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Factors associated with higher occupational balance in people with anxiety and/or depression who require occupational therapy treatment

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ABSTRACT

Background: Anxiety and depressive disorders are associated with problems with everyday occupations, including difficulties achieving occupational balance. The aim of this cross-sectional study was to describe occupational balance in people suffering from anxiety and/or depression and the factors that are associated with better self-rated occupational balance.

Material: One hundred and eighteen participants were recruited from outpatient mental health care and primary health care. The participants were 18–65 years, had a diagnosis of anxiety and/or depression, and had problems in everyday occupations. They answered questionnaires on occupational balance, psychological symptoms, quality of life and everyday occupations.

Results: A generally low rating of occupational balance was found; however, the scores differed depending on the participants' degree of anxiety and depression, their quality of life, their occupational performance and satisfaction with their occupational performance. Logistic regression analyses revealed that high quality of life, high satisfaction with occupational performance and low level of depression were associated to occupational balance.

Conclusion: The results indicate that enhanced satisfaction with life and with performance of everyday occupations are relevant factors for achieving occupational balance in clients diagnosed with anxiety and/or depression.

Significance: The results will be valuable for professionals working to support their clients in enhancing their occupational balance.

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Introduction

People with anxiety and depression experience problems in everyday occupations [1–3] and report decreased quality of life. Depression has been characterized by low mood, lack of energy and decreased activity level [1]. One feature of major depressive disorder is a minimum of a 2-week period with 'loss of interest or pleasure in nearly all activities' [4]. Anxiety disorders, in turn, have been characterized by an experience of danger, restlessness and tension associated with various situations in everyday life, which can lead to difficulties in coping with everyday occupations [1]. Anxiety and depression are the most common reasons for sickness absence due to mental health problems [5,6] and are the most common ailments seen in in-patient mental health care [7].

Furthermore, they constitute two of the ten major causes of 'years lived with disability' in most countries [8] and are more common in women than in men [3,6,8]. Taken together, anxiety and depression are severe problems for those affected, their relatives as well as for the society [2].

Considering the occupational problems [1–3] and the importance for health of being engaged and involved in a variety of occupations [9] it is plausible that this group also experiences difficulties in attaining occupational balance. Occupational balance has been viewed as an important concept for more than a century [10]. However, the focus on occupational balance varies and includes how peoples' occupations in everyday life match their needs [11]; how one occupation positively

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or negatively affects another occupation [12]; and how time is spent in various occupations [13], for example, about being under-occupied, over-occupied, or in balance [14]. Another focus addresses ‘an individual’s subjective experience of having the right amount of occupations and the right variation between occupations in his/her occupational pattern’ [15] and this is the focus used in the present study.

Previous research has shown that being under-occupied is a problem for people with mental illness compared to being in occupational balance. Occupational balance has also been related to better quality of life [14]. Nonetheless, how occupational balance varies in people with anxiety and/or depression has not yet been researched, and there is a need for increased knowledge on factors associated with better occupational balance in this population. Such knowledge related to health and well-being (e.g. references [13,16–18]) would be valuable for occupational therapists and other professionals aiming to support their clients in enhancing their occupational balance.

The aim of the study was therefore to describe occupational balance as well as the association between self-rated anxiety, depression, quality of life, occupational performance, satisfaction with occupational performance and occupational balance in a sample of clients diagnosed with anxiety and/or depression.

Method

The study had a descriptive cross-sectional design [19], and the data used had been collected earlier in a randomized control trial (RCT) comparing two types of occupational therapy interventions for people with anxiety and/or depressive disorders [20,21]. The data used here were the baseline data, collected before treatment started.

Participants and procedure

The participants were recruited from outpatient mental health care and primary health care centres. The inclusion criteria were age 18–65 years, having a diagnosis of anxiety and/or depressive disorder, and having problems with occupations in everyday life. Exclusion criteria were psychosis, severe somatic disorders, cognitive problems and difficulties understanding or answering self-rating questionnaires to the extent necessary for participation. Occupational therapists in the included settings who were trained in the method required for the RCT and working with clients with anxiety and depression (n13) were included in the project and they

Table 1. Participant characteristics ($n = 118$).

