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The impact of menopause on work ability in women with severe menopausal symptoms

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ABSTRACT

Objective: To measure the impact of menopause on work ability in women with severe menopausal symptoms.
Study design: This cross-sectional study compared the work ability of a sample of otherwise healthy employed Dutch women (n = 205) with that of a sample of first-time attendees of a menopause clinic (n = 60); both groups were aged 44–60 years. Self-reported questionnaire data assessing work ability (Work Ability Index; WAI) and menopausal symptoms (Greene Climacteric Scale; GCS) were used.
Main outcome measures: Logistic regression analyses were used to examine whether women with severe menopausal symptoms were more likely to have low work ability (defined as a score <37.0 points on the WAI) than were women in the reference group, after adjustment for individual and lifestyle factors.
Results: Symptomatic women had significantly higher total GCS scores (mean 26.7 vs 14.2, t = 10.8, P < 0.001) and significantly lower WAI scores (median 32.0 vs 40.0, U = 2380, P < 0.001) than the reference group. They were 8.4 times more likely to report low work ability than their healthy counterparts: 76.7% versus 30.2% (OR 8.4, 95% CI 4.1–17.2).
Conclusions: Over three-quarters of symptomatic menopausal women report serious problems in dealing with the physical and mental demands of their work (recorded here as low work ability); hence these women might be at risk of prolonged sickness absence from work.

1. Introduction

During menopause women experience many physiological changes, which may cause a wide variety of physical symptoms and psychological as well as social problems. Every day millions of women suffer from these peri- and post-menopausal complaints. Apart from the physical discomfort that accompanies the menopausal transition women might also experience a considerable impact on their capacity to deal with a normal work load [1,2].

In todayís society, women's input in economic productivity is becoming more and more important. Statistics in The Netherlands predict that currently within The Netherlands 3.8 million women are making up almost half of the total work force, being either full time or part time employed [3]. More than one third of these women, i.e. 1.8 million are aged 45 years or older. Similar numbers are available from other countries as the United States, Canada and Sweden. For most women, employment has a beneficial effect on psychological wellbeing and mental health [4,5]. Unfortunately, however women in this age class have the highest annual decline in work ability [6]. In a previous study we found a significant negative correlation between menopausal symptoms and work ability in healthy working women [7]. A community-based study in Australia found that having any vasomotor symptoms was independently associated with impaired work ability [8]. In addition, recent studies report that menopause entail an increment in costs

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for employers through decreased work productivity and short-term sick leave as well as in healthcare costs [9–11].

Self-reported work ability is a concept widely used in occupational health, which can predict future impairment [6], long-term sickness absence [12–15], and labour force exit via disability benefits [16]. A longitudinal study with 12-months follow-up showed that 82% of office workers with a poor work ability score at baseline had more than 14 sick days in the next 12 months [15]. Therefore, in order to prevent future illness related work absenteeism, one should identify those women with low work ability. Currently, no studies are available that assessed the work ability in women with severe menopausal symptoms and quantified the impact of the severity of those symptoms on work ability.

The aim of this study was to evaluate the impact of severe menopausal symptoms on work ability in women who sought medical attention for their complaints, when compared to a group of age matched otherwise healthy women not diagnosed with menopausal symptoms.

2. Methods

2.1. Participants and procedures

Symptomatic women aged 44–60 years, who attended our outpatient menopause clinic for the first time between September 2009 and October 2012, were asked to participate in this cross-sectional study. These women received an invitation letter that outlined the nature and purpose of the study. Participants were notified that the provided data were to be used solely for research purposes.

Participants from an earlier study were used as the reference group. Full details of the methods of inclusion have been reported elsewhere [7]. Briefly, healthy working female employees aged 44–60 years working in a hospital or in home care service received an invitation by e-mail. They were asked to participate in a study that examined the association between menopausal symptoms and work ability. A link to a Web-based survey was included in this invitation. Given their age, these women may experience menopausal symptoms, but were not diagnosed as having menopausal complaints.

