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Well-being of nursing staff on specialized units for older patients with combined care needs

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Accessible summary

What is already known about the subject?

- Working in long-term care is seen as a stressful, physically and mentally demanding occupation, and thus, nursing staff are at risk for work and stress-related diseases.
- In older patients, psychiatric illnesses often occur in combination with physical illnesses, requiring nursing care that is specific to these combined care needs. The impact of caring for these patients on the mental well-being of nurses is unknown.

What this paper adds to existing knowledge?

- Nursing staff working on specialized units for patients with combined care needs experience high levels of self-efficacy in combination with strong feelings of self-rated competence.
- Although levels of burnout are relatively low, mental healthcare nursing staff is more at risk for burnout when working in specialized settings for patients with combined care needs than nursing home staff working in specialized settings for these patients.
- Nursing staff characteristics, such as years of working experience and age, seem more important in relation to staff well-being than patient characteristics in specialized settings for combined care needs.

What are the implications for practice?

- Staff well-being might benefit from specializing care, so that patients with similar care needs are placed together and care is focused.
- The presence of specialized care units for older patients with combined care needs can allow for both targeted and focused allocation of nursing staff to these units and provision of specific training.

Abstract

Introduction: In older patients, psychiatric illnesses frequently exist in tandem with physical illnesses, requiring nursing care that is specific to these combined care needs. The impact of caring for these patients on the mental well-being of nursing staff is unknown.

Aim: To investigate whether care characteristics of patients with combined care needs are related to the mental well-being of nursing staff.

Method: Well-being of nursing staff was studied within a larger exploratory observational cross-sectional study that examined the differences and similarities of specialized combined care units in Dutch mental healthcare and nursing home settings.

Results: Nursing staff across settings, with more than 5 years of work experience, felt competent in caring for patients with combined care needs. No significant effects of care characteristics of patients with combined care needs on the work-related well-being of nursing staff were shown. Both mental health nursing staff and older employees, however, were found to be more at risk for burnout.

Implications/Conclusion: Staff well-being might benefit from placing patients with combined care needs together, so care is focused. The presence of specialized care units can allow for both targeted and focused allocation of nursing staff to these units and provision of specific training.

KEYWORDS

mental health care, nursing home care, nursing staff, patients with combined care needs, work-related well-being

1 | INTRODUCTION

A large percentage of older adults have multiple morbidities and have combined mental (psychiatric and/or cognitive) and physical problems (Fullerton, McGuire, Feng, Mor, & Grabowski, 2009; Grabowski, Aschbrenner, Rome, & Bartels, 2010; Health Council of the Netherlands, 2008). These older patients with combined care needs require a combination of physical, psychological and/or psychiatric care (Bartels, 2004; Snowden, 2010).

Traditionally, nursing homes provide long-term care (LTC) for persons with either cognitive or physical disabilities, and mental healthcare institutions provide LTC for persons with chronic mental illnesses. Earlier studies have shown that older patients with combined care needs benefit from collaborative psychiatric and physical medicine approaches, such as from multidisciplinary care teams that deliver integrated mental and physical care (Bartels, 2004; Collet, de Vugt, Verhey, & Schols, 2010; Inventor et al., 2005).

Research in these combined care settings for patients with combined care needs is scarce and only consists of describing demographic characteristics, physical morbidity and psychiatric morbidity of this specific patient group. Results from these studies show that patients with combined care needs tend to be younger, more often male, unmarried, have severe challenging behaviours, a high amount of physical comorbidities, high care dependency and cognitive impairment (Collet, de Vugt, Verhey, Engelen, & Schols, 2016; Seitz, Purandare, & Conn, 2010; Van den Brink, Gerritsen, de Valk, Oude Voshaar, & Koopmans, 2017).

Professional caregivers in combined care settings will be challenged by these care complexities, as they must be able to address both somatic care needs and psychiatric and psychogeriatric care needs (Collet et al., 2016; Van den Brink et al., 2017). Several studies looking at combined care needs in general settings confirm this

challenge of skills. Blythe et al. stated that mental healthcare nursing staff often lack enough training to meet the physical care demands of patients with combined care needs (Blythe & White, 2012). According to Beck et al., nurse assistants are primarily educated to provide physical care, and Gabrowski et al. found evidence for nursing home nurses to be under qualified to provide psychiatric care for elderly people (Beck, Doan, & Cody, 2002; Grabowski et al., 2010). Nursing home nurses themselves have expressed a need for more training in psychiatric care to be able to meet the needs of patients with combined care needs (Dorland, 2007; Molinari et al., 2008).

This challenge of skills could have implications for nursing staff's experienced work-related stress and may therefore have an impact on their well-being and risk for burnout. Staff burnout has been associated with a higher tendency to leave the nursing profession (Leiter & Maslach, 2009; Simon, Müller, & Hasselhorn, 2010). Insight into factors influencing the work-related well-being of nursing staff for patients with combined care needs is therefore essential to create both a healthy work environment and a sustainable workforce related to care for this specific group.

