

Joy-of-life in cognitively intact nursing home residents: the impact of the nurse–patient interaction

Gørill Haugan PhD, RN (Professor)^{1,2} , **Wenche Mjanger Eide** MSc, RN (Assistant Professor)³, **Beate André** PhD, RN (Associate Professor)¹, **Vivien Xi Wu** PhD, RN (Assistant Professor)⁴ , **Eva Rinnan** MSc, RN (PhD-candidate)⁵, **Siv Eriksen Taasen** MSc, RN (Assistant Professor)³, **Britt Moene Kuven** Cand.san, RN (Associate Professor)³ and **Jorunn Drageset** PhD, RN (Professor)^{3,6} 

¹NTNU Center for Health Promotion Research, NTNU Norwegian University of Science and Technology, Trondheim, Norway, ²Faculty of Nursing and Health Sciences, Nord University, Bodø, Norway, ³Faculty of Health and Social Sciences, Western University of Applied Sciences, Bergen, Norway, ⁴Alice Lee Centre for Nursing Studies, Yong Loo Lin School of Medicine, National University of Singapore, Singapore, ⁵Department of Public Health and Nursing, NTNU Norwegian University of Science and Technology, Trondheim, Norway and ⁶University of Bergen, Department of Global Public Health and Primary Care, Bergen, Norway

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Background: The nursing-home population is at a high risk of declined well-being and quality of life. Finding approaches to increase well-being among older adults in nursing-homes is highly warranted. Responding to this need, the approach framed ‘Joy-of-Life-Nursing-Homes’ (JoLNH) was developed in Norway.

Aim: To investigate the association between nurse–patient interaction and joy-of-life in the nursing-home population.

Methods: Cross-sectional data were collected in 2017 and 2018 using the Nurse–Patient Interaction Scale and the Joy-of-Life Scale. A total of 204 cognitively intact nursing-home residents met the inclusion criteria and 188 (92%) participated. A structural equation model (SEM) of the relationship between nurse–patient interaction and joy-of-life was tested by means of STATA/MP 15.1. Ethical approval was given and each participant provided voluntarily written informed consent.

Results: The SEM-model yielded a good fit with the data ($\chi^2 = 162.418$, $p = 0.004$, $df = 118$, $\chi^2/df = 1.38$, $RMSEA = 0.046$, $p\text{-close} = 0.652$, $CFI = 0.97$, $TLI = 0.96$, and $SRMR = 0.054$). As hypothesised, nurse–patient interaction related significantly with joy-of-life ($\gamma_{1,1} = 0.61$, $t = 7.07^{**}$).

Limitations: The cross-sectional design does not allow for conclusions on causality. The fact that the researchers visited the participants to help fill in the questionnaire might have introduced some bias into the respondents’ reporting.

Conclusion: Relational qualities of the nurse–patient interaction should be essential integral aspects of nursing-home care. Consequently, such qualities should be emphasised in clinical practice, and research and education should pay more attention to nurse–patient interaction as an important, integral part of the caring process promoting joy-of-life and thereby well-being.

Keywords: compassionate nursing, joy-of-life, loneliness, nurse-patient interaction, nursing home residents, structural equation modelling, well-being.

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Introduction

People worldwide are living longer. Consequently, the world faces a shift to an older population. Currently, 125 million people are aged 80 years or older. While this shift started in high-income countries (e.g. in Japan, 30% of the population are now ≥ 60 years old), presently, it is

the low- and middle-income countries that experience the greatest change. Today, for the first time in history, most people can presume to live into their sixties and beyond (1). Between 2015 and 2050, the proportion of the world’s population over 60 years will nearly double from 12% to 22%; by 2050, the world’s population aged 60 years and older is approximated to total 2 billion, up from 900 million in 2015. There is, however, little evidence to suggest that older people today are experiencing their later years in better health than their parents. Increased age is followed by an increased incidence of functional and chronic comorbidities and diverse disabilities (2), which for many leads to the need for long-term

Correspondence to:

Gørill Haugan, NTNU Center for Health Promotion Research, NTNU Norwegian University of Science and Technology, Trondheim, Norway.
E-mail: gorill.haugan@ntnu.no

care in a nursing home (NH). Accordingly, the WHO's Action Plan on Aging and Health (3) highlights a global need of systems for providing long-term care to meet the needs of older people. All countries face major challenges to ensure that their health and social systems are ready to make the most of this demographic shift (1). Health promotive initiatives for older persons living at home or in NHs will become ever more important in the years to come.