	Participants
Age (in years)	
Min–max	19–64
Mean (SD)	42 (12)
Diagnosis	
Anxiety [n (%)]	38 (32)
Depression [n (%)]	80 (68)
Family	
Single [n (%)]	43 (36)
Cohabiting [n (%)]	62 (53)
Other [n (%)]	13 (11)
Children	
Yes [n (%)]	41 (35)
Education	
Mandatory school [n (%)]	25 (21)
High school [n (%)]	58 (49)
University [n (%)]	35 (30)
Employment	
Working [n (%)]	35 (30)
Sick leave [n (%)]	66 (56)
Other [n (%)]	17 (14)
OBO	
Median	23
Min–max	4–46
HAD	
Median	25
Min–max	5–40
HAD anxiety	
Low (≤ 7) [n (%)]	11 (9)
Medium (8–10) [n (%)]	13 (11)
High (11 and above) [n (%)]	94 (80)
HAD depression	
Low (≤ 7) [n (%)]	33 (28)
Medium (8–10) [n (%)]	31 (26)
High (11 and above) [n (%)]	54 (46)
MANSAS	
Median	47
Min–max	15–74
COPM-P	
Median	3.4
Min–max	1.0–8.2
COPM-S	
Median	2.7
Min–max	1.0–8.0

Note. COPM-P: Canadian occupational performance measure, performance scale; COPM-S: Canadian occupational performance measure, satisfaction scale; HAD: Hospital anxiety and depression scale divided into an Anxiety subscale (HAD-A) and a Depression subscale (HAD-D); MANSAS: Manchester Short Assessment of quality of life; OBO: Occupational Balance Questionnaire.

consecutively identified and recruited clients who met the criteria. After obtaining the client’s informed consent, the client met with a project assistant and answered various self-rating questionnaires on health and occupation-related issues [20].

The 118 participants included 20 males (17%) and 98 females (83%) aged 19 to 64 years. About two thirds had been diagnosed with depression and a little over half were on sick leave (Table 1).

Questionnaires

The participants answered background questions regarding age, gender, education, employment, family status (single/cohabiting/other) and children (yes/no).

They also answered self-rated questions about occupational balance [22], level of anxiety and depression [23,24], quality of life [25], occupational performance and satisfaction with occupational performance [26].

Occupational balance was measured using the Occupational Balance Questionnaire (OBQ) [22], which focuses on a person's experience of his/her amount and variation of occupations in everyday life regardless of which the occupations are. The OBQ is made up of 13 items answered on 6-point ordinal scales (ranging from 0 to 5) in which higher ratings imply better occupational balance [22]. The OBQ has shown good internal consistency [17,22,27] and test-retest reliability [22]. The summated OBQ score (range 0–65 with medians from previous research of a little above 40 [17,22]) was used in the present study [22]. In the present sample, Cronbach's alpha was 0.87, which is considered good [28].

Levels of anxiety and depression were measured using the Hospital Anxiety and Depression Scale (HAD) [23,24]. The HAD has 14 items rated on a 4-point ordinal scale (0–3) and is summated (range 0–42). Higher ratings imply a higher level of anxiety and/or depression. Seven of the items measure anxiety and seven of the items measure depression, forming two sub scales – HAD anxiety and HAD depression. The Swedish version of the instrument has been found appropriate to use and to have good internal consistency [29]. In the present sample, the total summated scale and the sub-scales were used for the demographic description whereas the sub-scales only were used in the other analyses. Cronbach's alpha was 0.87 for the total HAD, 0.80 for HAD anxiety and 0.85 for HAD depression.

Quality of life was measured using the Manchester Short Assessment of Quality of Life (MANSA) [30]. The MANSA includes 12 interview-based items rated on a 7-point ordinal scale ranging from 'worst possible' to 'best possible' in which a higher rating implies a higher level of satisfaction. The items include satisfaction with life as a whole and satisfaction with various aspects of life, such as leisure, relationships and accommodation [30]. The MANSA was used as a summated total scale (range 12–84). The Swedish version has shown good internal consistency and construct validity [25]. In the present sample, Cronbach's alpha was 0.77.

