

# A study to assess the prevalence of gestational hypertension and determine the effect of calcium intake on blood pressure during pregnancy (>20 weeks of gestation) in Delhi.

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## RATIONALE AND OBJECTIVES

Research shows that low calcium intake has been associated with increase in blood pressure. Higher doses of calcium supplementation could possibly be a relatively economical and safe way of reducing the risk of pre-eclampsia specifically in women where calcium intake is lower and those at risk of pre-eclampsia.

The objective of the study are listed below:

- ❖ To assess the blood pressure of pregnant women (>20 weeks of gestation).
- ❖ To assess the frequency of calcium rich foods consumption among pregnant women.
- ❖ To compare the dietary and nutrient intake of hypertensive and normotensive pregnant women using 24-hour recall method

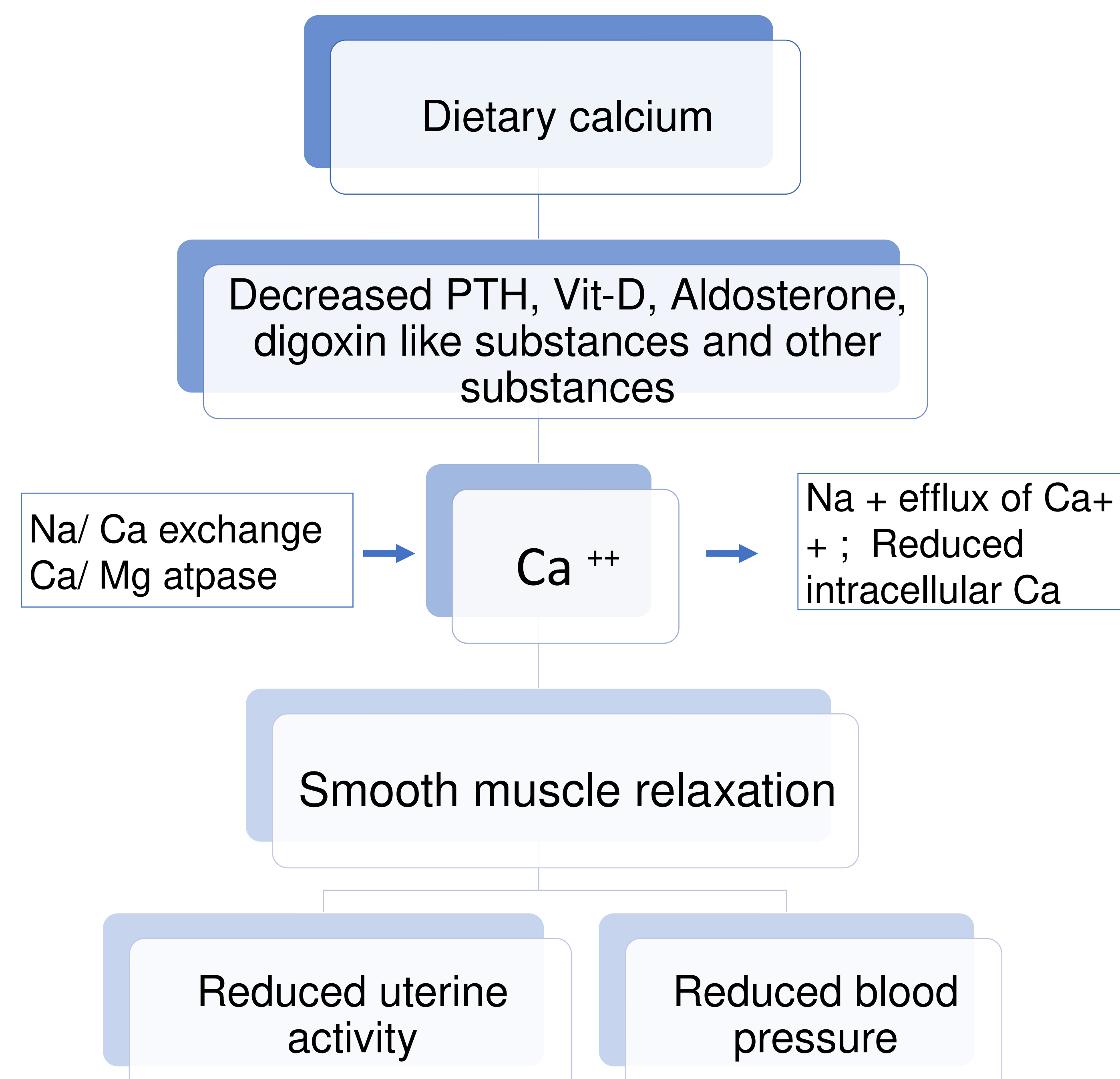


Figure 1: Proposed mechanism for calcium supplementation reducing blood pressure during pregnancy

