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# Recording and treatment of premenstrual syndrome in UK general practice: a retrospective cohort study



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**Title: Recording and treatment of premenstrual syndrome in UK general practice: a retrospective cohort study**

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**Abstract**

**Objectives:** To investigate the rate of recording of premenstrual syndrome) diagnoses in United Kingdom primary care and describe pharmacological treatments initiated following a premenstrual syndrome diagnosis.

**Design:** Retrospective cohort study

**Setting:** United Kingdom primary care

**Participants:** Women registered with a practice contributing to The Health Improvement Network primary care database between 1995 and 2013.

**Primary and secondary outcome measures:** The primary outcome was the rate of first premenstrual syndrome records per thousand person years, stratified by calendar year and age. The secondary outcome was the proportions of women with a premenstrual syndrome record prescribed a selective serotonin reuptake inhibitor, progestogen, oestrogen, combined oral contraceptive, progestin only contraceptive, gonadotrophin-releasing hormone, danazol, vitamin B6.

**Results:** The rate of recording of premenstrual syndrome diagnoses decreased over calendar time from 8.43 in 1995 to 1.72 in 2013. Of the 38,614 women without treatment in the 6 months prior to diagnosis, 54% received a potentially premenstrual syndrome related prescription on the day of their first PMS record while 77% received a prescription in the 24 months after. Between 1995 and 1999 the majority of women were prescribed progestogens (23%) or Vitamin B6 (20%) on the day of their first PMS record, after 1999 these figures fell to 3% for progestogen and Vitamin B6 with the majority of women instead being prescribed a selective serotonin reuptake inhibitor (28%) or combined oral contraceptive (17%).

**Conclusions:** Recording of premenstrual syndrome diagnoses in United Kingdom primary care has declined substantially over time and preferred treatment has changed from progestogen to selective serotonin reuptake inhibitor and combined oral contraceptives.

**Strengths and limitations of the study**

- The UK primary care database used in this study contains data on the routine clinical management of a representative sample of the UK general population.
- The longitudinal nature of the database allowed us to report on changes in the recording and treatment of premenstrual syndrome over an 18 year period (1995-2013).
- Cases were ascertained using diagnostic codes recorded in general practice rather than through prospective methods, case certainty is therefore less than 100%.
- As the indication for prescriptions is not recorded in the data source prescriptions were assumed to be for PMS based on their timing with regard the first PMS diagnosis record.

## Background

Premenstrual syndrome (PMS) comprises a range of physical, psychological and behavioural symptoms experienced by many pre-menopausal women during the luteal phase of their menstrual cycle.[1] Premenstrual dysphoric disorder (PMDD), a severe sub-type of PMS, has been defined in the Diagnostic and Statistical Manual of Mental Disorders (DSM) as occurring when a woman suffers from at least five distinct psychological premenstrual symptoms.[2]

Prevalence estimates of PMS vary depending on the methods used to identify and classify cases. The proportion of women of reproductive age reporting at least one PMS symptom has been reported to range between 50% and 90%, the proportion reporting severe PMS symptoms or symptoms that interfere with daily activities to range between 10% and 30% and the proportion meeting the strict DSM PMDD criteria of having at least 5 psychological symptoms to range between 1% and 8%.[3]

While the proportion of women of reproductive age suffering clinically relevant PMS symptoms appears to be high, the proportion of women who seek medical help has been less well studied. A survey of 300 women in the UK in 1998 classified 31% as having severe PMS symptoms, of whom 53% sought medical help.[4] This compares with 45% and 29% of women with severe premenstrual symptoms seeking medical attention in the USA and France in 1998 respectively, while 41% of women with severe PMS in a separate study in Switzerland reported consulting a doctor between 1986 and 1993.[5]

Guidelines for the management of PMS have been published by the Royal College of Obstetricians and Gynaecologists (RCOG)[6] and, more recently, by the International Society for Premenstrual Disorders (ISPMD).[7] The RCOG guidelines suggest the use of exercise, cognitive behavioural therapy (CBT), vitamin B6, new generation combined oral contraceptives (cyclically or continuously) and/or low dose selective serotonin reuptake inhibitors (used continuously or only during the luteal phase) as first line treatment and the use of oestradiol patches and/or higher dose selective serotonin reuptake inhibitors (SSRIs) (also used continuously or only during the luteal phase) as second line treatment. Gondaotrophin analogues (with add-back hormone replacement therapy) are recommended as third line treatment and total abdominal hysterectomy and bilateral oopherectomy with hormone replacement therapy as fourth line treatment. The ISPMD recommend both SSRI's and all of the oestrogen suppressing treatments listed above and but do not recommend different treatments and dosing schedules for specific treatment lines. A study investigating treatments prescribed in UK primary care on the day of a PMS record found that between 1993 and 1998 progestogens were the most commonly prescribed treatment and that vitamin B6 prescribing decreased over the period while SSRI prescribing increased.[6] However, there is little information on current prescribing practices.

This study seeks to estimate the rate of recording of PMS diagnoses in UK primary care over an 18 year period and establish which pharmacological treatments were most commonly initiated following a PMS diagnosis.

## Methods

This study was carried out using The Health Improvement Network (THIN). THIN is an electronic healthcare database containing the anonymised primary care medical records of more than 12 million individuals in the UK general population. Patient data routinely available in the database include demographic details, diagnoses and symptoms (including those leading to hospital admissions), immunisations, pregnancies, laboratory tests, referrals to specialists, prescriptions issued by the GP, hospital discharge and clinic summaries and deaths. Clinical events in primary care are recorded against clinical codes known as a Read codes.[8,9] There are currently over 100,000 Read codes each of which is associated with a short description of varying specificity. Recording of additional, unstructured textual information in association with a Read code is possible. This information, commonly referred to as 'free text', generally contains elaborations on the information in the coded record.

The study population consisted of all women registered with a GP practice contributing to THIN, aged between 12 and 49 years. Follow up of each woman began at the latest of the 01/01/1995, 182 days after their registration date, 12 years of age and the date their practice recording reached acceptable levels.[12, 13] Follow up of each woman ended at the earliest of the 01/01/2014, 50 years of age, the date the woman transferred out of their practice, the date data was last collected from their practice and the patient's date of death.

Code lists defining PMS diagnoses and prescriptions were developed following the method described by Davé and Petersen.[8] Prescriptions were categorised into one of the following categories of interest, based on the British National Formulary: selective serotonin reuptake inhibitors (SSRI), progestogen, oestrogen, combined oral contraceptive (COC), progesterone only contraceptive (POC), danazol, gonadotrophin releasing hormone (GnRH) analogues and vitamin B6.

All women with PMS diagnostic codes recorded during follow up were identified and the rate of recording was calculated as the number of first PMS diagnosis codes recorded divided by the total amount of follow up time at risk. Among individuals with a PMS event, follow up was censored at the date of the first PMS record. Recording rates were calculated stratified by calendar year and age and 95% confidence intervals were calculated assuming a Poisson distribution.

Among those women with a first PMS record meeting the inclusion criteria, the proportion with a first record of one of the PMS related drugs listed above in the 6 months before their PMS record was calculated, these women were considered prevalent users. We also estimated the proportion of women by calendar year with a first PMS record meeting the inclusion criteria with a prescription for PMS related drugs on the day of their PMS record or in the 24 months after the PMS record (bu not in the 6 months before the PMS record was made in the notes). We use cumulative incidence plots to describe the proportions of individuals initiating each treatment at the time of or in the 24 months after a PMS record as a function of time. The proportion of women receiving prescriptions for different types of SSRI and COC were calculated stratified by calendar year, and for SSRI's the daily dose prescribed was also tabulated

Stata 13 were used in the management and analysis of all data.

**Results**

There were 2,860,143 eligible women contributing 12.6 million person years (PY) of data. Of these, there were 42,754 individuals with a first PMS event recorded providing an overall rate of recording of 3.38 PMS records per 1,000 PY (95 % CI 3.35 – 3.41).

The rate of PMS recording decreased dramatically over time from 8.43/1,000 PY (CI95 8.02-8.85) in 1995 to 1.72/1,000 PY (CI95 1.63-1.81) in 2013 (Figure 1). The decrease was relatively rapid between 1995 and 2000, levelled off between 1999 and 2000 and then began to decrease again after to 2000.

The rate of recording of PMS diagnoses increased by age from 1.21/1,000 PY (CI95 1.13 - 1.28) in those aged between 11 and 14 years to 5.61/1,000 PY (CI95 5.50 – 5.71) in those aged 35-40 years at which point the rate peaked and began to fall again reaching 2.07/1,000 PY (CI95 2.00 – 2.13) in those aged 45-50 years (Table 1).

Ten percent of women received a prescription for one of the drugs of interest in the 6 months before their first PMS record. Prevalent treatment remained relatively stable across the study period for all drug categories other than COC's. The proportion of women with a COC prescription in the 6 months before their PMS record was 9% (141/1567) in 1995 but decreased to between 2% and 5% between 1996 and 2011 (Table S1).

Fifty four percent of women (20,996/38,614) without a given prescription in the 6 months before their PMS record had a prescription of interest on the day of diagnosis. While the overall proportion receiving a prescription of interest remained stable over time the proportions initiating specific drug types changed (Figure 2). The proportion of women initiating SSRI's has increased from 2.3% (35/1522) to 27.6% (381/1380), POC's from 1.1% (17/1545) to 6.2% (87/1403) and COC's from 10.6% (151/1425) to 17.2% (239/1390) over the study period (Figure 3a). In contrast the proportion initiating progestogen has declined from 22.8% (350/1535) to 2.9% (41/1414), oestrogen from 2.1% (32/1524) to 0.6% (8/1333) and vitamin B6 from 20.0% (310/1550) to 3.7% (52/1405) (Figure 3b). Prescribing of GnRH analogues and danazol on the day of a PMS record was too low (<1%) to observe trends over time.

Seventy seven percent of women (29,891/38,614) had a prescription of interest on the day of their PMS record or in the 24 months after, this proportion remained stable over time. Figure 3 shows the cumulative proportion of prescriptions in the 24 months following the first PMS record between 2008 and 2011 for each drug type. With the exception of Vitamin B6, the proportion of women with a prescription in this time period increased considerably over the 24 months for all drug types such that by 24 months 44% (3,648/8,365) had received a SSRI prescription, 28% (2,363/8,434) a COC prescription, 12% (1,030/8,475) a progestogen prescription, 20% (1,727/8,463) a POC prescription and 3% (293/8557) an oestrogen prescription.

The type of SSRI prescribed on the day of the first PMS record is shown in Figure 4 as a proportion of all SSRI prescriptions. Fluoxetine is the most prescribed SSRI throughout the study period, making up more than 50% of SSRI prescriptions. Citalopram and, more recently, sertraline make up an increasing proportion of SSRI prescriptions over time, while paroxetine and escitalopram make up a decreasing proportion. The dose of SSRI prescribed per day is shown in Table 2 and is primarily 10 or 20mg for citalopram, 5, 10 or 20mg for escitalopram, 10mg for fluoxetine, 10, 20 or 30mg for paroxetine and 50 or 100mg for sertraline.

## Discussion

*Summary*

Recording of PMS diagnoses in UK primary care has decreased substantially over time and among those women with a PMS record, the preferred treatment has changed from progestogen to selective serotonin reuptake inhibitors and combined oral contraceptives.

*Diagnoses*

The main limitation of this study relates to the completeness of recording of PMS diagnoses. GPs may record the symptoms of a woman presenting with PMS, but not record a specific PMS diagnosis code. As a result, rates reported in this study represent the number of *recorded* diagnoses, and are unlikely to reflect the 'true' incidence of PMS in the community. As the prevalence of `true' diagnoses of PMS reported in prospective studies has not decreased over time[12], we suspect that the decrease in recording of PMS in primary care is likely to result from factors that influence the rate of consultations for premenstrual symptoms or recording practices such as changes in the perception of the syndrome by women and/or healthcare professionals.

Wyatt *et al*[13] and Weisz and Knaapen[14] investigated PMS recording in UK primary care from 1993 to 1998 and 2004 to 2006, respectively. Direct comparison of our results with these two studies is not possible as the two previous studies used the total number of primary care consultations as the denominator for their recording rates. However, similar to our study, these two studies found that, relative to the prevalence of premenstrual symptoms reported in the literature, PMS diagnoses did not appear to be commonly recorded in UK primary care. The studies by Wyatt *et al*[13] and Weisz and Knaapen[14] also reported a decrease in recording rates over time, our results support these findings and illustrate that rates have continued to decrease to 2013.

*Prescribing*

As prescriptions in THIN are not specifically linked to an indication we cannot be certain that prescriptions issued after, or even on the date of the PMS record were issued for the treatment of PMS. However, prescriptions issued on the date of a PMS record and not during the prior 6 months are likely to be specific to the treatment of PMS. While prescriptions issued over the 24 months after a PMS record are increasingly likely to be for indications other than PMS, delays between the first PMS record and initiation of pharmacological treatment may arise due to the completion of symptom diaries or initiation of non-pharmacological treatments as a first line approach. As a result, the total proportion of women prescribed a pharmacological treatment in primary care after a PMS diagnosis should lie somewhere between the proportion with a prescription on the date of their PMS record (54%) and the proportion with a prescription in the 24 months after their PMS record (77%). If one assumes that women with a PMS record in our study are primarily those with moderate to severe symptoms, the above proportions compare with 40% of women in the UK, 44% of women in the USA and 25% of women in France with self-reported moderate to severe symptoms on prescription treatment in 1998.[4]

The changes in prescribing from 1995 to 1998 compare favourably ine with those reported by Wyatt et al[13] for this period. Weisz and Knaapen[14] reported stable proportions of prescriptions for different drug types over their 3 year study period (2004-2006); taken in isolation our data for the same

period also appear relatively stable. Our study, however, by covering a longer period allowed better observation of the e changes in the type of PMS treatment prescribed over time with SSRI's and COC's super ceeding progestogen and oestrogen as the preferred treatments for PMS in primary care after 1999. The increasing use of SSRI's and decreasing use of progestogen in primary care is largely in line with the evolving evidence base for PMS treatments with a number of meta analyses and guidelines supporting the effectiveness of SSRI's.[15,16] and questioning the effectiveness of progestogens[15,17]. The increased prescribing of COC's is somewhat surprising given the limited evidence supporting their efficacy in the treatment of PMS.[18–20] The limited evidence supporting the efficacy of oestrogen treatment for PMS[21,22] and concerns surrounding its safety may explain the considerable decline in its use in the treatment of PMS. Notably, while concomitant progestogen treatment can mitigate some of the risk associated with oestrogen based therapy, PMS symptoms produced by the progestogens limit the efficacy of combined oestrogen-progestogen therapy as a treatment for PMS. The preference for COC's over oestrogen therapy may reflect GP's greater familiarity with COC''s relative to transdermal oestrogen therapy. Notably, as our data do not include gynaecologist and psychiatrist prescribing the results cannot be generalised to changes in prescribing practices within such specialities.

As pointed out by Wyatt et al.[13], the decrease in Vitamin B6 use in 1998 and 1999 is likely to have resulted from the discovery that high doses might result in peripheral neuropathy and subsequent proposals to restrict access to the drug. Our data confirm that Vitamin B6 prescribing has continued to decrease slightly since 1998. However, as Vitamin B6 is also sold over-the-counter (OTC) this decrease in use may result from an increase in the consumption of OTC Vitamin B6. As Danazol and GnRH analogues are not typically used as first or second line treatment it is unsurprising that few women are prescribed these drugs in the 24 months after their first PMS record.

The increasing proportion of SSRI prescriptions for citalopram and sertraline, decreasing proportion for paroxetine and escitalopram and stable proportion for fluoxetine are in line with trends in the use of SSRI's in general in the UK.[23] However, in the general population, the rate of initiation of citalopram is now greater than fluoxetine whereas in our study fluoxetine remains the treatment most commonly initiated on the day of a PMS record.[23] This difference may reflect the larger evidence base for the use of fluoxetine for the treatment of premenstrual syndrome, with a recent meta-analysis[16] and systematic review[15] including six to ten studies on fluoxetine but only one on citalopram. The doses of each SSRI prescribed were largely in line with the recommended dose for the treatment of depression in the UK.[24] Unfortunately no information was available on the dosing schedule for SSRI's (continuous vs luteal phase only) or COC's (cyclical vs. continuous).

*Conclusions*

The recording of PMS diagnoses in UK primary care has declined between 1995 and 2013, while this is likely to represent a decrease in healthcare seeking behaviour or a decrease in recording in primary care rather than a decrease in the community prevalence of the condition, further work is needed to investigate the specific reason for the decrease. The change in the preferred treatment for PMS in primary care, from progestogens to SSRI's and COC's, is largely in line with current evidence and guidelines.

**Contributions** CS had the original idea for the study. CS, IN and IP designed the study. CS performed the analysis. CS, IN and IP interpreted the results. CS drafted the manuscript. IP and IN revised it critically for important intellectual content. CS, IN and IP approved the final version to be published.

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**Competing interests:** We have read and understood BMJ policy on declaration of interests and declare that we have no competing interests.

**Ethics:** THIN has overall ethical approval from the South East Multicentre Research Ethics Committee (reference number: 07/H1102/103).

