durable and

practice-oriented ethical competencies. Compared with traditional methods, this approach appears particularly suitable for addressing complex and value-laden issues such as ageism and dignity in elderly care (81,82).

Finally, the delayed improvement observed in the “observance of dignity” dimension reinforces the idea that ethical competence develops progressively over time. Educational strategies that combine storytelling, reflection, and real-world clinical exposure may therefore be essential to ensure that ethical understanding is translated into consistent caregiving behaviors.

Limitations

Due to the small number of students in each academic cohort relative to the study’s required sample size, participants were recruited from two different cohorts, making randomization and blinding impossible. Therefore, the study was conducted in a quasi-experimental design. Because the educational sessions were discussion-based and required active participation, implementing them in large groups without compromising quality was not feasible. Consequently, the intervention was delivered in five small groups (6–8 participants each), which increased the number of sessions and prolonged the data collection period. Moreover, since students were concurrently participating in internship programs, coordinating session schedules and obtaining their consent to participate in the study presented some logistical challenges.

Conclusion

Based on the findings of the present study, it can be concluded that teaching moral principles through a narrative approach, as an innovative and interactive educational method, significantly reduces ageism toward older adults among nursing students. This approach can also improve students’ understanding, attitudes, and behaviors regarding the preservation of human dignity in the care of elderly patients. Narrative ethics not only enhances moral awareness but also fosters

emotional empathy through stories, thereby promoting more humanistic caregiving behaviors. It is therefore recommended that narrative-based ethical education be integrated as a complementary approach into nursing curricula to better prepare future nurses for addressing the ethical challenges associated with population aging in healthcare systems. Furthermore, future studies are encouraged to include longer follow-up periods and controlled clinical practice components to evaluate the long-term effectiveness and the cognitive-to-behavioral transformation pathway resulting from narrative ethics education.

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Authors' contributions

Ali Karimi, Soror Javanmardifard and Zahra Keshtkaran contributed to the study design. Soror Javanmardifard, Zahra Keshtkaran and Omid Asemani provided overall supervision and guidance throughout the study. Ali Karimi was responsible for conducting the research. He processed the data, performed the analyses, and drafted the initial version of the manuscript. All authors discussed the results, contributed to the interpretation, provided critical feedback, and approved the final version of the manuscript.

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Availability of data and materials

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate

The studies involving human participants and was conducted in accordance with the ethical principles outlined in the Declaration of Helsinki. This study was conducted after receiving approval from the Ethics Committee of Shiraz University of Medical Sciences (Ethics Code: **IR.SUMS.NUMIMG.REC.1403.085**) and registration in the Iranian Registry of Clinical Trials (Registration No.: **IRCT20250311065039N1**, Date: **May 21, 2025**).

Prior to the commencement of the study, the research objectives and procedures were clearly explained to all participants. After ensuring full comprehension of the study details, written informed consent was obtained from each participant. Participation in the study was entirely voluntary, and participants were free to withdraw at any stage without any academic or educational consequences. All collected data were treated confidentially and used solely for research purposes.

Consent for publication

Not applicable.