Previous studies in general settings showed that patient characteristics can influence work-related well-being of nursing staff and that results are not consequently pointing in one direction.

Residents' challenging behaviour was found to be a stressor for nursing home nurses, and it had an impact on their general health, job satisfaction and work ability (Schmidt, Dichter, Palm, & Hasselhorn, 2012; Zwijsen et al., 2015). A study by Testad et al., however, showed that agitation and dementia severity are not related to carer stress (Testad, Mikkelsen, Ballard, & Aarsland, 2010).

In addition, nursing staff characteristics, such as workload, work experience and educational level, have been identified as factors to cause job stress (Hannan, Norman, & Redfern, 2001; Maslach, Schaufeli, & Leiter, 2001), while lack of adequate staffing was the

most frequently mentioned stressor in a study on job burnout comparing psychiatric hospital and community nurses (McTiernan & McDonald, 2015). A recent meta-analysis of the influence of age on the three dimensions of burnout syndrome (emotional exhaustion, depersonalization and personal accomplishment) in nurses indicated that younger age was a significant factor in the emotional exhaustion and depersonalization of nurses, although it was somewhat less influential in the dimension of personal accomplishment (Gómez-Urquiza José, 2017). Wynd found that registered nurses who scored the highest on levels of professionalism had many years of experience in nursing practice and higher educational degrees (Wynd, 2003). Mental healthcare nursing staff with an average of 13 years of work experience reported positive attitudes towards their role in the physical care for psychiatric patients; they felt more confident about both performing routine physical health observations and their technical skills (Robson, Haddad, Gray, & Gournay, 2013). In a multilevel study of general hospital nurses, nurse self-efficacy on an individual level was the strongest predictor of the burnout dimensions exhaustion and depersonalization (Consiglio, Borgogni, Vecchione, & Maslach, 2014). Queiros et al. found that mental distance is influenced by age, gender and job satisfaction and that personal accomplishment is influenced by work experience (Queiros, Carlotto, Kaiseler, Dias, & Pereira, 2013). Perceived competence in providing dementia care has been associated with increased job satisfaction (Zimmerman et al., 2005; Zwijsen et al., 2015).

Environmental characteristics, such as small-scale living facilities with more personalized care, were reported to reduce care staff stress (De Rooij, Luijkx, Declercq, Emmerink, & Schols, 2012; Te Boekhorst, Willemse, Depla, Eefsting, & Pot, 2008; Zimmerman et al., 2005). Pekkarinen et al. concluded that work stressors might be reduced by specializing care, so that residents with similar care needs are placed together and care is focused (Pekkarinen et al., 2006). This is important for staff and patient well-being as nurses working in an environment with lower mental distress hold a less negative attitude towards patients, and their personal accomplishment is higher (Van Bogaert, Dilles, Wouters, & Van Rompaey, 2014; Wang, Liu, & Wang, 2015).

2 | AIM

The primary aim of this study was to explore the work-related well-being of nursing staff in relation to patient characteristics in specialized units for older patients with combined care needs in both the nursing home setting and the mental healthcare setting. The study addresses the following research question: what are the personal characteristics (educational level, work experience, age and gender) and the work-related well-being characteristics (mental problems, job satisfaction, perceived self-efficacy and burnout) of the nursing staff caring for older patients with combined care demands?

Because of the traditional categorization in physical care and psychiatric care, and therefore a better training level of nursing staff related to only one of these care domains, we hypothesized

that care dependency, physical care demands and intensity of neuropsychiatric symptoms in patients with combined care needs will be correlated to higher symptoms of job burnout and work-related distress in nursing staff across settings. Consistent with results from earlier studies in different settings, we expected higher educated, more experienced and highly (self-rated) competent nursing staff to show fewer symptoms of burnout and work-related mental distress. Data on these specific nurse characteristics were therefore also collected.

The findings of this study are relevant for planning of services and training to maximize well-being of staff and patients in specialized units for combined care needs, taking into account both the possible differential impact of care characteristics of these patients and staff characteristics in different specialized care settings.

3 | METHOD

3.1 | Design

This study was part of a large exploratory observational cross-sectional study on the "Specific Care in the Interface of Mental health and Nursing homes" (SpeCIMeN). Patients and nursing staff from two types of care settings for patients with combined care needs were included: the mental healthcare setting and the nursing home setting. Data were collected from November 2013 through April 2015.

The first part of the SpeCIMeN study investigated both the personal and care characteristics and the perceived quality of care of patients with combined care needs residing in specialized care units in both settings. The results of the first part of the SpeCIMeN study have been published elsewhere (Collet et al., 2016).