Occupational performance and satisfaction with the occupational performance were measured using the Canadian Occupational Performance Measure (COPM) [26]. In the COPM, the participants select the most important occupations in the areas of self-

care, productivity (paid and unpaid) and leisure. Thereafter, they rate their performance (COPM-P) from 'cannot perform it at all' to 'can perform it extremely well' on a 10-point ordinal scale. They also rate their satisfaction with their performance (COPM-S) in each occupation on another 10-point ordinal scale ranging from 'not satisfied at all' to 'extremely satisfied'. The respective ratings (performance and satisfaction) are summated and divided by the number of selected occupations (range 1.0–10.0). Higher ratings equal better performance and level of satisfaction with the occupational performance [26].

Data analysis

Descriptive statistics were used, and potential gender differences were analyzed. Potential differences in the level of occupational balance between participants with various demographic characteristics and different ratings of self-reported anxiety, depression, quality of life, occupational performance, and satisfaction with occupational performance were also investigated. To accomplish this, the variables were categorized. Regarding the HAD, only the sub-scales were used and each of these was trichotomized into 0–7 points, 8–10 points and 11 points and above, in line with the instrument [23]. The MANSA [30] and the COPM [26] have no cut-off values and were categorized into quartiles.

Thereafter, logistic regression analyses were conducted. This choice was made because the OBQ is based on ordinal scales, has previously been analyzed by non-parametric statistics [17,22,31,32], and was not normally distributed in the present sample. The OBQ was the dependent variable and, because there is no estimated cut-off value, it was dichotomized into below/above the sample's median, which is an approach that has been used previously [31].

Two stepwise backward logistic regression analyses were conducted. The independent variables chosen in the first were gender, level of anxiety, depression, quality of life, occupational performance, and satisfaction with occupational performance. Due to the low number of participants rating low anxiety, the HAD sub-scales were categorized herein into low/medium (ratings of 0–10) versus high (ratings of 11 points and above). As it can be argued that both occupational balance and satisfaction with performance of occupations concern occupational experience, a second regression analysis was conducted in which satisfaction with occupational performance was excluded.

The multicollinearity between HAD anxiety, HAD depression, the MANSA, the COPM-P and COPM-S was also checked. The Variance Inflation Factor (VIF) ranged between 1.25 and 1.85, which is considered moderate and does not indicate a need to be reduced [33]. All analyses were conducted using the Statistical Package for Social Sciences (SPSS).

Ethical considerations

The project was approved by the Regional Ethical Review Board in [Linköping, Sweden] (Dnrs 2012/232-31 and 2015/12-32) and was conducted in accordance with the ethical principles of the Declaration of Helsinki [34]. Potential participants were informed about the study in writing and orally. The voluntary nature of the study was emphasized as well as the fact that the participants would continue to receive treatment as usual if they declined to participate. The data were handled with confidentiality,

and all presentations are at a group level. The participants gave their written informed consent to participate.

Results

The summated OBP for the 118 participants ranged from 4 to 46 with a median of 23, and there was no significant difference between males and females. Similarly, no gender differences were identified on the independent variables, for which medians are presented in Table 1 together with demographic characteristics of the sample.

There was no difference in the level of occupational balance between participants with different demographic characteristics, but there was a difference between participants with varying levels of self-rated anxiety, depression, quality of life, occupational performance, and satisfaction with the occupational performance. The highest median was identified in the participants who rated the highest quartile of quality of life (Table 2).

Regarding the logistic regressions, the first analysis (Table 3), showed that a low score for depression (HAD depression), a high quality of life (MANSA), and a high level of satisfaction with the occupational performance (COPM-S) were associated with occupational balance above the median. No association was identified between gender, anxiety (HAD anxiety), or

Table 2. Occupational balance in sub-groups of participants.

