

A Cross-Sectional Study on Medications Used By Pregnant Women: Any Safety Concern?

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Introduction



Medication use during pregnancy is widespread (93.9% in an US study).¹



Concern about medication use during pregnancy has been triggered by historical events.²



Most drugs have unknown teratogenic risk although the FDA US pregnancy safety categories have been use as a guideline.

1. Mitchell et al. Am J Obstet Gynecol 2011; 205(1), 51.e1-51.e8.

2. McCarter-Spaulling. Am J Matern Child Nurs 2005; 30(1), 10-17.

Safety of medications based on FDA US pregnancy safety category¹

- A** Well-controlled studies conducted in pregnant women. Possibility of foetal harm appears remote.
- B** Animal-reproduction studies have not demonstrated risk to foetus but there are no controlled studies in pregnant women.
- C** Studies in animals revealed adverse effects on the foetus but no controlled studies conducted in women.
- D** Positive evidence of human foetal risk.
- E** Contraindicated in pregnant women.

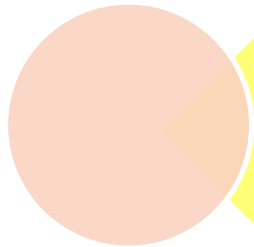
1. Briggs et al. (1998). *Drugs in pregnancy and lactation: A reference guide to fetal and neonatal risk* (5th ed.). Baltimore: Lippincott Williams & Wilkins

Aim

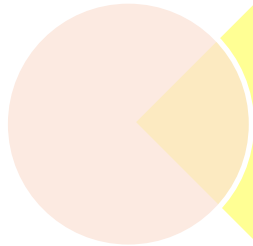
- **To determine the types and safety of medications used by pregnant women.**



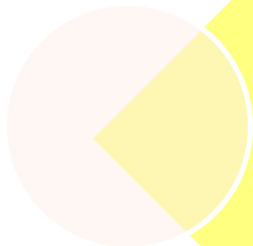
Methodology



Cross sectional study.



Pregnant women who attended the antenatal clinic of a major teaching hospital in Kuala Lumpur



Data was collected via face-to-face interviews and from medical records (Jan – April 2013)

Methodology



> 21 years old

**Can communicate
in English, Malay
or Mandarin**

**At least in the
second trimester**



Not pregnant

**Did not manage
to complete the
questionnaire**

Results and Discussion

**Total respondents
= 500**

**Prevalence of medication use
= 310 respondents
= 62.0% (95% CI: 57.7%, 66.3%)**

**Medication use during first trimester
= 154 respondents
= 30.8% (95% CI: 26.8%, 34.8%)**



Results and Discussion

Demographic Data

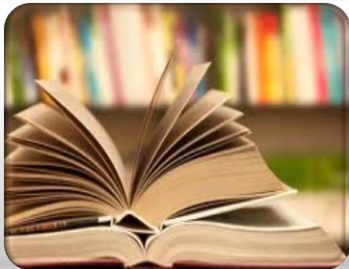


74.4% of the respondents were between 25-34 years old

- **Mean age (SD) : 30.8 (4.5) years old**



- **Malay (63.6%)**
- **Chinese (21.4%)**
- **Indian (12.4%)**
- **Others (2.6%)**



- **Primary education (0.2%)**
- **Secondary education (29.4%)**
- **Post secondary education (4.2%)**
- **Tertiary education (66.2%)**

Results and Discussion

Prevalence of medication use

- During pregnancy = 310
 - Total medications used = 697
- ⇒ 1.4 medications per respondents
-
- First trimester = 154
 - Total medications used = 242
- ⇒ One medication per two respondents