This study explores the work-related well-being of nursing staff working in specialized units for patients with combined care needs across the nursing home and the mental healthcare setting, related to the care characteristics of these patients and nursing staffs' personal characteristics.

3.2 | Participants

Participants (both patients and nursing staff) were recruited from nursing homes and mental healthcare institutions with specialized units for older patients with combined care needs, situated in the southernmost part of Limburg, a province of the Netherlands. To be included, these specialized combined care units needed to fulfil the criteria of delivering integrated multidisciplinary care for older patients with care needs on the combination of psychiatric, cognitive and physical care problems.

Four specialized units within a mental healthcare institution and seven specialized units within two nursing home organizations were identified and included in the study, with a total inclusion of 80 patients with combined care needs in a mental healthcare setting, and 83 nursing home patients, respectively. The specialized units within the mental healthcare setting varied from 14 to 20 persons, while these units within the nursing homes varied from 8 to 20 persons.

Patients were included if: (1) they stayed for at least 6 weeks on the specialized unit; (2) they had a clear combination of psychiatric, cognitive and physical care problems; and (3) informed consent to participate in the study was given either personally or by an officially appointed legal representative. Patients were excluded if they: (1) refused to participate; and (2) were temporarily admitted to the specialized unit because of admission problems elsewhere.

All nursing staff with permanent employment contracts, working on specialized units for patients with combined care needs in either a nursing home ($n = 96$) or a mental healthcare setting ($n = 53$), were invited to participate in this study. They were included if they: (1) gave informed consent to participate in the study; and (2) worked in direct care with patients with combined care needs. Nurses were excluded if they: (1) had a temporarily employment contract; (2) refused to participate in the study; or (3) were absent because of sickness, during a period of more than 6 weeks.

3.3 | Procedure

3.3.1 | Patients

We asked the unit physician (psychiatrist or elderly care physician) to identify and inform all patients able to participate in our study. These patients, their representatives and their professional caretakers received an information letter giving details about the nature of the study, the purposes, duration and possible consequences in a form they could understand. If needed, the information was given orally. We further explained that confidentiality was ensured and that permission might be revoked at any time by the patient or the legal representative without further consequences. We then asked the patient or the legal representative to sign the informed consent. All interviews were conducted by a certified elderly care physician (researcher JC) or a trained research assistant. If we sensed any distress in participants during the interview, we offered them the opportunity to return at a more favourable time, skip questions or discontinue participation. Medical files were intensively studied by the researcher (JC), to collect information on psychiatric and somatic morbidity. Vocational nurses, who were the primary responsible caretakers of the patients with combined care needs, provided data on care dependency and current behaviour.

3.3.2 | Nursing staff

All nursing staff with permanent employment contracts working on specialized combined care units within a mental healthcare setting ($n = 53$) or a nursing home ($n = 96$) received a letter explaining the study and an informed consent form at their work address. After obtaining informed consent from the nursing staff, a paper questionnaire was given to them at their work address. Approximately 20 min was needed to complete the questionnaire. The questionnaire contained questions on basic personal characteristics, work satisfaction, feelings of competence, work-related mental health problems and burnout. In case of nonresponse after 8 weeks, a reminder was sent by mail.

3.4 | Measurements

3.4.1 | Nursing staff characteristics

Personal characteristics, such as gender, age, level of professional education (low = low vocational training [nursing assistants], medium = medium vocational training [certified vocational nurses] and high = high vocational training [bachelor degree nurses]) and level of work experience (<5 years or ≥ 5 years), were retrieved from the self-report questionnaire.

Work satisfaction was measured by asking professionals to grade their work satisfaction on a scale from 1 to 10. A higher score expresses more work satisfaction.

Self-rated competence was measured using the Dutch version of the General Self-Efficacy Scale (Schwarzer, Jerusalem, & Teeuw, 1994). This validated and reliable questionnaire (Cronbach's $\alpha = 0.80$) measures the style of problem solving related to the nursing job and consists of 10 statements that must be answered on a 4-point Likert scale. Answers could vary from 1 (not at all relevant) to 4 (very relevant), meaning that total self-efficacy score varies between 10 and 40. A higher sum score indicates a better style of problem solving and therefore a higher level of self-rated competence. Additionally, professional caregivers were also asked to grade their experienced level of competence in problem solving on a scale of 1–10. A higher score correlates with a greater feeling of competence.

Mental distress such as anxiety, depression and social withdrawal was measured using the General Health Questionnaire (GHQ-12). The 12-item version is reliable for nursing staff (Cronbach's $\alpha = 0.76$). It has a 4-point response scale, varying from 0 (not at all) to 3 (much more than usual). A higher sum score corresponds with a higher amount of work-related mental health problems (Goldberg et al., 1997).