Background

The NH population is characterised by high age, frailty, mortality, disability, powerlessness, dependency, vulnerability, poor general health and a high symptom burden (2,4,5). Accordingly, moving to a NH results from numerous losses, illnesses, disabilities, loss of functions and social relations, and facing the end-of-life, all of which increases an individual's vulnerability and distress. Older people experience changes in roles, relationships and living environments that can increase their risk for experiencing social isolation and loneliness, particularly when moving to a NH. With advancing age, it is inevitable that people lose connection with their friendship networks and that they find it more difficult to initiate new friendships and to belong to new networks.

However, a link between quality of life (QoL) and connectedness is emerging in the literature (6). Despite old age, chronic diseases or frailty, the desire for affiliation and social bonding is an intrinsic human need, also when living in a NH. Deprivation of intimate relationships and social engagement adversely affects the physical and emotional well-being of older people. In particular, loneliness and depression are detrimental to elderly individuals' emotional well-being (7–11). Older adults describe loneliness as 'an aversive emotional state' which is associated with negative and painful feelings, 'isolated from intimate relationships', 'being deprived from social and external support systems' and 'being abused and neglected' (12). A lack or loss of companionship and an inability to integrate into the social environment are critical correlates of loneliness (13,14), which is seen to associate with mortality among older adults (15,16).

Residents in NHs have few opportunities to make personal decisions or exercise control over their lives. Many residents perceive their institutionalisation as the beginning of their loss of independence and autonomy (17–19). Idleness and time spent in passive activities, such as doing nothing, sleeping and waiting, is commonplace among NH residents, which leads to feelings of boredom, loneliness and indignity (20–23). Residents have used terms like trapped, stuck, confined, isolated and discouraged to describe how they feel about the institutional life (18). Older adults living in NHs often experience limited opportunities for social connection despite proximity to

peers (24), which has implications for mental health and QoL (25).

Consequently, the NH population is at a high risk of declined well-being and QoL (10,26,27). Finding approaches to increase well-being among older adults in NHs is highly warranted. Responding to this need, the approach framed 'Joy-of-Life-Nursing-Homes' (JoLNH) was developed in Norway. The JoLNH is a national strategy for promoting well-being, meaning and QoL among NH patients (28). In accordance with recent research (20,29–32), the JoLNH national strategy implies implementation of the 'Joy-of-Life'-philosophy and working approach emphasising that spiritual and emotional needs such as perceived meaning and joy-of-life, culture, meaningful activity, connectedness, relationships and enjoyment shall be integrated essentials of NH care. Based in the theoretical framework of salutogenesis (33,34), well-being theory (35–37) and qualitative in-depth interviews with 29 NH residents, a conceptual structure depicting the essence of the joy-of-life phenomenon in NHs was derived (38), and a quantitative measurement model for joy-of-life was developed framed the Joy-of-Life Scale (JoLS) (39). These qualitative findings revealed that positive relationships, belongingness, meaning, moments of feeling well and acceptance conceptualised the essence of the joy-of-life phenomenon among NH residents (38).

A systematic review of living well in elderly care homes identified four key themes: (i) acceptance and adaptation, (ii) connectedness with others, (iii) a homelike environment and (iv) caring practices (40). Moreover, studies have identified a sense of belonging (connectedness) as a core issue for well-being among NH residents (30,38,41–43) pointing at 'feelings of support and trust', 'searching for meaning and finding answers' and 'a perspective beyond death' as essential to their spiritual well-being (44). Also, a sense of belonging and connectedness contributes to meaning-in-life (45,46) as well as resident satisfaction (47) and dignity (20). Accordingly, studies have shown that positive experiences in NHs can occur and are important for residents' QoL (30,38,40,44,48). To facilitate such positive experiences, relationship-centred approaches seem required (40,44,49,50). Thus, the nurse-patient relationship might be a fundamental health-promoting resource for NH residents.

International well accepted nursing theorists describe nursing as a participatory process that transcends the boundaries between patient and nurse and can be learned and knowingly deployed to facilitate well-being (51–59). The perspective of promoting health and well-being is fundamental in nursing and a major nursing concern in long-term NH care (60–62).

The quality of care as well as the care ethics is embedded in the nurse-patient relationship. Some attributes of this relationships have been identified by older adults: in a milieu of openness and trust, the qualities of intimacy,

sense of belonging, caring, empathy, respect and reciprocity (41) appear to be health promoting, resulting in an impact on the resident's life, healing, strength and/or growth (32,41,63–66).