Types of medications used

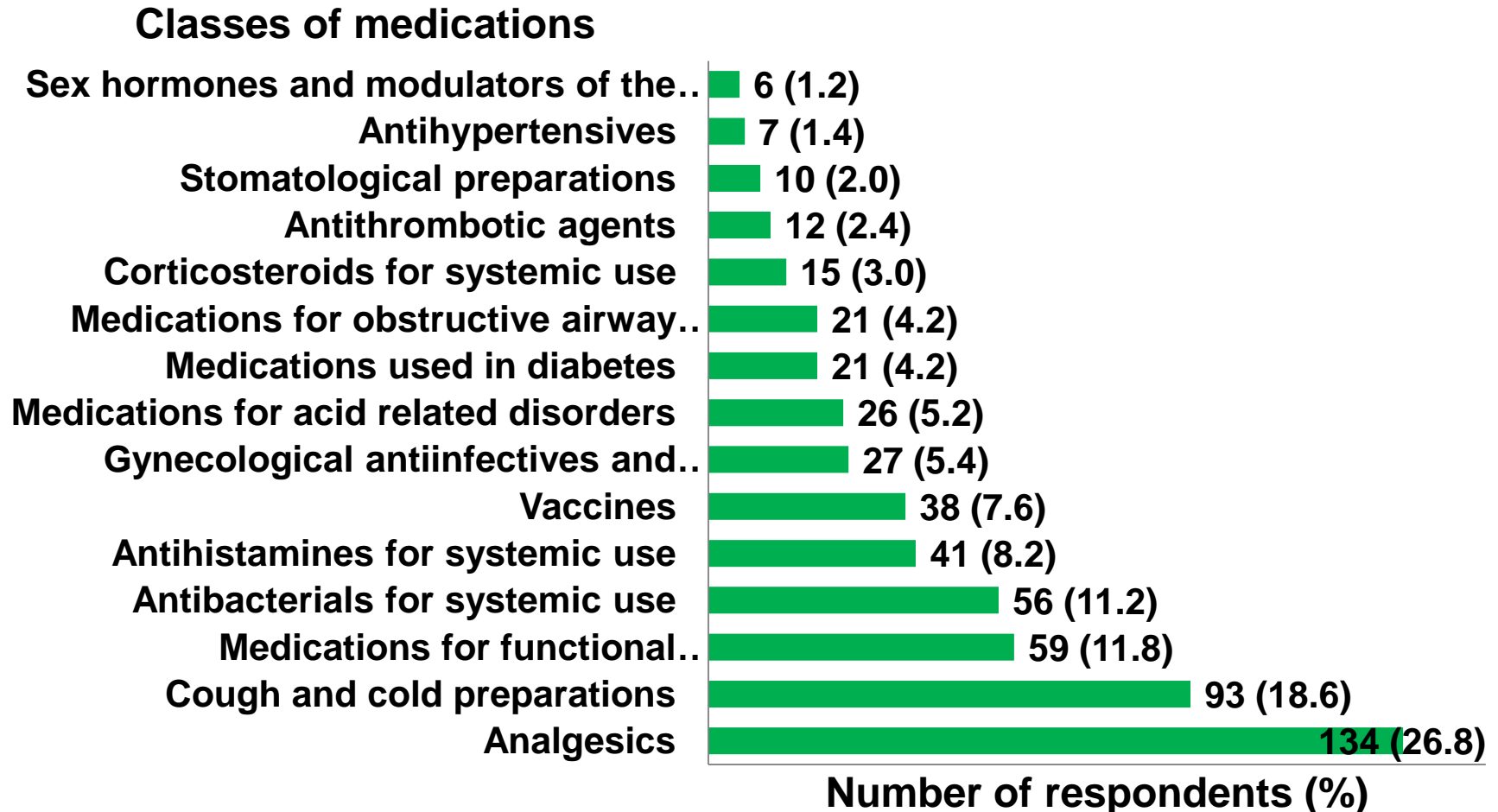


Figure 1: Classes of medications commonly used by the respondents during their pregnancy, irrespective of the trimester (N=500)

Medications used during pregnancy

Medication	Pregnancy safety category	Frequency (%, N = 500)
Paracetamol	B	117 (23.4)
Cough and cold medications	-	61 (12.2)
Tetanus toxoid vaccine	C	38 (7.6)
Metoclopramide	B	31 (6.2)
Chlorpheniramine	B	31 (6.2)
Insulin	B	30 (6.0)
Diphenhydramine	B	29 (5.8)
Unknown antiemetic	-	29 (5.8)
Clotrimazole	B	25 (5.0)
Cephalexin	B	22 (4.4)
Salbutamol	C	17 (3.4)
Metformin	B	15 (3.0)

Medications used during pregnancy

Medication	Pregnancy safety category	Frequency (%, N = 500)
Unknown antipyretic	-	15 (3.0)
Unknown antibiotic	-	14 (2.8)
Aspirin	C,D**	13 (2.6)
Cefuroxime	B	12 (2.4)
Dexamethasone	C	10 (2.0)
Magnesium trisilicate mixture	-	9 (1.8)
Ranitidine	B	9 (1.8)
Prospan®	C	7 (1.4)
Thymol mouthwash	-	7 (1.4)
Methyldopa	C	6 (1.2)
Amoxicillin	B	5 (1.0)
Dydrogesterone	-	5 (1.0)
Cetirizine	B	5 (1.0)

Safety of medications commonly used

Table 3: Medications safety during pregnancy based on the FDA US pregnancy safety categories (N=697)

Pregnancy Category	Number of medications	% of medications
A	1	0.1%
B	361	51.8%
C	100	14.3%
D	5	0.7%
X	1	0.1%
Unknown	229	32.9%



Results and Discussion

Potentially teratogenic medications:

- **Cafergot (ergotamine + caffeine)**
- **Carbamazepine**
- **Sodium valproate**
- **Lamotrigine**
- **Propylthiouracil**
- **Diclofenac sodium**
- **Tramadol**
- **Gaviscon (calcium carbonate + sodium bicarbonate + sodium alginate)**

Study Limitations

- Recall of medications may be inaccurate or biased.
- Medications used before pregnancy but may have a cumulative effect during pregnancy would not be captured in this study.
- Study could not be generalised to medication use by pregnant women on a nationwide scale.



Conclusion

- 62% of the pregnant women used at least one medication, 30.8% during the first trimester.
- **Classes of medications commonly used in this study were quite similar to that of other studies.**
- Most of the medications used by the respondents were considered as safe in pregnancy although some called for special precautions to be taken.
- **Some medications with teratogenic risk may still be used in pregnancy if their benefits outweigh the risk.**



THANK YOU

