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Occupational Balance and Quality of Life in Nursing Home Residents

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ABSTRACT

Introduction: Nursing home residents may have difficulty maintaining occupational balance. The study aimed to explore occupational balance in nursing home residents, and examine the association between occupational balance and quality of life in this group.

Methods: Forty-six nursing home residents (age range 69–101 years) in Norway were recruited to participate. The data were analyzed descriptively and with independent *t*-tests and Spearman's correlation coefficient rho (r_s).

Results: The participants' occupational balance ($M=20.7$) was in the higher end of the scale. In the total sample, occupational balance and quality of life were not significantly associated ($r_s = 0.18$, $p=0.23$). However, splitting the sample by gender revealed a positive association for men ($r_s = 0.61$, $p=0.01$), while it was absent for women ($r_s = -0.00$, $p=0.99$).

Conclusion: When assessing occupational balance and its correlates in elderly nursing home residents, gender appears important to consider.

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Ageing; elderly; gender; occupational balance; nursing homes; quality of life

Introduction

In the late 1990s, Wilcock and coworkers introduced the concept of occupational balance and its relationship to health and well-being for the occupational therapy readership.^{1–3} They found empirical support for the importance of balance, as their study of 146 Australian respondents found better self-reported health among those whose occupational pattern was close to their ideal balance between different types of occupations.² This would indicate that the individual's subjective evaluation of balance might be particularly relevant for the health experience. Although increasingly used in the occupational therapy literature during the following years, the concept implied somewhat different meanings for different authors.

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Backman described it as an abstract and evolving concept,⁴ while Christiansen and Matuska identified four different perspectives on balance: time use, life roles, needs satisfaction, and biological rhythms and their influences on behavior.⁵ Theoretical descriptions have underscored the multidimensional nature of occupational balance,⁶ for example relating to a balance between challenging versus relaxing occupations; activities considered meaningful to the individual versus meaningful in the sociocultural context; and activities denoting care for oneself versus care for others.⁷ Recently, Eklund and coworkers argued that ‘occupational balance’ should be discerned from the concept of ‘pattern of daily occupations’, the former referring to a subjective and the latter to an objective result of the interaction between the individual and his or her environment.⁸

Wagman, Håkansson and Björklund conducted a comprehensive analysis of 43 articles, addressing how occupational balance has been conceptualized in the occupational therapy literature.⁹ They concluded that “the individual’s perception of having the right amount of occupations and the right variation between occupations” was a useful definition of the concept, and their definition is used in the current study. The definition addresses quantitative (amount) as well as qualitative (variation) aspects of occupational balance, but do so consistently from the individual’s subjective experience of a harmonic mix.⁸ Conversely building from the definition,⁹ occupational imbalance occurs when the person feels there is too much/too little to do, or when there is too little/too much variation between occupations. Following the concept analysis, Wagman and Håkansson proposed the Occupational Balance Questionnaire (OBQ); a tool for measuring occupational balance as a unidimensional construct.¹⁰ Their study showed that the measure had good internal consistency, sufficient test-retest reliability and no indication of floor- or ceiling effects. Quite recently, the construct validity of the OBQ was established by Rasch analysis of responses from two different general population samples.¹¹

The occupational therapy profession is founded upon the belief that health and life satisfaction is promoted and maintained by daily occupations and their balance,³ thus making occupational balance a core aspect of occupational therapists’ domain of concern.¹¹ In several previous studies, life satisfaction and occupational balance have been shown to be intrinsically related.^{12–14} However, relationships between occupational balance and quality of life have also been found to vary by gender. In a large sample of Swedish employees, good balance in everyday life occupations predicted good subjective health among women, but not among men.¹³ Other studies employing the OBQ have found similar levels of occupational balance between different groups of health professionals,¹⁵ and in a general population sample, occupational balance was positively and strongly associated

with self-rated health and life satisfaction.¹⁶ However, a scoping review identified that more research on occupational balance, in particular studies focused on group comparisons and related to older persons, is warranted.¹⁷ In the review, few studies were found to focus on persons over the age of 65 years.