Caring nurses engage in person-to-person relationships with the NH resident as a unique person. Excellent nursing care is defined by the nurses' way of 'being present' together with the older adult while performing the different nursing activities, in which attitudes and competence are inseparably connected. The competent nurse is present and respectful, sincere, friendly, sensitive and responsive to the NH resident's feelings of vulnerability; the nurse understands patient's needs, is compassionate to different sufferings and provides emotional support and confirmation (47,67–70). Thus, nursing care as a moral relational practice increases patients' well-being; qualitatively good nurse–patient interaction helps patients gain a sense of trust, safety, comfort, confirmation, value, dignity and enhanced well-being (ibid). The experience of being listened to is crucial to long-term care patients, since this is how they experience feeling good, satisfied, valued and cared about (71,72). Resident's dignity was recently described related to 'slow care' (73). Frustration and suffering result from the experience of not being attended to or treated with indifference (64,74–76).

Some recent studies showed that the nurse–patient interaction significantly influenced on meaning (31,46), self-transcendence (65) and hope (77), as well as anxiety and depression (32) in NH residents. However, the relationships between joy-of-life in NHs and other constructs have not been explored.

The study

Aims

Therefore, the aim of this study was to investigate the association between joy-of-life and nurse–patient interaction in a cognitively intact NH population. Based on the evidence and theory, we hypothesised that the nurse–patient interaction influences on NH residents' joy-of-life.

Participants

The total sample consisted of 188 (92%) out of 204 long-term NH patients representing 27 NHs, located in two small and one large urban municipality in Mid-Norway (N = 88 participants living in JoLNH), along with a large urban municipality in Western Norway (N = 100, participants living in ordinary NHs). Long-term NH care was defined as 24-hour care; Inclusion criteria were as follows: (i) municipality authority's decision of long-term NH care, (ii) residential time 3 months or more, (iii)

informed consent competency recognised by responsible doctor and nurse and (iv) capable of taking adequately part in an interview situation. Exclusion criteria were as follows: (i) short-term care, (ii) rehabilitation stays and (iii) diagnosed with dementia; a responsible nurse at the ward identified if the patients were diagnosed with dementia from the medical records.

Design

This study used a cross-sectional design.

Data collection

Cross-sectional data were collected during 2017 and 2018. The NH residents were approached by a nurse they knew well. The nurse presented them with oral and written information about their rights as participants and their rights to withdraw at any time. Each participant provided informed consent. This population may have difficulties completing a questionnaire on their own (78). Therefore, six trained researchers (three in each part of Norway) conducted one-on-one interviews in private. Researchers with identical professional background (RN, MSc, trained and experienced in communication with elderly, as well as teaching gerontology at an advanced level) were trained to conduct the interviews in the same manner. To avoid misunderstandings, interviewers read each question loudly and held a large-print copy of questions and possible responses in front of the participants. The scales used in this study were part of a larger questionnaire comprising 120 items including sociodemographic data; thus, small breaks at specific points during the interview process were adopted to avoid tiring the participants.

Measures

The Nurse–Patient Interaction Scale (NPIS) was developed in Norway to assess vital characteristics of NH residents' experiences of the nurse–patient interaction (65). The NPIS is a 10-point scale from 1 (not at all) to 10 (very much); higher numbers indicate that residents perceive better nurse–patient interaction. The NPIS comprises 14 items identifying essential relational and caring qualities stressed in the nursing literature. Examples of NPIS-items include the experience of being taken seriously, and being understood, respected and recognised as a person, as well as being listened to and feeling good resulting from the nurse–patient interaction. The items were developed to measure NH residents' ability to derive a sense of well-being through the nurse–patient interaction. The NPIS has shown good psychometric properties with good construct validity and reliability in the NH population (65). In this study, Cronbach's $\alpha = 0.89$

(Table 1) and composite reliability = 0.89 (Table 2) of the NPIS construct were good.

The *Joy-of-Life Scale (JoLS)* was developed in Norway to assess joy-of-life among NH residents (39). The JoLS is a 7-points scale ranging from 1 (not at all) to 7 (very much), where higher numbers indicate stronger JoL. Examples of JoLS-items include feeling valuable, grateful and happy, as well as pleasure from contact with one's family (Appendix 1). The validation study revealed low reliability for five out of the suggested 18 items; thus, a shortened 13-items version showing good reliability and construct validity was published (ibid.) and applied in this study. The possible range of JoLS scores is 13–91 for the 13-items version. In this study, Cronbach's alpha (Table 1) and composite reliability (Table 2) were 0.85/0.85 and 0.86/0.89, respectively.

