

Emerging Preconception Behaviours Trends: A Cross-Sectional Analysis of 235,311 UK Women

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Background

A recent study found that 73.7% of UK-based female participants reported at least one indicator of poor reproductive health (1). Poor reproductive health has been linked to reduced fertility and increased risk of adverse pregnancy outcomes, highlighting its importance in the preconception period. Whilst guidance regarding the optimisation of fertility in those trying to conceive (TTC) is available, the uptake of lifestyle changes to preconception behaviour regarding smoking, recreational drug use and alcohol consumption has been scarcely researched.

This study analysed lifestyle behaviours among UK women of reproductive age and assessed the prevalence of smoking, vaping, alcohol consumption, and recreational drug use in the context of preconception health.

Methods

- Cross-sectional study using self-reported data from an online health assessment (OHA).
- Data was collected from 235,311 UK-based women aged 18–58 between September 2020 and November 2024.
- Participants completed an OHA covering demographics, menstrual and medical history, and lifestyle behaviors.
- Reproductive intentions were categorised as “actively trying to conceive” (TTC) or “planning for future fertility” (PFF).
- Counts, means, and percentages were calculated using R software to compare lifestyle choices between groups.

Variables:

- Lifestyle behaviours
 - Alcohol consumption
 - Smoking
 - Vaping
 - Recreational drug use

Stratified sampling:

- Reproductive intentions
 - TTC
 - PFF
- Age

Results

Figure 1. Substance use prevalence among TTC and PFF participants

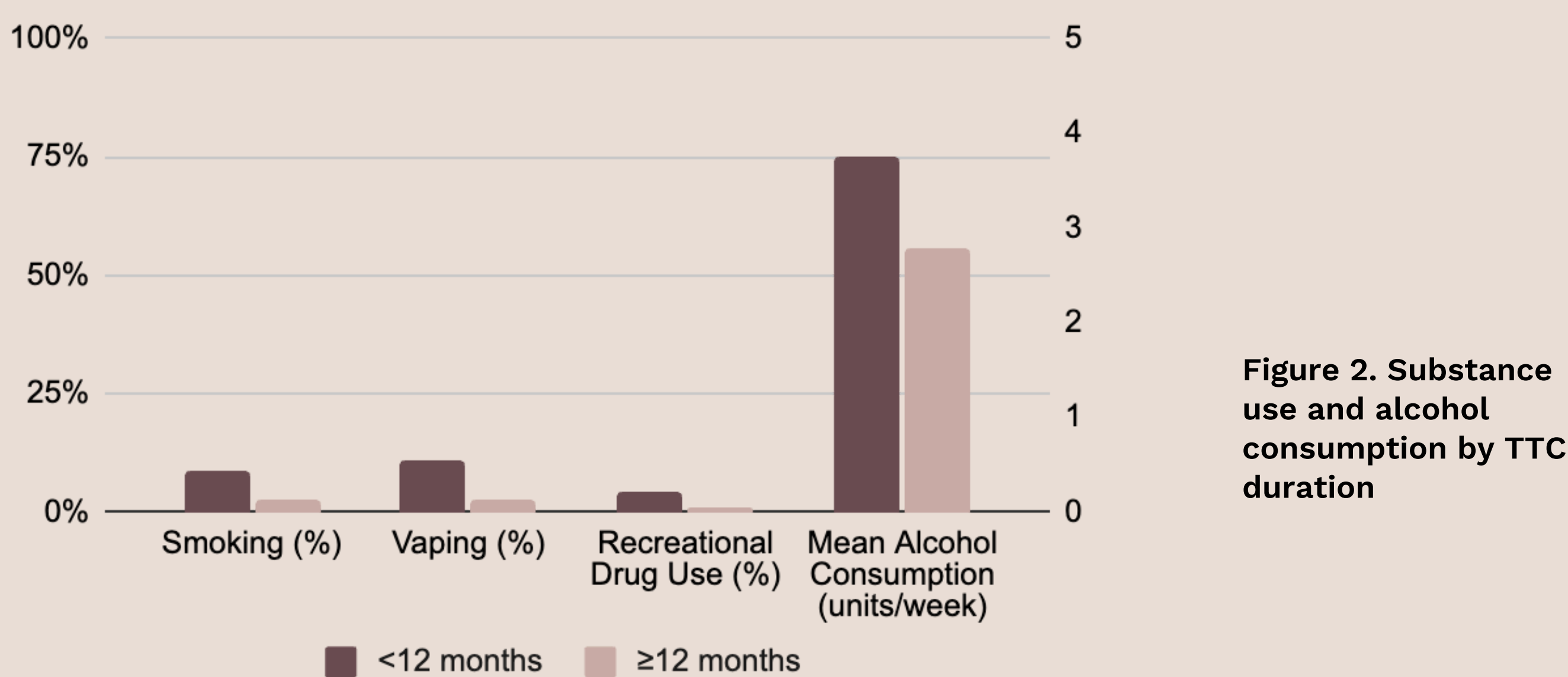
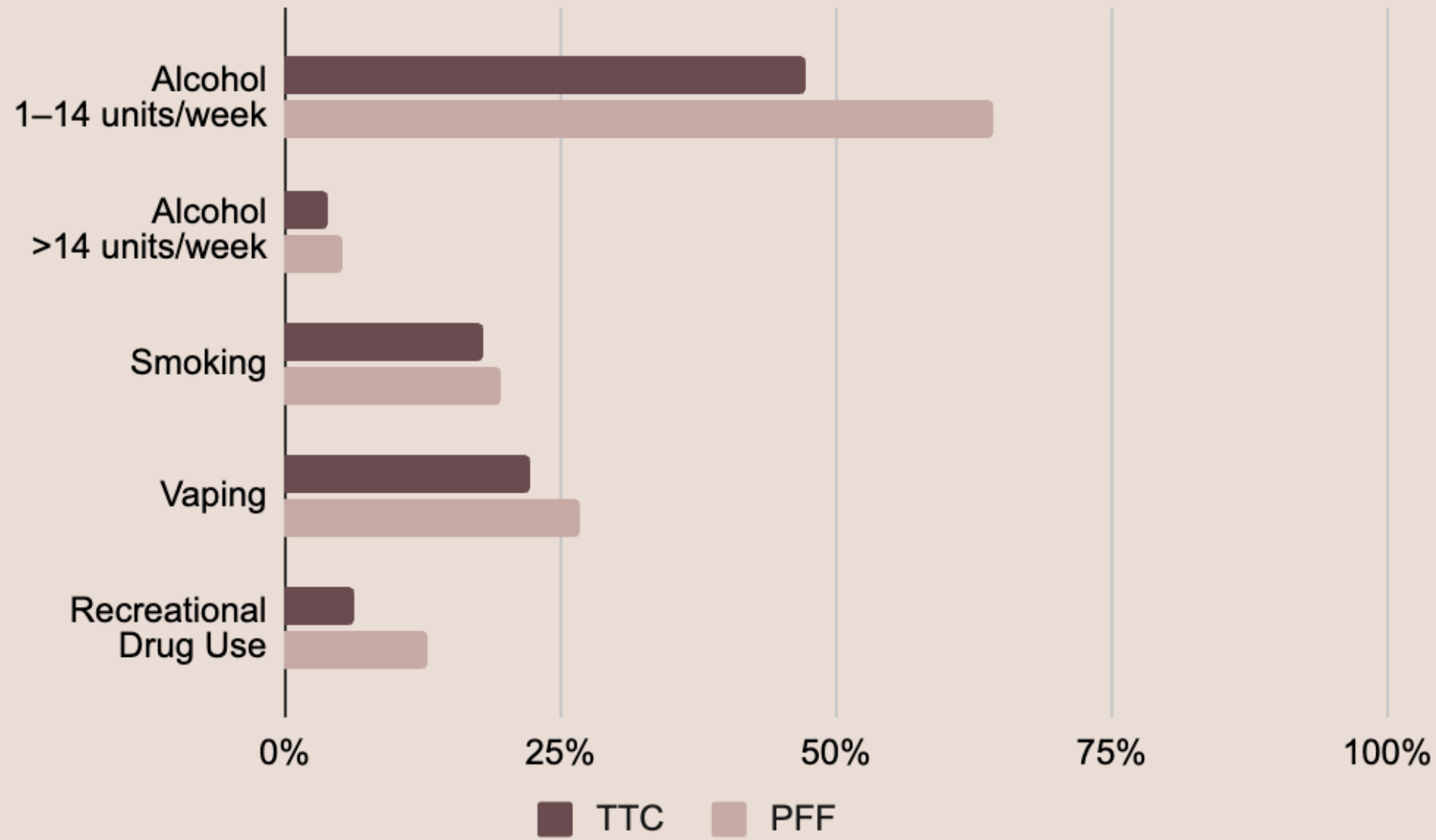


