

Early natural menopause and its consequences for women's labour market participation:

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Motivation

- Early natural menopause (that occurs before the age of 45 and is not medically induced) affects around one in ten women and has serious health consequences.
 - These consequences include increased risk of all-cause mortality, cardiovascular disease, osteoporosis, type 2 diabetes.
 - Menopausal and perimenopausal symptoms, experienced by half to three fourths (or more), (under)recognized as a disruptive health condition.
- Growing body of literature on negative impact of menopause and its associated symptoms on women's circumstances at work.
 - Yet limited evidence on the cost of the menopause transition for women's economic participation in the UK.

Research questions and data

- We contribute to evidence on the factors affecting the earlier experience of menopause (EM) as well as how menopause affects women's labour market participation with two research studies:
 - A study on risk factors for EM from across the life course using combined data from the 1958 (NCDS) and 1970 (BCS) cohorts.
 - Aimed to provide insight into particular life stages (birth, childhood, early adulthood) where an exposure is associated with the highest risk and can guide the timing for interventions (for modifiable behaviours as the risks might be preventable).
 - A study on the consequences of EM and menopause symptoms for labour market participation using data from the 1958 (NCDS) cohort.
 - Aimed to identify the effect of EM and menopausal symptoms on the time women spend in employment and full-time employment through to age 55, and can guide workplace policies or practices to improve women's working lives.

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RISK FACTORS FOR EARLY NATURAL MENOPAUSE: EVIDENCE FROM THE 1958 AND 1970 BRITISH BIRTH COHORTS

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doi: <https://doi.org/10.1101/2021.09.12.21263444>

This article is a preprint and has not been peer-reviewed [what does this mean?]. It reports new medical research that has yet to be evaluated and so should not be used to guide clinical practice.



Abstract Full Text Info/History Metrics Preview PDF

Abstract

Using data from two generations of British women followed from birth through childhood and into adulthood, we investigate risk factors for the onset of natural menopause before the age of 45 (known as early menopause). We focus on key stages during the life course to understand when risk factors are particularly harmful. We find that earlier cessation of menstruation is influenced by circumstances at birth. Women born in lower social class families, whose mother smoked during the pregnancy or who were short-term breastfed (one month or less) were more likely to undergo menopause before 45. Early menopause is also associated with poorer cognitive ability and smoking in childhood. Adult health behaviour also matters. Smoking is positively correlated with early menopause, while regular exercise (one to several times a week) and moderate frequency of alcohol drinking (one to three times a month) in women's early thirties are associated with a reduced risk of early menopause. The occurrence of gynaecological problems by women's early thirties is also linked to early menopause. We note that some of these factors (e.g. health behaviours) are modifiable and thus the risks may be preventable.

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The consequences of early menopause and menopause symptoms for labour market participation

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ARTICLE INFO

JEL classification:

I1

J01

Keywords:

Menopause

Early menopause

Menopausal symptoms

Vasomotor symptoms

Employment

Full-time employment

Birth cohort

ABSTRACT

Using a difference-in-difference estimator we identify the causal impact of early menopause and menopause symptoms on the time women spend in employment through to their mid-50s. We find the onset of early natural menopause (before age 45) reduces months spent in employment by 9 percentage points once women enter their 50s compared with women who do not experience early menopause. Early menopause is not associated with a difference in full-time employment rates. The number of menopause symptoms women face at age 50 is associated with lower employment rates: each additional symptom lowers employment rates and full-time employment rates by around half a percentage point. But not all symptoms have the same effects. Vasomotor symptoms tend not to be associated with lower employment rates, whereas the employment of women who suffer psychological problems due to menopause is adversely affected. Every additional psychological problem associated with menopause reduces employment and full-time employment rates by 1–2 percentage points, rising to 2–4 percentage points when those symptoms are reported as particularly bothersome.

Risk factors for EM: overview of research and key findings (1)

- Menopause status determined using information at age 42 and 46 in BCS and age 44/45 and 50 in NCDS follows widely accepted classification criteria (WHO 1996).
- Potential risk factors: early life, reproductive, health behaviour, and socioeconomic characteristics.
- Pooled analytical sample of 6,805 menopausal, peri- and pre-menopausal women (8.4% had early menopause).
- Series of multivariable logistic regression models (adjusted for preceding variables only, respecting temporal ordering of events).
- Multiple Imputation (MI) with chained equations (covariates only) performed in each cohort separately.

Risk factors for EM: overview of research and key findings (2)

- Multiple factors from birth, childhood and adulthood associated with EM.
- The early life factors associated with EM: father in a manual job, or no father figure at birth, mother smoking during pregnancy, and the absence of or short duration of breastfeeding.
- Childhood factors increasing the likelihood of EM: poor cognitive ability and smoking.
- Early adulthood factors associated with an increased probability of EM: smoking, no alcohol consumption, lower levels of exercise, gynaecological problems and not working.
- Some of these associations relate to **modifiable behaviours** and thus the **risks of EM and the adverse health outcomes** associated with it **may be preventable**.

Consequences of EM and menopause symptoms for labour market participation: overview and key findings (1)

- Information on menstrual periods collected at age 44/45, 50 and 55 in the NCDS.
- Information on menopause symptoms (in the past 12 months) and their intensity collected at age 50.
- Employment activity for a period of 35 years (from age 20 to age 55) derived using work history data.
- Early life, childhood, and early adulthood covariates.
- Difference indifference strategy
 - Women's average employment rates during their 20s and early 30s compared with their employment rates in their 50s for women who went onto experience EM versus those who did not. Similar comparisons between women according to the intensity of menopausal symptoms when aged 50.
 - Differences in those gaps before and after EM/menopause symptoms indicate the effects of menopause on employment.
- Analytical sample of 3,405 women (5% had EM; average of 7.5 menopause symptoms, average of 1.6 bothersome symptoms).

Consequences of EM and menopause symptoms for labour market participation: overview and key findings (2)

- EM reduces months spent in employment by 9 percentage points once women enter their 50s compared with women who do not experience early menopause.
 - This is equivalent to a loss of around 4 months' employment among women in their early 50s.
- EM is not associated with differences in full-time employment rates.

Consequences of EM and menopause symptoms for labour market participation: overview and key findings (2)

- Each additional menopause symptom lowers employment rates and full-time employment rates by around half a percentage point.
- These effects are larger for bothersome symptoms.
 - For each bothersome symptom employment rates fall by around 2 percentage points, and full-time employment rates fall by a little over half a percentage point. With women facing an average of 1.6 bothersome symptoms this translates into 1.5 months' lost employment among women in their early 50s.
- Not all symptoms have the same effects. Vasomotor symptoms tend not to be associated with lower employment rates, whereas the employment of women who suffer psychological problems due to menopause is affected.
 - Every additional psychological problem associated with menopause reduces employment and full-time employment rates by 1-2 percentage points, rising to 2-4 percentage points when those symptoms are reported as particularly bothersome.

Implications for policy

- These negative employment effects of early menopause and menopausal symptoms are **cause for concern**, not only because the **size of the effects is large**, but also because **so many women suffer these problems**.
- Women constitute approximately 50% of the UK workforce and it is estimated that there are more than **4 million women aged 50 and above in employment in the UK**.
- Workplace culture, policy and practice needed to **support the specific needs of women** to continue to contribute effectively to the economy.
- **Research on menopause and post reproductive health needed** to help inform a better understanding of current issues in this area.

Thank you!