Theoretical perspectives on ageing differ from one another. While the disengagement theory emphasizes the process of ageing as the gradual withdrawal and detachment from previously enacted activities and roles, the activity theory emphasizes that successful ageing is about holding on to the activities and roles of middle life.^{18,19} However, old age frequently introduces illness, loss of functional capacity and increased reliance on others to fulfill one's needs, which in turn can pose a threat toward sustaining occupational balance. For example, old stroke survivors described their occupations as threatened, while at the same time challenging them to reconstruct their occupational balance.²⁰ Older persons' occupational balance is also influenced by the opportunities in, and constraints of, their environment, and this influence may be substantial for persons who are in need of extensive care, for example amongst persons living in nursing homes.²¹ While policy often dictates that nursing home care should facilitate residents' participation in preferred activities, groups and communities,²² healthcare providers may fall short of the time and resources to do so.^{23,24}

In summary, there is a growing research interest related to occupational balance and its relationship with health and quality of life, and several recent studies have been based on a consistent theory and measurement tool.^{10,15,16,25} Nursing home residents may be particularly vulnerable for experiencing occupational imbalance, and there is a lack of research on occupational balance and its possible correlates among persons living in such facilities. Moreover, as the relationship between occupational balance and desirable outcomes has been found to vary by gender,¹³ a gendered perspective of occupational balance is needed.

Study aims

The study aimed to explore occupational balance in nursing home residents, and examine the association between occupational balance and quality of life in the whole sample and among men and women separately.

Methods

Design, recruitment and data collection

A quantitative cross-sectional survey was conducted in the spring of 2019. Nursing homes in Oslo and the surrounding metropolitan area allowed for

on-site data collection. Staff at the nursing home assessed the residents' with regards to their ability to provide informed consent, and residents' cognitive functioning was deemed adequate before they were approached for recruitment. After being granted access to the facility, participants were recruited by pairs of occupational therapy students who approached each resident. Forty-six participants were included after having provided explicit consent to participate. The data were collected digitally with a tablet ($n = 29$) or by paper and pen ($n = 17$), according to the participants' preference and/or functional level. Following this procedure, between two and nine participants were recruited at each of the nursing homes. The students who collected the data received formal research training and supervision by the last author.

Participants

The mean age of the participants was 89 years ($SD = 7.5$ years, $Md = 89.5$ years), age range 69-101 years), and they were 17 men (37.0%) and 28 women (60.9%). One participant (2.2%) did not state gender. Eight participants (17.4%) had elementary school as their highest completed level of education, whereas 11 (23.9%) had completed high school, 14 (30.4%) had completed between 1 and 3 years in university or college, and 13 (28.3%) had completed 4 years or more in university or college.

Measures

The Norwegian version of the Occupational Balance Questionnaire, the OBQ11-N, consists of 11 statements to which the respondent indicates his or her level of agreement on a 0-3 scale, 0 indicating 'disagree', 1 indicating 'partly agree', 2 indicating 'largely agree', and 3 indicating 'fully agree'. Example items are "When I think of a typical week, I have the right amount of things to do" (item #1) and "I have a balance between what I do for others and what I do for myself" (item #2). The sum score of all 11 items has been proposed as a measure of occupational balance.¹⁰ The original OBQ has demonstrated construct validity, good internal consistency, sufficient test-retest reliability and no indication of floor- or ceiling effects.^{10,11} In the current study, the same method for measuring the concept was used. The score range of the OBQ is 0-33, where higher scores indicate higher occupational balance and lower scores indicate lower occupational balance. Currently, there is no available information regarding thresholds, i.e., scores denoting transition points between low, medium, and high occupational balance.²⁵ The Norwegian version of the instrument was translated from Swedish, and has been considered feasible and to have

good face validity.²⁶ In the current study, Cronbach's α was 0.79, indicating good internal consistency of the scale. Removing any one item would reduce the internal consistency slightly, or consistency would be retained at the same level. Otherwise, the psychometric properties of the OBQ11-N are not known.

Quality of life was measured with one item: "How has your quality of life been during the last week?" This item was taken from the larger assessment battery developed by the European Organization for Research and Treatment of Cancer Quality of Life Questionnaire (EORTC QLQ-C30).²⁷ The item is frequently used in conjunction with one item assessing self-perceived health, constituting a global health scale.²⁸⁻³⁰ However, as the study pertained to elderly in nursing homes, implying they all had relatively poor health, only the item measuring quality of life was used. Although single-item measures are sometimes discouraged from a psychometric point of view, they have advantages related to face validity and cost-effectiveness, and they are flexible and easy to administer.³¹ Single-item self-report measures have also been shown to be reliable, as estimated by test-retest correlations.³² The response format for the item is an 11-point ordinal scale anchored by the phrases "very poor" (0) in the lower end and "excellent" (10) in the upper end. Sociodemographic variables included age (years), gender and highest completed education level.