Burnout was measured using the Utrecht Burnout Scale (UBOS), which is the Dutch version of the Maslach Burnout Inventory (Maslach & Jackson, 1986; Schaufeli & van Dierendonck, 2000). We used the UBOS-C, because this version specifically measures the work-related psychological state of individuals who have an occupation with frequent client interaction. UBOS-C provides a reliable (Cronbach's $\alpha = 0.79$) and valid measure of experienced pressure at work. The results can be used for both individual assessment and for comparison of groups. UBOS-C consists of 20 items that can be answered on a 7-point scale, ranging from 0 (never) to 6 (every day). Three following subscales are available: (1) emotional exhaustion measures feelings of being emotionally overextended and exhausted by one's work (eight items; a higher score means more exhaustion); (2) depersonalization assesses impersonal responses towards clients (five items; a higher score means more depersonalization); and (3) personal accomplishment examines feelings of competence and achievement in work (seven items; a higher score means more personal accomplishment). Means of emotional exhaustion, depersonalization and personal accomplishment were calculated with eight, five and seven items, respectively (Schaufeli & van Dierendonck, 2000). Responses for each subscale were categorized as low, moderate or high in accordance with normative data derived from a sample of 1907 mental

TABLE 1 UBOS normative data ($n = 1,907^a$)

UBOS subscales (range 0–6)	Low	Moderate	High
Emotional exhaustion	0.39–1.12	1.13–2.49	2.50–3.98
Depersonalization	0.01–0.59	0.60–1.79	1.80–3.18
Accomplishment	3.30–4.13	4.14–5.42	5.43–5.98

^aCategorization of low, average and high burnout according to normative data. This sample included mental health nursing staff and nursing home nursing staff (Schaufeli & van Dierendonck, 2000).

health professionals in LTC facilities. These normative cut-points are applied for both the nursing home and the mental health settings (See Table 1).

3.4.2 | Patient characteristics—Data collected from medical files

Baseline characteristics, such as age, sex, time of institutionalization and level of education, were retrieved from the patient's record.

Current physical disorders were collected from data on the medical diagnosis, the available laboratory results and the medication use, as stated within the patients' medical record.

Severity of all physical disorders was scored using the 14-item version of the Cumulative Illness Rating Scale (CIRS) 14-item version (Miller et al., 1992). This scale measures multimorbidity in the light of all medical problems encountered in a geriatric population. The theoretical scores range from 0 to 56 based on scoring the severity of co-occurring medical conditions from 0 (no problem) to 4 (extremely severe problem). In this study, the severity of co-occurring medical conditions was scored excluding the psychiatry CIRS subscale.

Psychiatric illnesses were classified according to the Diagnostic and Statistical Manual of Mental Disorders. All DSM classifications made by a psychiatrist or trained psychologist and stated in the patients' medical record were accepted. Both axis I and axis II classifications were noted (DSM-IV-TR. Vol. 4th edition, Text Revision. 2000).

3.4.3 | Patient characteristics—Data provided by vocational nurses

Patients' needs and care dependency were measured using the Care Dependency Scale (CDS) (Dijkstra, Buist, & Dassen, 1998; Dijkstra, Tiesinga, Plantinga, Veltman, & Dassen, 2005). CDS was shown to have excellent reliability for several countries (Cronbach's $\alpha = 0.95$ – 0.97), and it can be used for assessment purposes, both at the group and individual levels (Polit, Beck, & Hungler, 2004). The CDS measures a patients' ability to perform activities independently. It consists of 15 categories that are scored using a 5-point Likert-type scale. Responses range from 1 to 5, where 1 is completely dependent and 5 is almost independent. Patients with a total CDS score of ≤ 68 , are classified as care-dependent.

Neuropsychiatric symptoms (NPS) were assessed using the Dutch version of the Neuropsychiatric Inventory (NPI) (Cummings et al.,

1994; Kat et al., 2002). Content validity of the NPI is high which was rated by a panel of 10 experts in geriatric psychiatry. Inter-rater reliability ranged from 93.6% to 100%, depending on the subdomain. Test-retest reliability was high, with a Pearson correlation of 0.79 (Cummings, 1997). The NPI includes 12 neuropsychiatric symptoms. The frequency and severity of each symptom are rated on a 5-point (0–4) and 4-point (0–3) Likert scale, respectively. The total score equals the product of frequency and severity scores. NPI symptoms were considered clinically relevant when the total scores were ≥ 4 .

3.5 | Ethical considerations

The local Medical Ethics Committee of the Maastricht University Medical Centre approved the study (number 134049) after reviewing the study protocol, and considered it to be not subject to the Medical Research Involving Human Subjects Act. The study was also approved by the Board of Directors and the Client Advisory councils of all the participating institutions. Patients' and nursing staff participation was voluntary, and data collection was conducted confidentially and anonymously. Informed consent to participate in the study was given either personally or by the patient's officially appointed legal representative.

