

# From conception to birth: The relationship between pregnancy planning and caffeine, alcohol and illicit drug use.



Triple B Study



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## Introduction

- There are over 295,000 births in Australia each year (ABS, 2010).
- Current government guidelines advise pregnant women to abstain from alcohol use and illicit drug use during pregnancy.
- More than half of all pregnant women report some alcohol or other drug use in pregnancy; 51% of pregnant women drank alcohol, 12% smoked tobacco and 6% used any illicit drug during pregnancy (AIHW, 2010; AIHW, 2005), representing a major public health issue.
- While AIHW (2010) did find that the majority of pregnant women reduced alcohol consumption during pregnancy, the period at which they altered their drinking habits is unknown.
- 31% of Norwegian women who planned to become pregnant were found to drink alcohol at levels that constitute binge drinking in early pregnancy, compared to 44% of women who did not plan to become pregnant (Alvik et al., 2011).
- Less longitudinal research has been conducted on the relationship between pregnancy planning and low to moderate levels of drinking and other drug use, in an Australian sample.

## Aim

- To describe the demographic and psychosocial characteristics of a sample of pregnant women.
- To monitor the percentage of caffeine, alcohol and other drug use in a sample of the pregnant population from preconception until birth.
- To investigate the relationship between pregnancy planning and caffeine, alcohol and other drug use from preconception until birth.

## Method

### Recruitment:

200 Pregnant women were recruited through antenatal clinics at Royal Prince Alfred Hospital and The Royal Hospital for Women, Sydney.

### Assessment waves:

Substance use and questions relating to pregnancy planning were assessed using retrospective self reporting questionnaires and interviews at three intervals:

- Baseline interview (completed during pregnancy): 3 months Prior to conception substance use, and pregnancy planning
- Trimester 1 follow up : conception to 12 weeks substance use
- Trimester 2 follow-up : 13 weeks to 27 weeks substance use
- Trimester 3 follow-up: 28 weeks onwards substance use.