Statistical analysis

The data were analysed by descriptive statistics using IBM SPSS version 25. The hypothesised relation between the latent constructs of nurse–patient interaction and joy-of-life was tested by means of a structural equation model (SEM) using Stata 15.1 (79,80). Using SEM accounts for random measurement error and the psychometric properties of the scales involved are more accurately derived. Since the standard errors are estimated under non-normality, the Satorra–Bentler-scaled chi-square statistic was applied as a goodness-of-fit statistic, which is the correct asymptotic mean even under non-normality (81). In line with the rule of thumb of conventional cut-off criteria (82), the following fit indices were used to evaluate model fit: chi-square (χ^2)-a small χ^2 and a nonsignificant p-value corresponds to good fit (80), the root mean square error of approximation (RMSEA) and the standardised root mean square residual (SRMS) with values below 0.05 indicating good fit, whereas values smaller than 0.08 are interpreted as acceptable (82,83). Also, the comparative fit index (CFI) and the Tucker Lewis Index (TLI) were used with an acceptable fit at 0.95/0.90, respectively, and good fit at 0.95/0.97 and above (ibid.).

Table 2 Measurement models for Nurse–Patient Interaction Scale (NPIS) and Joy-of-Life (JoL)

Items	Parameter	Stata Estimate ^a	t-value ^b	R ²
NPIS Nurse–Patient Interaction Scale				
NPIS3	$\lambda_{x3,1}$	0.80	25.13 ^d	0.63
NPIS4	$\lambda_{x4,1}$	0.75	20.24 ^d	0.56
NPIS5	$\lambda_{x5,1}$	0.77	21.28 ^d	0.56
NPIS7	$\lambda_{x7,1}$	0.71	17.28 ^d	0.50
NPIS8	$\lambda_{x8,1}$	0.57	10.40 ^d	0.32
NPIS11	$\lambda_{x11,1}$	0.78	23.51 ^d	0.61
NPIS13	$\lambda_{x13,1}$	0.83	28.95 ^d	0.68
NPIS14	$\lambda_{x14,1}$	0.54	09.64 ^d	0.29
JoL Joy-of-Life				
JoL4	$\lambda_{y4,1}$	0.78	21.41 ^d	0.61
JoL5	$\lambda_{y5,1}$	0.58	10.46 ^d	0.33
JoL9	$\lambda_{y9,1}$	0.55	09.51 ^d	0.30
JoL10	$\lambda_{y10,1}$	0.72	16.85 ^d	0.51
JoL11	$\lambda_{y11,1}$	0.55	09.72 ^d	0.31
JoL12	$\lambda_{y12,1}$	0.61	11.49 ^d	0.37
JoL13	$\lambda_{y13,1}$	0.68	14.64 ^d	0.46
JoL16	$\lambda_{y16,1}$	0.63	12.55 ^d	0.40
JoL17	$\lambda_{y17,1}$	0.64	12.72 ^d	0.41
ρ_c NPIS	ρ_c	0.89		
ρ_c JoL	ρ_c	0.86		

^aCompletely standardised factor loadings.

^bThe Bentler–Raykov squared multiple correlation coefficient = R². Listwise N = 181. 17 indicators included.

^cComposite reliability $\rho_c = \frac{(\sum \lambda)^2}{(\sum \lambda)^2 + (\sum \theta)}$

^dSignificant at the 1 % level.

Before examining the hypothesised relationships, the measurement models were tested by confirmatory factor analysis (CFA) using Stata 15.1 (79). A sufficient power analysis is dependent on the ratio between the total number of variables (error measurements, observed and latent variables) and the sample size; one observed variable per 10 participants is given as a rule of thumb (84–86). Thus, in order to reduce model complexity, the measurement model for nurse–patient interaction was tested by CFA reducing the indicator variables to eight ($\chi^2 = 36.492$, $p = 0.105$, $df = 27$, $\chi^2/df = 1.35$,

Table 1 Distribution of the JoLS scores. Mean, Cronbach's alpha and correlation coefficient for JoL with NPIS

Distribution of the JoLS scores					
JoLS score	0–2.99	3.0–3.99	4.0–4.99	5.0–5.99	6.0–7.0
N = 181 100%	17 (9.3%)	31 (17.1%)	43 (24.0%)	54 (30.0%)	36 (19.9%)
Construct	Mean (SD)	Items	Cronbach's alpha	JoL ^a	NPIS ^b
JoL	4.78 (1.28)	9	0.85	1.00	
NPIS	7.28 (1.86)	8	0.89	0.55*	1.00

^aJoL = Joy-of-Life, JoLS=Joy-of-Life Scale

^bNPIS = Nurse–Patient Interaction Scale

*p-value < 0.01.