	OBQ median	p-Value
Diagnosis		
Anxiety	24.5	0.46 ¹
Depression	22.5	
Family		
Single	23.0	0.67 ²
Cohabiting	23.0	
Other	23.0	
Children		
Yes	21.0	0.07 ¹
No	24.0	
Education		
Mandatory school	22.0	0.48 ²
High school	23.0	
University	24.0	
Employment		
Working	24.0	0.13 ²
Sick leave	21.0	
Other	24.0	
HAD anxiety		
Low (≤ 7)	27.0	0.007 ²
Medium (8–10)	30.0	
High (11 and above)	21.5	
HAD depression		
Low (≤ 7)	29.0	<0.001 ²
Medium (8–10)	23.0	
High (11 and above)	18.0	
MANSA		
Quartile 1 (12–36)	14.0	<0.001 ²
Quartile 2 (37–46)	23.0	
Quartile 3 (47–53)	23.0	
Quartile 4 (54–74)	32.0	
COPM-P		
Quartile 1 (<2.6)	19.0	0.003 ²
Quartile 2 (2.6–<3.4)	19.0	
Quartile 3 (3.4–4.8)	23.5	
Quartile 4 (>4.8)	29.0	
COPM-S		
Quartile 1 (<1.8)	13.5	<0.001 ²
Quartile 2 (1.8–<2.7)	23.0	
Quartile 3 (2.7–4.0)	23.0	
Quartile 4 (>4.0)	27.5	

Note. ¹Mann–Whitney, ²Kruskal–Wallis.

Table 3. The association between anxiety, depression, quality of life, occupational performance, satisfaction with occupational performance and occupational balance.

	Crude OBQ > median OR	Model 95% CI	Final adjusted OBQ > median OR	Model 95% CI
Men	(Ref)			
Women	1.32	0.29–5.97		
HAD anxiety				
Low/medium	1.59	0.37–6.78		
High	(Ref)			
HAD depression				
Low/medium	2.99	1.06–8.44	3.51	1.33–9.27
High	(Ref)		(Ref)	
Quality of life				
Quartile 1	(Ref)		(Ref)	
Quartile 2	1.09	0.25–4.86	0.99	0.24–4.14
Quartile 3	1.48	0.36–6.13	1.50	0.38–5.98
Quartile 4	12.11	2.50–57.72	12.40	2.65–58.13
COPM-P				
Quartile1	(Ref)			
Quartile 2	0.53	0.10–2.67		
Quartile 3	0.78	0.15–3.97		
Quartile 4	0.85	0.13–5.80		
COPM-S				
Quartile 1	(Ref)		(Ref)	
Quartile 2	2.99	0.56–16.05	2.44	0.59–10.04
Quartile 3	2.61	0.45–1.05	2.56	0.60–10.92
Quartile 4	13.20	1.62–107.40	13.17	2.27–76.30

Note. COPM-P was removed on step 2. Gender was removed on the step 3. HAD anxiety was removed on step 4.

Table 4. The association between anxiety, depression, quality of life, occupational performance and occupational balance.

	Crude OBQ > median OR	Model 95% CI	Final adjusted OBQ > median OR	Model 95% CI
Men	(Ref)			
Women	0.84	0.21–3.23		
HAD anxiety				
Low/medium	2.01	0.49–8.21	2.85	0.83–9.76
High	(Ref)		(Ref)	
HAD depression				
Low/medium	3.42	1.28–9.11	3.70	1.47–9.55
High	(Ref)		(Ref)	
Quality of life				
Quartile 1	(Ref)		(Ref)	
Quartile 2	1.93	0.49–7.59	2.31	0.61–8.75
Quartile 3	1.87	0.49–7.23	2.21	0.59–8.28
Quartile 4	16.48	3.58–75.90	18.10	3.97–82.54
COPM-P				
Quartile 1	(Ref)			
Quartile 2	0.97	0.25–3.78		
Quartile 3	1.38	0.36–5.24		
Quartile 4	2.29	0.46–8.18		

Note. Gender was removed on step 2. COPM-P was removed on step 3.

occupational performance (COPM-P) and occupational balance.

The second regression analysis (Table 4), in which satisfaction with occupational performance was excluded showed that a low score for depression and a high quality of life were associated with occupational balance above the median. No association was identified between gender, anxiety, occupational performance and occupational balance.