Data analysis

All data were entered into SPSS for Windows version 26 for analysis.³³ Descriptive analyses were performed using frequencies and percentages for categorical variables and means and standard deviations for continuous variables. The distribution of the sum scores on occupational balance was assessed with the Kolmogorov-Smirnov test and by assessing the skewness of the scores. Values for skewness should preferably lie between -2 and +2.³⁴ Similarly, the one-item quality of life measure was assessed with the Kolmogorov-Smirnov test. Differences in proportions between men and women were assessed with Chi-Square test. On continuous variables, gender comparisons were performed using the independent *t*-test (occupational balance) and the Mann-Whitney test (quality of life), while tests of linear associations between occupational balance and quality of life were performed with Spearman's correlation coefficient rho (r_s). The strength of associations (effect sizes) were interpreted according to Cohen;³⁵ i.e., $r=0.10$ indicates a small effect, $r=0.30$ a moderate effect, and $r=0.50$ a large effect. Statistical significance was set at 0.05.

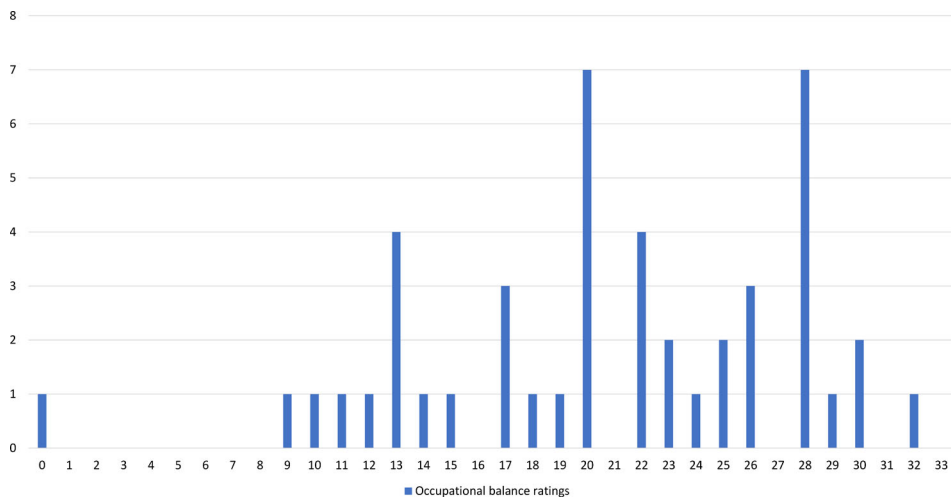


Figure 1. The distribution of nursing home residents' scores on the occupational balance measure ($n = 46$).

Ethics

Participation in the study was based on voluntary and informed consent, and only participants who was assessed by the staff to have the ability to provide informed consent were approached by the researchers and invited to participate. All data were collected, stored and handled and in line with the Declaration of Helsinki. The Norwegian Data Protection Official at the Center for Research Data approved of the study (project no. 713089).

Results

Occupational balance and quality of life scores

The distribution of the occupational balance total scores is displayed in [Figure 1](#). The sample mean score was 20.7 ($SD = 6.8$, $Md = 21.0$, range 0-32, IQR 16.5-26.5). The Kolmogorov-Smirnov test was not statistically significant, and skewness was -0.65 ($SE = 0.35$), both of which indicating that the distribution was not significantly different from the normal distribution. Thus, parametric statistics were used to describe the occupational balance data. However, the quality of life measure ($M = 6.89$, $SD = 2.21$) was not considered having a normal distribution (Kolmogorov-Smirnov, $p = 0.001$). Thus, non-parametric statistical tests were used to assess associations with quality of life.

Gender differences

Scores on occupational balance items, the occupational balance summary scale, and quality of life are displayed in [Table 1](#). For men, mean

Table 1. Descriptive data on occupational balance (items and summary score) and quality of life in the sample.