Table 3 SEM-model. Direct relationship from Nurse–Patient Interaction Scale (NPIS) to Joy-of-Life (JoL)

Construct	Parameter	NPIS
JoL	γ 1,3 ^a	0.61
	t-value	7.07*

^aStandardised (gamma) regression coefficients representing the direct relationship between Nurse–Patient Interaction Scale (NPIS) and JoL (Joy-of-Life).

*Significant at the 1% level. Listwise N = 181.

RMSEA = 0.044, p-close 0.587, CFI = 0.98, TLI = 0.98, SRMR = 0.038), while joy-of-life included 9 indicators ($\chi^2 = 30.116$, $p = 0.068$, $df = 20$, $\chi^2/df = 1.51$, RMSEA = 0.053, p-close 0.419, CFI = 0.99, TLI = 0.98, SRMR = 0.035).

Validity and reliability

All factor loadings were significant ($p < 0.05$) and loaded positively and clearly on their intended latent variable with factor loadings between 0.54 and 0.83 and R^2 -values of 0.29–0.68. For scaling the variances of the dependent latent, variable was set at 1. The estimated model fit well with the data (Table 3). Composite reliability was good; $p_c = 0.86$ for JoL and $p_c = 0.89$ for nurse–patient interaction (Table 3); values ≥ 0.7 are good (87–89). Missing data were low (3.7%) in frequency and were handled by means of the listwise procedure.

RESULTS

Descriptive analysis

Participants ages ranged between 63–104 years, with a mean age of 87.4 years ($SD = 8.57$). The sample consisted of 133 women (73.33%) and 48 men (26.67%); the mean age for women was 88.3 years ($SD = 1.80$) and 86 years ($SD = 1.16$) for the men. In total, 23 were married, 22 cohabitating, 1 was single, 106 were widows/widowers, and 36 were divorced. The JoL-scores ranged from 1 to 7 (9–63, when nine items included) with a mean of 4.78 ($SD 1.28$). The cut-off values are not statistically defined, but interpreted by common sense; scores between 5 and 7 were interpreted as high JOL, while scores between 4.0–4.9 and 1–3.9 were interpreted as indecisive and low JOL, respectively. In this study, 56% (102) of the NH residents reported high joy-of-life (≥ 5.0), 24% (44) reported indecisive joy-of-life (4.0–4.99) and 26.5% (48) reported low joy-of-life (0–3.99) (Table 1).

Table 1 displays the distribution of the joy-of-life scores, means (M), standard deviations (SD), Cronbach's α and Pearson's correlation matrix for the latent study variables. The correlations between the measures were

moderate and in the expected direction (Table 1). The α -levels for the two measures indicated an acceptable level of inter-item consistency (90). A substantial body of research has indicated that Cronbach's α cannot be generally relied on as an estimator of reliability (91). Thus, composite reliability was estimated by means of the formula by Hair and colleagues (89), as shown in Table 2 – displaying good estimates.

Model testing and model fit

SEM analyses. To investigate the association between nurse–patient interaction and joy-of-life, a SEM comprising 17 indicators was estimated. For scaling the variances of the dependent latent, variables were set at 1. Table 2 lists the measurement models with factor loadings, t-values, R^2 -values and composite reliability.

Figure 1 portrays the SEM showing the completely standardised factor loadings, Bentler–Raykov squared multiple correlation coefficients (R^2), structural regression coefficients, composite reliability for the latent constructs (p_c) and the fit indices.

The SEM yielded a good fit to the data ($\chi^2 = 162.418$, $p = 0.004$, $df = 118$, $\chi^2/df = 1.38$, RMSEA = 0.046, p-close 0.652, CFI = 0.97, TLI = 0.96, and SRMR = 0.054). Table 3 shows the standardised regression coefficient representing the total statistical effect of NPIS on JoL in the SEM tested. As hypothesised, nurse–patient interaction related significantly with JoL ($\gamma_{1,1} = 0.61$, $t = 7.07^{**}$).

DISCUSSION

No previous studies have examined the relationship between joy-of-life and nurse–patient interaction in a NH population by means of advanced statistical approaches such as SEM. Thus, this study explored the association between nurse–patient interaction and joy-of-life in cognitively intact NH residents. By doing so, this study contributes to a nursing perspective of fostering well-being in NH residents in two ways: first, this study expands previous studies by identifying empirical evidence showing that nurse–patient interaction significantly relates to NH residents' perceived joy-of-life. Second, by means of advanced structural equation modelling, the results from this study suggest a guideline for nurse–patient interaction promoting joy-of-life in this population. This study implies that finding ways to enhance the nurse–patient interaction might be beneficial for residents' perceived joy-of-life, and consequently also for well-being and thriving.