Figure 2. Substance use and alcohol consumption by TTC duration

Of the participants, 86,761 identified as TTC (mean age 31.8 years) and 148,548 as PFF (mean age 29.1 years).

- TTC group behaviours:
 - 47.3% consumed 1–14 alcohol units/week; 3.95% exceeded 14 units. 17.9% smoked; 22.4% vaped (regularly or occasionally). 6.2% reported recreational drug use.
- PFF group behaviours:
 - 64.2% consumed 1–14 alcohol units/week; 5.31% exceeded 14 units. 19.5% smoked; 26.8% vaped. 13.0% reported recreational drug use.
- Age-related patterns:
 - Participants <25: highest rates of smoking, vaping, and drug use; lowest alcohol consumption
 - Participants 35+: lower smoking, vaping, drug use; higher alcohol consumption
- TTC duration comparison:
 - TTC >12 months vs. <12 months:
 - Higher smoking (12.3% vs 8.5%), higher vaping (14.3% vs 10.7%), slightly higher drug use (4.7% vs 4.5%), lower mean alcohol consumption (2.78 vs 3.80 units/week)

Conclusion

This study highlights concerning lifestyle behaviours among UK women of reproductive age, with many exceeding national guidelines for alcohol consumption and continuing to smoke, vape and take recreational drugs while TTC.

The absence of robust national guidelines on vaping contributes to misconceptions about its safety compared to smoking. Tailored preconception education addressing alcohol, smoking, and vaping and drug use is urgently needed, alongside comprehensive vaping guidelines, to promote healthier behaviors and improve fertility and pregnancy outcomes.