3.6 | Statistical analyses

Categorical variables are presented as the number (%), while numerical variables are presented as the mean (standard deviation [SD]) or median (interquartile range (IQR), i.e., 25th–75th percentile), where appropriate. Comparisons between nursing staff groups (mental healthcare setting versus nursing home setting) were performed using chi-square tests for nominal or ordinal variables, and independent-samples t tests or Mann–Whitney U tests where appropriate for numerical variables.

Four analyses were performed using a linear mixed model (LMM) in which a random intercept for the specialized unit was used to account for the correlation between professionals from the same specialized unit. The first analysis examined the effect of the independent variable setting, care dependency, physical comorbidity and neuropsychiatric symptoms of residents with complex care needs on the dependent variable GHQ-12 score (work-related mental health problems), whereas the other three analyses examined these effects on the dependent variable UBOS-C subscales (emotional exhaustion, depersonalization and personal accomplishment). In all four analyses, types of setting were combined ($n = 100$ for combined settings), and all independent variables (either numerical or binary) were included simultaneously into the model.

In addition, relevant background variables such as gender, age, educational level (categorical: low or medium/high) and work experience (<5 or ≥ 5 years) were also included in these analyses. Because of the exploratory nature of the study, no adjustment for multiple testing was made, and we focused on the size of the observed effects. Multicollinearity was tested using variance inflation factors (VIFs). IBM SPSS Statistics for Windows (version 21.0) was

used for the statistical analyses. A p -value $\leq .05$ was considered statistically significant.

4 | RESULTS

The questionnaire was completed by 37 of the 53 professionals with a permanent employment contract, working within a mental healthcare specialized unit (response rate, 70%), and by 73 of the 96 professionals with a permanent employment contract, working in a nursing home specialized unit (response rate, 76%). Reasons for nonresponse were absence because of illness or lack of interest in participating.

4.1 | Demographic characteristics of nursing staff

The basic characteristics of the nursing staff are presented in Table 2.

Except for the educational level ($p < .001$), there was no significant difference between groups in terms of demographic characteristics. Nursing staff in both settings consisted predominantly of females aged 40–49 years. The majority of the staff had more than 5 years of work experience in caring for patients with combined care needs.

4.2 | Work-related mental health characteristics of nursing staff

The mean scores on GHQ-12, self-efficacy and all subscales of UBOS-C, and grading of competence in problem solving and job satisfaction are presented in Table 3. GHQ-12 scores indicated moderate levels of mental distress in nursing staff in both types of settings. Both groups of nursing staff showed similar strong feelings of competence

in problem solving. For the UBOS-C, mean overall scores on the emotional exhaustion scale indicated low levels of emotional strain for both groups of nursing staff. Mean overall depersonalization scores indicated low levels of mental distance, with a significant higher score (moderate level) for the mental healthcare nursing staff. Mean overall accomplishment scores showed a moderate level of personal accomplishment for both groups, with a significantly higher score for nursing home nurses. Nursing home nurses also showed a significantly higher level of job satisfaction.

4.3 | Characteristics of patients with combined care needs

Patients were predominantly males aged 60–69 years. The majority of them were institutionalized for more than 1 year. One-third of the patients in mental health care had a psychotic disorder, and in 40% of those patients, multiple-axis one diagnoses were present. Cognitive disorders, mainly frontotemporal lobe dementia, and alcohol-related dementia were reported in three-quarters of the patients in nursing homes. Personality disorders were diagnosed in one-quarter of all patients. Overall, patients had seven comorbid conditions, and they all showed a nursing care dependency. Patients in a mental healthcare setting had more neuropsychiatric symptoms, with a higher prevalence of delusions, hallucinations and anxiety. Table 4 shows the relevant behavioural and care characteristics as collected within the SpeCIMeN study.

4.4 | Variables associated with work-related well-being in nursing staff

Table 5 shows the estimated effects that were obtained from linear mixed model (LMM) analyses.

Although effects of characteristics of patients with combined care needs (NPI, CDS, CIRS) on job burnout or work-related mental distress of nursing staff were not significant, the LMM analyses showed that for both groups of nursing staff, a higher amount of neuropsychiatric symptoms was associated with higher rates of both emotional exhaustion (1 point higher NPI score results in 0.02 point higher emotional exhaustion) and work-related mental distress (1 point higher NPI score results in 0.11 point higher GHQ score). It also showed that a higher amount of physical illness severity in patients was associated with both lower emotional exhaustion rates (1 point higher CIRS score results in 0.07 point lower UBOS emotional exhaustion score) and work-related mental distress (1 point higher CIRS score results in 0.37 point lower GHQ score).