No previous evidence exists on joy-of-life in NH residents, so currently there is no possibility for comparing our study with previous ones. Joy-of-life was assessed on a scale from 1 to 7; with 50% scoring ≥ 5.0 and a mean of 4.78 ($SD 1.28$), these findings indicate that NH residents to a certain degree experienced joy-of-life.

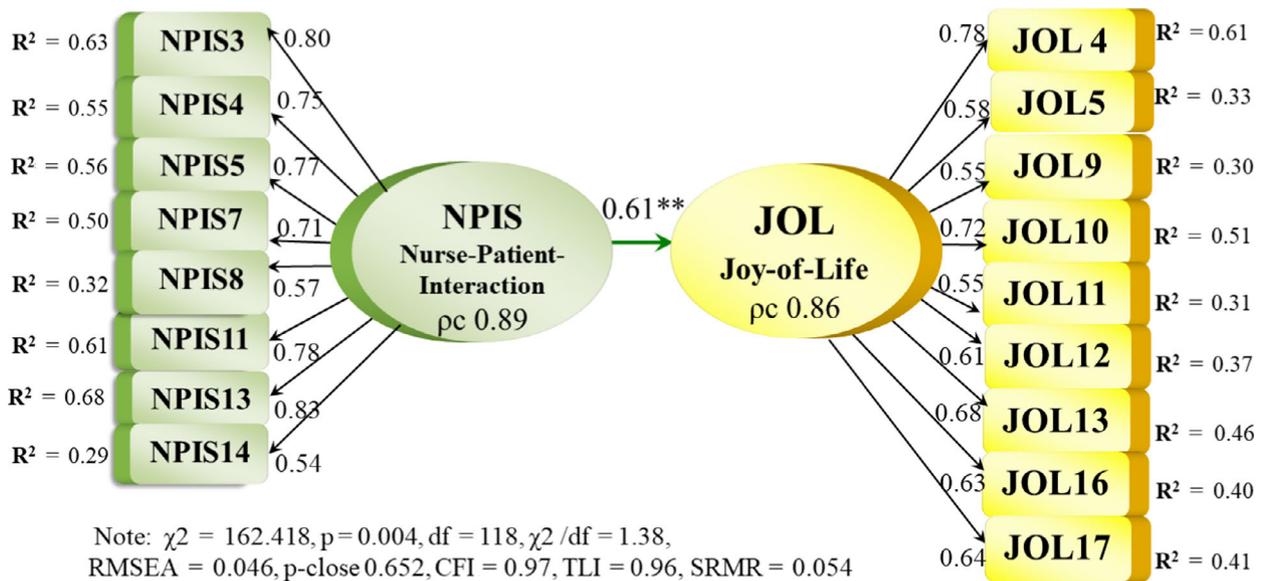


Figure 1 SEM showing the measurement models for Nurse-Patient Interaction (NPIS) and joy-of-life (JOL), as well as the total effect of NPIS on JOL

Moreover, the hypothesised relationship between nurse-patient interaction and joy-of-life was strongly supported. The joy-of-life-construct comprises facets such as joyful experiences in one's daily life in the NH, meaningful engagement and involvement in the surroundings and one's family, a sense of self-acceptance, gratefulness, meaning and worthiness, as well as a sound balance between activity and rest. Commonly, few meaningful activities are provided in NHs; many residents spend several hours in passivity, doing nothing, sleeping and waiting (92,93), resulting in feelings of boredom, worthlessness, indignity and loneliness (20). Losing their independence and autonomy, they might feel trapped in such a passive state (17–19), finding few opportunities to make personal decisions or exercise control over their life. In the light of this, the JoL-mean score in this study is noteworthy, indicating a reasonable degree of joy-of-life. How can this be explained?

Joy-of-life includes a sense of meaning and worthiness (38). These are derived through connectedness with family and nurses (46,94,95) as well as from engaging and involving in one's surroundings (96). Although some NH residents report positive peer relationships (24), in general, NH residents experience limited opportunities for social connection (25). Commonly, they have infrequent contact with friends and family members and suffer lack of attachment, connectedness and involvement resulting in loneliness, all of which detrimental to well-being (7–11,13). Largely, the nurse-patient relationship represents the main resource for connectedness while staying in a NH, which might explain the powerful impact on joy-of-life in NHs.