Source: Indumati, Kodliwadmth, Sheela (2011)

## MATERIALS AND TECHNIQUES:

- ❖ A cross-sectional study was conducted on pregnant women (>20 weeks of gestation, n=100) who were registered in tertiary care ANC clinics in Delhi's urban districts during December and January of 2018.
- ❖ Pre-tested questionnaires were used to collect data on socio-demographic profile, dietary habits, and food frequency of calcium-rich foods.
- ❖ The food and nutrient intake of normotensive and hypertensive pregnant women was evaluated using a one-day, 24-hour recall.

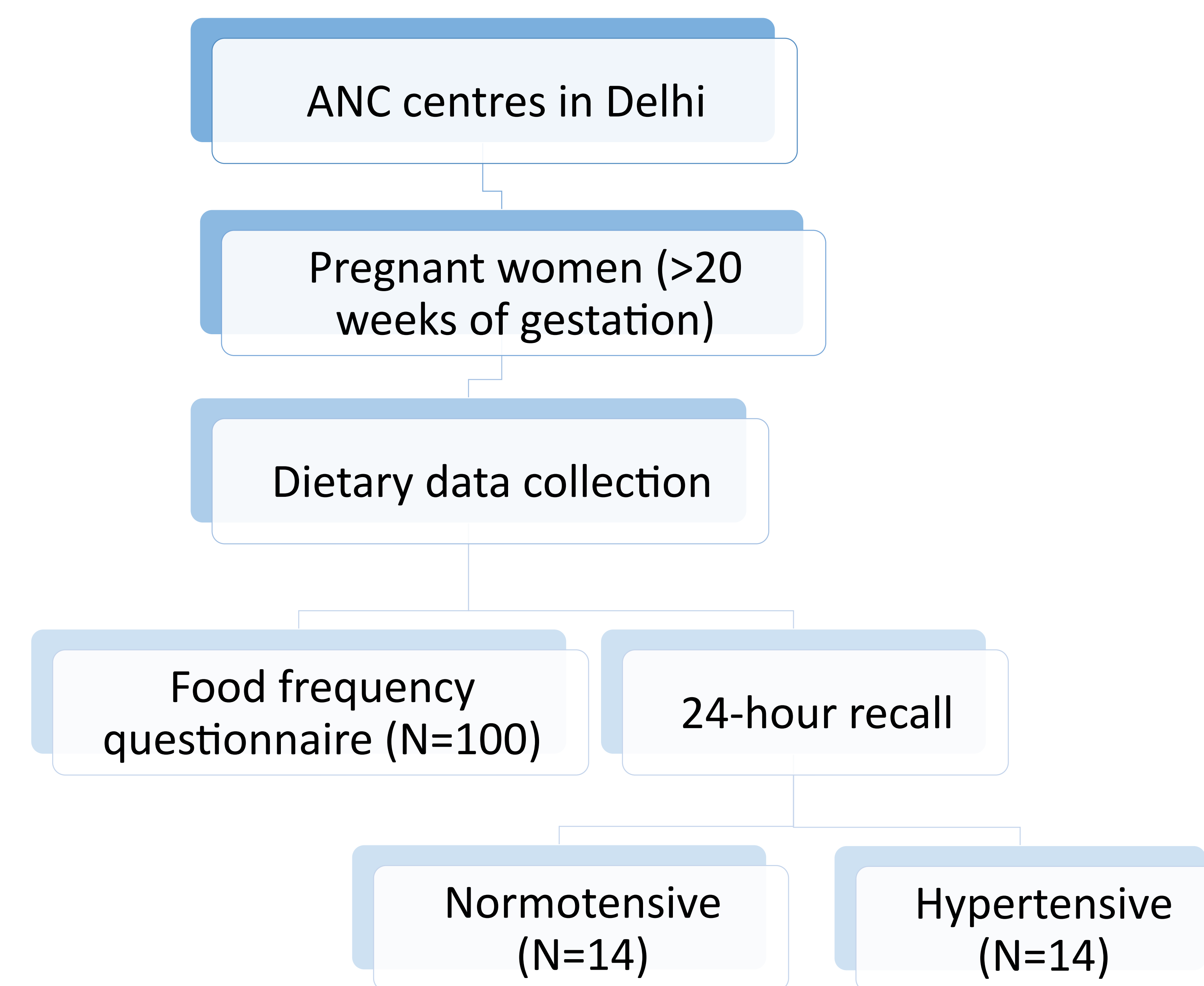


Figure 2: Schematic representation of study design

## RESULTS:

- ❖ The FFQ results indicated that pregnant women consumed milk (80%), pulses (76%) and Green leafy vegetables (92%) daily.
- ❖ Except for milk and milk products (p=0.004), there was no significant difference in mean nutrient intake between normotensive (n=14) and hypertensive (n=14), with normotensives consuming 175.78 ± 90.17 grams/day compared to hypertensives consuming 82.5 ± 84.96 grams/day.