Within the LMM analyses, several effects were found for both basic personal characteristics of nursing staff and type of setting. A lower level of education was significantly associated with lower rates of depersonalization and lower rates of personal accomplishment. Older professionals had significantly higher rates of emotional exhaustion and showed a tendency towards higher feelings of depersonalization and lower rates of personal accomplishment. For setting, significantly higher rates of depersonalization and lower rates of

TABLE 2 Basic characteristics of nursing staff in mental healthcare and nursing home settings

Characteristics	All nurses ($n = 110$)	MHC nurses ($n = 37$)	NH nurses ($n = 73$)
Age (years), Mean (SD)	42.4 (10.7)	40.1 (10.5)	43.2 (10.8)
Female, n (%)	95.0 (86.4)	34.0 (91.9)	61.0 (83.6)
Work experience in specialized unit, n (%)			
<5 years	11.0 (10.0)	3.0 (8.1)	8.0 (11.0)
≥ 5 years	99.0 (90.0)	34.0 (91.9)	65.0 (89.0)
Working hours, Mean (SD)	28.9 (5.8)	28.2 (6.3)	29.3 (5.5)
Level of education, n (%)			
Low	26.0 (23.6)	6.0 (13.5)	20.0 (28.8)
Medium	62.0 (56.4)	15.0 (40.5)	47.0 (64.4)
High	21.0 (19.1)	16.0 (43.2)	5.0 (6.8)

MHC, mental healthcare setting; NH, nursing home setting; Low, low vocational training (nursing assistants); Medium, medium vocational training (certified vocational nurses); High, high vocational training (bachelor degree nurses).

TABLE 3 Competence, mental health and job burnout of nursing staff in mental healthcare and nursing home setting

Measurement	All nurses (n = 110) Mdn (IQR)	MHC (n = 37) Mdn (IQR)	NH (n = 73) Mdn (IQR)	U ^a	Z ^a	p ^a
GHQ-12 ^b	9.00 (6.00)	10.00 (7.00)	9.00 (5.00)	1141.00	-1.33	.183
Self-Efficacy	30.00 (4.00)	30.00 (3.50)	31.00 (4.00)	1210.50	-0.79	.431
UBOS ^c emotional exhaustion	1.00 (0.88)	1.13 (0.81)	0.88 (1.16)	1086.50	-1.68	.094
UBOS ^c depersonalization	0.20 (0.60)	0.60 (0.80)	0.10 (0.40)	723.50	-4.12	<.001
UBOS ^c accomplishment	4.43 (1.29)	3.71 (1.43)	4.57 (1.00)	716.50	-3.94	<.001
Grade of competence ^d	8.00 (1.00)	8.00 (0.00)	8.00 (1.00)	1173.00	-1.10	.270
Grade of job satisfaction ^d	8.00 (1.00)	7.00 (1.00)	8.00 (0.00)	905.00	-3.03	.002

Mdn, median; IQR, interquartile range (P₂₅-P₇₅); MHC, mental healthcare setting; NH, nursing home setting.

^aMann-Whitney U test: significance level is 0.05.

^bGeneral Health Questionnaire, twelve items.

^cUtrecht Burnout Scale: range 0-6: norms see Table 1.

^dGrade on a scale from 0 to 10.

Measurement	All CCN (n = 163) Mean (SD)	MHC (n = 80) Mean (SD)	NH (n = 83) Mean (SD)	p ^a
Multimorbidity (count)	7.0 (2.2)	7.1 (2.1)	6.9 (2.3)	.945
Care Dependency Scale	45.0 (15.5)	43.9 (13.8)	46.1 (17.1)	.376
Cumulative Illness Rating Score	15.2 (5.0)	15.4 (4.7)	14.9 (5.3)	.969
Neuropsychiatric Inventory (total)	29.5 (21.1)	32.6 (19.5)	25.9 (22.5)	.009

CCN, patients with combined care needs; MHC, mental healthcare setting; NH, nursing home setting.

^achi-square, significance level is 0.05.

TABLE 4 Behavioural and care characteristics of patients with combined care needs in mental healthcare and nursing home settings

personal accomplishment were found for mental healthcare nursing staff.

5 | DISCUSSION

To the best of our knowledge, this is the first study to report and compare data on the mental well-being of nursing staff working on specialized units for patients with combined care needs across the nursing home and the mental healthcare setting and the possible relationship with the care characteristics of these patients.

The findings show that, although neither group showed high levels of burnout, mental health nurses, working on specialized units for patients with combined care needs, clearly experience more mental distress than nursing home nurses. Mental healthcare nursing staff showed significantly higher depersonalization, lower personal accomplishment and a lower level of job satisfaction, and were therefore more at risk for burnout. Compared to nursing home nurses, mental healthcare nursing staff thus seems to respond less personally towards patients with combined care needs, and they also experience a significantly lower sense of achievement when interacting/working with these patients.