Previous research underlines that NH residents' perceived nurse-patient interaction is critical to their sense of belonging,

dignity, self-respect, feelings of self-worth, meaning-in-life and well-being (31,32,41,46,50,64,65,95,97–99). Moreover, dignity significantly predicts older adults' satisfaction with NH staff (100) and has been related to the nurse-patient relationship (41) and 'slow care' (73). Consequently, spending time without rushing anything, listening with interest to NH residents, supporting self-acceptance, dignity and adjustment, as well as meaningful engagements in hobbies and interests, represent vital health-promoting nursing activities (20,71,72,92,101–104).

Resulting from frailty, vulnerability and dependency, NH residents stress their need for connectedness or belongingness with the nurses (25,30,38,41,105), which highlights the relationships to their nurses as essential for well-being and thriving (31,50,61,106). The notion 'slow care' (73) indicates that resident's dignity depends on nurse-patient interaction based in a presence without hurrying. Correspondingly, NH residents characterise the nurse-patient interaction by the nurses' attitudes, appearance and behaviours (71,107), acting as a confirmation of their dignity, worthiness or worthlessness (108,109). If experiencing not being attended to or treated with indifference, meaninglessness, suffering and loneliness appear (64,71,72,110).

Moreover, experiencing disabilities, frailty, vulnerability, mortality, powerlessness and dependency, participating in meaningful activities might be difficult due to poor function, infirmities and fatigue (5). In this life situation, psycho-social support (111), being cared for in an empathic and skilled manner (73), creating 'feelings of support and trust' (44) becomes imperative for well-being and thriving (24,106). This might explain the highly significant association between joy-of-life and nurse-patient interaction. Furthermore, studies have shown that

acceptance and adaption to one's life situation are key to well-being in long-term care settings (38,40,65). Consequently, older adults in NHs might have developed an ability to adapt and accept, and thereby create a sense of self-acceptance, meaning, gratefulness and worthiness, which are facets of joy-of-life. Nurse-patient interaction which provides a sense of being understood, valued and empowered, facilitates and nurtures such coping abilities of acceptance and adaption, and thereby joy-of-life.

Consequently, the relational qualities of the nurse-patient interaction signify essential influences on residents' well-being; physically, emotionally, socially, functionally and spiritually. Performing nursing care in a respectful, attentive and empathic manner facilitates NH residents' experiences of being taken seriously, being understood and paid attention to as a unique person. Such relational qualities support joy-of-life, which includes a sense of self-acceptance, worthiness, dignity, gratefulness and meaning. When taking time for listening with interest to NH residents' inner thoughts, feelings and life experiences, nurses encourage joy-of-life. Being attentive, communicating and interacting respectfully and empathically while making all possible effort to relieve the old persons' infirmities are relational qualities fostering dignity, well-being and confidence in the nurses (112), as well as encouraging personal goals, values and comprehensibility (113). This requests that nurses and healthcare personnel in NHs should use the caring situations to be listening, verbally and nonverbally, facilitating an experience of being attended to as a person, and not handled as a 'working task'. A meaningful nurse-patient relationship is based on several meaningful moments of feeling acknowledged, accepted, understood, valued and listened to. In the light of limited staffing, taking time for 'slow care' (73) as well as emphatical listening might sometimes prove difficult. Nevertheless, because this includes the way professionals use their eyes, face, voice, hands and their body, which is not time-consuming by itself, we assert that an accepting and attending way of being present is not necessarily more time-consuming than an indifferent presence. Moreover, a relationship requires two partakers. That is, the NH resident does also have to contribute. However, the professionals should be responsible for at least 75% of the contact qualities in the nurse-patient interaction, aiming at facilitating joy-of-life and well-being. Professional nursing care is determined by nurses' use of their knowledge, attitudes, behaviour and communication skills to appreciate the uniqueness of the person being cared for (114), which is fundamental for dignity (100), meaning (46), self-transcendence and well-being (31,65), anxiety and depression (32). Frustration, suffering, hopelessness, meaninglessness and loneliness result from the experience of not being attended to or treated with indifference (64,74).

Previous research holds that meaning serves as a mediating variable in psychological and physical health (103,115). By facilitating joy-of-life, nurse-patient interaction might positively influence symptoms such as fatigue and pain (116), depression and anxiety (32) mediated by self-transcendence and meaning (39). Research exploring the possible mediating influence of joy-of-life and meaning on NH patients' health and well-being is warranted.