## Results

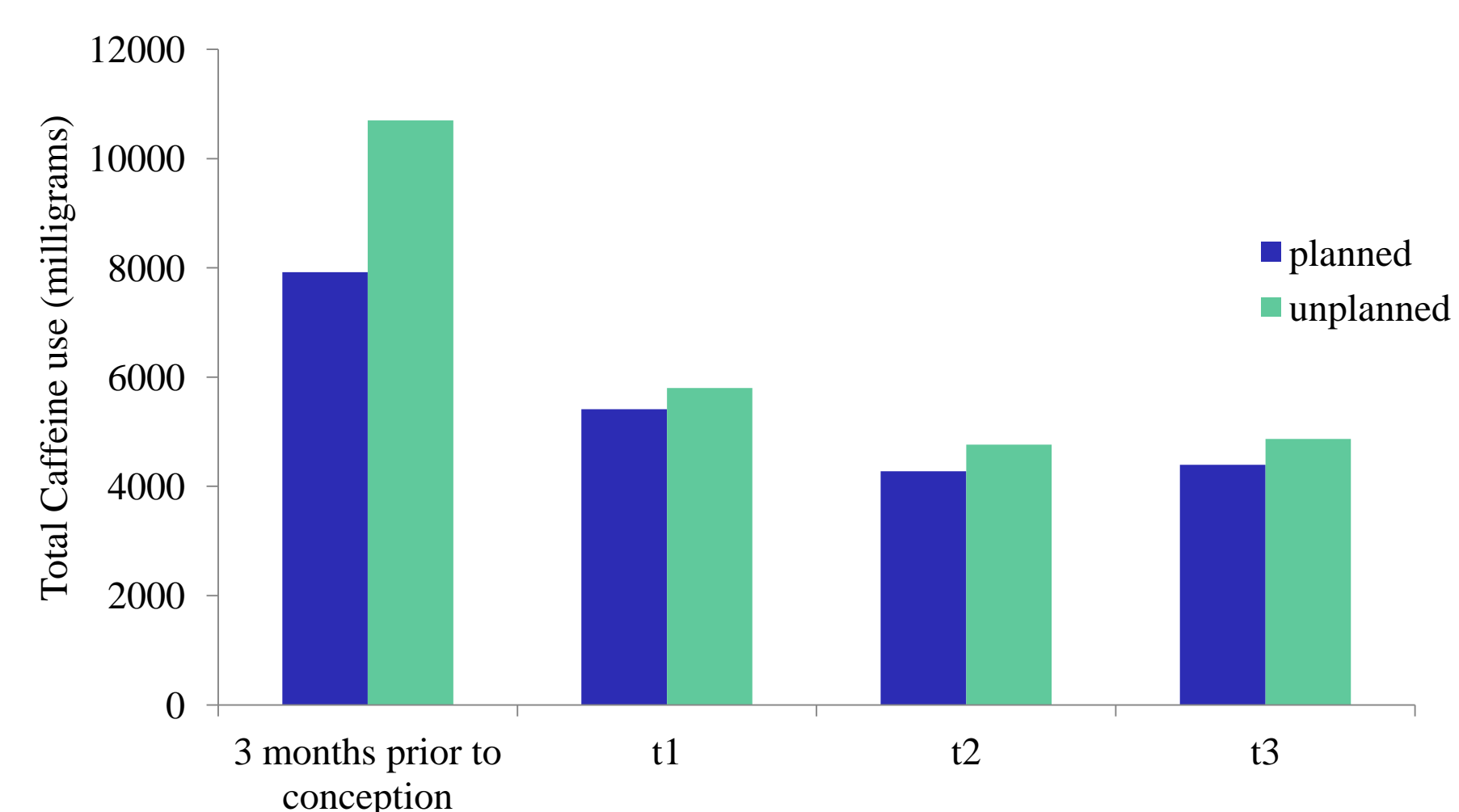
Table 1. Demographics of mothers

Characteristics	N = 200
Mean Age	32.91
Mean Fortnightly Income (after tax)	\$1380.99
Born In Australia	59%
Aboriginal and/or Torres Strait Islander	4%
Employed Full-time	50%
