Ondansetron and metoclopramide as second-line antiemetics in women with nausea and vomiting in pregnancy: the EMPOWER pilot factorial RCT

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Plain English summary

The EMPOWER pilot factorial RCT

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Plain English summary

Nausea and vomiting in pregnancy cause physical and emotional distress, and up to 30% of affected women require medical treatment. Guidelines on the use of anti-sickness drugs exist, but evidence is limited about which drugs work the best.

The EMPOWER (EMesis in Pregnancy – Ondansetron With mEtoClopRamide) trial aimed to compare the clinical effectiveness and cost-effectiveness of two anti-sickness drugs [metoclopramide (metoclopramide hydrochloride, Actavis UK Ltd, Barnstable, UK; IV Ratiopharm GmbH, Ulm, Germany) and ondansetron (ondansetron hydrochloride dehydrate, Wockhardt UK Ltd, Wrexham, UK; IV Hameln Pharma plus GmbH, Hameln)] for the treatment of nausea and vomiting in pregnancy. Women who were < 17 weeks pregnant with severe nausea and vomiting who attended hospital because their first anti-sickness drug had failed to improve their symptoms were asked to take part in the trial. Participants received fluids and, with consent, were randomly allocated to one of four groups: (1) metoclopramide and dummy ondansetron, (2) ondansetron and dummy metoclopramide, (3) metoclopramide and ondansetron or (4) double dummy. Trial drugs were administered into a vein and then by tablet for 10 days. On advice from sufferers, the trial focused on treatment failure, but other outcomes, including drug side effects, costs and pregnancy outcome, were collected.

The trial was unable to recruit enough women and, therefore, did not progress. Nearly 600 women at 11 hospitals were screened, of whom 122 (21%) were eligible and 33 were recruited. The main reason for ineligibility (68%) was prior use of trial drug (mostly ondansetron). Overall, 15 out of 30 evaluable women experienced treatment failure.

Interviews with 21 women who were approached about the trial and 22 research staff identified complex hurdles to and enablers of recruitment. The main hurdles were the requirements of the study protocol in relation to guidelines on anti-sickness drugs and the diversity of pathways to care. The role of research staff was a key enabler.

The trial was too small to draw useful conclusions and it highlights the challenges of conducting complex studies on sick pregnant women. Subsequent concerns about the safety of ondansetron highlight the need for further studies to help inform women and the NHS about the best care for nausea and vomiting in pregnancy.

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This report

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