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Does parity matter? Folic acid supplementation in primiparous (first-time) versus multiparous mothers: A systematic review and meta-analysis

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Introduction

- Folic acid is crucial for the closure of the neural tube. If the closure is incomplete, it can lead to a range of neural tube defects (NTDs).^{1,2}
- Women who may become pregnant are advised to take 400 micrograms of folic acid each day. Women at high risk (e.g. women with epilepsy, diabetes or a previous pregnancy with NTD) are prescribed a higher dose of folic acid (5 milligrams).³
- Women who have had previous pregnancies are expected to have better folic acid intake than first-time pregnant women, given their previous exposure to antenatal care.

Study aim

To determine if folic acid supplementation practices differ between primiparous and multiparous women.

Methods

Four databases were searched using a combination of Medical Subject Heading terms and text words.

Studies from databases (n = 10,982)

- CINAHL (n = 5,128)
- MEDLINE (n = 3,797)
- Proquest Medical (n = 1,724)
- Scopus (n = 333)

References removed (n = 4,380)

- Duplicates identified manually (n = 44)
- Duplicates identified by Covidence (n = 4,336)

Titles and abstracts screened (n = 6,602)

Studies excluded (n = 6,320)

Full-text assessed for eligibility (n = 282)

Studies excluded (n = 199)

- Did not compare FAS between primiparous and multiparous women (n = 115)
- Reported only serum folate levels or dietary folate intake (n = 43)
- Recruited non-pregnant women (n = 31)
- No effect measures were reported (n = 6)
- Conference, protocol or review papers (n = 3)
- Not written in English language (n = 1)

Selection for synthesis (n = 83)

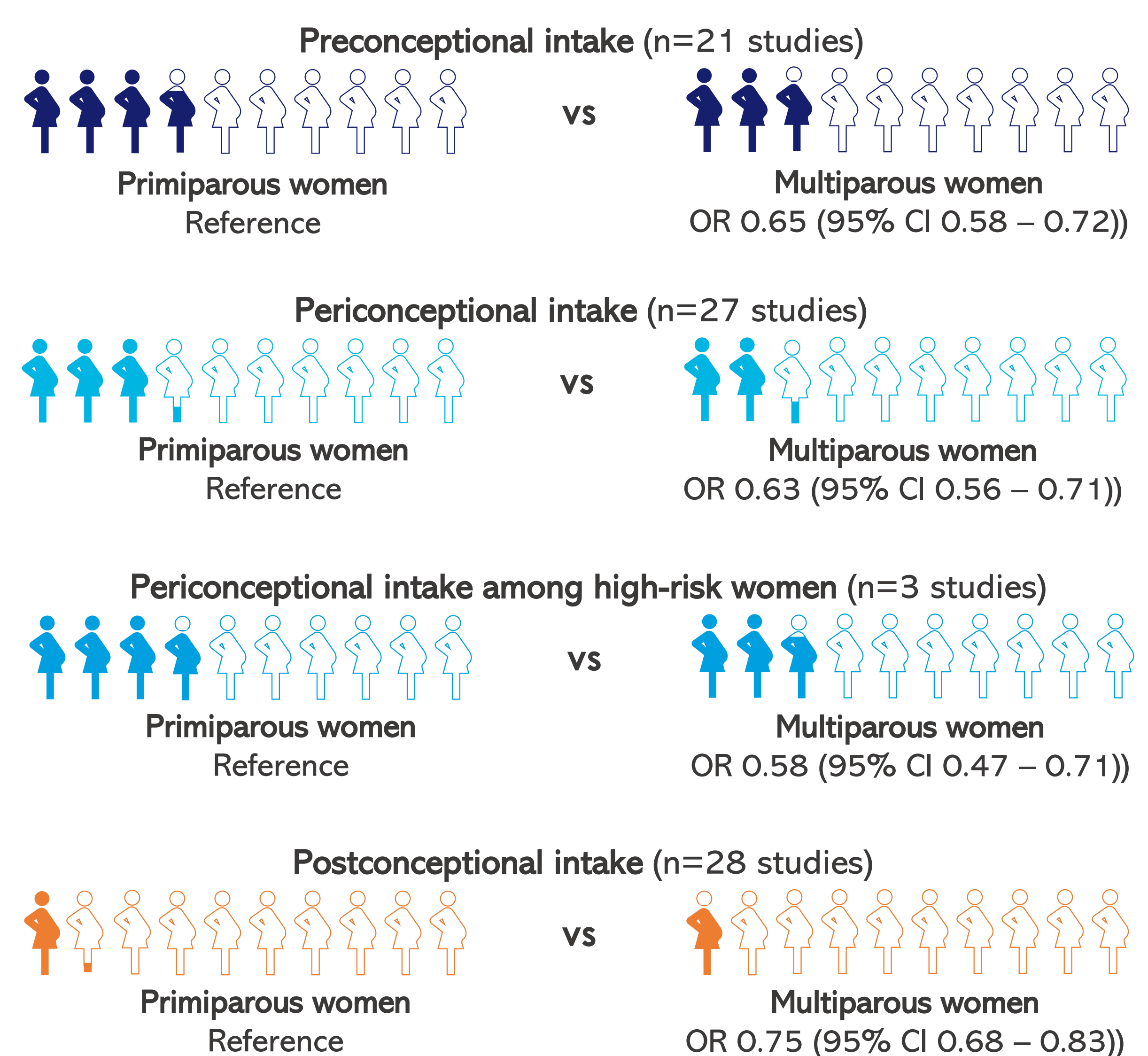
Studies excluded (n = 14)

- Did not report FAS frequencies (n = 12)
- Low quality studies (n = 2)

Studies included in review (n = 69)

Results

Findings were drawn from 738,179 women across 31 countries, including the United Kingdom and the Republic of Ireland.



Implications for care

- Multiparous women were consistently less likely to use folic acid than primiparous women.
- Identifying and addressing barriers to folic acid supplementation among multiparous women is essential to optimise child health.
- With the planned introduction of mandatory food fortification in Northern Ireland,⁴ it is important to continue promoting periconceptional folic acid intake.

Further studies are being designed to explore factors hindering adequate supplementation among pregnant women in Northern Ireland. You can help co-design this project. Scan the QR code to learn more and sign up to be a Personal and Public Involvement (PPI) Contributor.

Scan me!



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References

- Stephenson J, Heslehurst N, Hall J, Schoenaker DAJM, Hutchinson J, Cade JE, et al. Before the beginning: nutrition and lifestyle in the preconception period and its importance for future health. *The Lancet*. 2018 May 5;391(10132):1830–41.
- Viswanathan M, Urrutia RP, Hudson KN, Middleton JC, Kahwati LC. Folic Acid Supplementation to Prevent Neural Tube Defects: Updated Evidence Report and Systematic Review for the US Preventive Services Task Force. *JAMA*. 2023 Aug 1;330(5):460–6.
- Public Health Agency. Folic acid and Vitamin D guidelines for health professionals [Internet]. HSC Public Health Agency. 2017 [cited 2023 Dec 11]. Available from: <https://www.publichealth.hscni.net/sites/default/files/FOLIC%20ACID%20and%20VITAMIN%20D%20Guidelines%202017.pdf>
- Department of Health Northern Ireland. Non-wholemeal flour to be fortified with folic acid [Internet]. 2024 [cited 2025 Feb 4]. Available from: <https://www.health-ni.gov.uk/news/non-wholemeal-flour-be-fortified-folic-acid>