**Data sharing statement:** No additional data are available.

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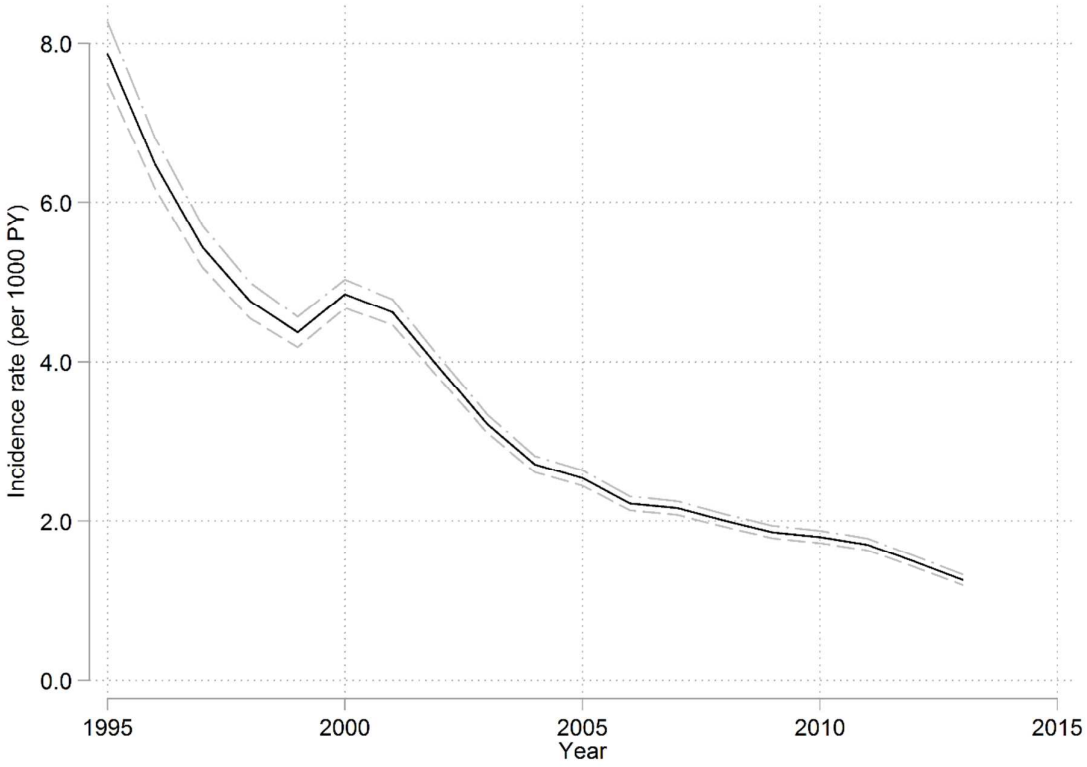


Figure 1 Calendar year specific rates (per 1,000 person years) of first PMS records in UK general practice

**Table 1. Age specific rates (per 1,000 person years) of first PMS records in UK general practice**

| Age (years) | N | IR | $CI_{95}$ |
|---|---|---|---|
| 12-14 | 1056 | 1.21 | (1.14 - 1.28) |
| 15-19 | 1975 | 1.50 | (1.43 - 1.57) |
| 20-24 | 2475 | 1.80 | (1.73 - 1.87) |
| 25-29 | 5165 | 3.28 | (3.19 - 3.37) |
| 30-34 | 8947 | 5.04 | (4.94 - 5.15) |
| 35-39 | 10768 | 5.61 | (5.5 - 5.71) |
| 40-44 | 8540 | 4.39 | (4.3 - 4.49) |
| 45-49 | 3808 | 2.07 | (2 - 2.13) |

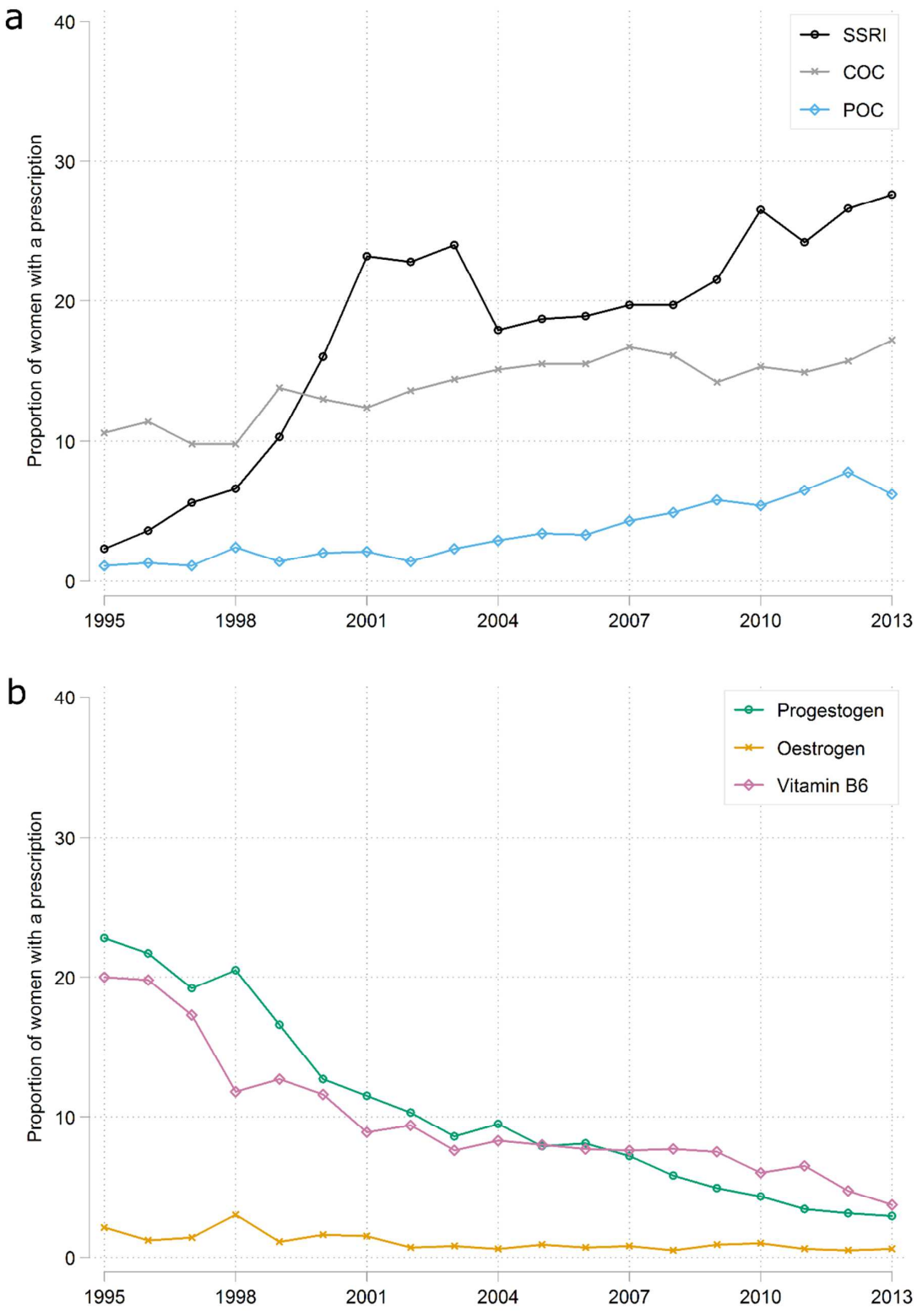


Figure 2 Calendar year specific proportion of women without a given prescription in the 6 months before their PMS record who had (a) an SSRI, COC or POC prescription or (b) a progestogen, oestrogen or vitamin B6 prescription on the day of their first PMS record.

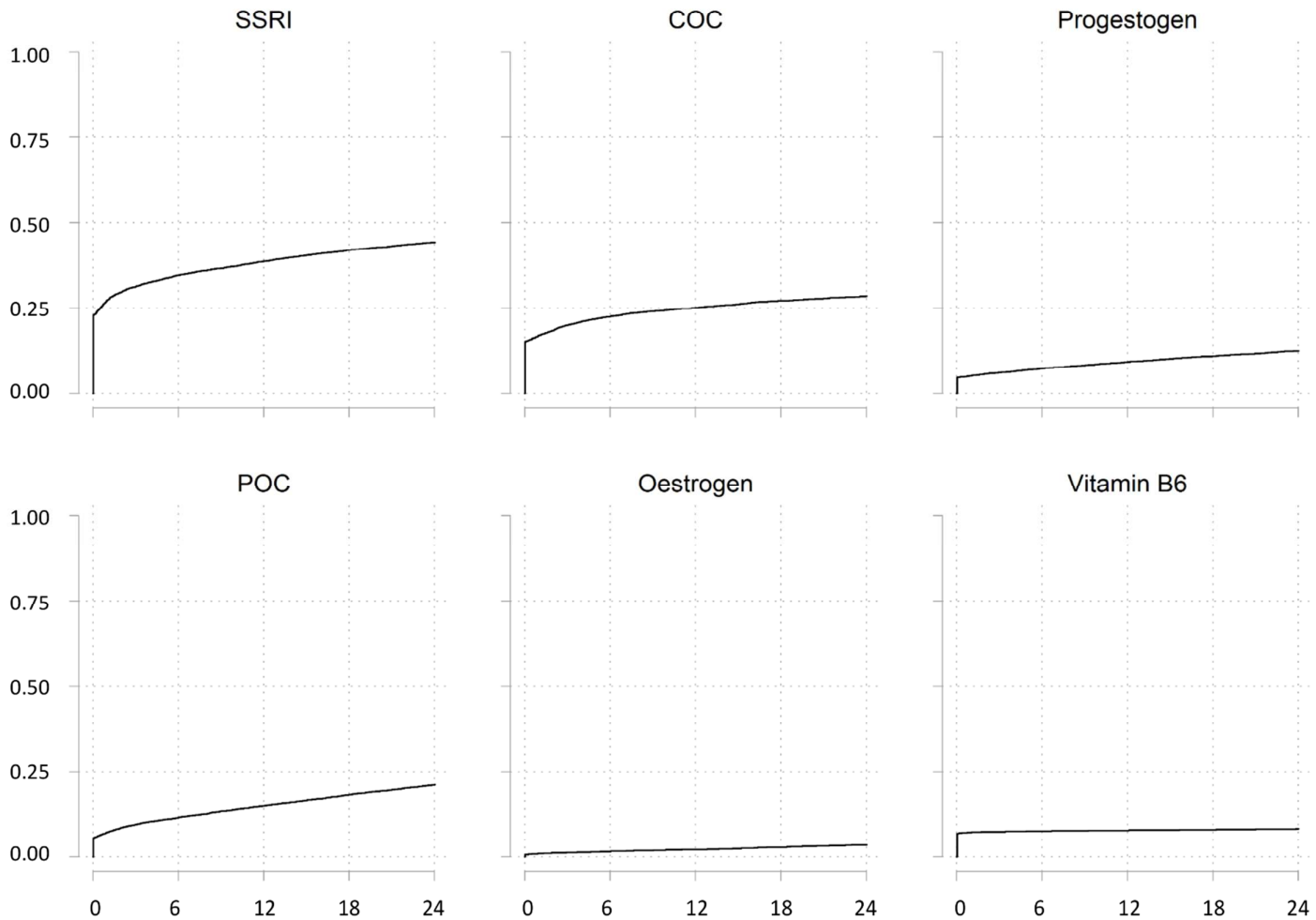


Figure 3. Cumulative incidence of prescriptions in the 2 years following a PMS diagnosis record for the period 2010 to 2013.

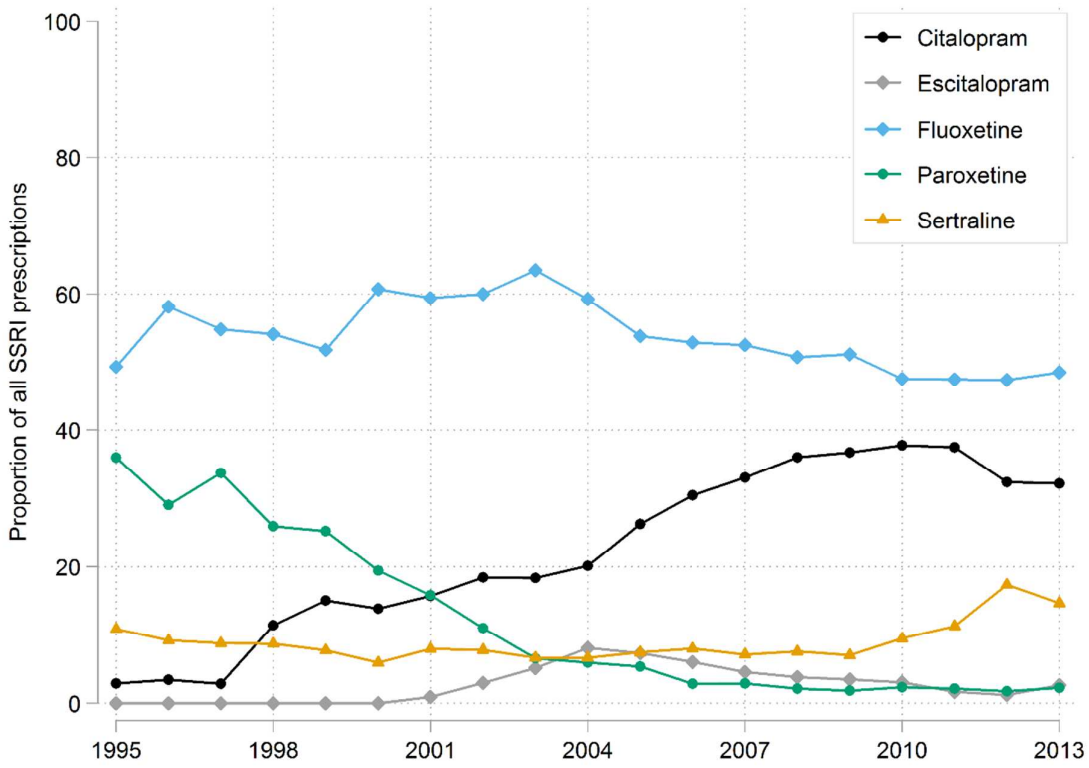


**Figure 4** Type of SSRI prescribed on the day of the first PMS record over time, as a proportion of all SSRI prescriptions.

**Table 2 Type and daily dose of SSRI prescribed on the day of a PMS record**

| Daily dose | Citalopram | | Escitalopram | | Fluoxetine | | Paroxetine | | Sertraline | |
|---|---|---|---|---|---|---|---|---|---|---|
| (mg) | n | % | n | % | n | % | n | % | n | % |
| **5** | 0 | (0) | 27 | (15.7) | 0 | (0) | 0 | (0) | 0 | (0) |
| **7.5** | 1 | (0.1) | 0 | (0) | 0 | (0) | 0 | (0) | 0 | (0) |
| **10** | 452 | (30.4) | 80 | (46.5) | 16 | (0.3) | 26 | (4.9) | 0 | (0) |
| **15** | 4 | (0.3) | 0 | (0) | 0 | (0) | 1 | (0.2) | 0 | (0) |
| **20** | 501 | (33.7) | 18 | (10.5) | 3,880 | (79.5) | 356 | (67.6) | 0 | (0) |
| **25** | 0 | (0) | 0 | (0) | 0 | (0) | 0 | (0) | 3 | (0.6) |
| **30** | 3 | (0.2) | 0 | (0) | 3 | (0.1) | 47 | (8.9) | 0 | (0) |
| **40** | 67 | (4.5) | 0 | (0) | 81 | (1.7) | 16 | (3) | 0 | (0) |
| **45** | 0 | (0) | 0 | (0) | 0 | (0) | 1 | (0.2) | 0 | (0) |
| **50** | 0 | (0) | 0 | (0) | 0 | (0) | 0 | (0) | 333 | (62.6) |
| **60** | 1 | (0.1) | 0 | (0) | 15 | (0.3) | 1 | (0.2) | 0 | (0) |
| **75** | 0 | (0) | 0 | (0) | 0 | (0) | 0 | (0) | 4 | (0.8) |
| **100** | 0 | (0) | 0 | (0) | 0 | (0) | 0 | (0) | 40 | (7.5) |
| **200** | 0 | (0) | 0 | (0) | 0 | (0) | 0 | (0) | 5 | (0.9) |
| **Unknown** | 458 | (30.8) | 47 | (27.3) | 883 | (18.1) | 79 | (15) | 147 | (27.6) |
| **Total** | 1,487 | (100) | 172 | (100) | 4,878 | (100) | 527 | (100) | 532 | (100) |

*Fluvoxamine prescriptions (n=4) not shown

**STROBE 2007 (v4) Statement—Checklist of items that should be included in reports of *cohort studies***

| Section/Topic | Item # | Recommendation | Reported on page # |
|---|---|---|---|
| **Title and abstract** | 1 | (*a*) Indicate the study's design with a commonly used term in the title or the abstract | 1 |
| | | (*b*) Provide in the abstract an informative and balanced summary of what was done and what was found | 2 |
| **Introduction** | | | |
| Background/rationale | 2 | Explain the scientific background and rationale for the investigation being reported | 3 |
| Objectives | 3 | State specific objectives, including any prespecified hypotheses | 3 |
| **Methods** | | | |
| Study design | 4 | Present key elements of study design early in the paper | 4 |
| Setting | 5 | Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection | 4 |
| Participants | 6 | (*a*) Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up | 4 |
| | | (*b*) For matched studies, give matching criteria and number of exposed and unexposed | |
| Variables | 7 | Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable | 4 |
| Data sources/ measurement | 8* | For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group | 4 |
| Bias | 9 | Describe any efforts to address potential sources of bias | 4 |
| Study size | 10 | Explain how the study size was arrived at | NA |
| Quantitative variables | 11 | Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why | 4 |
| Statistical methods | 12 | (*a*) Describe all statistical methods, including those used to control for confounding | 4 |
| | | (*b*) Describe any methods used to examine subgroups and interactions | 4 |
| | | (*c*) Explain how missing data were addressed | NA |
| | | (*d*) If applicable, explain how loss to follow-up was addressed | 4 |
| | | (*e*) Describe any sensitivity analyses | 4 |
| **Results** | | | |

| | | | |
|---|---|---|---|
| Participants | 13* | (a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed | 5 |
| | | (b) Give reasons for non-participation at each stage | 5 |
| | | (c) Consider use of a flow diagram | |
| Descriptive data | 14* | (a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders | 5 |
| | | (b) Indicate number of participants with missing data for each variable of interest | NA |
| | | (c) Summarise follow-up time (eg, average and total amount) | |
| Outcome data | 15* | Report numbers of outcome events or summary measures over time | 5 |
| Main results | 16 | (*a*) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included | 5 |
| | | (*b*) Report category boundaries when continuous variables were categorized | NA |
| | | (*c*) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period | NA |
| Other analyses | 17 | Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses | 5 |
| **Discussion** | | | |
| Key results | 18 | Summarise key results with reference to study objectives | 6 |
| **Limitations** | | | |
| Interpretation | 20 | Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence | 6, 7 |
| Generalisability | 21 | Discuss the generalisability (external validity) of the study results | 6, 7 |
| **Other information** | | | |
| Funding | 22 | Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based | 8 |

*Give information separately for cases and controls in case-control studies and, if applicable, for exposed and unexposed groups in cohort and cross-sectional studies.