Inclusion criteria for the study were, apart from age, not having received any medical treatment for their menopausal symptoms. Women returning the Work Ability Index questionnaire incompletely or who reported being currently unemployed were excluded from the analysis.

In both studies women were notified through the invitation letter that filling out the questionnaires was considered as informed consent. Observational research using non-burdensome questionnaire data does not fall within the scope of the Dutch Act on Research Involving Human Subjects and does not need the approval of a research ethics committee.

2.2. Measures

Menopausal symptoms were measured using the Greene Climacteric Scale (GCS) [17]. This self-reported questionnaire is a 21-item validated instrument, divided into 5 domains, psychological (11 symptoms), subdivided into anxiety (6 symptoms) and depression (5 symptoms); somatic (7 symptoms); vasomotor (2 symptoms); and sexual (1 symptom). Responses are scored as follows: 0, not existing; 1, sometimes (symptom exists but is not bothersome); 2, often (bothersome during daily activities); and 3, very often (interfering with daily activities). The total GCS score ranges from 0 to 63 points.

Work ability was assessed using the Work Ability Index (WAI), developed by the Finnish Institute of Occupational Health [18]. The WAI is a self-reported questionnaire which assesses how well a worker is able to perform his or her work regarding the physical and mental work demands. This questionnaire is widely used in clinical occupational health and research; validity and test-retest reliability have been attained [19–21]. The score is determined through the answers to a series of questions, taking into consideration physical and mental work demands as well as a worker's health status and resources. The WAI covers seven dimensions, each of which is evaluated by one or more questions. The items include current work ability compared with best of lifetime, work ability in relation to job demands, number of current diseases diagnosed by a physician, estimated work impairment due to disease, illness related absenteeism during the past 12 months, a woman's own assessment of her future work ability during the upcoming 2 years, as well as mental resources (refers to the worker's life in general, both at work and during leisure-time). The total score varies between 7 and 49 points, and is divided into the following categories: poor work ability (score 7–27 points), moderate work ability (score 28–36 points), good work ability (score 37–43 points), and excellent work ability (score 44–49 points). Poor work ability and moderate work ability are together referred to as low work ability (score <37 points).

Information about individual characteristics and lifestyle factors was also collected using a self-reported questionnaire. Height was asked in meters and weight in kilograms and subsequently body mass index (BMI i.e. kg/m^2) was calculated using the formula weight divided by squared height. Subjects were classified as current, previous or non-smokers. The frequency of participation in sports during leisure time was categorized into (almost) none, <3 times a week, 3–7 times a week. Education was assessed by highest education level attained and classified into low (primary education or lower vocational education), intermediate (secondary education or intermediate vocational education), and high (higher vocational education or university).

2.3. Statistical analysis

The normality of data was determined using the Kolmogorov-Smirnov test and the Shapiro-Wilk test. Frequency counts and percentages are presented for categorical variables, numerical data are presented as means with standard deviations (SDs) in case the data were normally distributed or as medians with interquartile ranges (IQRs) in case of a non-parametric distribution. Differences between groups were assessed using a χ-squared test for categorical data, and an unpaired *t*-test or a Mann-Whitney *U* test for continuous variables.

To evaluate whether our reference group was a good representative sample and comparable to the general Dutch population, data from our group, regarding menopausal symptoms, were compared to a sample representative for the Dutch population [22]. Furthermore, regarding work ability, to a larger sample derived from a study with Dutch health care workers [23] as well as to the Dutch national database [24].

To examine the impact of the severity of menopausal symptoms on work ability, we used a multivariable logistic regression model. For this procedure, the crude score of the WAI was transformed to a dichotomous variable using 37 as a cut-off point to divide the categories into "poor-moderate i.e. low" and "good-excellent" groups. We calculated adjusted odds ratios (ORs) with corresponding 95% confidence intervals (95% CI), adjusting for age, level of education, smoking habits, participation in sports during leisure time and BMI. Missing values of single GCS-items were predicted using multiple imputation: five imputed data sets were created based on the relations between covariates in the study. The percentages of missing values within the population for analysis were 13%.