Competing interests

The authors declare that they have no competing interests

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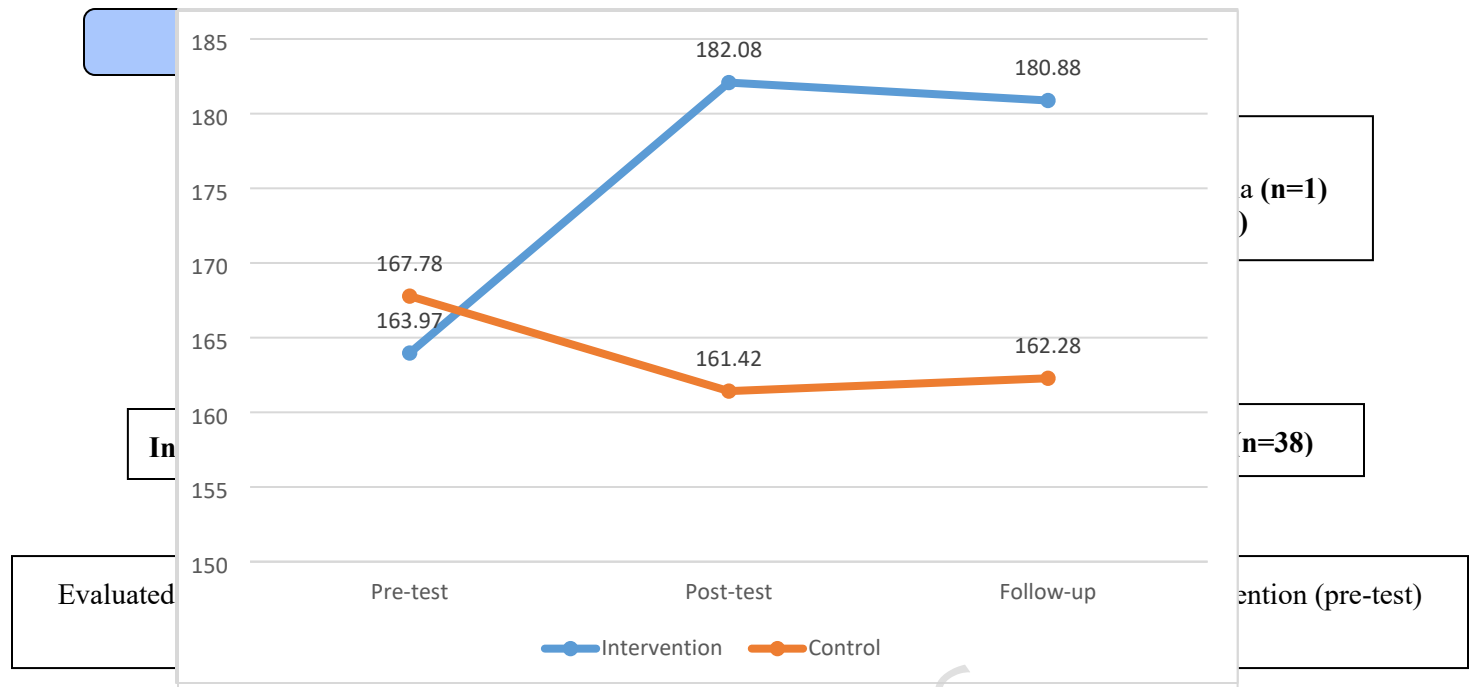