**Note:** An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at http://www.plosmedicine.org/, Annals of Internal Medicine at http://www.annals.org/, and Epidemiology at http://www.epidem.com/). Information on the STROBE Initiative is available at www.strobe-statement.org.

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# Recording and treatment of premenstrual syndrome in UK general practice: a retrospective cohort study



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**Title: Recording and treatment of premenstrual syndrome in UK general practice: a retrospective cohort study**

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**Abstract**

**Objectives:** To investigate the rate of recording of premenstrual syndrome diagnoses in United Kingdom primary care and describe pharmacological treatments initiated following a premenstrual syndrome diagnosis.

**Design:** Retrospective cohort study

**Setting:** United Kingdom primary care

**Participants:** Women registered with a practice contributing to The Health Improvement Network primary care database between 1995 and 2013.

**Primary and secondary outcome measures:** The primary outcome was the rate of first premenstrual syndrome records per thousand person years, stratified by calendar year and age. The secondary outcome was the proportions of women with a premenstrual syndrome record prescribed a selective serotonin reuptake inhibitor, progestogen, oestrogen, combined oral contraceptive, progestin only contraceptive, gonadotrophin-releasing hormone, danazol, vitamin B6.

**Results:** The rate of recording of premenstrual syndrome diagnoses decreased over calendar time from 8.43 in 1995 to 1.72 in 2013. Of the 38,614 women without treatment in the 6 months prior to diagnosis, 54% received a potentially premenstrual syndrome related prescription on the day of their first PMS record while 77% received a prescription in the 24 months after. Between 1995 and 1999 the majority of women were prescribed progestogens (23%) or Vitamin B6 (20%) on the day of their first PMS record, after 1999 these figures fell to 3% for progestogen and Vitamin B6 with the majority of women instead being prescribed a selective serotonin reuptake inhibitor (28%) or combined oral contraceptive (17%).

**Conclusions:** Recording of premenstrual syndrome diagnoses in United Kingdom primary care has declined substantially over time and preferred prescription treatment has changed from progestogen to selective serotonin reuptake inhibitor and combined oral contraceptives.

**Strengths and limitations of the study**

- The UK primary care database used in this study contains data on the routine clinical management of a representative sample of the UK general population.
- The longitudinal nature of the database allowed us to report on changes in the recording and treatment of premenstrual syndrome over an 18 year period (1995-2013).
- Cases were ascertained using diagnostic codes recorded in general practice rather than through prospective methods, case certainty is therefore less than 100%.
- As the indication for prescriptions is not recorded in the data source prescriptions were assumed to be for PMS based on their timing with regard the first PMS diagnosis record.

## Background

Premenstrual syndrome (PMS) comprises a range of physical, psychological and behavioural symptoms experienced by many pre-menopausal women during the luteal phase of their menstrual cycle.[1] Common symptoms include anxiety, irritability, depression, mood swings, sleep disorders, fatigue, altered interest in sex, breast tenderness, weight gain, headaches, change in appetite, general aches and pain, and feeling bloated.[1] Premenstrual dysphoric disorder (PMDD), a severe sub-type of PMS, has been defined in the Diagnostic and Statistical Manual of Mental Disorders (DSM) as occurring when a woman suffers from at least five distinct psychological premenstrual symptoms.[2]

Prevalence estimates of PMS vary depending on the methods used to identify and classify cases. The proportion of women of reproductive age reporting at least one PMS symptom has been reported to range between 50% and 90%, the proportion reporting severe PMS symptoms or symptoms that interfere with daily activities to range between 10% and 30% and the proportion meeting the strict DSM PMDD criteria of having at least 5 psychological symptoms to range between 1% and 8%.[3]

While the proportion of women of reproductive age suffering clinically relevant PMS symptoms appears to be high, the proportion of women who seek medical help has been less well studied. A survey of 300 women in the UK in 1998 classified 31% as having severe PMS symptoms, of whom 53% sought medical help.[4] This compares with 45% and 29% of women with severe premenstrual symptoms seeking medical attention in the USA and France in 1998 respectively, while 41% of women with severe PMS in a separate study in Switzerland reported consulting a doctor between 1986 and 1993.[5]

Evidence based[6–13] guidelines for the management of PMS have been published by the Royal College of Obstetricians and Gynaecologists (RCOG)[14] and, more recently, by the International Society for Premenstrual Disorders (ISPMD).[15] The RCOG guidelines suggest the use of exercise, cognitive behavioural therapy (CBT), vitamin B6, new generation combined oral contraceptives (cyclically or continuously) and/or low dose selective serotonin reuptake inhibitors (used continuously or only during the luteal phase) as first line treatment and the use of oestradiol patches and/or higher dose selective serotonin reuptake inhibitors (SSRIs) (also used continuously or only during the luteal phase) as second line treatment. Gondaotrophin analogues (with add-back hormone replacement therapy) are recommended as third line treatment and total abdominal hysterectomy and bilateral oopherectomy with hormone replacement therapy as fourth line treatment. The ISPMD recommend both SSRI's and all of the oestrogen suppressing treatments listed above and but do not recommend different treatments and dosing schedules for specific treatment lines. A study investigating treatments prescribed in UK primary care on the day of a PMS record found that between 1993 and 1998 progestogens were the most commonly prescribed treatment and that vitamin B6 prescribing decreased over the period while SSRI prescribing increased.[6] However, there is little information on current prescribing practices.

This study seeks to estimate the rate of recording of PMS diagnoses in UK primary care over an 18 year period and establish which pharmacological treatments were most commonly initiated following a PMS diagnosis.

## Methods

This study was carried out using The Health Improvement Network (THIN). THIN is an electronic healthcare database containing the anonymised primary care medical records of more than 12 million individuals in the UK general population. Patient data routinely available in the database include demographic details, diagnoses and symptoms (including those leading to hospital admissions), immunisations, pregnancies, laboratory tests, referrals to specialists, prescriptions issued by the GP, hospital discharge and clinic summaries and deaths. Clinical events in primary care are recorded against clinical codes known as a Read codes.[16,17] There are currently over 100,000 Read codes each of which is associated with a short description of varying specificity. Recording of additional, unstructured textual information in association with a Read code is possible. This information, commonly referred to as 'free text', generally contains elaborations on the information in the coded record.

The study population consisted of all women registered with a GP practice contributing to THIN, aged between 12 and 49 years. Follow up of each woman began at the latest of the 01/01/1995, 182 days after their registration date, 12 years of age and the date their practice recording reached acceptable levels.[18,19] Follow up of each woman ended at the earliest of the 01/01/2014, 50 years of age, the date the woman transferred out of their practice, the date data was last collected from their practice and the patient's date of death.

Code lists defining PMS diagnoses and prescriptions were developed following the method described by Davé and Petersen and are provided in table S1 and table S2 of supplementary file 1.[16] Prescriptions were categorised into one of the following categories of interest, based on the British National Formulary: selective serotonin reuptake inhibitors (SSRI), progestogen, oestrogen, combined oral contraceptive (COC), progesterone only contraceptive (POC), danazol, gonadotrophin releasing hormone (GnRH) analogues and vitamin B6.

All women with PMS diagnostic codes recorded during follow up were identified and the rate of recording was calculated as the number of first PMS diagnosis codes recorded divided by the total amount of follow up time at risk. Among individuals with a PMS event, follow up was censored at the date of the first PMS record. Recording rates were calculated per 1000 person years and are presented stratified by calendar year and age; 95% confidence intervals were calculated assuming a Poisson distribution.

Among those women with a first PMS record meeting the inclusion criteria, the proportion with a first record of one of the PMS related drugs listed above in the 6 months before their PMS record was calculated, these women were considered prevalent users. We also estimated the proportion of women by calendar year with a first PMS record meeting the inclusion criteria with a prescription for PMS related drugs on the day of their PMS record or in the 24 months after the PMS record (but not in the 6 months before the PMS record was made in the notes). We use cumulative incidence plots to describe the proportions of individuals initiating each treatment at the time of or in the 24 months after a PMS record as a function of time. The proportion of women receiving prescriptions for different types of SSRI and COC were calculated stratified by calendar year, and for SSRI's the daily dose prescribed was also tabulated

Stata 13 was used in the management and analysis of all data.

**Results**

There were 2,860,143 eligible women contributing 12.6 million person years (PY) of data. Of these, there were 42,754 individuals with a first PMS event recorded providing an overall rate of recording of 3.38 PMS records per 1,000 PY (CI95 3.35 – 3.41).

The rate of PMS recording decreased dramatically over time from 8.43/1,000 PY (CI95 8.02-8.85) in 1995 to 1.72/1,000 PY (CI95 1.63-1.81) in 2013 (Figure 1). The decrease was relatively rapid between 1995 and 2000, levelled off between 1999 and 2000 and then began to decrease again after to 2000.

The rate of recording of PMS diagnoses increased by age from 1.21/1,000 PY (CI95 1.13 - 1.28) in those aged between 11 and 14 years to 5.61/1,000 PY (CI95 5.50 – 5.71) in those aged 35-40 years at which point the rate peaked and began to fall again reaching 2.07/1,000 PY (CI95 2.00 – 2.13) in those aged 45-50 years (Table 1).

Ten percent of women received a prescription for one of the drugs of interest in the 6 months before their first PMS record. Prevalent treatment remained relatively stable across the study period for all drug categories other than COC's. The proportion of women with a COC prescription in the 6 months before their PMS record was 9% (141/1567) in 1995 but decreased to between 2% and 5% between 1996 and 2011 (Table S1).

Fifty four percent of women (20,996/38,614) without a given prescription in the 6 months before their PMS record had a prescription of interest on the day of diagnosis. While the overall proportion receiving a prescription of interest remained stable over time the proportions initiating specific drug types changed (Figure 2). The proportion of women initiating SSRI's has increased from 2.3% (35/1522) to 27.6% (381/1380), POC's from 1.1% (17/1545) to 6.2% (87/1403) and COC's from 10.6% (151/1425) to 17.2% (239/1390) over the study period (Figure 2a). In contrast the proportion initiating progestogen has declined from 22.8% (350/1535) to 2.9% (41/1414), oestrogen from 2.1% (32/1524) to 0.6% (8/1333) and vitamin B6 from 20.0% (310/1550) to 3.7% (52/1405) (Figure 2b). Prescribing of GnRH analogues and danazol on the day of a PMS record was too low (<1%) to observe trends over time.

Seventy seven percent of women (29,891/38,614) had a prescription of interest on the day of their PMS record or in the 24 months after, this proportion remained stable over time. Figure 3 shows the cumulative proportion of prescriptions in the 24 months following the first PMS record between 2008 and 2011 for each drug type. With the exception of Vitamin B6, the proportion of women with a prescription in this time period increased considerably over the 24 months for all drug types such that by 24 months 44% (3,648/8,365) had received a SSRI prescription, 28% (2,363/8,434) a COC prescription, 12% (1,030/8,475) a progestogen prescription, 20% (1,727/8,463) a POC prescription and 3% (293/8557) an oestrogen prescription.

The type of SSRI prescribed on the day of the first PMS record is shown in Figure 4 as a proportion of all SSRI prescriptions. Fluoxetine is the most prescribed SSRI throughout the study period, making up more than 50% of SSRI prescriptions. Citalopram and, more recently, sertraline make up an increasing proportion of SSRI prescriptions over time, while paroxetine and escitalopram make up a decreasing proportion. The dose of SSRI prescribed per day is shown in Table 2 and is primarily 10 or 20mg for citalopram, 5, 10 or 20mg for escitalopram, 10mg for fluoxetine, 10, 20 or 30mg for paroxetine and 50 or 100mg for sertraline.

## Discussion

*Summary*

Recording of PMS diagnoses in UK primary care decreased substantially between 1995 and 2013 and among those women with a PMS record, the preferred treatment has changed from progestogen to selective serotonin reuptake inhibitors and combined oral contraceptives.

*Diagnoses*

The main limitation of this study relates to the completeness of recording of PMS diagnoses. GPs may record the symptoms of a woman presenting with PMS, but not record a specific PMS diagnosis code. As a result, rates reported in this study represent the number of *recorded* diagnoses, and are unlikely to reflect the 'true' incidence of PMS in the community. As the prevalence of `true' diagnoses of PMS reported in prospective studies has not decreased over time[20], we suspect that the decrease in recording of PMS in primary care is likely to result from factors that influence the rate of consultations for premenstrual symptoms or recording practices such as changes in the perception of the syndrome by women and/or healthcare professionals.

Wyatt *et al*[21] and Weisz and Knaapen[22] investigated PMS recording in UK primary care from 1993 to 1998 and 2004 to 2006, respectively. Direct comparison of our results with these two studies is not possible as the two previous studies used the total number of primary care consultations as the denominator for their recording rates. However, similar to our study, these two studies found that, relative to the prevalence of premenstrual symptoms reported in the literature, PMS diagnoses did not appear to be commonly recorded in UK primary care. The studies by Wyatt *et al*[21] and Weisz and Knaapen[22] also reported a decrease in recording rates over time, our results support these findings and illustrate that rates have continued to decrease to 2013.

*Prescribing*

As prescriptions in THIN are not specifically linked to an indication we cannot be certain that prescriptions issued after, or even on the date of the PMS record were issued for the treatment of PMS. However, prescriptions issued on the date of a PMS record and not during the prior 6 months are likely to be specific to the treatment of PMS. While prescriptions issued over the 24 months after a PMS record are increasingly likely to be for indications other than PMS, delays between the first PMS record and initiation of pharmacological treatment may arise due to the completion of symptom diaries or initiation of non-pharmacological treatments as a first line approach. As a result, the total proportion of women prescribed a pharmacological treatment in primary care after a PMS diagnosis should lie somewhere between the proportion with a prescription on the date of their PMS record (54%) and the proportion with a prescription in the 24 months after their PMS record (77%). If one assumes that women with a PMS record in our study are primarily those with moderate to severe symptoms, the above proportions compare with 40% of women in the UK, 44% of women in the USA and 25% of women in France with self-reported moderate to severe symptoms on prescription treatment in 1998.[4]

The changes in prescribing from 1995 to 1998 compare favourably with those reported by Wyatt et al[21] for this period. Weisz and Knaapen[22] reported stable proportions of prescriptions for different drug types in the UK over their 3 year study period (2004-2006); taken in isolation our data for the

same period also appear relatively stable. Our study, however, by covering a longer period allowed better observation of the changes in the type of PMS treatment prescribed over time with SSRI's and COC's superseding progestogen and oestrogen as the preferred treatments for PMS in primary care after 1999. The increasing use of SSRI's and decreasing use of progestogen in primary care is largely in line with the evolving evidence base for PMS treatments with a number of meta analyses and guidelines supporting the effectiveness of SSRI's.[6,7] and questioning the effectiveness of progestogens[6,8]. The increased prescribing of COC's is somewhat surprising given the limited evidence supporting their efficacy in the treatment of PMS.[9,23,24] The limited evidence supporting the efficacy of oestrogen treatment for PMS[25,26] and concerns surrounding its safety may explain the considerable decline in its use in the treatment of PMS. Notably, while concomitant progestogen treatment can mitigate some of the risk associated with oestrogen based therapy, PMS symptoms produced by the progestogens limit the efficacy of combined oestrogen-progestogen therapy as a treatment for PMS. The preference for COC's over oestrogen therapy may reflect GP's greater familiarity with COC''s relative to transdermal oestrogen therapy. Notably, as our data do not include gynaecologist and psychiatrist prescribing the results cannot be generalised to changes in prescribing practices within such specialities.