Characteristics	Men Mean, SD (Md, Range)	Women Mean, SD (Md, Range)	Total Mean, SD (Md, Range)
Item 1 (enough to do during a regular week)	1.35, 1.27 (1, 3)	1.71, 1.15 (1, 3)	1.59, 1.18 (1, 3)
Item 2 (balancing between others and self)	1.59, 1.27 (2, 3)	1.43, 1.07 (1, 3)	1.50, 1.09 (1, 3)
Item 3 (time for doing things wanted)	1.94, 1.09 (2, 3)	1.61, 1.20 (1, 3)	1.76, 1.15 (2, 3)
Item 4 (balancing work, home, family etc.)	1.65, 1.06 (2, 3)	1.82, 1.06 (2, 3)	1.79, 1.05 (2, 3)
Item 5 (time for doing obligatory occupations)	2.29, 1.06 (3, 3)	2.32, 1.02 (3, 3)	2.28, 1.04 (3, 3)
Item 6 (balancing different occupation types)	1.94, 1.09 (2, 3)	2.04, 1.07 (2, 3)	2.02, 1.06 (2, 3)
Item 7 (satisfaction with how time is spent)	1.94, 1.25 (2, 3)	2.21, 1.20 (1, 3)	2.09, 1.09 (2.5, 3)
Item 8 (satisfaction with number of activities)	1.82, 1.07 (2, 3)	1.82, 1.19 (2, 3)	1.85, 1.13 (2, 3)
Item 9 (balancing obligatory and voluntary)	1.59, 1.06 (2, 3)	1.68, 1.12 (2, 3)	1.67, 1.10 (2, 3)
Item 10 (balancing energy-giving and energy-taking)	1.88, 1.11 (2, 3)	1.79, 1.20 (2, 3)	1.80, 1.15 (2, 3)
Item 11 (satisfaction with time spent in restful activity)	2.12, 1.11 (3, 3)	2.54, 0.79 (3, 3)	2.40, 0.93 (3, 3)
Occupational balance	20.1, 7.8 (22, 32)	21.0, 6.4 (20, 20)	20.7, 6.9 (21, 32)
Quality of life	6.6, 2.0 (7, 6)	7.1, 2.4 (8, 7)	6.9, 2.2 (7, 7)

Note. Occupational balance item scores range between 0 (lowest) and 3 (highest). Occupational balance summary scores range between 0 (lowest) and 33 (highest). Quality of life scores range between 0 (lowest) and 10 (highest). SD is standard deviation; Md is median.

occupational balance item scores ranged between 1.35 (item 1) and 2.29 (item 5). For women, the mean occupational balance item scores ranged between 1.43 (item 2) and 2.54 (item 11). There were no differences between men and women with regard to their levels of occupational balance ($M = 20.1$, $SD = 7.8$ [men] vs. $M = 21.0$, $SD = 6.4$ [women], $p = 0.69$). Similarly, their reported levels of quality of life ($M = 6.6$, $SD = 2.0$ [men] vs. $M = 7.1$, $SD = 2.4$ [women], $p = 0.37$); age ($M = 87.9$ years, $SD = 7.5$ [men] vs. $M = 89.2$ years, $SD = 7.8$ [women], $p = 0.60$); and education levels (64.7% men with higher education versus 53.5% among women, $p = 0.36$) were not significantly different.

Associations between occupational balance and quality of life

Associations between item and summary scores on occupational balance and quality of life are displayed in Table 2. In the total sample, the association between occupational balance and quality of life was small and not statistically significant ($r_s = 0.18$, $p = 0.23$). However, splitting the sample by gender revealed a strong positive association for men ($r = 0.61$, $p = 0.01$), and also three of the single items (items 6, 8, and 9) were significantly and positively associated with quality of life. For women, the association between occupational balance and quality of life was absent ($r = 0.04$, $p = 0.86$), and similarly, none of the single items were significantly associated with quality of life.

Discussion

This study aimed to explore occupational balance in nursing home residents, and examine the association between occupational balance and

Table 2. Associations between occupational balance (items and total score) and quality of life in the sample.

Characteristic	Quality of life		
	Men	Women	Total
	r_s	r_s	r_s
Item 1	0.39	0.15	0.22
Item 2	0.14	-0.08	-0.06
Item 3	0.35	-0.14	0.00
Item 4	0.26	-0.05	0.05
Item 5	0.18	-0.05	0.03
Item 6	0.54*	-0.00	0.17
Item 7	0.43	0.09	0.20
Item 8	0.54*	0.21	0.27
Item 9	0.55*	0.10	0.22
Item 10	0.08	0.08	0.06
Item 11	0.34	0.02	0.13
Occupational balance	0.61*	0.04	0.18

Note. Measures of association are Spearman's rho.

* $p < 0.05$.

quality of life in the sample as a whole, and categorized by gender. The study found that the nursing home residents' occupational balance was slightly skewed toward the higher end of the rating scale (see Figure 1). Associations between occupational balance and quality of life were found for men, but not for women.