Fig.1 Flow diagram of the study

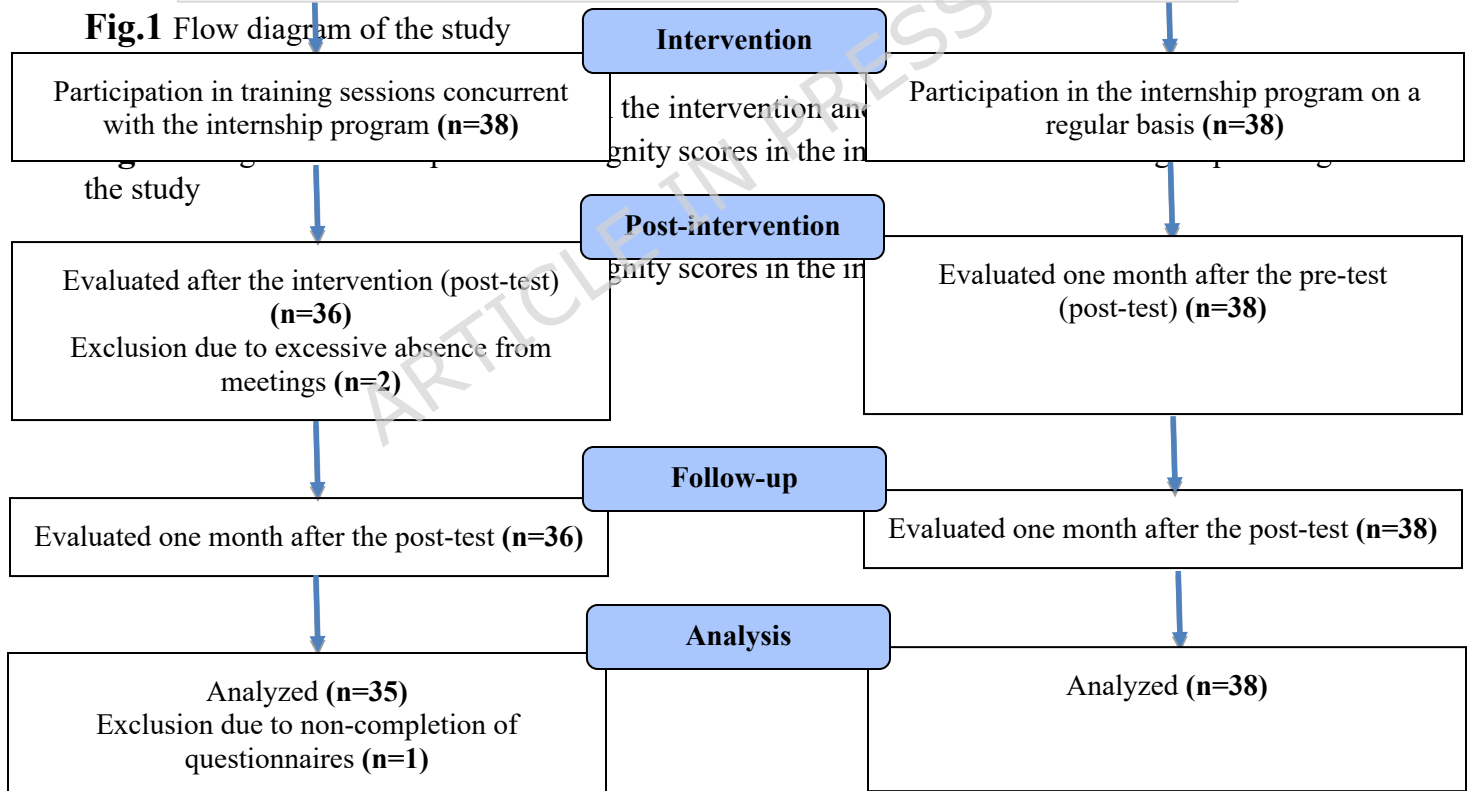


Table 1: Demographic characteristics of participants in the intervention and control group

Variables		Intervention group		Control group		p
		Frequency	Percent	Frequency	Percent	
Age	Mean $\pm$ SD	23.69 $\pm$ 2.27		23.45 $\pm$ 1.92		0.77
Grade Point Average	Mean $\pm$ SD	16.68 $\pm$ 1.37		16.12 $\pm$ 1.12		0.06
Gender	Female	18	51.4%	17	44.7%	0.56
	Male	17	48.6%	21	55.3%	
place of residence	Home	14	40%	12	31.6%	0.45
	Dormitory	21	60%	26	68.4%	
Living with older adult	Yes	9	25.7%	8	21.1%	0.63
	No	26	74.3%	30	78.9%	

Table 2: Mean of ageism and human dignity scores before intervention, after intervention, and one-month follow-up in the intervention and control groups

Variables	Group	Pre-test Mean $\pm$ SD	Post-test Mean $\pm$ SD	Follow-up Mean $\pm$ SD	p-value	Effect size
Ageism	Intervention	63.31 $\pm$ 13.55	53.31 $\pm$ 14.30	52.82 $\pm$ 14.75	<0.001	0.517
	Control	60.02 $\pm$ 11.97	61.55 $\pm$ 12.90	61.31 $\pm$ 12.39	0.123	0.055
p-value Between groups		0.275	0.012	0.009		
Human Dignity						
Importance of dignity	Intervention	163.97 $\pm$ 23.36	182.02 $\pm$ 19.78	180.88 $\pm$ 18.15	<0.001	0.462
	Control	167.78 $\pm$ 18.58	161.42 $\pm$ 21.29	161.28 $\pm$ 18.70	0.015	0.122
p-value Between groups		0.607	<0.001	<0.001		
	Intervention	116.62 $\pm$ 11.88	121.91 $\pm$ 15.14	123.37 $\pm$ 13.70	0.003	0.153

Observance of dignity	Control	118.68±13.29	115.63±13.95	113.78±11.63	0.016	0.106
p-value Between groups		0.490	0.069	0.002		

Table 3: One-Way Repeated Measure ANOVAs, F-Ratios, P Values, and Partial Eta Squared

Measures	F(df)	p <	η^2
Group			
Ageism	1.33(1)	0.368	0.399
Human Dignity			
Importance of dignity	2.312(1)	0.268	0.536
Observance of dignity	1.767(1)	0.315	0.469
Time			
Ageism	0.578(2)	0.634	0.366
Human Dignity			
Importance of dignity	0.216(2)	0.822	0.178
Observance of dignity	0.040(2)	0.962	0.038
Time × Group			
Ageism	4.651(2)	0.011	0.042
Human Dignity			
Importance of dignity	8.681(2)	< 0.001	0.075
Observance of dignity	3.70(2)	0.026	0.034