As pointed out by Wyatt et al.[21], the decrease in Vitamin B6 use in 1998 and 1999 is likely to have resulted from the discovery that high doses might result in peripheral neuropathy and subsequent proposals to restrict access to the drug. Our data confirm that Vitamin B6 prescribing has continued to decrease slightly since 1998. However, as Vitamin B6 is also sold over-the-counter (OTC) this decrease in use may result from an increase in the consumption of OTC Vitamin B6. As Danazol and GnRH analogues are not typically used as first or second line treatment it is unsurprising that few women are prescribed these drugs in the 24 months after their first PMS record.

The increasing proportion of SSRI prescriptions for citalopram and sertraline, decreasing proportion for paroxetine and escitalopram and stable proportion for fluoxetine are in line with trends in the use of SSRI's in general in the UK.[27] However, in the general population, the rate of initiation of citalopram is now greater than fluoxetine whereas in our study fluoxetine remains the treatment most commonly initiated on the day of a PMS record.[27] This difference may reflect the larger evidence base for the use of fluoxetine for the treatment of premenstrual syndrome, with a recent meta-analysis[7] and systematic review[6] including six to ten studies on fluoxetine but only one on citalopram. The doses of each SSRI prescribed were largely in line with the recommended dose for the treatment of depression in the UK.[28] Unfortunately no information was available on the dosing schedule for SSRI's (continuous vs luteal phase only) or COC's (cyclical vs. continuous).

We were unable to investigate the prevalence of use of non-prescription medications, dietary supplements, complementary and alternative therapies and lifestyle/behaviour changes in the treatment of PMS in this study. While few data on trends in the use of these therapies for PMS have been published, increases in the use of these treatment options may have contributed to the reduction in the use of some of the prescription medications observed in this study. Additionally, the increased use of such therapies may lead women not to consult GPs, thereby contributing to the decreased rate of PMS diagnoses recorded in primary care.

*Conclusions*

The recording of PMS diagnoses in UK primary care has declined between 1995 and 2013. Further work is needed to establish whether this is due to decreased recording of PMS diagnoses in the records of women with premenstrual symptoms or whether it is due to a decrease in the number of women presenting in primary care with premenstrual symptoms. If the former is true, future research might investigate how the perception of PMS among GPs has changed, while if the latter is true future research might focus on how the perception of PMS among women has changed and whether the use and/or efficacy of non-prescription therapies for PMS has influenced women's healthcare seeking behaviour. Changes in the preferred prescription treatment for PMS in primary care, from progestogens to SSRI's and COC's, are largely in line with current evidence and guidelines.

**Contributions** CS had the original idea for the study. CS, IN and IP designed the study. CS performed the analysis. CS, IN and IP interpreted the results. CS drafted the manuscript. IP and IN revised it critically for important intellectual content. CS, IN and IP approved the final version to be published.

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**Competing interests:** We have read and understood BMJ policy on declaration of interests and declare that we have no competing interests.

**Ethics:** THIN has overall ethical approval from the South East Multicentre Research Ethics Committee (reference number: 07/H1102/103).

**Data sharing statement:** No additional data are available.

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**Table 1. Age specific rates (per 1,000 person years) of first PMS records in UK general practice**

| Age (years) | N | IR | $CI_{95}$ |
|---|---|---|---|
| 12-14 | 1056 | 1.21 | (1.14 - 1.28) |
| 15-19 | 1975 | 1.50 | (1.43 - 1.57) |
| 20-24 | 2475 | 1.80 | (1.73 - 1.87) |
| 25-29 | 5165 | 3.28 | (3.19 - 3.37) |
| 30-34 | 8947 | 5.04 | (4.94 - 5.15) |
| 35-39 | 10768 | 5.61 | (5.50 - 5.71) |
| 40-44 | 8540 | 4.39 | (4.30 - 4.49) |
| 45-49 | 3808 | 2.07 | (2.00 - 2.13) |

**Table 2 Type and daily dose of SSRI prescribed on the day of a PMS record**

| **Daily dose** | **Citalopram** | | **Escitalopram** | | **Fluoxetine** | | **Paroxetine** | | **Sertraline** | |
|---|---|---|---|---|---|---|---|---|---|---|
| **(mg)** | **n** | **%** | **n** | **%** | **n** | **%** | **n** | **%** | **n** | **%** |
| **5** | 0 | (0) | 27 | (15.7) | 0 | (0) | 0 | (0) | 0 | (0) |
| **7.5** | 1 | (0.1) | 0 | (0) | 0 | (0) | 0 | (0) | 0 | (0) |
| **10** | 452 | (30.4) | 80 | (46.5) | 16 | (0.3) | 26 | (4.9) | 0 | (0) |
| **15** | 4 | (0.3) | 0 | (0) | 0 | (0) | 1 | (0.2) | 0 | (0) |
| **20** | 501 | (33.7) | 18 | (10.5) | 3,880 | (79.5) | 356 | (67.6) | 0 | (0) |
| **25** | 0 | (0) | 0 | (0) | 0 | (0) | 0 | (0) | 3 | (0.6) |
| **30** | 3 | (0.2) | 0 | (0) | 3 | (0.1) | 47 | (8.9) | 0 | (0) |
| **40** | 67 | (4.5) | 0 | (0) | 81 | (1.7) | 16 | (3) | 0 | (0) |
| **45** | 0 | (0) | 0 | (0) | 0 | (0) | 1 | (0.2) | 0 | (0) |
| **50** | 0 | (0) | 0 | (0) | 0 | (0) | 0 | (0) | 333 | (62.6) |
| **60** | 1 | (0.1) | 0 | (0) | 15 | (0.3) | 1 | (0.2) | 0 | (0) |
| **75** | 0 | (0) | 0 | (0) | 0 | (0) | 0 | (0) | 4 | (0.8) |
| **100** | 0 | (0) | 0 | (0) | 0 | (0) | 0 | (0) | 40 | (7.5) |
| **200** | 0 | (0) | 0 | (0) | 0 | (0) | 0 | (0) | 5 | (0.9) |
| **Unknown** | 458 | (30.8) | 47 | (27.3) | 883 | (18.1) | 79 | (15) | 147 | (27.6) |
| **Total** | 1,487 | (100) | 172 | (100) | 4,878 | (100) | 527 | (100) | 532 | (100) |

*Fluvoxamine prescriptions (n=4) not shown

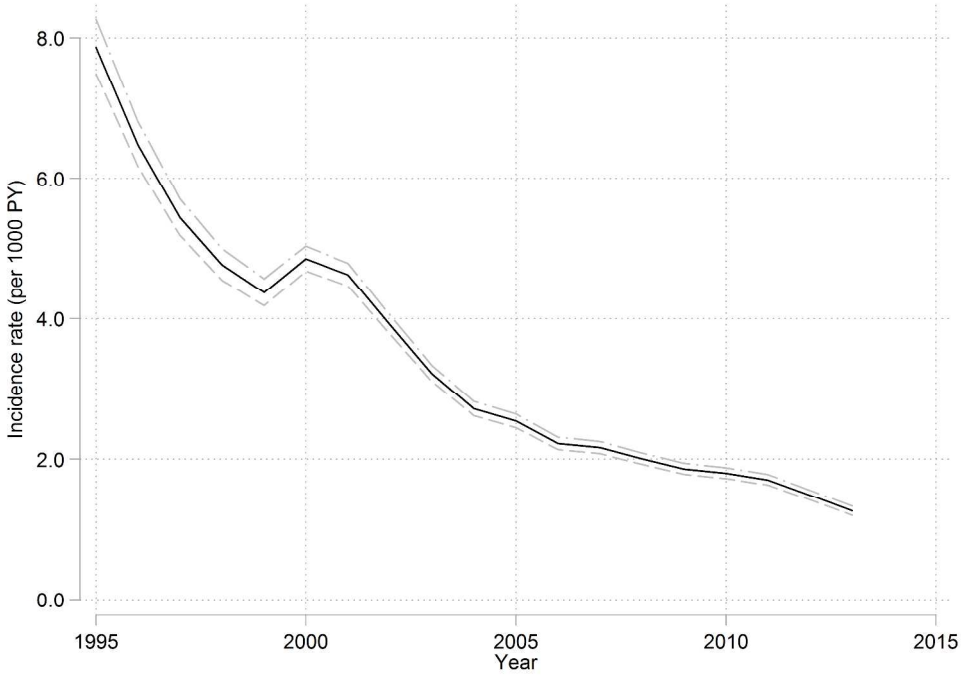


Figure 1 Calendar year specific rates (per 1,000 person years) of first PMS records in UK general practice.
338x246mm (300 x 300 DPI)

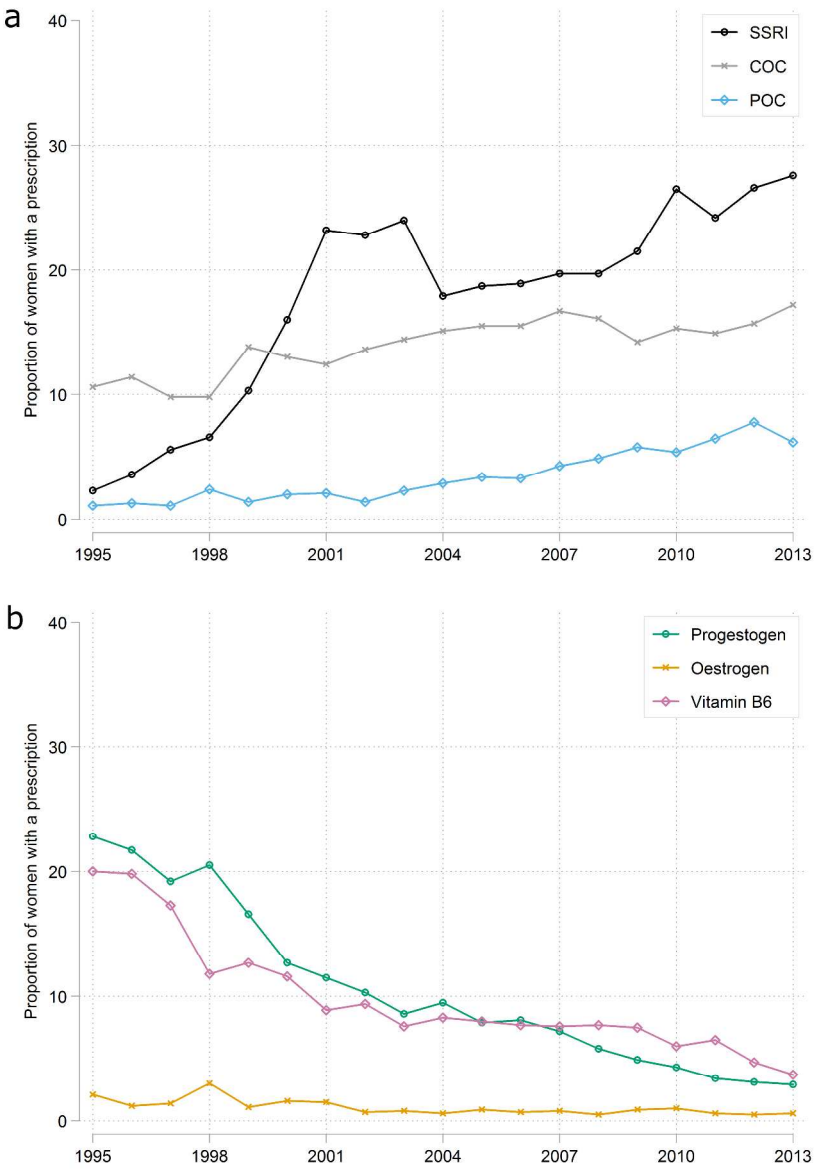


Figure 2 Calendar year specific proportion of women without a given prescription in the 6 months before their PMS record who had (a) an SSRI, COC or POC prescription or (b) a progestogen, oestrogen or vitamin B6 prescription on the day of their first PMS record.
338x490mm (300 x 300 DPI)

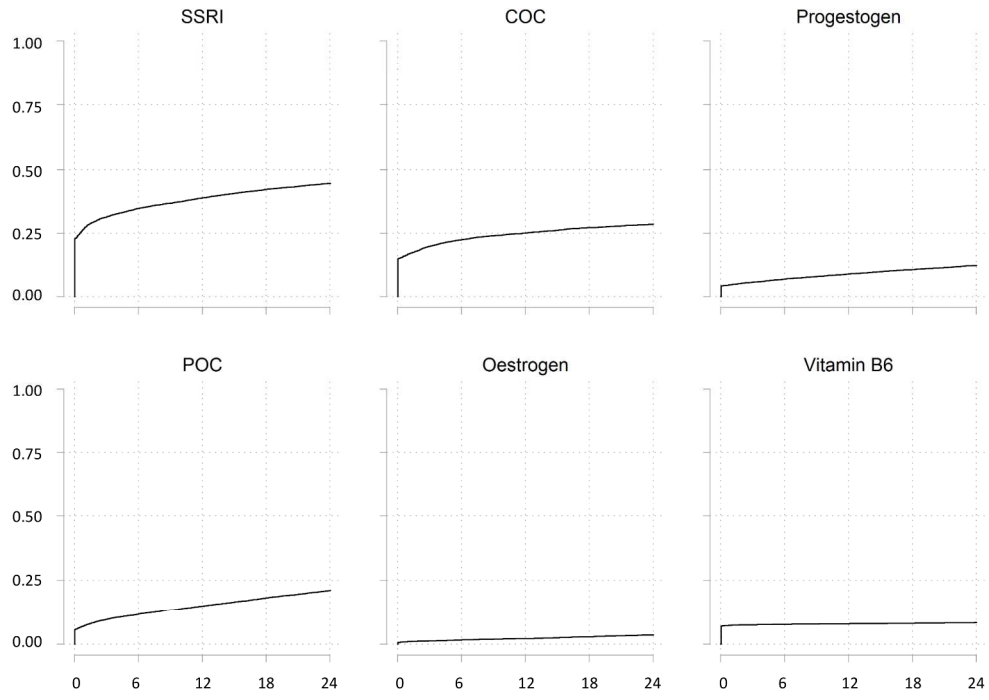


Figure 3. Cumulative incidence of prescriptions in the 2 years following a PMS diagnosis record for the period 2008 to 2011.
254x190mm (300 x 300 DPI)

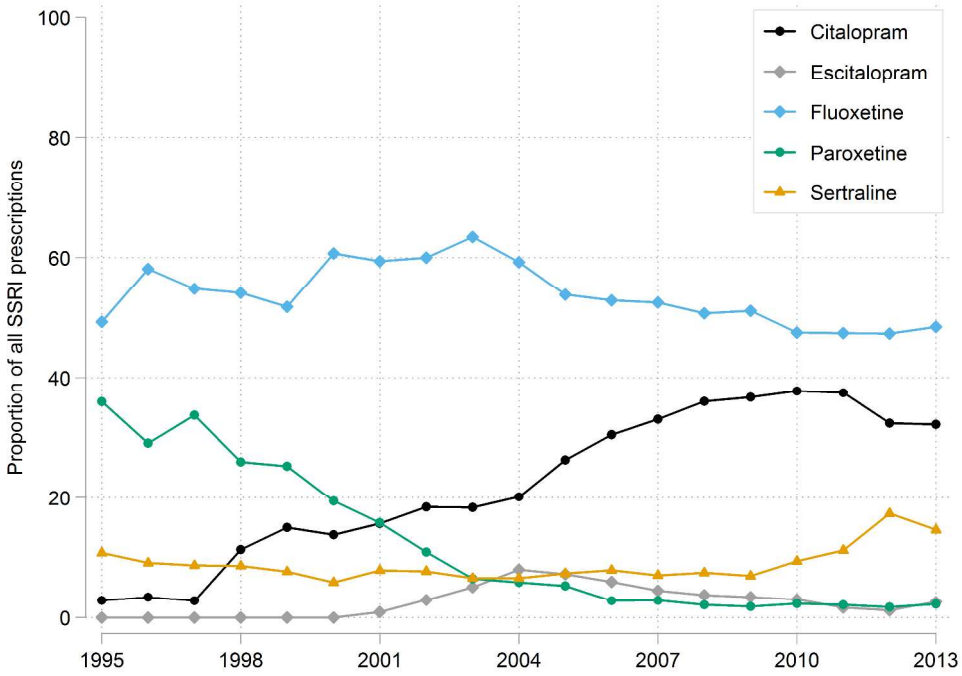


Figure 4 Type of SSRI prescribed on the day of the first PMS record over time, as a proportion of all SSRI prescriptions.
338x246mm (300 x 300 DPI)

**Table S1** List of diagnostic codes included in the study.

| Read code | Description |
|---|---|
| Eu3y200 | [X]*Premenstrual dysphoric disorder |
| K584.00 | Premenstrual tension syndrome |