Married	63%
Living in Own House/Unit	50%
Current Partner is Father	90%
Have other Children	42%
Wanted to become pregnant	75%

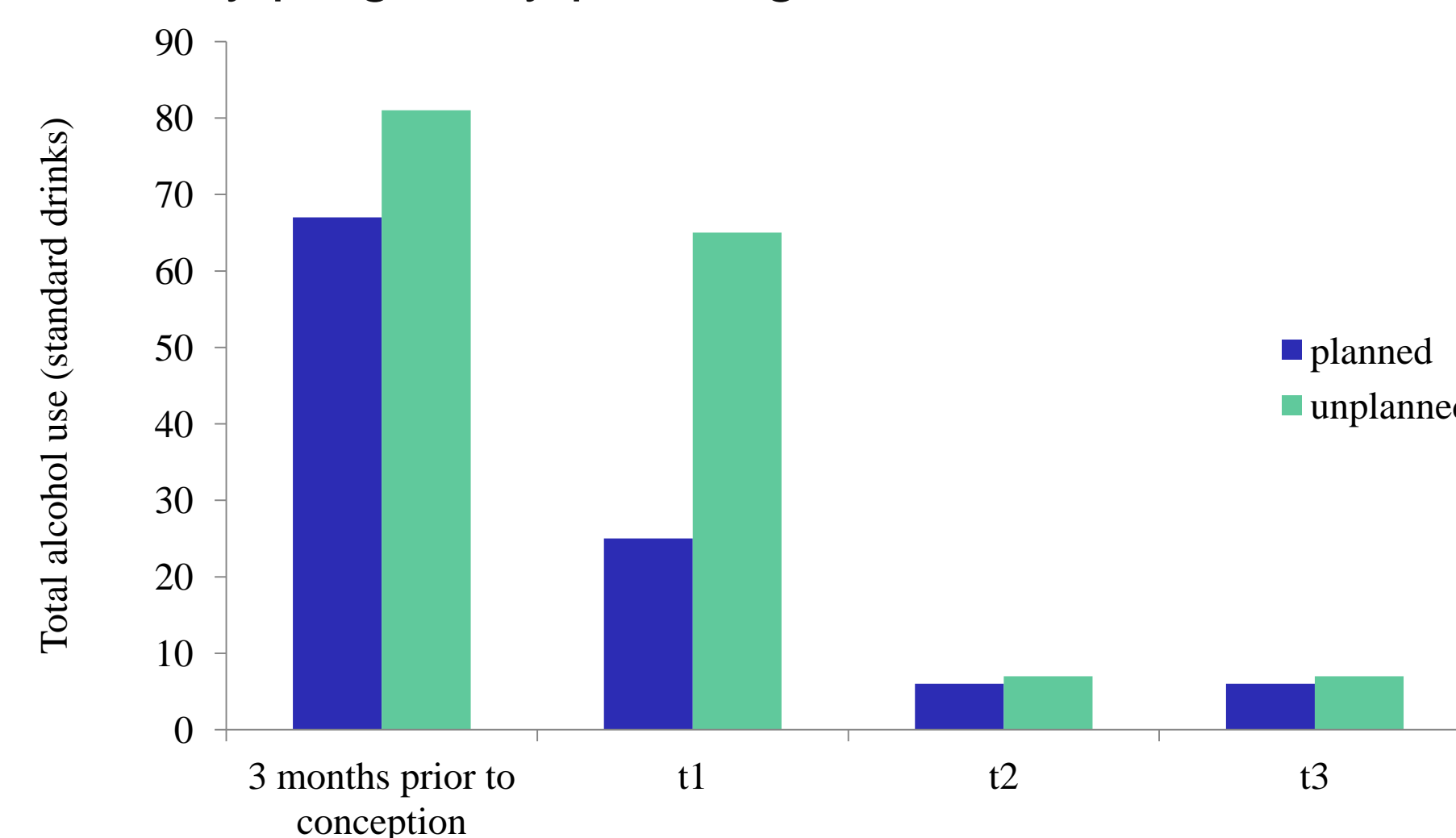
Table 2. Percentage of sample population that used any drugs from preconception until birth.