Possible explanations for these differences between settings could be the differences in patient characteristics, such as the psychiatric multimorbidity in mental healthcare patients, or the differences in workplace characteristics, such as the organizational position of the specialized care unit or the nursing staffs' experienced appreciation within the organization (Van Bogaert et al., 2014; Wang et al., 2015). But contrary to what we expected, we did not find a relationship between patient characteristics and staff well-being across both settings. Based on our previous study, we expected that due to a higher prevalence of neuropsychiatric symptoms in mental healthcare patients with combined care needs, well-being of nursing staff would be more compromised in this setting as they have to encounter higher instances of challenging behaviours. The fact that we did not find a difference between both settings might suggest that within both settings, a fair allotment of personnel to specialized units already exists, meaning that current staff is equally capable of dealing with both clinical diseases and neuropsychiatric symptoms.

We did find a tendency that for both groups of nursing staff, a higher amount of NPS in persons with combined care needs is associated with higher rates of both emotional exhaustion and work-related mental distress. This finding is consistent with studies in dementia care settings (Schmidt et al., 2012; Zwijsen et al., 2015). Results also

TABLE 5 Effect of NPI, CDS, CIRS, basic characteristics of nursing staff and type of setting on GHQ-12

Outcome variable	Explorative variables*	Estimated effect (B)	95% CI		p
			Lower	Upper	
GHQ-12	NPI	0.11	-0.00	0.23	.057
	CDS	-0.00	-0.13	0.13	.992
	CIRS	-0.37	-0.77	0.03	.068
	Education (low/medium and high)	-2.1	-5.0	0.78	.150
	Work experience (<5 years/≥ 5 years)	-3.1	-6.8	0.65	.105
	Gender (male/female)	-2.4	-5.4	0.65	.122
	Age	-0.01	-0.11	0.10	.886
	Setting (MHC/NH)	-0.11	-2.7	2.5	.936
UBOS - emotional exhaustion	NPI	0.02	-0.00	0.04	.089
	CDS	-0.01	-0.04	0.02	.256
	CIRS	-0.07	-0.16	0.02	.089
	Education(low/medium &high)	-0.30	-0.71	0.11	.145
	Work experience (<5 years/≥ 5 years)	0.01	-0.51	0.54	.958
	Gender(male/female)	0.04	-38	0.46	.856
	Age	0.02	0.00	0.03	.028
	Setting (MHC/NH)	0.01	-0.49	0.52	.953
UBOS depersonalization	NPI	0.01	-0.01	0.02	.311
	CDS	-0.01	-0.02	0.01	.486
	CIRS	-0.03	-0.07	0.01	.184
	Education(low/medium and high)	-0.34	-0.64	-0.03	.030
	Work experience (<5 years/≥ 5 years)	0.02	-0.37	0.40	.939
	Gender(male/female)	-0.10	-0.42	0.22	.536
	Age	0.01	-0.00	0.02	.066
	Setting (MHC/NH)	0.39	0.11	0.66	.006
UBOS accomplishment	NPI	-0.01	-0.04	0.02	.492
	CDS	0.02	-0.02	0.05	.207
	CIRS	0.05	-0.06	0.16	.282
	Education (low/medium &high)	-0.60	-1.0	-0.17	.007
	Work experience (<5 years/≥5 years)	-0.29	-0.85	0.27	.308
	Gender (male/female)	0.51	0.06	0.96	.027
	Age	-0.02	-0.03	0.00	.055
	Setting (MHC/NH)	-0.92	-1.6	-0.27	.012

95% CI, 95% confidence interval; p, significance level is 0.05; UBOS, Utrecht Burnout Scale; GHQ-12, General Health Questionnaire 12 items; NPI, Neuropsychiatric Inventory (measures neuropsychiatric symptoms); CDS, Care Dependency Scale (measures ADL dependency); CIRS, Cumulative Illness Rating Scale (measures severity of physical comorbidity); Education, low vocational training (nursing assistant) versus medium vocational training (registered vocational nurse) and high vocational training (bachelor degree nurse); MHC, mental healthcare setting; NH, nursing home setting.

*Mean difference: NPI, CDS and CIRS per unit increase, Age per year. Multicollinearity diagnostics showed no collinearity problem (all VIFs ≤ 1.66).

showed a tendency towards a higher amount of physical illness severity in persons with combined care needs that is associated with both lower emotional exhaustion rates and work-related mental distress in nursing staff in both settings. This result is consistent with earlier findings showing that work experience has a positive effect on job performance and a more positive attitude towards physical care for patients with a mental illness (Queiros et al., 2013; Robson et al., 2013). Further exploration and confirmation using additional research is needed to be able to attach the correct value to these tendencies found in our study.