*[X] implies a code cross references to a specific ICD10 code

**Table S2** List of drugs included in the prescription analysis, by drug category.

| BNF code | Drug name | Category |
|---|---|---|
| 09.06.02.00 | Pyridoxine 50mg capsule | Vitamin B6 |
| 09.06.02.00 | Pyridoxine 10mg tablets | Vitamin B6 |
| 09.06.02.00 | Pyridoxine 20mg tablets | Vitamin B6 |
| 09.06.02.00 | Pyridoxine 10mg tablets | Vitamin B6 |
| 09.06.02.00 | Pyridoxine 100mg tablets | Vitamin B6 |
| 09.06.02.00 | Pyridoxine 50mg tablets | Vitamin B6 |
| 09.06.02.00 | Pyridoxine 50mg tablets | Vitamin B6 |
| 09.06.02.00 | VITAMIN B 6 100 MG TAB | Vitamin B6 |
| 09.06.02.00 | PYRIDOXINE 50 MG INJ | Vitamin B6 |
| 09.06.02.00 | Vitamin b compound strong syrup | Vitamin B6 |
| 09.06.02.00 | Pyridoxine 50mg tablets | Vitamin B6 |
| 09.06.02.00 | Pyridoxine 20mg tablets | Vitamin B6 |
| 09.06.02.00 | Pyridoxine 50mg tablets | Vitamin B6 |
| 09.06.02.00 | Pyridoxine 20mg tablets | Vitamin B6 |
| 09.06.02.00 | Pyridoxine 50mg tablets | Vitamin B6 |
| 09.06.02.00 | Pyridoxine 10mg tablets | Vitamin B6 |
| 09.06.02.00 | PYRIDOXINE 20mg tablets | Vitamin B6 |
| 09.06.02.00 | PYRIDOXINE HCL 100mg m/r tabs | Vitamin B6 |
| 09.06.02.00 | Pyridoxine 50mg tablets | Vitamin B6 |
| 09.06.02.00 | Pyridoxine 10mg tablets | Vitamin B6 |
| 09.06.02.00 | Pyridoxine 20mg tablets | Vitamin B6 |
| 09.06.02.00 | VITAMIN B 6 50 MG TAB | Vitamin B6 |
| 09.06.02.00 | Pyridoxine 100mg modified release tablet | Vitamin B6 |
| 09.06.02.00 | Pyridoxine 10mg tablets | Vitamin B6 |
| 09.06.02.00 | PYRIDOXINE 50mg tablets | Vitamin B6 |
| 06.07.02.00 | Danazol 200mg capsules | Danazol |
| 06.07.02.00 | Danazol 200mg capsules | Danazol |
| 06.07.02.00 | Danazol 200mg capsules | Danazol |
| 06.07.02.00 | Danazol 100mg capsules | Danazol |
| 06.07.02.00 | DANAZOL 100mg capsules | Danazol |
| 06.07.02.00 | DANAZOL 200mg capsules | Danazol |
| 06.07.02.00 | Danazol 100mg capsules | Danazol |
| 06.07.02.00 | Nafarelin 200micrograms/dose nasal spray | Gonadotrophins |
| 06.07.02.00 | NAFARELIN NASAL 2 MG/ML SPR | Gonadotrophins |
| 06.07.02.00 | NAFARELIN 200mcg nasal spray | Gonadotrophins |

| | | |
|---|---|---|
| 08.03.04.02 | Leuprorelin 3.75mg Powder for solution for injection | Gonadotrophins |
| 08.03.04.02 | Cyproterone 100mg tablets | Gonadotrophins |
| 08.03.04.02 | CYPROTERONE ACETATE 100mg tabs | Gonadotrophins |
| 08.03.04.02 | Leuprorelin 3.75mg powder and solvent for suspension for injection pre-filled syringes | Gonadotrophins |
| 08.03.04.02 | BUSERELIN 5.5mg/5.5mL inj | Gonadotrophins |
| 08.03.04.02 | GOSERELIN 3.6mg implant | Gonadotrophins |
| 08.03.04.02 | Flutamide 250mg tablets | Gonadotrophins |
| 08.03.04.02 | Cyproterone 100mg tablets | Gonadotrophins |
| 08.03.04.02 | Leuprorelin 3.75mg powder and solvent for suspension for injection vials | Gonadotrophins |
| 08.03.04.02 | LEUPRORELN ACETATE 11.25mg inj | Gonadotrophins |
| 08.03.04.02 | Flutamide 250mg tablets | Gonadotrophins |
| 08.03.04.02 | Buserelin 100micrograms/dose nasal spray | Gonadotrophins |
| 08.03.04.02 | Leuprorelin 11.25mg powder and solvent for suspension for injection pre-filled syringes | Gonadotrophins |
| 08.03.04.02 | Cyproterone 50mg tablets | Gonadotrophins |
| 08.03.04.02 | LEUPRORELIN ACETATE 3.75mg inj | Gonadotrophins |
| 08.03.04.02 | Flutamide 250mg tablets | Gonadotrophins |
| 08.03.04.02 | GOSERELIN 10.8mg implant | Gonadotrophins |
| 08.03.04.02 | LEUPRORELIN ACET 11.25mg inj | Gonadotrophins |
| 08.03.04.02 | LEUPRORELIN 3.75mg injection | Gonadotrophins |
| 08.03.04.02 | FLUTAMIDE 250mg tablets | Gonadotrophins |
| 08.03.04.02 | BUSERELIN 100mcg nasal spray | Gonadotrophins |
| 08.03.04.02 | BICALUTAMIDE 50mg tablets | Gonadotrophins |
| 08.03.04.02 | Cyproterone 50mg tablets | Gonadotrophins |
| 08.03.04.02 | BICALUTAMIDE 150mg tablets | Gonadotrophins |
| 08.03.04.02 | Flutamide 250mg tablets | Gonadotrophins |
| 08.03.04.02 | GOSERELIN 3.6mg implant | Gonadotrophins |
| 08.03.04.02 | FLUTAMIDE 250mg tablets | Gonadotrophins |
| 08.03.04.02 | CYPROTERONE 50mg tablets | Gonadotrophins |
| 08.03.04.02 | CYPROTERONE 50mg tablets | Gonadotrophins |
| 08.03.04.02 | CYPROTERONE ACETATE 100mg tabs | Gonadotrophins |
| 08.03.04.02 | Bicalutamide 50mg tablets | Gonadotrophins |
| 08.03.04.02 | Bicalutamide 50mg tablets | Gonadotrophins |
| 08.03.04.02 | Cyproterone 50mg tablets | Gonadotrophins |
| 08.03.04.02 | GOSERELIN 10.8mg implant | Gonadotrophins |
| 08.03.04.02 | LEUPRORELIN ACETATE 3.75mg inj | Gonadotrophins |
| 08.03.04.02 | Leuprorelin 11.25mg Powder for solution for injection | Gonadotrophins |
| 08.03.04.02 | Bicalutamide 150mg tablets | Gonadotrophins |
| 08.03.04.02 | Goserelin 10.8mg implant pre-filled syringes | Gonadotrophins |
| 08.03.04.02 | Cyproterone 50mg tablets | Gonadotrophins |
| 08.03.04.02 | Cyproterone 100mg tablets | Gonadotrophins |
| 08.03.04.02 | Leuprorelin 11.25mg powder and solvent for | Gonadotrophins |

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|---|---|---|
| | suspension for injection vials | |
| 08.03.04.02 | Goserelin 3.6mg implant pre-filled syringes | Gonadotrophins |
| 08.03.04.02 | Cyproterone 50mg tablets | Gonadotrophins |
| 08.03.04.02 | Abiraterone 250mg tablets | Gonadotrophins |
| 08.03.04.02 | Buserelin 5.5mg/5.5ml solution for injection vials | Gonadotrophins |
| 08.03.04.02 | Histrelin 50mg implant with device | Gonadotrophins |
| 06.04.02.00 | CYPROTERONE ACETATE 50mg tabs | Gonadotrophins |
| 06.07.02.00 | Triptorelin acetate 3.75mg powder and solvent for suspension for injection pre-filled disposable devices | Gonadotrophins |
| 06.07.02.00 | Triptorelin acetate 11.25mg powder and solvent for suspension for injection vials | Gonadotrophins |
| 06.07.02.00 | TRIPTORELIN 3.75mg inj syringe | Gonadotrophins |
| 06.07.02.00 | TRIPTORELIN 22.5mg inj pdr | Gonadotrophins |
| 06.07.02.00 | TRIPTORELIN 11.25mg injection | Gonadotrophins |
| 06.07.02.00 | TRIPTORELIN 11.25mg inj powder | Gonadotrophins |
| 06.07.02.00 | Triptorelin embonate 11.25mg powder and solvent for suspension for injection vials | Gonadotrophins |
| 06.07.02.00 | Buserelin 150micrograms/dose nasal spray | Gonadotrophins |
| 06.07.02.00 | Triptorelin acetate 3mg powder and solvent for suspension for injection vials | Gonadotrophins |
| 06.07.02.00 | TRIPTORELIN 3mg inj powder | Gonadotrophins |
| 06.07.02.00 | Buserelin 150micrograms spray | Gonadotrophins |
| 06.07.02.00 | Triptorelin embonate 22.5mg powder and solvent for suspension for injection vials | Gonadotrophins |
| 06.07.02.00 | BUSERELIN 5.5mg/5.5mL inj | Gonadotrophins |
| 06.04.01.01 | Estradiol acetate 1.25mg vaginal ring | Oestrogen |
| 06.04.01.01 | ESTRADIOL 0.5mg/dose gel | Oestrogen |
| 06.04.01.01 | Estradiol 25mg implant | Oestrogen |
| 06.04.01.01 | ESTRADIOL 80mcg patches | Oestrogen |
| 06.04.01.01 | CONJUGATED OESTROGENS 625/NORGESTREL 500 MCG TAB | Oestrogen |
| 06.04.01.01 | PIPERAZINE ESTRONE 1.5mg tabs | Oestrogen |
| 06.04.01.01 | ESTRADIOL 100mcg patches | Oestrogen |
| 06.04.01.01 | ESTRADIOL 50micrograms patches | Oestrogen |
| 06.04.01.01 | Ethinylestradiol 10microgram tablets | Oestrogen |
| 06.04.01.01 | Estradiol and (estradiol with levonorgestrel) 50mcg/24hrs with (50mcg+10mcg/24hrs) once weekly patch | Oestrogen |
| 06.04.01.01 | Estradiol 25micrograms/24hr twice weekly patch | Oestrogen |
| 06.04.01.01 | ESTRADIOL 75micrograms patches | Oestrogen |
| 06.04.01.01 | Estradiol 100micrograms/24hr twice weekly patch | Oestrogen |
| 06.04.01.01 | Estradiol with estrone and estriol tablets | Oestrogen |
| 06.04.01.01 | ESTRADIOL 75micrograms patches | Oestrogen |
| 06.04.01.01 | ESTRADIOL VALERATE 1mg tablets | Oestrogen |
| 06.04.01.01 | OESTRADIOL 1 MG TAB | Oestrogen |

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|---|---|---|
| 06.04.01.01 | Estradiol 75micrograms/24hr twice weekly patch | Oestrogen |
| 06.04.01.01 | Estradiol 100micrograms/24hours transdermal patches | Oestrogen |
| 06.04.01.01 | Estradiol 100micrograms/24hr once weekly patch | Oestrogen |
| 06.04.01.01 | Estradiol 25micrograms/24hours transdermal patches | Oestrogen |
| 06.04.01.01 | Estradiol 100mg implant | Oestrogen |
| 06.04.01.01 | Estradiol 100micrograms/24hours transdermal patches | Oestrogen |
| 06.04.01.01 | Estradiol 100micrograms/24hours transdermal patches | Oestrogen |
| 06.04.01.01 | ESTRADIOL 100mcg patches | Oestrogen |
| 06.04.01.01 | Estradiol 25micrograms/24hr twice weekly patch | Oestrogen |
| 06.04.01.01 | ESTRADIOL 100mcg patches | Oestrogen |
| 06.04.01.01 | ESTRADIOL 50micrograms patches | Oestrogen |
| 06.04.01.01 | ESTRADIOL VALERATE 2mg tablets | Oestrogen |
| 06.04.01.01 | ESTRIOL 250mcg tablets | Oestrogen |
| 06.04.01.01 | ESTRADIOL 1mg/dose gel | Oestrogen |
| 06.04.01.01 | Ethinylestradiol with methyltestosterone 4.4micrograms + 3.6mg Tablet | Oestrogen |
| 06.04.01.01 | OESTRADIOL SKIN PATCHES 50MCG | Oestrogen |
| 06.04.01.01 | Estradiol 50micrograms/24hr once weekly patch | Oestrogen |
| 06.04.01.01 | TRANSDERMAL OESTRADIOL 50 MCG | Oestrogen |
| 06.04.01.01 | ESTRADIOL 100mcg patches | Oestrogen |
| 06.04.01.01 | Estradiol 100micrograms/24hr once weekly patch | Oestrogen |
| 06.04.01.01 | Ethinylestradiol 50microgram tablets | Oestrogen |
| 06.04.01.01 | ESTRADIOL 75micrograms patches | Oestrogen |
| 06.04.01.01 | ETHINYLOESTRADIOL 30 MCG TAB | Oestrogen |
| 06.04.01.01 | Estradiol 50micrograms/24hr twice weekly patch | Oestrogen |
| 06.04.01.01 | Estradiol 25micrograms/24hours transdermal patches | Oestrogen |
| 06.04.01.01 | Dienestrol 5mg tablets | Oestrogen |
| 06.04.01.01 | Estradiol valerate and (estradiol valerate with levonorgestrel) 1mg with (1mg with 250micrograms) tablets | Oestrogen |
| 06.04.01.01 | Estradiol 75micrograms/24hr twice weekly patch | Oestrogen |
| 06.04.01.01 | Estradiol 75micrograms/24hr twice weekly patch | Oestrogen |
| 06.04.01.01 | ESTRADIOL VALERATE 1mg tablets | Oestrogen |
| 06.04.01.01 | ESTRADIOL 100mcg patches | Oestrogen |
| 06.04.01.01 | Estradiol 100micrograms/24hours transdermal patches | Oestrogen |
| 06.04.01.01 | Conjugated oestrogens 1.25mg tablets and Norgestrel 150microgram tablets | Oestrogen |
| 06.04.01.01 | Estradiol 25micrograms/24hours transdermal patches | Oestrogen |
| 06.04.01.01 | Estradiol 50micrograms/24hr twice weekly patch | Oestrogen |
| 06.04.01.01 | Ethinylestradiol 10microgram tablets | Oestrogen |

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|---|---|---|
| 06.04.01.01 | ESTRADIOL 75micrograms patches | Oestrogen |
| 06.04.01.01 | Estradiol 50mg implant | Oestrogen |
| 06.04.01.01 | Estradiol 50micrograms/24hr twice weekly patch | Oestrogen |
| 06.04.01.01 | Conjugated oestrogens 1.25mg tablets | Oestrogen |
| 06.04.01.01 | Estradiol 50micrograms/24hours / Levonorgestrel 7micrograms/24hours transdermal patches | Oestrogen |
| 06.04.01.01 | ESTRADIOL VALERATE 2mg tablets | Oestrogen |
| 06.04.01.01 | Ethinylestradiol 50microgram tablets | Oestrogen |
| 06.04.01.01 | Generic Estracombi TTS transdermal patches | Oestrogen |
| 06.04.01.01 | ESTRADIOL 40micrograms patches | Oestrogen |
| 06.04.01.01 | ESTRADIOL VALERATE 2mg tablets | Oestrogen |
| 06.04.01.01 | Estradiol 37.5micrograms/24hr twice weekly patch | Oestrogen |
| 06.04.01.01 | Estradiol 1mg/ml injection | Oestrogen |
| 06.04.01.01 | Estradiol 100micrograms/24hr twice weekly patch | Oestrogen |
| 06.04.01.01 | Estradiol 500microgram gel sachets | Oestrogen |
| 06.04.01.01 | QUINESTRADOL 250mcg tablets | Oestrogen |
| 06.04.01.01 | ETHINYLOESTRADIOL 25 MCG TAB | Oestrogen |
| 06.04.01.01 | Dienestrol 1mg tablets | Oestrogen |
| 06.04.01.01 | Estradiol 40micrograms/24 hourspatch | Oestrogen |
| 06.04.01.01 | Estradiol 100micrograms/24hr twice weekly patch | Oestrogen |
| 06.04.01.01 | Estropipate 1.5mg tablets | Oestrogen |
| 06.04.01.01 | Estradiol 100micrograms/24hr twice weekly patch | Oestrogen |
| 06.04.01.01 | Estradiol valerate 2mg tablets | Oestrogen |
| 06.04.01.01 | Estradiol 50micrograms/24hours transdermal patches | Oestrogen |
| 06.04.01.01 | Estradiol 1mg tablets | Oestrogen |
| 06.04.01.01 | ESTRADIOL VALERATE 1mg tablets | Oestrogen |
| 06.04.01.01 | Estradiol 25micrograms/24hr twice weekly patch | Oestrogen |
| 06.04.01.01 | ESTRADIOL HEMIHYD 150mcg spra | Oestrogen |
| 06.04.01.01 | Generic Hormonin tablets | Oestrogen |
| 06.04.01.01 | CONJ OESTROGENS 2.5mg tablets | Oestrogen |
| 06.04.01.01 | Estradiol 100micrograms/24hr once weekly patch | Oestrogen |
| 06.04.01.01 | Estradiol 50micrograms/24hours transdermal patches | Oestrogen |
| 06.04.01.01 | ESTRADIOL 50micrograms patches | Oestrogen |
| 06.04.01.01 | OESTRADIOL 17B | Oestrogen |
| 06.04.01.01 | Ethinylestradiol 20micrograms Tablet | Oestrogen |
| 06.04.01.01 | ESTRADIOL 50micrograms patches | Oestrogen |
| 06.04.01.01 | Estradiol 25micrograms/24hr once weekly patch | Oestrogen |
| 06.04.01.01 | ETHISTERONE 5 MG TAB | Oestrogen |
| 06.04.01.01 | Chlorotrianisene | Oestrogen |
| 06.04.01.01 | Estradiol 75micrograms/24hours transdermal patches | Oestrogen |
| 06.04.01.01 | ESTRADIOL 37.5micrograms patch | Oestrogen |
| 06.04.01.01 | OESTRADIOL 50 MG TAB | Oestrogen |