Substance	3 Months prior to conception	Trimester 1	Trimester 2	Trimester 3
Caffeine	91%	80%	82%	84%
Alcohol	80%	44%	35%	35%
Tobacco	19%	13%	5%	5%
Illicit drugs	15%	3%	2%	3%

Graph 1. Average caffeine use from preconception to birth by pregnancy planning



Graph 2. Average alcohol use from preconception to birth by pregnancy planning



Graph 3. Average tobacco use from preconception to birth by pregnancy planning

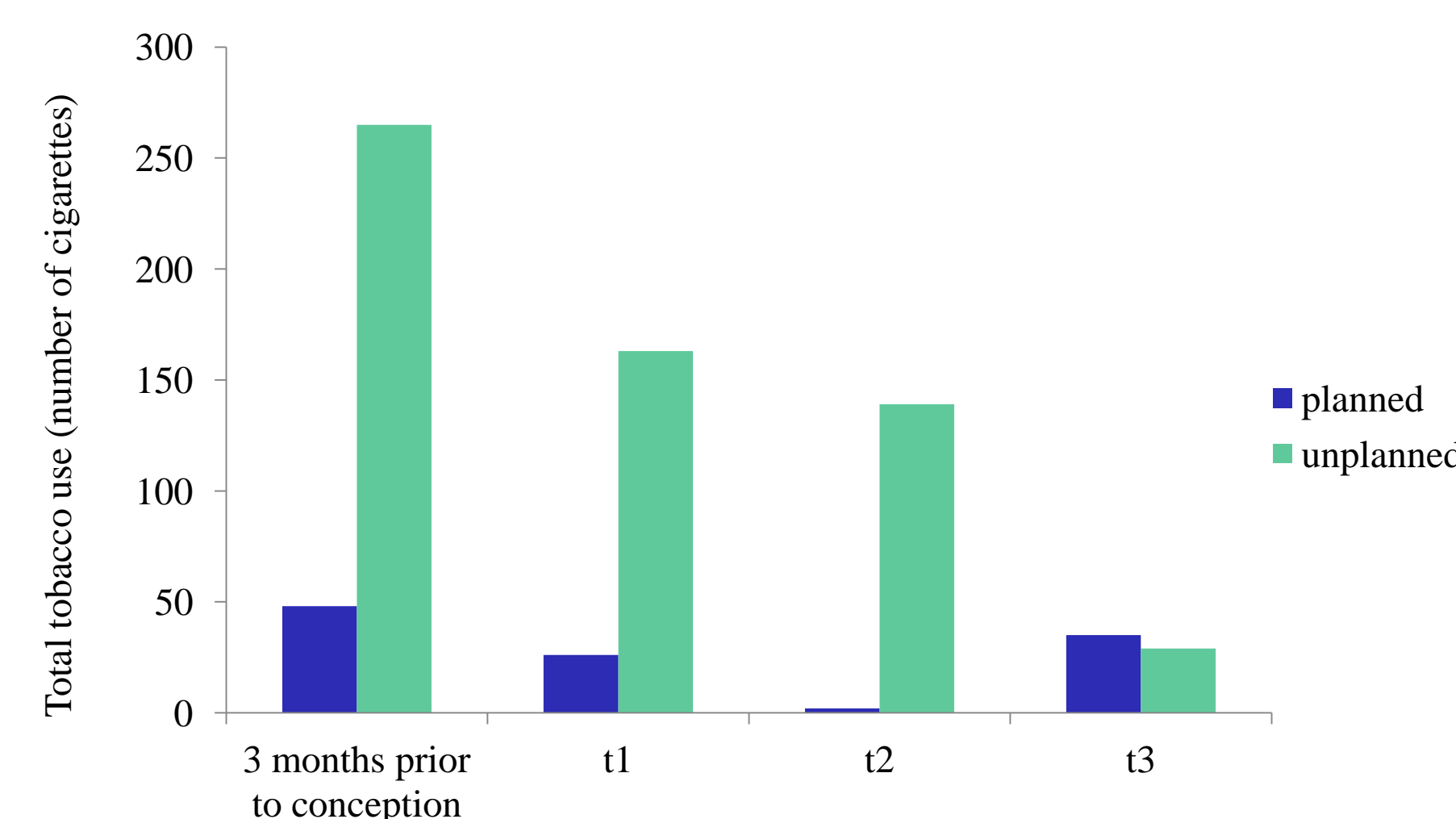


Table 3. Difference between substance use from preconception to birth by pregnancy planning

Substance	3 months prior to conception	Trimester 1	Trimester 2	Trimester 3
Caffeine	F = 3.18	F = 0.08	F = 0.23	F = 0.26
Alcohol	F = 0.55	F = 3.79	F = 0.16	F = 0.14
Tobacco	F = 13.720*	F = 9.96 *	F = 12.75 *	F = 0.02

\* Significant at the 0.005 level

## Discussion

- 75% of women were planning to become pregnant.
- Consistent with past research, the percentage of women who used alcohol and tobacco dramatically reduced during pregnancy when compared with 3 months prior to pregnancy.
- Close to half the pregnant population continued to use some level of alcohol during trimester one.
- Interestingly there was no significant difference between caffeine, alcohol or illicit drug use for women who were planning to become pregnant compared to those who were not.
- However there was a significant difference in tobacco use for women who were planning to become pregnant compared to those who were not, but only until the third trimester.
- A limit of the current study is that trimester one substance use was examined holistically. However many women reported a substantial change in substance use during trimester one between pre pregnancy awareness and post pregnancy awareness.
- Furthermore while this is a sample of the full study population, the number of participants and the demographic homogeneity of the sample were also a limitation of the current study.
- Regardless, these issues demonstrate the lack of knowledge surrounding pregnancy planning and illicit substance use, the complexity of these relationships and highlight the need for further investigation in this field.

• The limitations of this sample have been addressed in the ongoing full study sample.

## Conclusion

- The results of this investigation are positive in that pregnant women are altering their substance use during pregnancy in accordance with current guidelines.
- However in light of the lack of research available regarding the effects of low level alcohol use particularly, it is of some concern that close to half the population still reported some alcohol use during trimester one.
- Further research categorising trimester one substance use in relation to pre and post pregnancy awareness may provide a deeper understanding of the relationship between pregnancy planning and substance use.

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