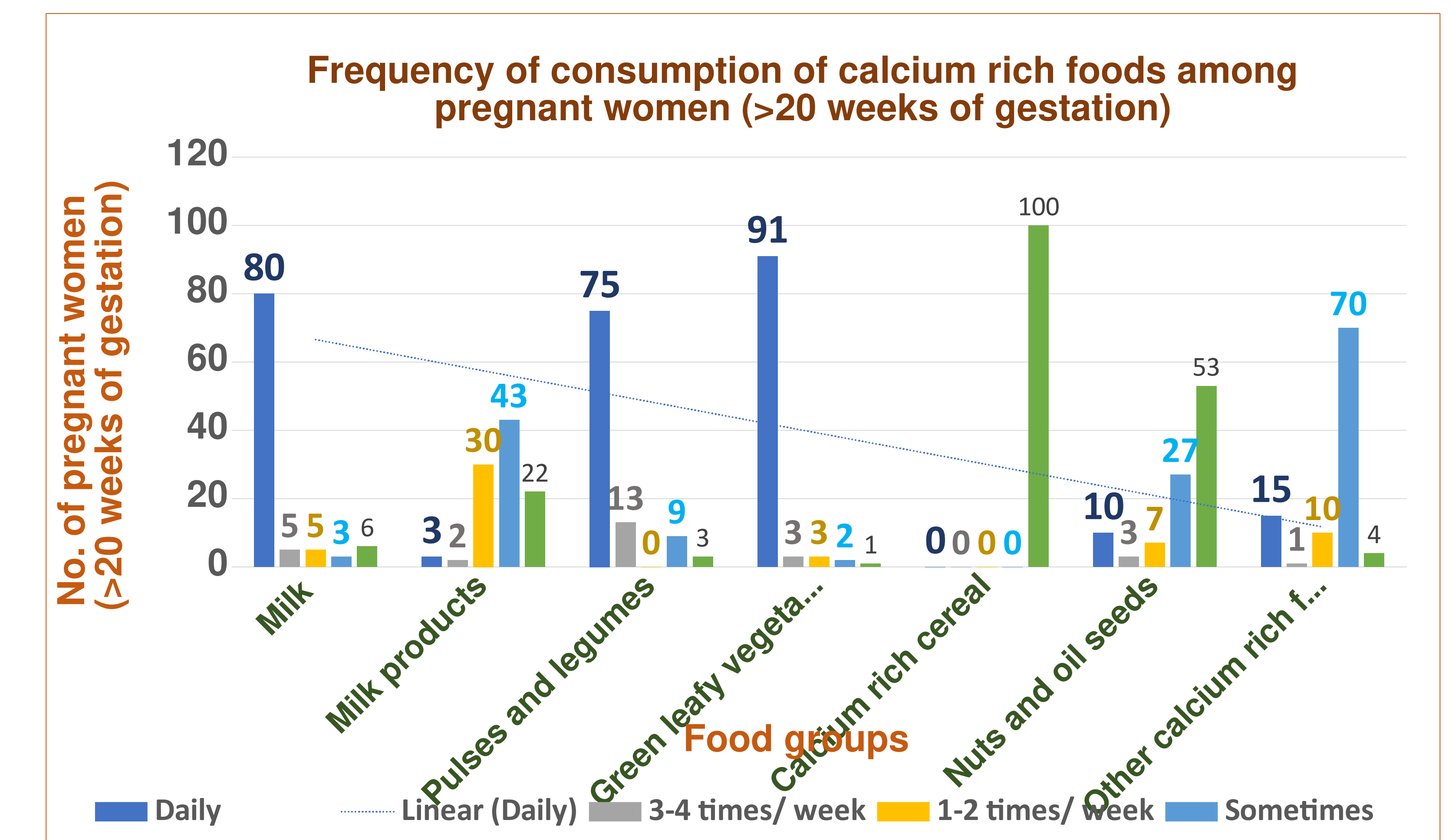


Figure 3: Frequency of consumption of calcium rich foods among pregnant women (> 20 weeks of gestation)

- ❖ Calcium consumption was observed to be higher in normotensive individuals (440.71mg) than in hypertensive individuals (244.98mg).