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|---|---|---|
| 06.04.01.01 | ESTRADIOL 25micrograms patches | Oestrogen |
| 06.04.01.01 | Estradiol 50micrograms/24hr once weekly patch | Oestrogen |
| 06.04.01.01 | Estradiol 80micrograms/24hours transdermal patches | Oestrogen |
| 06.04.01.01 | Estradiol 50micrograms/24hr twice weekly patch | Oestrogen |
| 06.04.01.01 | ESTRADIOL 1mg/dose gel | Oestrogen |
| 06.04.01.01 | ESTRADIOL VALERATE 1mg tablets | Oestrogen |
| 06.04.01.01 | ESTRADIOL 100mcg patches | Oestrogen |
| 06.04.01.01 | ESTRADIOL 80mcg patches | Oestrogen |
| 06.04.01.01 | ESTRADIOL 50micrograms patches | Oestrogen |
| 06.04.01.01 | Estradiol 25micrograms/24hours transdermal patches | Oestrogen |
| 06.04.01.01 | Estriol 1mg tablets | Oestrogen |
| 06.04.01.01 | ESTRADIOL 25micrograms patches | Oestrogen |
| 06.04.01.01 | ESTRADIOL 50micrograms patches | Oestrogen |
| 06.04.01.01 | Ethinylestradiol 2microgram tablets | Oestrogen |
| 06.04.01.01 | ESTRADIOL VALERATE 1mg tablets | Oestrogen |
| 06.04.01.01 | ETHINYLOESTRADIOL 100 MCG TAB | Oestrogen |
| 06.04.01.01 | Estradiol 1mg gel sachets | Oestrogen |
| 06.04.01.01 | ESTRADIOL 40micrograms patches | Oestrogen |
| 06.04.01.01 | ESTRADIOL VALERATE 2mg tablets | Oestrogen |
| 06.04.01.01 | Estradiol 50micrograms/24hr once weekly patch | Oestrogen |
| 06.04.01.01 | ESTRADIOL 50mcg/24hours ring | Oestrogen |
| 06.04.01.01 | Conjugated oestrogens 300microgram tablets | Oestrogen |
| 06.04.01.01 | ESTRADIOL 50micrograms patches | Oestrogen |
| 06.04.01.01 | ESTRADIOL VALERATE 2mg tablets | Oestrogen |
| 06.04.01.01 | Conjugated oestrogens 2.5mg tablets | Oestrogen |
| 06.04.01.01 | ESTRADIOL 75micrograms patches | Oestrogen |
| 06.04.01.01 | Estradiol 2mg tablets | Oestrogen |
| 06.04.01.01 | ESTRADIOL VALERATE 2mg tablets | Oestrogen |
| 06.04.01.01 | Estradiol 25micrograms/24hr twice weekly patch | Oestrogen |
| 06.04.01.01 | Conjugated oestrogens equine with medroxyprogesterone acetate 625micrograms with 10mg tablets | Oestrogen |
| 06.04.01.01 | OESTRADIOL .01 MG TAB | Oestrogen |
| 06.04.01.01 | Ethinylestradiol 1mg tablets | Oestrogen |
| 06.04.01.01 | Estradiol 50micrograms/24hr twice weekly patch | Oestrogen |
| 06.04.01.01 | Estradiol valerate 1mg tablets | Oestrogen |
| 06.04.01.01 | ESTRADIOL 50micrograms patches | Oestrogen |
| 06.04.01.01 | Conjugated oestrogens 625microgram tablets and Norgestrel 150microgram tablets | Oestrogen |
| 06.04.01.01 | OESTRADIOL 1.25g/dose gel | Oestrogen |
| 06.04.01.01 | ESTRADIOL 25micrograms patches | Oestrogen |
| 06.04.01.01 | Estradiol 25micrograms/24hr twice weekly patch | Oestrogen |
| 06.04.01.01 | Estradiol 50micrograms/24hours transdermal patches | Oestrogen |

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| 06.04.01.01 | ESTRADIOL 37.5micrograms patch | Oestrogen |
| 06.04.01.01 | ESTRADIOL 50micrograms patches | Oestrogen |
| 06.04.01.01 | ESTRADIOL 75micrograms patches | Oestrogen |
| 06.04.01.01 | Estradiol 50micrograms/24hr twice weekly patch | Oestrogen |
| 06.04.01.01 | CONJUGATED OESTROGENS / NORGESTREL 1.25 MG TAB | Oestrogen |
| 06.04.01.01 | Estradiol 100micrograms/24hr twice weekly patch | Oestrogen |
| 06.04.01.01 | Estradiol 50mg implant | Oestrogen |
| 06.04.01.01 | Estradiol 25micrograms/24hours transdermal patches | Oestrogen |
| 06.04.01.01 | ETHINYLOESTRADIOL 2 MCG TAB | Oestrogen |
| 06.04.01.01 | Estradio; 5m/ml injection | Oestrogen |
| 06.04.01.01 | ESTRADIOL 25micrograms patches | Oestrogen |
| 06.04.01.01 | Estradiol 25micrograms/24hr once weekly patch | Oestrogen |
| 06.04.01.01 | Estradiol 75micrograms/24hr twice weekly patch | Oestrogen |
| 06.04.01.01 | ETHINYLOESTRADIOL 5 MG TAB | Oestrogen |
| 06.04.01.01 | ESTRADIOL VALERATE 2mg tablets | Oestrogen |
| 06.04.01.01 | ESTRADIOL VALERATE 1mg tablets | Oestrogen |
| 06.04.01.01 | Estradiol 75micrograms/24hours transdermal patches | Oestrogen |
| 06.04.01.01 | ESTRADIOL 50micrograms patches | Oestrogen |
| 06.04.01.01 | Estradiol 75micrograms/24hr once weekly patch | Oestrogen |
| 06.04.01.01 | PREMARIN 1.25MG/NORGESTREL 0.15MG MG TAB | Oestrogen |
| 06.04.01.01 | Estradiol and (estradiol with levonorgestrel) 80mcg/24hrs with (50mcg+20mcg/24hr) twice weekly patch | Oestrogen |
| 06.04.01.01 | Estriol 250micrograms tablets | Oestrogen |
| 06.04.01.01 | ESTRIOL 1mg tablets | Oestrogen |
| 06.04.01.01 | Estradiol 40micrograms/24hours transdermal patches | Oestrogen |
| 06.04.01.01 | Estradiol 0.06% gel | Oestrogen |
| 06.04.01.01 | Estradiol with estrone and estriol tablets | Oestrogen |
| 06.04.01.01 | Estradiol 75micrograms/24hr twice weekly patch | Oestrogen |
| 06.04.01.01 | Estradiol 37.5micrograms/24hours transdermal patches | Oestrogen |
| 06.04.01.01 | Estradiol 25micrograms/24hr twice weekly patch | Oestrogen |
| 06.04.01.01 | ESTRADIOL 50micrograms patches | Oestrogen |
| 06.04.01.01 | ESTRADIOL 100mcg patches | Oestrogen |
| 06.04.01.01 | ESTRADIOL 25micrograms patches | Oestrogen |
| 06.04.01.01 | Estradiol 0.1% gel | Oestrogen |
| 06.04.01.01 | ESTRADIOL 0.06% gel | Oestrogen |
| 06.04.01.01 | PREMPAK 1.25MG MG TAB | Oestrogen |
| 06.04.01.01 | ETHINYLOESTRADIOL 5 MCG CAP | Oestrogen |
| 06.04.01.01 | Conjugated oestrogens 625microgram tablets | Oestrogen |
| 06.04.01.01 | Estradiol 1mg / Dydrogesterone 5mg tablets | Oestrogen |
| 06.04.01.01 | ETHINYLOESTRADIOL 20 MCG PES | Oestrogen |

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| 06.04.01.01 | Estradiol 25micrograms/24hours transdermal patches | Oestrogen |
| 06.04.01.01 | Estradiol 150micrograms/dose nasal spray | Oestrogen |
| 06.04.01.01 | CONJ OESTROGENS 1.25mg tablets | Oestrogen |
| 06.04.01.01 | ESTRIOL 250mcg tablets | Oestrogen |
| 06.04.01.01 | CONJ OESTROGENS 300mcg tablets | Oestrogen |
| 06.04.01.01 | ETHINYLOESTRADIOL 15 MCG TAB | Oestrogen |
| 06.04.01.01 | CONJ OESTROGENS 625mcg tablets | Oestrogen |
| 06.04.01.01 | Estradiol with (estradiol with norethisterone acetate) 50mcg/24 hr with (50mcg+250mcg/24 hr) twice weekly patch | Oestrogen |
| 06.04.01.01 | Estradiol valerate 1mg / Medroxyprogesterone 5mg tablets | Oestrogen |
| 06.04.01.01 | Conjugated oestrogens 625microgram tablets and Norgestrel 150microgram tablets | Oestrogen |
| 06.04.01.01 | Estradiol 50micrograms/24hours / Norethisterone 170micrograms/24hours transdermal patches | Oestrogen |
| 06.04.01.01 | Estradiol 50micrograms/24hours / Norethisterone 170micrograms/24hours transdermal patches | Oestrogen |
| 06.04.01.01 | Generic Clinorette tablets | Oestrogen |
| 06.04.01.01 | Generic Trisequens tablets | Oestrogen |
| 06.04.01.01 | Estradiol with (estradiol with norethisterone acetate) 1mg with (1mg with 1mg) tablets | Oestrogen |
| 06.04.01.01 | Estradiol valerate and (estradiol valerate with levonorgestrel) 2mg with (2mg with 75micrograms) tablets | Oestrogen |
| 06.04.01.01 | Conjugated oestrogens 300microgram / Medroxyprogesterone 1.5mg modified-release tablets | Oestrogen |
| 06.04.01.01 | Estradiol 50micrograms/24hours transdermal patches and Norethisterone acetate 1mg tablets | Oestrogen |
| 06.04.01.01 | Estradiol 1mg / Drospirenone 2mg tablets | Oestrogen |
| 06.04.01.01 | Estradiol 50micrograms/24hours / Norethisterone 170micrograms/24hours transdermal patches | Oestrogen |
| 06.04.01.01 | Generic Climagest 1mg tablets | Oestrogen |
| 06.04.01.01 | ESTRADI+NORETHIS 2/0.7mg tabs | Oestrogen |
| 06.04.01.01 | Estradiol 80micrograms/24hours transdermal patches and Dydrogesterone 10mg tablets | Oestrogen |
| 06.04.01.01 | Generic Nuvelle TS transdermal patches | Oestrogen |
| 06.04.01.01 | Generic Novofem tablets | Oestrogen |
| 06.04.01.01 | Estradiol valerate 1mg / Medroxyprogesterone 5mg tablets | Oestrogen |
| 06.04.01.01 | Estradiol 80micrograms/24hours transdermal patches and Dydrogesterone 10mg tablets | Oestrogen |
| 06.04.01.01 | ESTRADIOL+NORETHIS 2/1mg tabs | Oestrogen |
| 06.04.01.01 | Generic Climagest 1mg tablets | Oestrogen |
| 06.04.01.01 | Estradiol valerate and (estradiol valerate with norethisterone) 1mg with (1mg with 1mg) tablets | Oestrogen |

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| 06.04.01.01 | Generic Nuvelle tablets | Oestrogen |
| 06.04.01.01 | Estradiol valerate and (estradiol valerate with medroxyprogesterone acetate) with placebo 2mg with (2mg with 20mg) with | Oestrogen |
| 06.04.01.01 | Generic Nuvelle tablets | Oestrogen |
| 06.04.01.01 | Conjugated oestrogens 1.25mg tablets and Norgestrel 150microgram tablets | Oestrogen |
| 06.04.01.01 | Generic Tridestra tablets | Oestrogen |
| 06.04.01.01 | ESTRADIO+NORETHIS 1/0.5mg tabs | Oestrogen |
| 06.04.01.01 | Generic Evorel Sequi transdermal patches | Oestrogen |
| 06.04.01.01 | Norgestrel and conjugated oestrogens (equine) 150micrograms + 1.25mg Tablet | Oestrogen |
| 06.04.01.01 | Estradiol valerate and (estradiol valerate with norgestrel) 2mg with (2mg with 500micrograms) tablets | Oestrogen |
| 06.04.01.01 | Estradiol with norethisterone acetate ( continuous combined) 2mg with 0.7mg tablets | Oestrogen |
| 06.04.01.01 | CONJ OEST 0.625mg/MPA 5mg tabs | Oestrogen |
| 06.04.01.01 | Generic Cyclo-Progynova 2mg tablets | Oestrogen |
| 06.04.01.01 | Conjugated oestrogens 1.25mg tablets and Norgestrel 150microgram tablets | Oestrogen |
| 06.04.01.01 | Estradiol with (estradiol with norethisterone acetate) 50mcg/24 hr with (50mcg+170mcg/24 hr) twice weekly patch | Oestrogen |
| 06.04.01.01 | Estradiol and (estradiol with norethisterone) and (estradiol) 2mg with (2mg with 1mg) tablets | Oestrogen |
| 06.04.01.01 | ESTRADIOL+NORETHIS 2/1mg tabs | Oestrogen |
| 06.04.01.01 | DROSPIR 2mg/ESTRADIOL 1mg tabs | Oestrogen |
| 06.04.01.01 | Estradiol valerate 2mg / Norethisterone 700microgram tablets | Oestrogen |
| 06.04.01.01 | Estradiol and (estradiol with dydrogesterone) 2mg with (2mg with 10 mg) tablets | Oestrogen |
| 06.04.01.01 | Estradiol 40micrograms/24hours transdermal patches and Dydrogesterone 10mg tablets | Oestrogen |
| 06.04.01.01 | Estradiol 1mg / Dydrogesterone 5mg tablets | Oestrogen |
| 06.04.01.01 | Estradiol and (estradiol with norethisterone) and (estradiol) triphasic forte 4mg with (4mg with 1mg) with (1mg) tablets | Oestrogen |
| 06.04.01.01 | Piperazine oestrone sulphate 1.5mg with medroxyprogesterone 10mg tablet | Oestrogen |
| 06.04.01.01 | Estradiol and (estradiol with dydrogesterone) 2mg with (2mg with 20mg) tablets | Oestrogen |
| 06.04.01.01 | Generic Femoston 1/10mg tablets | Oestrogen |
| 06.04.01.01 | Estradiol with norethisterone 0mcg/24hours(3.2mg/unit) with 1mg patch with tablet | Oestrogen |
| 06.04.01.01 | Generic FemSeven Sequi transdermal patches | Oestrogen |
| 06.04.01.01 | Estradiol 2mg / Norethisterone acetate 1mg tablets | Oestrogen |
| 06.04.01.01 | CONJ OEST 0.3mg/MPA 1.5mg tabs | Oestrogen |

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| 06.04.01.01 | Estradiol 500micrograms / Dydrogesterone 2.5mg tablets | Oestrogen |
| 06.04.01.01 | Generic Premique Cycle tablets | Oestrogen |
| 06.04.01.01 | ESTRADIOL+NORETHIS 2/1mg tabs | Oestrogen |
| 06.04.01.01 | Estradiol valerate 1mg / Medroxyprogesterone 2.5mg tablets | Oestrogen |
| 06.04.01.01 | Estradiol with norethisterone acetate 50mcg/24hours(4mg/unit) with 1mg patch with tablet | Oestrogen |
| 06.04.01.01 | Generic Femoston 2/10mg tablets | Oestrogen |
| 06.04.01.01 | Generic Trisequens Forte tablets | Oestrogen |
| 06.04.01.01 | Estradiol with (estradiol with norethisterone acetate) 50mcg/24 hr with (50mcg+250mcg/24 hr) twice weekly patch | Oestrogen |
| 06.04.01.01 | Norgestrel and conjugated oestrogens (equine) 150micrograms + 625micrograms Tablet | Oestrogen |
| 06.04.01.01 | Estradiol valerate 1mg / Medroxyprogesterone 2.5mg tablets | Oestrogen |
| 06.04.01.01 | Generic Adgyn Combi tablets | Oestrogen |
| 06.04.01.01 | Estradiol 1mg / Norethisterone acetate 500microgram tablets | Oestrogen |
| 06.04.01.01 | Estradiol 50micrograms/24hours / Levonorgestrel 7micrograms/24hours transdermal patches | Oestrogen |
| 06.04.01.01 | Generic Elleste Duet 2mg tablets | Oestrogen |
| 06.04.01.01 | Estradiol valerate and (estradiol valerate with norethisterone) 2mg with (2mg with 1 mg) tablets | Oestrogen |
| 06.04.01.01 | Estradiol 50micrograms/24hours transdermal patches and Norethisterone 1mg tablets | Oestrogen |
| 06.04.01.01 | Generic Femoston 2/20mg tablets | Oestrogen |
| 06.04.01.01 | Conjugated oestrogens 625microgram / Medroxyprogesterone 5mg tablets | Oestrogen |
| 06.04.01.01 | Estradiol 1mg / Dydrogesterone 5mg tablets | Oestrogen |
| 06.04.01.01 | Generic Elleste Duet 1mg tablets | Oestrogen |
| 06.04.01.01 | Estradiol 50micrograms/24hours / Levonorgestrel 7micrograms/24hours transdermal patches | Oestrogen |
| 06.04.01.01 | Conjugat oestrogen equi and (conjugat oestrogen equi with medroxyprogesterone acetate 625 micrograms with (625 microgram | Oestrogen |
| 06.04.01.01 | Estradiol valerate 2mg / Medroxyprogesterone 5mg tablets | Oestrogen |
| 06.04.01.01 | Estradiol 40micrograms/24hours transdermal patches and Dydrogesterone 10mg tablets | Oestrogen |
| 06.04.01.01 | Generic Cyclo-Progynova 1mg tablets | Oestrogen |
| 06.04.01.01 | PREMARIN 0.625MG/NORGESTREL 0.15MG MG TAB | Oestrogen |
| 06.04.01.01 | Estradiol valerate with medroxyprogesterone acetate tablets | Oestrogen |
| 06.04.01.01 | Mestranol with norethisterone Tablet | Oestrogen |
| 06.04.01.01 | ESTRADIOL+NORETHIS 2/1mg tabs | Oestrogen |