Strengths and limitations

A notable strength of this research is the empirical examination of constructs that have not been tested previously. This study expands previous research by testing the associations between nurse-patient interaction and joy-of-life in a NH population by means of structural equation modelling. Using SEM accounts for random measurement error and the psychometric properties of the scales involved are more accurately derived. The study builds on a strong theoretical foundation with use of scales demonstrating good psychometrical properties. Nevertheless, the present findings must be discussed with some limitations in mind.

The SEM tested comprised 17 variables, indicating a desirable sample size of minimum $N = 170$ (85,86,89). The present study used a listwise $N = 181$, which should be efficient. Nevertheless, a larger sample would significantly increase the statistical power of the tests. Information input to the SEM estimation increases both with more indicators per latent variable and with more sample observations. However, in respect to sample size, the indicators for the latent constructs were somewhat reduced, but still including 8 (NPIS) and 9 (JoL) indicators, revealing excellent composite reliability coefficients.

Based on the cross-sectional design, we cannot conclude on the causality; that is, the direction of the path tested in the SEM cannot be defined with certainty. However, turning this influence the other way around (path from joy-of-life to nurse-patient interaction) is not logical and theoretical meaningful, and revealed a poorer fit. The model revealed good factor loadings, excellent composite reliability, and a good fit to the data, underpinning the present results. Nevertheless, this represents a limitation of the present study, indicating that the direction of this relationship needs to be studied further.

The fact that the researchers visited the participants to help fill in the questionnaires might have introduced some bias into the respondents' reporting. The scales were part of a larger questionnaire comprising 120 items. Thus, frail, older NH patients might tire when completing the questionnaires, representing a possible bias to their reporting. To avoid such a bias, experienced researchers were carefully selected and trained in conducting the interviews following a standardised procedure including

taking small breaks at specific points during the process. This procedure seemed to work out well.

Conclusion and implications for nursing practice

The present findings revealed a highly significant relationship between nurse–patient interaction and joy-of-life in NH residents, indicating that the relational qualities of the nurse–patient interaction should be essential integral aspects of NH care. Consequently, such qualities should be emphasised in clinical practice, and research and education should pay more attention to nurse–patient interaction as an important, integral part of the caring process promoting joy-of-life and thereby well-being. This should be done to develop a more comprehensive and practice-based view of good nursing care, including insights into the potential for joy-of-life, meaningful activities, well-being, symptoms relief and health; these might inspire nurses in performing their daily care practices in NHs. Nurses need to understand their value and importance in NH care, which might generate worthiness, meaningfulness as well as thriving in nurses' daily work. Nurses should be provided opportunities for increased communicating and interacting skills and competence.

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Conflict of interest

No conflict of interest has been declared by the authors.

Author contributions

Each author participated sufficiently in the work to take public responsibility for appropriate portions of the content; that is, all authors agreed to be personally accountable for the author's own contributions and to ensure that questions related to the accuracy or integrity of any part of the work, even ones in which the author was not personally involved, are appropriately investigated, resolved, and the resolution documented in the literature. Each author has approved the submitted version (and any substantially modified version that involves the author's contribution to the study).

Ethical considerations

Ethical approval was given by the Regional Committee for Medical and Health Research Ethics in Norway (ref.nr 2014/2000/REK Central) as well as by the Management Units at the 27 NHs. Each participant provided voluntarily written informed consent.

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APPENDIX

The Joy-of-Life Scale (JoLS). The 13-items version. Scaled from 1 to 7. Means and Standard deviation. During the last week, to what extent have you experienced that you...

<i>Variable</i>	<i>N</i>	<i>Mean</i>	<i>SD</i>
JoLS1...feel happy during the day in the nursing home	181	4.79	1.607
JoLS4...experience meaning in your everyday life	181	4.10	1.888
JoLS5...feel you have a sound balance between activity and rest	181	4.70	1.732
JoLS9...engage in your surroundings	181	4.31	2.095
JoLS10...experience something that makes you happy	181	5.02	1.757
JoLS11...contact with your family makes you happy	181	6.34	1.275
JoLS12...feel valuable	181	4.34	2.202
JoLS13...have something meaningful to fill your days with	181	3.78	1.910
JoLS14...feel that you can contribute positively to others	181	3.90	2.088
JoLS15...have someone to speak with in confidence	181	5.07	2.102
JoLS16...feel grateful for how your life is	181	5.09	2.017
JoLS17...accept yourself as the person you now are (or have become)	181	5.21	1.906
JoLS18...are in contact with the world outside the nursing home	181	5.26	1.962

The validated 13-items version of the Joy-of-Life Scale. Listwise N = 181. These estimates are previously published in Haugan, Rinnan, et al., (2019).