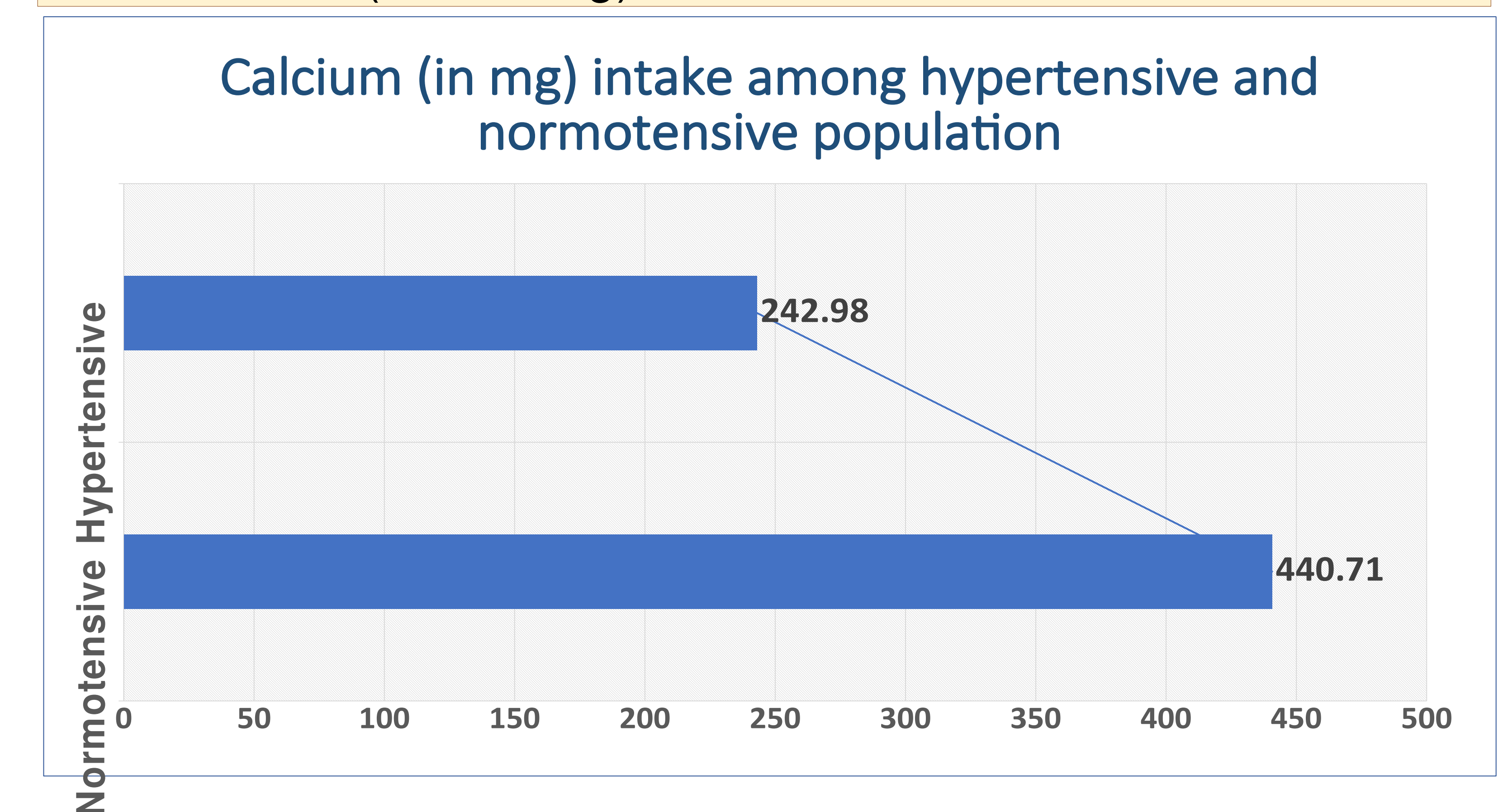


Figure 4: Calcium (in mg) intake among hypertensive and normotensive population

## CONCLUSION AND IMPLICATIONS

- ❖ There was a substantial difference in the mean consumption of milk and milk products between normotensive and hypertensive pregnant women, which also reflected in a significant difference in calcium intake.
- ❖ This finding is significant even though the sample size was small given that calcium is known to protect against PIH during pregnancy.