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| 06.04.01.01 | Piperazine oestrone sulphate 1.5mg with medroxyprogesterone 10mg tablet | Oestrogen |
| 06.04.01.01 | Estradiol with (estradiol with norethisterone acetate) 2mg with (2mg with 1 mg) tablets | Oestrogen |
| 06.04.01.01 | Conjugated oestrogens 625microgram tablets and Norgestrel 150microgram tablets | Oestrogen |
| 06.04.01.01 | Estradiol and (estradiol with dydrogesterone) 1mg with (1mg with 10mg) tablets | Oestrogen |
| 06.04.01.01 | Estradiol and (estradiol with norethisterone) 2mg with (2mg with 1mg) tablets | Oestrogen |
| 06.04.01.01 | ESTRADIOL+NORETHIS 2/1mg tabs | Oestrogen |
| 06.04.01.01 | Estradiol valerate 2mg / Medroxyprogesterone 5mg tablets | Oestrogen |
| 06.04.01.01 | Estradiol and (estradiol with dydrogesterone) tablets 1mg with 5mg | Oestrogen |
| 07.03.01.00 | Estradiol valerate and (estradiol valerate with dienogest) tablets | Oestrogen |
| 07.03.01.00 | Generic Qlaira tablets | Oestrogen |
| 06.04.01.01 | ETHINYL+NOREL 600mcg/6mg patch | Oestrogen |
| 06.04.01.01 | Ethinylestradiol 33.9micrograms/24hours / Norelgestromin 203micrograms/24hours transdermal patches | Oestrogen |
| 06.04.01.01 | Norelgestromin with ethinylestradiol 203micrograms + 33.9micrograms/24hours Transdermal patch | Oestrogen |
| 07.03.02.01 | Levonorgestrel 750microgram tablets | progestogen only contraceptive |
| 07.03.02.01 | DESOGESTREL 75mcg tablets | progestogen only contraceptive |
| 07.03.02.01 | DESOGESTREL 75mcg tablets | progestogen only contraceptive |
| 07.03.02.01 | Desogestrel 75microgram tablets | progestogen only contraceptive |
| 07.03.02.02 | ETONOGESTREL 68mg implant | progestogen only contraceptive |
| 07.03.02.02 | Norethisterone 200mg/1ml solution for injection ampoules | progestogen only contraceptive |
| 07.03.02.02 | ETONOGESTREL 68mg implant | progestogen only contraceptive |
| 07.03.02.02 | NORETHISTERONE 200mg/1mL inj | progestogen only contraceptive |
| 07.03.02.02 | Etonogestrel 68mg implant | progestogen only contraceptive |
| 07.03.02.00 | MEDROXYPROGEST 50mg/mL inj | progestogen only contraceptive |
| 07.03.02.01 | Norgestrel 75microgram tablets | progestogen only contraceptive |
| 07.03.02.01 | LEVONORGESTREL 37.5mcg tabs | progestogen only contraceptive |
| 07.03.02.01 | Etynodiol 500microgram tablets | progestogen only contraceptive |
| 07.03.02.01 | ETYNODIOL DIACET 500mcg tabs | progestogen only contraceptive |
| 07.03.02.02 | MEDROXYPROGEST 150mg/1mL inj | progestogen only contraceptive |
| 07.03.02.02 | MEDROXYPROGEST 150mg/1mL inj | progestogen only contraceptive |
| 07.03.02.02 | MEDROXYPROGEST 150mg/1mL inj | progestogen only contraceptive |
| 07.03.02.02 | MEDROXYPROGEST 150mg/1mL inj | progestogen only contraceptive |
| 07.03.02.03 | Levonorgestrel 20micrograms/24hours intrauterine device | progestogen only contraceptive |
| 07.03.02.02 | LEVONORGESTREL 38mg implant | progestogen only contraceptive |
| 07.03.02.02 | Levonorgestrel 228mg Implant | progestogen only contraceptive |

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| 07.03.02.03 | LEVONORGESTREL 52mg i-u system | progestogen only contraceptive |
| 07.03.02.01 | Norethisterone 350mcg tablet | progestogen only contraceptive |
| 07.03.02.01 | Norethisterone 350microgram tablets | progestogen only contraceptive |
| 07.03.02.01 | Norethisterone 350mcg tablet | progestogen only contraceptive |
| 07.03.02.02 | Medroxyprogesterone 150mg/1ml suspension for injection pre-filled syringes | progestogen only contraceptive |
| 07.03.02.02 | MEDROXYPROGEST 150mg/1mL syrng | progestogen only contraceptive |
| 07.03.01.00 | Ethinylestradiol 2.7mg / Etonogestrel 11.7mg vaginal delivery system | progestogen only contraceptive |
| 07.03.02.01 | LEVONORGESTREL 30mcg tablets | progestogen only contraceptive |
| 07.03.02.01 | Levonorgestrel 30microgram tablets | progestogen only contraceptive |
| 07.03.02.01 | LEVONORGESTREL 30mcg tablets | progestogen only contraceptive |
| 08.03.02.00 | Medroxyprogesterone acetate contraceptive 150mg/ml Injection | progestogen only contraceptive |
| 06.04.01.01 | Phyto progesterone 1.5% cream | Progestogen/Progesterone |
| 06.04.01.01 | Progesterone 1.5% cream | Progestogen/Progesterone |
| 06.04.01.01 | Phyto progesterone 3% cream | Progestogen/Progesterone |
| 06.04.01.01 | Phyto progesterone cream | Progestogen/Progesterone |
| 06.04.01.01 | Progesterone 3% cream | Progestogen/Progesterone |
| 06.04.01.01 | Phyto progesterone cream | Progestogen/Progesterone |
| 06.04.01.02 | HYDROXYPROG HEX 500mg/2mL inj | Progestogen/Progesterone |
| 06.04.01.02 | PROGESTERONE 100mg capsules | Progestogen/Progesterone |
| 06.04.01.02 | MEDROXYPROGESTERONE 5mg tabs | Progestogen/Progesterone |
| 06.04.01.02 | PROGESTERONE 50mg/1mL inj | Progestogen/Progesterone |
| 06.04.01.02 | PROGESTERONE 200mg capsules | Progestogen/Progesterone |
| 06.04.01.02 | NORETHISTERONE 5mg tablets | Progestogen/Progesterone |
| 06.04.01.02 | MEDROXYPROGESTERONE 2.5mg tabs | Progestogen/Progesterone |
| 06.04.01.02 | Medroxyprogesterone 5mg tablets | Progestogen/Progesterone |
| 06.04.01.02 | Norethisterone 5mg tablets | Progestogen/Progesterone |
| 06.04.01.02 | PROGESTERONE 10mg/1mL inj | Progestogen/Progesterone |
| 06.04.01.02 | Dydrogesterone 10mg tablets | Progestogen/Progesterone |
| 06.04.01.02 | Progesterone 50mg/ml injection | Progestogen/Progesterone |
| 06.04.01.02 | Norethisterone 5mg tablets | Progestogen/Progesterone |
| 06.04.01.02 | Norethisterone 5mg tablets | Progestogen/Progesterone |
| 06.04.01.02 | Progesterone micronised 200mg capsules | Progestogen/Progesterone |
| 06.04.01.02 | Hydroxyprogesterone caproate 500mg/2ml Injection | Progestogen/Progesterone |
| 06.04.01.02 | DYDROGESTERONE 10mg tablets | Progestogen/Progesterone |
| 06.04.01.02 | NORETHISTERONE 1mg tablets | Progestogen/Progesterone |
| 06.04.01.02 | MEDROXYPROGESTERONE 5mg tabs | Progestogen/Progesterone |
| 06.04.01.02 | Norethisterone 5mg tablets | Progestogen/Progesterone |
| 06.04.01.02 | Medroxyprogesterone 2.5mg tablets | Progestogen/Progesterone |
| 06.04.01.02 | MEDROXYPROGESTERONE 5mg tabs | Progestogen/Progesterone |
| 06.04.01.02 | PROGESTERONE 400mg supps | Progestogen/Progesterone |
| 06.04.01.02 | NORETHISTERONE 5mg tablets | Progestogen/Progesterone |

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| 06.04.01.02 | PROGESTERONE B.P IMPLANT 100 MG | Progestogen/Progesterone |
| 06.04.01.02 | Progesterone 200mg pessaries | Progestogen/Progesterone |
| 06.04.01.02 | MEDROXYPROGESTERONE 10mg tabs | Progestogen/Progesterone |
| 06.04.01.02 | Norethisterone 5mg tablets | Progestogen/Progesterone |
| 06.04.01.02 | Progesterone 25mg/1ml solution for injection ampoules | Progestogen/Progesterone |
| 06.04.01.02 | PROGESTERONE 100 MG INJ | Progestogen/Progesterone |
| 06.04.01.02 | DYDROGESTERONE 10mg tablets | Progestogen/Progesterone |
| 06.04.01.02 | Progesterone micronised 100mg capsules | Progestogen/Progesterone |
| 06.04.01.02 | Progesterone 50mg/1ml solution for injection ampoules | Progestogen/Progesterone |
| 06.04.01.02 | NORETHISTERONE 5mg tablets | Progestogen/Progesterone |
| 06.04.01.02 | GESTONE 25 MG TAB | Progestogen/Progesterone |
| 06.04.01.02 | PROGESTERONE 4% vaginal gel | Progestogen/Progesterone |
| 06.04.01.02 | PROGESTERONE 25mg/1mL inj | Progestogen/Progesterone |
| 06.04.01.02 | Hydroxyprogesterone 250mg/1ml solution for injection ampoules | Progestogen/Progesterone |
| 06.04.01.02 | Medroxyprogesterone 10mg tablets | Progestogen/Progesterone |
| 06.04.01.02 | PROGESTERONE 100mg/2mL inj | Progestogen/Progesterone |
| 06.04.01.02 | PROGESTERONE 200mg supps | Progestogen/Progesterone |
| 06.04.01.02 | PROGESTERONE 100mg/2mL inj | Progestogen/Progesterone |
| 06.04.01.02 | PROGESTERONE 400mg supps | Progestogen/Progesterone |
| 06.04.01.02 | PROGESTERONE 400mg supps | Progestogen/Progesterone |
| 06.04.01.02 | PROGESTERONE 100mg/2mL inj | Progestogen/Progesterone |
| 06.04.01.02 | PROGESTERONE 8% vaginal gel | Progestogen/Progesterone |
| 06.04.01.02 | GESTONE 10 MG TAB | Progestogen/Progesterone |
| 06.04.01.02 | Megestrol acetate (roi) 40mg/ml Oral suspension | Progestogen/Progesterone |
| 06.04.01.02 | Progesterone 100mg/2ml solution for injection ampoules | Progestogen/Progesterone |
| 06.04.01.02 | ALLYLOESTRENOL 5mg tablets | Progestogen/Progesterone |
| 06.04.01.02 | Progesterone 4% vaginal gel 1.125g applicators | Progestogen/Progesterone |
| 06.04.01.02 | PROGESTERONE 200mg supps | Progestogen/Progesterone |
| 06.04.01.02 | HYDROXYPROG CAP 250mg/1mL inj | Progestogen/Progesterone |
| 06.04.01.02 | PROGESTERONE 200mg supps | Progestogen/Progesterone |
| 06.04.01.02 | Progesterone 8% vaginal gel 1.125g applicators | Progestogen/Progesterone |
| 06.04.01.02 | Medroxyprogesterone acetate contraceptive 50mg/ml Injection | Progestogen/Progesterone |
| 06.04.01.02 | Progesterone 400mg pessaries | Progestogen/Progesterone |
| 06.04.01.02 | Norethisterone 1mg tablets | Progestogen/Progesterone |
| 06.04.01.02 | Progesterone 200mg suppositories | Progestogen/Progesterone |
| 06.04.01.02 | PROGESTERONE 100mg/2mL inj | Progestogen/Progesterone |
| 06.04.01.02 | Allyoestrenol 5mg tablets | Progestogen/Progesterone |
| 06.04.01.02 | Progesterone 400mg suppositories | Progestogen/Progesterone |
| 07.03.01.00 | ETHINYL+NORETH 35mcg/1mg tabs | COC |
| 07.03.01.00 | ETHINYLOEST+LEVONOR 50/250mcg | COC |
| 07.03.01.00 | Ethinylestradiol with levonorgestrel - triphasic with | COC |

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| | placebo 6x30+50mcg; 5x40+75mcg; 10x30+125mcg Tablet | |
| 07.03.01.00 | Generic Synphase tablets | COC |
| 07.03.01.00 | ETHINYL+DESOGES 20/150mcg tabs | COC |
| 07.03.01.00 | ETHINY+GEST+PLAC 30/75mcg tabs | COC |
| 07.03.01.00 | ETHINYL+GESTODEN 30/75mcg tabs | COC |
| 07.03.01.00 | ETHINYL+NORETH 35mcg/1mg tabs | COC |
| 07.03.01.00 | Ethinylestradiol with levonorgestrel and placebo 30micrograms + 150micrograms Tablet | COC |
| 07.03.01.00 | Ethinylestradiol 30microgram / Drospirenone 3mg tablets | COC |
| 07.03.01.00 | ETHINYLESTR+DROSPIR 30mcg/3mg | COC |
| 07.03.01.00 | ANOVLAR 21 TAB | COC |
| 07.03.01.00 | Ethinylestradiol 30microgram / Norethisterone acetate 1.5mg tablets | COC |
| 07.03.01.00 | Ethinylestradiol with lynoestrenol Tablet | COC |
| 07.03.01.00 | ETHINYL+LEVONOR 30/150mcg tabs | COC |
| 07.03.01.00 | ETHINYLOESTRADIOL/LEVONORGESTREL 30 MCG TAB | COC |
| 07.03.01.00 | ETHINYLESTR+DROSPIR 30mcg/3mg | COC |
| 07.03.01.00 | Ethinylestradiol with norethisterone and placebo 50mcg + 1mg Tablet | COC |
| 07.03.01.00 | ETHINYL+GESTODEN 20/75mcg tabs | COC |
| 07.03.01.00 | Gestodene with ethinylestradiol 75microgramwith30microgram Tablet | COC |
| 07.03.01.00 | Ethinylestradiol with gestodene and placebo 30micrograms + 75micrograms Tablet | COC |
| 07.03.01.00 | OVULEN 50 TAB | COC |
| 07.03.01.00 | ETHINYL+LEVONOR 30/250mcg tab | COC |
| 07.03.01.00 | Ethinylestradiol 20microgram / Norethisterone acetate 1mg tablets | COC |
| 07.03.01.00 | ETHINYLOEST+LEVONOR 50/250mcg | COC |
| 07.03.01.00 | ETHINYLOEST+LEVONOR 50/250mcg | COC |
| 07.03.01.00 | Mestranol 50microgram / Norethisterone 1mg tablets | COC |
| 07.03.01.00 | Ethinylestradiol with norethisterone - triphasic and placebo 7 x 35+500mcg; 7 x 35+750mcg; 7 x 35mcg+1mg Tablet | COC |
| 07.03.01.00 | Generic Logynon tablets | COC |
| 07.03.01.00 | Ethinylestradiol with levonorgestrel - triphasic 6x30+50mcg; 5x40+75mcg; 10x30+125mcg Tablet | COC |
| 07.03.01.00 | Generic Logynon ED tablets | COC |
| 07.03.01.00 | Generic Logynon tablets | COC |
| 07.03.01.00 | ETHINYL+GESTODEN 30/75mcg tabs | COC |
| 07.03.01.00 | ETHINYL+GESTODEN 30/75mcg tabs | COC |
| 07.03.01.00 | Ethinylestradiol with gestodene - triphasic 6 x 30+50mcg; 5 x 40+70mcg; 10 x 30+100mcg Tablet | COC |
| 07.03.01.00 | ETHINYL+NORETH 35/500mcg tabs | COC |