Looking into staff demographic characteristics, we found that both the mean age and work experience of staff were similar in both settings. We further found that nursing staff in both settings were mainly female, which is not surprising, because worldwide nursing is still a female-dominated profession. There was a significant difference in the educational levels across settings, with low education levels for 29% of nursing home nurses. But this did not result in differences in feelings of self-efficacy and levels of mental distress as these were similar in both settings, indicating that educational level alone is not an indicator of work-related mental well-being of nursing staff in these specialized units. Possibly years of work experience are more important in relation to self-efficacy than educational level. In our study, the nursing staff in both settings had more than 5 years of work experience on specialized units, thereby affirming earlier study results, that in gaining more experience, nursing staff in both settings probably became more qualified to take care of patients with combined care needs (Robson et al., 2013; Wynd, 2003). But the educational level was related to other aspects of staff well-being. A lower level of education was significantly associated with lower rates of depersonalization and lower rates of personal accomplishment. Age of the staff also appeared to be relevant, as older professionals had significantly higher rates of emotional exhaustion and showed a tendency towards higher feelings of depersonalization and lower rates of personal accomplishment. This finding is contradictory to the results of a recent study of Gomez-Urquiza, where younger age was a significant factor in emotional exhaustion, personal accomplishment and depersonalization of nurses (Gómez-Urquiza José, 2017).

6 | WHAT THIS PAPER ADDS TO EXISTING EVIDENCE

The present study shows that, across settings, nurses showed a highly perceived self-efficacy in combination with strong feelings of self-rated competence, when working on specialized units for patients with combined care needs. Mental health nurses and older nurses however experience more mental distress in working with this specific group of patients, than nursing home nurses. The study suggests that there is no significant relationship between care characteristics of patients with combined care needs and mental distress in nurses who are working on specialized units for these patients.

Our study findings affirm the findings of Pekkarinen that work stressors may be reduced by placing patients with similar care

needs together in specialized LTC-units, so that care can be focused (Pekkarinen et al., 2006). They also affirm the findings of Quiros, Robson and Wynd that nurses with more work experience show both a higher job performance and a more positive attitude towards physical care for patients with mental illness (Queiros et al., 2013; Robson et al., 2013; Wynd, 2003). The results of both the present and earlier studies can therefore serve as building blocks for management to organize focused care for patients with combined care needs on specialized units, with an optimal selection of experienced and educated nursing staff.

7 | STRENGTHS AND LIMITATIONS OF THE STUDY

This study is a first exploratory step towards gaining deeper insight into the mental distress and burnout of nursing staff, working on specialized units for patients with combined care needs. Although there was a high response rate in both settings, the study may be limited in its power to demonstrate representative characteristics of nursing staff because of the use of a selected cohort of predominantly female nursing staff, without a direct comparison to nursing staff in nonspecialized care units. Because this is a Dutch study, its representativeness of other countries remains unknown. The findings pertaining to the LMM should be treated with caution because the sample size is relatively small ($n = 100$), with a large variance (4–17) in participating nursing staff per unit, and thus, the reliability on unit level and generalizability of the findings are limited. Because we used a general self-efficacy questionnaire and measure of competence, no conclusions can be drawn about the confidence that nursing staff have in providing physical care versus psychiatric care.

8 | IMPLICATIONS FOR RESEARCH AND PRACTICE

Study results show that nursing staff, working on specialized combined care units across settings, with more than 5 years' work experience, feels competent in caring for patients with combined care needs. They do not experience high feelings of burnout and experience high feelings of self-efficacy and accomplishment. Nevertheless, management should be especially attentive to mental health nursing staff caring for patients with combined care needs. They seem to be more at risk for burnout, as they indicate a lower level of work satisfaction and a higher degree of depersonalization. Older employees in combined care settings also deserve more attentiveness, as they demonstrate lower feelings of accomplishment and a higher degree of depersonalization. To provide in a sustainable workforce, it is important for healthcare organization leaders to focus both on just allotment of personal and on implementing strategies that provide adequate support to nursing staff. Several psychological empowerment programmes for nurses were shown to be successful in improving nurses' physical and mental health

and quality of work life; improving patient satisfaction; and reducing associated costs of burnout (Addo, Stephen, & Kirkpatrick, 2012; Henry, 2014; McTiernan & McDonald, 2015; Nowrouzi et al., 2015). Future studies can be worthwhile to identify nursing staffs' specific needs, e.g., their skills and confidence in providing physical care versus psychiatric care, their coping styles and their perceived facilitators or barriers in the organization of care for older patients with combined care needs to develop and implement a tailored intervention program for this group of nursing staff.

9 | RELEVANCE STATEMENT

The impact of caring for older patients with combined psychiatric, cognitive and physical care needs on the mental well-being of nursing staff is unknown. We therefore investigated whether care characteristics of patients with combined care needs are related to the mental well-being of nursing staff. Study results show that mental well-being of nursing staff might benefit from placing patients with combined care needs together, so care is focused, and that the presence of specialized care units can allow for both targeted and focused allocation of nursing staff to these units and provision of specific training.

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CONFLICT OF INTEREST

There is no potential conflict of interests.

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