

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

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**23 June 2014**

# Introduction

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**Medication use during pregnancy is widespread (93.9% in an US study).<sup>1</sup>**



**Concern about medication use during pregnancy has been triggered by historical events.<sup>2</sup>**



**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-Spauling. Am J Matern Child Nurs 2005; 30(1), 10-17.*

# Safety of medications based on FDA US pregnancy safety category<sup>1</sup>

**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

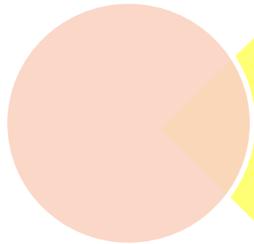
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- **To determine the types and safety of medications used by pregnant women.**

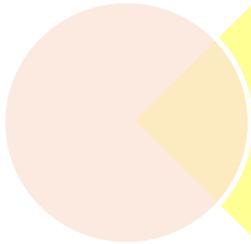


# Methodology

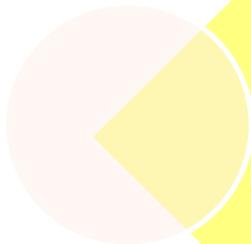
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**Cross sectional study.**



**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

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**> 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

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**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

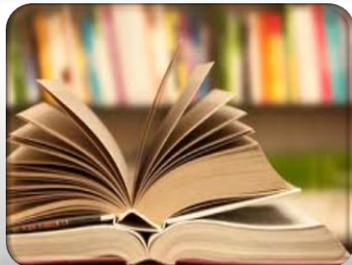


**74.4% of the respondents were between 25-34 years old**

- **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

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## 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

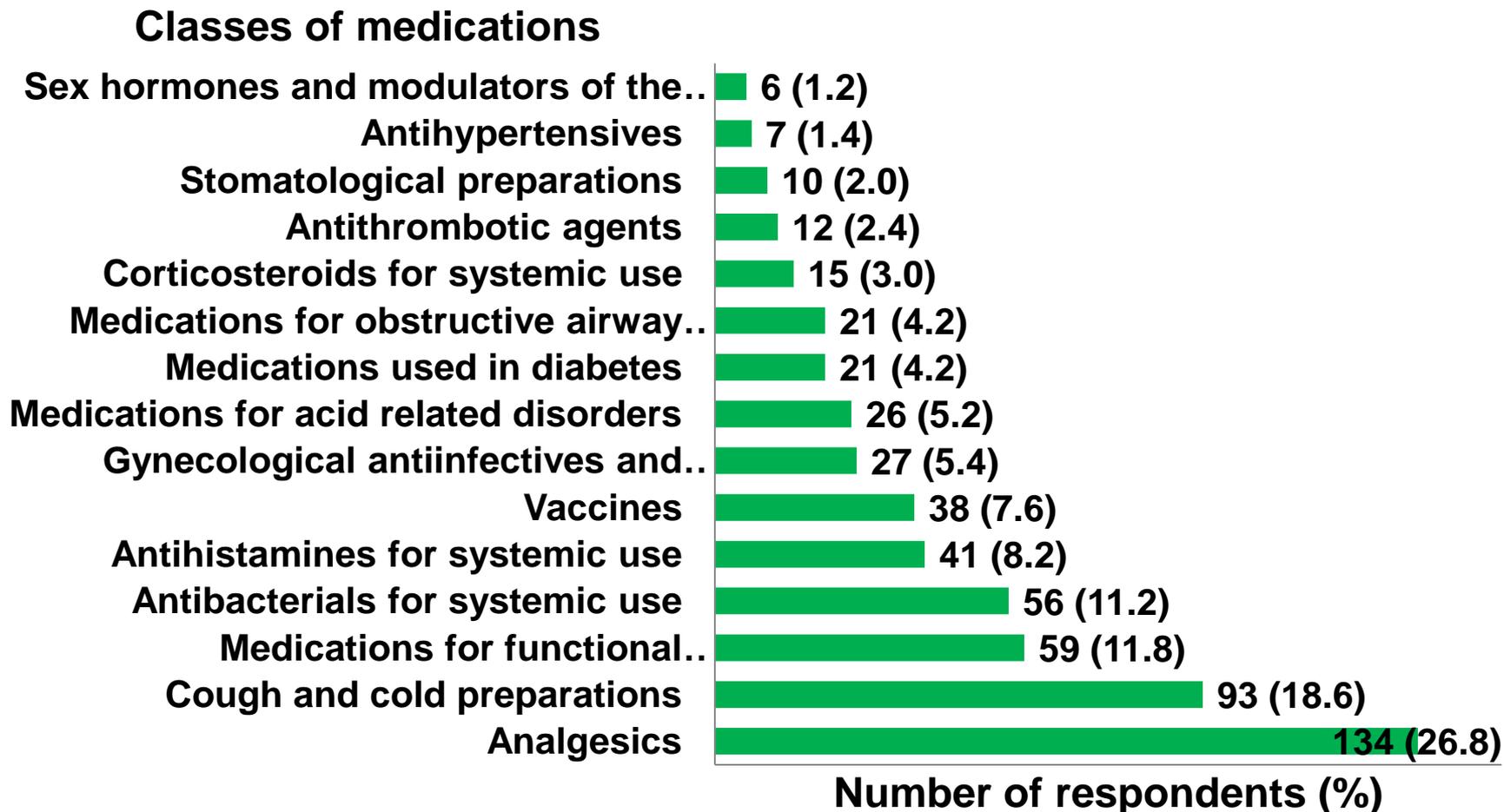


Figure 1: Classes of medications commonly used by the respondents during their pregnancy, irrespective of the trimester (N=500)

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## Medications used during pregnancy

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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)

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## Medications used during pregnancy

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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)

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# 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

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## Potentially teratogenic medications:

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

# Study Limitations

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- **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

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- **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