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| 07.03.01.00 | Generic Binovum tablets | COC |
| 07.03.01.00 | ETHINY+NORETH 30mcg/1.5mg tabs | COC |
| 07.03.01.00 | ETHINYL+DESOGES 20/150mcg tabs | COC |
| 07.03.01.00 | Ethinylestradiol with norethisterone acetate 50micrograms + 3mg Tablet | COC |
| 07.03.01.00 | ETHINYL+NORETH 35/500mcg tabs | COC |
| 07.03.01.00 | Ethinylestradiol with levonorgestrel Tablet | COC |
| 07.03.01.00 | Ethinylestradiol 2.7mg / Etonogestrel 11.7mg vaginal delivery system | COC |
| 07.03.01.00 | Ethinylestradiol with norethisterone - triphasic 7x35+500mcg; 9x35mcg+1mg; 5x35+500mcg Tablet | COC |
| 07.03.01.00 | Generic Tri-Minulet tablets | COC |
| 07.03.01.00 | Mestranol with norethisterone Tablet | COC |
| 07.03.01.00 | Generic Tri-Minulet tablets | COC |
| 07.03.01.00 | Ethinylestradiol with levonorgestrel 30micrograms + 50micrograms Tablet | COC |
| 07.03.01.00 | MESTRANOL+NORETHIST 50mcg/1mg | COC |
| 07.03.01.00 | MINOVLAR TAB | COC |
| 07.03.01.00 | ETHINYL+LEVONOR 30/150mcg tabs | COC |
| 07.03.01.00 | ETHINYLOESTRAD.50MCG/LYNOESTRENOL 2.5MG MCG TAB | COC |
| 07.03.01.00 | Ethinylestradiol 20microgram / Desogestrel 150microgram tablets | COC |
| 07.03.01.00 | ETHINYL+GESTODEN 30/75mcg tabs | COC |
| 07.03.01.00 | ETHINYLOESTRADIOL 50MCG/ETHYNODIOL 1MG MCG TAB | COC |
| 07.03.01.00 | Norgestimate with ethinylestradiol 250micrograms + 35micrograms Tablet | COC |
| 07.03.01.00 | Desogestrel with ethinylestradiol 150micrograms with 20micrograms tablets | COC |
| 07.03.01.00 | Ethinylestradiol 30microgram / Gestodene 75microgram tablets | COC |
| 07.03.01.00 | ETHINYLOEST+LEVONOR 50/250mcg | COC |
| 07.03.01.00 | ETHINYL+LEVONOR 30/150mcg tabs | COC |
| 07.03.01.00 | ETHINYLOESTRAD. 50MCG/NORETHISTERONE 3MG MCG TAB | COC |
| 07.03.01.00 | Ethinylestradiol with norethisterone - triphasic 7 x 35+500mcg; 7 x 35+750mcg; 7 x 35mcg+1mg Tablet | COC |
| 07.03.01.00 | ETHINYL+LEVONOR 30/250mcg tab | COC |
| 07.03.01.00 | ETHINYL+NORGES 35/250mcg tabs | COC |
| 07.03.01.00 | ETHINYLOES+ETHYNOD 30mcg/2mg | COC |
| 07.03.01.00 | Ethinylestradiol with norethisterone - biphasic 7 x 35mcg+500mcg; 14 x 35mcg+1mg Tablet | COC |
| 07.03.01.00 | MESTRANOL+NORETHIST 50mcg/1mg | COC |
| 07.03.01.00 | Ethinylestradiol with norethisterone acetate 50micrograms + 3mg Tablet | COC |

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| 07.03.01.00 | ETHINYL+DESOGES 30/150mcg tabs | COC |
| 07.03.01.00 | Ethinylestradiol 30microgram / Desogestrel 150microgram tablets | COC |
| 07.03.01.00 | ETHINYL+GESTODEN 20/75mcg tabs | COC |
| 07.03.01.00 | Generic Microgynon 30 ED tablets | COC |
| 07.03.01.00 | ETHINYLOESTRADIOL/NORETHISTERONE 35 MCG TAB | COC |
| 07.03.01.00 | Ethinylestradiol 35microgram / Norgestimate 250microgram tablets | COC |
| 07.03.01.00 | ETHINYL+DESOGES 30/150mcg tabs | COC |
| 07.03.01.00 | ETHINYL+LEVONOR 30/150mcg tabs | COC |
| 07.03.01.00 | Ethinylestradiol with norethisterone acetate 50mcg + 1mg Tablet | COC |
| 07.03.01.00 | ETHINYL+GESTODEN 20/75mcg tabs | COC |
| 07.03.01.00 | ETHINYL+NORGES 35/250mcg tabs | COC |
| 07.03.01.00 | Levonorgestrel 250microgram / Ethinylestradiol 50microgram tablets | COC |
| 07.03.01.00 | ETHINYLOEST+LEVONOR 50/250mcg | COC |
| 07.03.01.00 | Ethinylestradiol 35microgram / Norethisterone 1mg tablets | COC |
| 07.03.01.00 | Ethinylestradiol 20microgram / Gestodene 75microgram tablets | COC |
| 07.03.01.00 | Desogestrel with ethinylestradiol 150micrograms with 30micrograms tablets | COC |
| 07.03.01.00 | Generic Logynon tablets | COC |
| 07.03.01.00 | ETHINYL+NORETH 20mcg/1mg tabs | COC |
| 07.03.01.00 | ETHINYLOESTRADIOL 50MCG/NORGESTREL500MCG MCG TAB | COC |
| 07.03.01.00 | Levonorgestrel 250microgram / Ethinylestradiol 30microgram tablets | COC |
| 07.03.01.00 | Ethinylestradiol 30microgram / Levonorgestrel 150microgram tablets | COC |
| 07.03.01.00 | ETHINYL+LEVONOR 30/150mcg tabs | COC |
| 07.03.01.00 | ETHINYLOESTRADIOL 30MCG/ETHYNODIOL 2MG MCG TAB | COC |
| 07.03.01.00 | Generic Trinovum tablets | COC |
| 07.03.01.00 | ETHINYL+LEVONOR 30/150mcg tabs | COC |
| 07.03.01.00 | Ethinylestradiol 35microgram / Norethisterone 500microgram tablets | COC |
| 07.03.01.00 | Gestodene with ethinylestradiol 75microgramwith20microgram Tablet | COC |
| 07.03.01.00 | Ethinylestradiol 30microgram / Levonorgestrel 150microgram tablets | COC |
| 07.03.01.00 | LEVONORGESTREL 750mcg tablets | COC |
| 07.03.01.00 | LEVONORGESTREL 750mcg tablets | COC |
| 07.03.01.00 | Levonorgestrel 750microgram tablets | COC |
| 04.03.03.00 | Sertraline 50mg tablets | SSRI |
| 04.03.03.00 | Sertraline 50mg tablets | SSRI |

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| 04.03.03.00 | Fluoxetine 20mg/5ml oral solution | SSRI |
| 04.03.03.00 | Citalopram 10mg tablets | SSRI |
| 04.03.03.00 | FLUOXETINE 20mg capsules | SSRI |
| 04.03.03.00 | Fluoxetine 20mg capsules | SSRI |
| 04.03.03.00 | FLUOXETINE 20mg capsules | SSRI |
| 04.03.03.00 | Citalopram 40mg tablets | SSRI |
| 04.03.03.00 | CITALOPRAM 10mg tablets | SSRI |
| 04.03.03.00 | FLUOXETINE 20mg/5mL oral liq | SSRI |
| 04.03.03.00 | Fluoxetine 20mg capsules | SSRI |
| 04.03.03.00 | Paroxetine 30mg tablets | SSRI |
| 04.03.03.00 | FLUOXETINE 20mg/5mL oral liq | SSRI |
| 04.03.03.00 | PAROXETINE 30mg tablets | SSRI |
| 04.03.03.00 | Citalopram 20mg tablets | SSRI |
| 04.03.03.00 | Paroxetine 30mg tablets | SSRI |
| 04.03.03.00 | Citalopram 40mg tablets | SSRI |
| 04.03.03.00 | Fluoxetine 20mg/5ml oral solution sugar free | SSRI |
| 04.03.03.00 | Citalopram 10mg tablets | SSRI |
| 04.03.03.00 | Citalopram 10mg tablets | SSRI |
| 04.03.03.00 | Escitalopram 10mg tablets | SSRI |
| 04.03.03.00 | CITALOPRAM 40mg/mL oral drops | SSRI |
| 04.03.03.00 | ESCITALOPRAM 20mg tablets | SSRI |
| 04.03.03.00 | Citalopram 10mg tablets | SSRI |
| 04.03.03.00 | Paroxetine 20mg tablets | SSRI |
| 04.03.03.00 | Fluvoxamine 50mg tablets | SSRI |
| 04.03.03.00 | Sertraline 100mg tablets | SSRI |
| 04.03.03.00 | Escitalopram 10mg/ml oral drops sugar free | SSRI |
| 04.03.03.00 | Fluoxetine 20mg capsules | SSRI |
| 04.03.03.00 | FLUOXETINE 60mg capsules | SSRI |
| 04.03.03.00 | Citalopram 20mg tablets | SSRI |
| 04.03.03.00 | Citalopram 10mg tablets | SSRI |
| 04.03.03.00 | Paroxetine 10mg tablets | SSRI |
| 04.03.03.00 | Citalopram 40mg tablets | SSRI |
| 04.03.03.00 | Citalopram 40mg/ml oral drops sugar free | SSRI |
| 04.03.03.00 | Fluoxetine 60mg capsules | SSRI |
| 04.03.03.00 | Fluoxetine 20mg/5ml oral solution | SSRI |
| 04.03.03.00 | SERTRALINE 100mg tablets | SSRI |
| 04.03.03.00 | Fluvoxamine 100mg tablets | SSRI |
| 04.03.03.00 | Fluoxetine 20mg capsules | SSRI |
| 04.03.03.00 | ESCITALOPRAM 10mg tablets | SSRI |
| 04.03.03.00 | Fluoxetine 20mg capsules | SSRI |
| 04.03.03.00 | Fluoxetine 20mg capsules | SSRI |
| 04.03.03.00 | ESCITALOPRAM 5mg tablets | SSRI |
| 04.03.03.00 | Sertraline 50mg tablets | SSRI |
| 04.03.03.00 | Citalopram 20mg tablets | SSRI |

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| 04.03.03.00 | Citalopram 40mg tablets | SSRI |
| 04.03.03.00 | CITALOPRAM 10mg tablets | SSRI |
| 04.03.03.00 | Paroxetine 20mg tablets | SSRI |
| 04.03.03.00 | Paroxetine 10mg/5ml oral suspension sugar free | SSRI |
| 04.03.03.00 | FLUOXETINE 20mg capsules | SSRI |
| 04.03.03.00 | Citalopram 20mg tablets | SSRI |
| 04.03.03.00 | Fluoxetine 20mg capsules | SSRI |
| 04.03.03.00 | Fluoxetine 20mg capsules | SSRI |
| 04.03.03.00 | Fluvoxamine 100mg tablets | SSRI |
| 04.03.03.00 | Citalopram 20mg tablets | SSRI |
| 04.03.03.00 | FLUOXETINE 20mg capsules | SSRI |
| 04.03.03.00 | Paroxetine 20mg tablets | SSRI |
| 04.03.03.00 | Citalopram 10mg tablets | SSRI |
| 04.03.03.00 | Fluoxetine 20mg/5ml oral solution | SSRI |
| 04.03.03.00 | Paroxetine 20mg tablets | SSRI |
| 04.03.03.00 | Citalopram 20mg tablets | SSRI |
| 04.03.03.00 | ESCITALOPRAM 20mg/mL oral dps | SSRI |
| 04.03.03.00 | Citalopram 40mg tablets | SSRI |
| 04.03.03.00 | Escitalopram 5mg tablets | SSRI |
| 04.03.03.00 | FLUVOXAMINE MALEATE 50mg tabs | SSRI |
| 04.03.03.00 | ESCITALOPRAM 10mg/mL oral dps | SSRI |
| 04.03.03.00 | Sertraline 100mg tablets | SSRI |
| 04.03.03.00 | Citalopram 10mg tablets | SSRI |
| 04.03.03.00 | Citalopram 10mg tablets | SSRI |
| 04.03.03.00 | Fluoxetine 60mg capsules | SSRI |
| 04.03.03.00 | Citalopram 20mg tablets | SSRI |
| 04.03.03.00 | Citalopram 20mg tablets | SSRI |
| 04.03.03.00 | Fluoxetine 20mg/5ml oral solution | SSRI |
| 04.03.03.00 | Citalopram 40mg tablets | SSRI |
| 04.03.03.00 | Paroxetine 20mg tablets | SSRI |
| 04.03.03.00 | PAROXETINE 20mg tablets | SSRI |
| 04.03.03.00 | CITALOPRAM 20mg tablets | SSRI |
| 04.03.03.00 | CITALOPRAM 40mg tablets | SSRI |
| 04.03.03.00 | Fluoxetine 20mg capsules | SSRI |
| 04.03.03.00 | Citalopram 10mg tablets | SSRI |
| 04.03.03.00 | Citalopram 20mg tablets | SSRI |
| 04.03.03.00 | Fluoxetine 20mg capsules | SSRI |
| 04.03.03.00 | Fluvoxamine 100mg tablets | SSRI |
| 04.03.03.00 | FLUVOXAMINE MALEATE 100mg tabs | SSRI |
| 04.03.03.00 | Paroxetine 20mg tablets | SSRI |
| 04.03.03.00 | Paroxetine 30mg tablets | SSRI |
| 04.03.03.00 | Citalopram 40mg tablets | SSRI |
| 04.03.03.00 | Escitalopram 20mg/ml oral drops sugar free | SSRI |
| 04.03.03.00 | Fluoxetine 20mg capsules | SSRI |

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| 04.03.03.00 | Citalopram 40mg tablets | SSRI |
| 04.03.03.00 | Escitalopram 20mg tablets | SSRI |
| 04.03.03.00 | Sertraline 50mg/5ml oral suspension | SSRI |
| 04.03.03.00 | Citalopram 40mg tablets | SSRI |
| 04.03.03.00 | Fluoxetine 20mg capsules | SSRI |
| 04.03.03.00 | Citalopram 10mg tablets | SSRI |
| 04.03.03.00 | Citalopram 40mg tablets | SSRI |
| 04.03.03.00 | Sertraline 100mg tablets | SSRI |
| 04.03.03.00 | PAROXETINE 10mg tablets | SSRI |
| 04.03.03.00 | Paroxetine 30mg tablets | SSRI |
| 04.03.03.00 | Fluoxetine 20mg capsules | SSRI |
| 04.03.03.00 | Fluoxetine 20mg capsules | SSRI |
| 04.03.03.00 | Sertraline 100mg tablets | SSRI |
| 04.03.03.00 | PAROXETINE 10mg/5mL s/f liq | SSRI |
| 04.03.03.00 | Citalopram 20mg tablets | SSRI |
| 04.03.03.00 | Fluoxetine 20mg/5ml oral solution sugar free | SSRI |
| 04.03.03.00 | SERTRALINE 50mg tablets | SSRI |

**STROBE 2007 (v4) Statement—Checklist of items that should be included in reports of *cohort studies***

| Section/Topic | Item # | Recommendation | Reported on page # |
|---|---|---|---|
| **Title and abstract** | 1 | (*a*) Indicate the study's design with a commonly used term in the title or the abstract | 1 |
| | | (*b*) Provide in the abstract an informative and balanced summary of what was done and what was found | 2 |
| **Introduction** | | | |
| Background/rationale | 2 | Explain the scientific background and rationale for the investigation being reported | 3 |
| Objectives | 3 | State specific objectives, including any prespecified hypotheses | 3 |
| **Methods** | | | |
| Study design | 4 | Present key elements of study design early in the paper | 4 |
| Setting | 5 | Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection | 4 |
| Participants | 6 | (*a*) Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up | 4 |
| | | (*b*) For matched studies, give matching criteria and number of exposed and unexposed | |
| Variables | 7 | Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable | 4 |
| Data sources/ measurement | 8* | For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group | 4 |
| Bias | 9 | Describe any efforts to address potential sources of bias | 4 |
| Study size | 10 | Explain how the study size was arrived at | NA |
| Quantitative variables | 11 | Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why | 4 |
| Statistical methods | 12 | (*a*) Describe all statistical methods, including those used to control for confounding | 4 |
| | | (*b*) Describe any methods used to examine subgroups and interactions | 4 |
| | | (*c*) Explain how missing data were addressed | NA |
| | | (*d*) If applicable, explain how loss to follow-up was addressed | 4 |
| | | (*e*) Describe any sensitivity analyses | 4 |
| **Results** | | | |

| | | | |
|---|---|---|---|
| Participants | 13* | (a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed | 5 |
| | | (b) Give reasons for non-participation at each stage | 5 |
| | | (c) Consider use of a flow diagram | |
| Descriptive data | 14* | (a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders | 5 |
| | | (b) Indicate number of participants with missing data for each variable of interest | NA |
| | | (c) Summarise follow-up time (eg, average and total amount) | |
| Outcome data | 15* | Report numbers of outcome events or summary measures over time | 5 |
| Main results | 16 | (*a*) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included | 5 |
| | | (*b*) Report category boundaries when continuous variables were categorized | NA |
| | | (*c*) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period | NA |
| Other analyses | 17 | Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses | 5 |
| **Discussion** | | | |
| Key results | 18 | Summarise key results with reference to study objectives | 6 |
| **Limitations** | | | |
| Interpretation | 20 | Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence | 6, 7 |
| Generalisability | 21 | Discuss the generalisability (external validity) of the study results | 6, 7 |
| **Other information** | | | |
| Funding | 22 | Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based | 8 |

*Give information separately for cases and controls in case-control studies and, if applicable, for exposed and unexposed groups in cohort and cross-sectional studies.

**Note:** An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at http://www.plosmedicine.org/, Annals of Internal Medicine at http://www.annals.org/, and Epidemiology at http://www.epidem.com/). Information on the STROBE Initiative is available at www.strobe-statement.org.