Discussion

This study aimed to describe occupational balance and the factors associated with occupational balance in people with anxiety and/or depression. It can be concluded that the participants in this study rated a very low score on occupational balance, potentially indicating occupational imbalance. The median for our sample was about half that of the medians in previous studies on general populations, health professionals, and participants suffering from rheumatoid arthritis in which the medians varied from 42 to 46 [17,22,27,32]. In our sample, there was a greater percentage of participants with higher levels of anxiety and depression as measured using HAD compared to participants in an earlier study on women with depression or stress related disorders [35]. Nonetheless, it is important to pay attention to occupational balance when meeting clients suffering from anxiety disorders and/or depression, since they may have a low level of occupational balance. The latter part of the aim of this study concerned factors associated with occupational balance. To the authors'

knowledge, no previous study has been conducted regarding occupational balance in this population, which limits discussion of the results in relation to other research. With regard to self-rated anxiety and depression as measured using HAD [23,24], only depression was significantly associated with occupational balance. Those participants reporting a low level of depression showed a 3-fold higher probability of reporting occupational balance above the median, which was in line with the criterion of having lost interest/joy in activities when being depressed [4].

Furthermore, there was a higher probability of rating the OBQ above the median in those participants who rated the highest quartile of quality of life. This finding is in line with what can be assumed theoretically [13] and with what has been identified in research [14,16,17,36]. Thus, it can be assumed that being satisfied with one's life might imply being satisfied with one's occupational balance. However, the reverse might also be true. Notwithstanding, in a previous study in people with schizophrenia, the authors identified a reciprocal relationship between occupational engagement and perceptions of health [37], and a similar phenomenon might exist between life satisfaction and occupational balance. However, this is purely speculation at this point, demonstrating the need for more knowledge about directions and possible causality. Moreover, our results, with a higher level of occupational balance in the participants with lower levels of self-rated anxiety and depression, support the previously identified relationship between occupational balance and health and well-being [13,16–18].

Finally, regarding occupational performance and satisfaction with the occupational performance only the latter was associated with a higher probability of higher occupational balance. The present study appears to be the only study to have combined the COPM with measures of occupational balance and further studies are warranted. Our results indicate that with respect to satisfaction aspects, both the level of satisfaction with one's life and with one's occupational performance are vital components of relevance in relation to occupational balance in clients suffering from anxiety and depression.

However, occupational balance focuses on 'an individual's subjective experience' [15] regardless of the included occupations and patterns, and it should be recognized that people can view very different kinds of occupations as constituting the right amount and variation. Further research, potentially using a qualitative design, is therefore needed to gain more insight

into occupational balance and satisfaction with performance of occupations in the present population.

Methodological considerations

The present study has strengths as well as limitations that should be taken into consideration when interpreting the results. The design was cross-sectional [19], which is a strength when evaluating occupational balance and how it is associated with specific variables at a given point in time, but the design may also be a limitation because it provides no knowledge about causality.

The majority of the participants were females. This is a strength in that it reflects the reality in this group [3,6,8] but the results cannot be generalized to men and may not be generalizable beyond people suffering from anxiety and/or depression who require treatment by an occupational therapist.

Regarding self-reported anxiety, no significant association with occupational balance was identified. Considering that most participants (80%) rated above 10 in the anxiety subscale, the distribution was quite skewed and it could be speculated whether this affected the possibility of a significant result in the logistic regression analyses.

Another potential limitation was the choice of categorizing the variables and using these in a logistic regression because this restricts their full variability. The very large confidence intervals for quality of life and satisfaction with occupational performance in the logistic regression should also be recognized as a limitation.

Finally, the OBQ has not previously been used in this population, but the low occupational balance in our sample, who are known to have problems with their everyday occupations [1–3], is in line with what could have been expected. However, as no study has been identified measuring occupational balance in people with anxiety and depression there is no knowledge available as to whether our sample is representative for this population in relation to occupational balance. Taken together, further research is needed with a larger number of participants who vary in their level of anxiety as well as samples that include participants both with and without a diagnosis.

Conclusions

The results showed that occupational balance, as measured using the OBQ, was rated low by the participants diagnosed with anxiety and/or depression. Higher self-rated quality of life, satisfaction with

performance of occupations and lower level of depression were associated with occupational balance above the median. The results indicate that enhanced satisfaction with life and with performance of everyday occupations are relevant factors for achieving occupational balance in clients suffering from anxiety and/or depression. The knowledge gained here highlight the relevance of occupational therapy for people with depression and anxiety and also the need for health professionals to address issues of occupational balance as well as satisfaction with occupational performance in these clients.

Disclosure statement

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