To date, there are no established threshold values related to the OBQ,¹⁰ such that interpreting the scores as representing high or low occupational balance is difficult. The interpretation of the study results should bear in mind that the subjective perspective of balance is used, as opposed to the more objective perspective concerned with patterns of daily occupations.⁸ Information about the actual amount and distribution of different types of activities performed by the residents is not available. Thus, in line with the activity theory of ageing,^{18,36} some participants may value 'active ageing' and tend to rate occupational balance as high if they feel they participate much in daily activities. On the other hand, and in line with the disengagement theory, others may be inclined to withdraw from activities and social life and tend to rate occupational balance as high if they feel they can be less active. There were no systematic differences between men and women concerning their levels of occupational balance or quality of life. The similar levels of occupational balance between men and women is in line with findings in prior studies.¹⁶

In the total sample, no significant association was found between occupational balance and quality of life. This is in contrast to previous studies – for example, a strong relationship ($r_s = 0.52$) between occupational balance and life satisfaction was found among adults in Sweden.¹⁶ However, a similar relationship between occupational balance and quality of life was found for the male subset of the sample, and not for the female. For the men, the

single items concerned with balancing different occupation types (item 6), satisfaction with number of activities (item 8), and balancing between obligatory and voluntary occupations (item 9) were also shown to be significantly associated with quality of life. Contrasting the findings of Håkansson and Ahlborg,¹³ who found that occupational balance was a predictor for health in women, but not in men, the different associations shown for men and women in the present study, are intriguing.

Potentially, the differing associations between occupational balance and quality of life for men and women might reflect other differences, such as gender differences in age or education level, but these variables were not significantly different between men and women in the sample. Instead, one might consider the often gender-based activity pattern existing in nursing facilities. Despite the notion of gender becoming a less important personal characteristic in older age,³⁷ research has found evidence of distinct late life masculinity expectations.³⁸ Nonetheless, nursing home residents are more often women than men, and activity programs tend to reflect this gender difference by more often scheduling activities preferred by women.³⁹ In Imka's illustrative words, nursing homes tend to offer 'manicures rather than baseball' as opportunities for the residents' involvement in occupations.⁴⁰ Thus, male nursing home residents may not often have the opportunity to engage in masculine activities, and if they do, this may be important for their quality of life. Conversely, being deprived of such opportunities for a longer period of time is logically related to a decrease in quality of life. As the nursing home's general activity program may be better aligned to female residents' activity preferences, their perceptions of occupational balance may involve issues that are less strongly tied to the activity program. If so, this might contribute to explain the lack of association between occupational balance and quality of life among the female residents.

In line with this perspective, the implications of the study for occupational therapy practice is that men might respond more positively when provided with the opportunity to engage in occupations that they know and value, and that their quality of life would be affected more negatively if they were deprived of such opportunities for engagement. For women, on the other hand, the activity patterning at nursing homes may, in general, be better suited to their interests and values. Thus, their perceptions of occupational balance may be of less importance for their perceived quality of life.

Limitations and future research

The study is limited in several respects. The data were collected by convenience and by occupational therapy students, potentially introducing bias

during the data collection. Some participants felt it difficult to understand or see the relevance of some of the OBQ items, and some felt it was difficult to differentiate between the fixed response options in the questionnaire. These situations may have instigated some randomness in the responses. The sample size was small and therefore precluded adjusting the associations in multivariate data analytic procedures. The composition of the sample was narrow, consisting of nursing home residents predominantly in the oldest age, and there was a higher proportion of women. Moreover, participants were only included provided they were able to give informed consent. While this criterion is ethically sound, it also disqualified many residents from participating in the study. Thus, for several reasons, one should be careful when generalizing the study results to a population of nursing home residents, as both the internal and the external validity of the findings may be limited.

Future studies may combine the subjective and the objective perspective of occupational balance, and collect data related to self-perceived occupational balance in conjunction with data related to objective measures of occupational patterns. Venues for further research into occupational balance also include research with larger and more diverse samples, longitudinal research that examines the sensitivity to change in measures of occupational balance, and qualitative studies that can allow for a deeper understanding of nursing home residents' perceptions of what helps or hinders occupational balance. Studies of occupational balance in this group that augment the quantitative data collection with the use of qualitative description of the actual occupations performed by participants, may be a useful addition to the literature. Moreover, it will be important to investigate the extent to which occupational balance may change during processes of rehabilitation and recovery.

Conclusion

This study has contributed to the occupational therapy knowledge base by exploring occupational balance in nursing home residents and examining the association between occupational balance and quality of life. There was a normal distribution of occupational balance scores in the sample, and the scores were at similar levels for men and women. Occupational balance was positively and significantly associated with quality of life among men, but not among women. Thus, a gendered perspective on the activities offered to residents in nursing homes may be useful. Although the study is limited in several respects, the study adds to the knowledge about occupational balance among old nursing home residents, and provides directions for further research in the field.

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Declaration of interest

The authors have no conflicts of interest.

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