



# PIPA - PROJECT ABOUT CHILDHOOD AND ENVIRONMENTAL POLLUTANTS - PRENATAL EXPOSURE TO METALS AND BIRTH WEIGHT

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**CONCLUSION:** This is the first study in Brazil that analyze women pregnant and babies with environmental pollutants and, therefore there isn't previous parameter of compare with laboratorial data. Study data have no statistical significance to confirm, but do not rule out the influence of metals on birth weight. The findings suggest attention for the exposure to metal co-exposures as well as new studies in this thematic.

**Background/Aim:** There is growing evidence that co-exposure to multiple metals can result in some outcomes, such as prematurity and low birth weight. The results are from a pilot study conducted in 2017/2018 that is a precursor of a birth cohort that will be started at the School Maternity of the Federal University of Rio de Janeiro. The study evaluated metals: lead, mercury, arsenic and cadmium in pregnant women and children with normal birth weight (BW). We aimed to evaluate the relationship between both prenatal mixture-metals exposure and children's BW.

## Results:

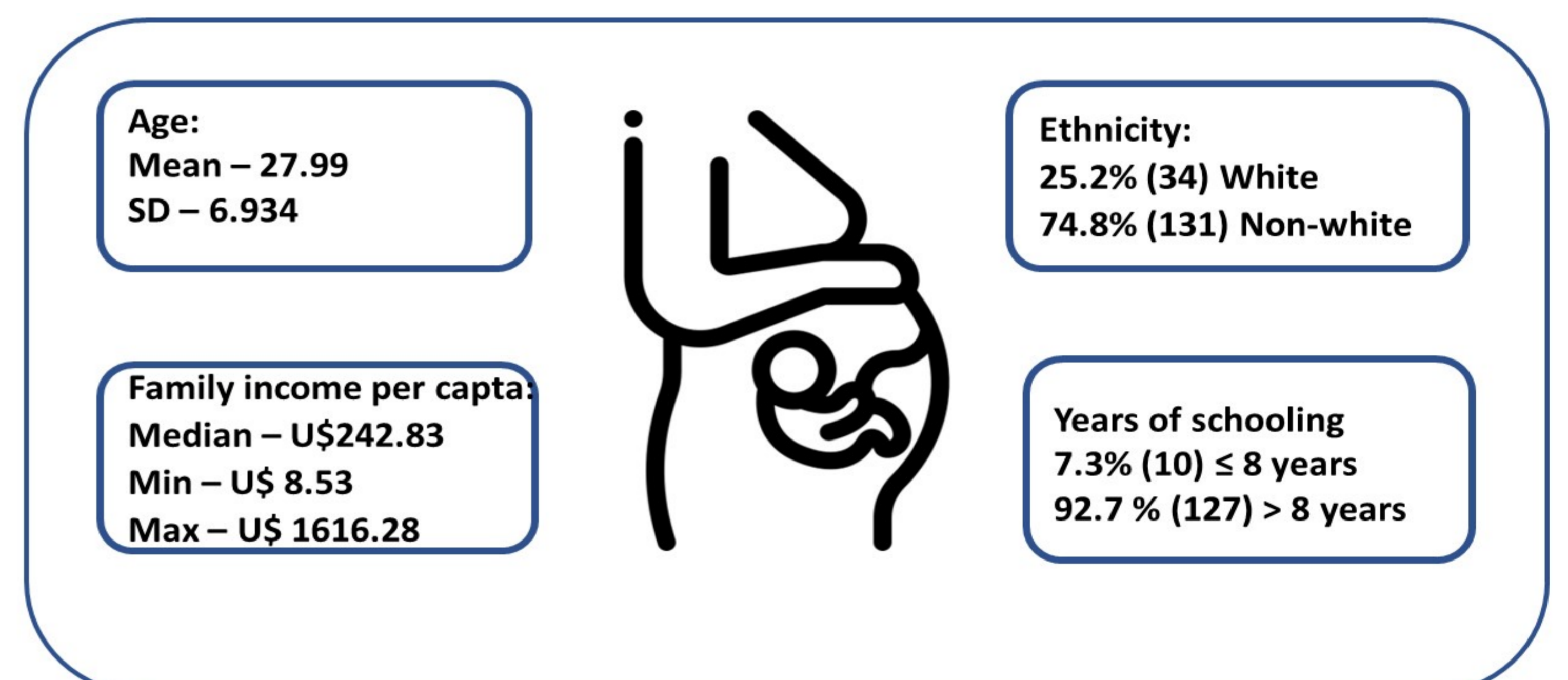


Figure 1: Pregnant women profile

**Methods:** 142 interviews were conducted about maternal exposure and blood samples and cord blood were collected. Excluded mother/baby pairs with BW less than 2500g, considered 106 samples.

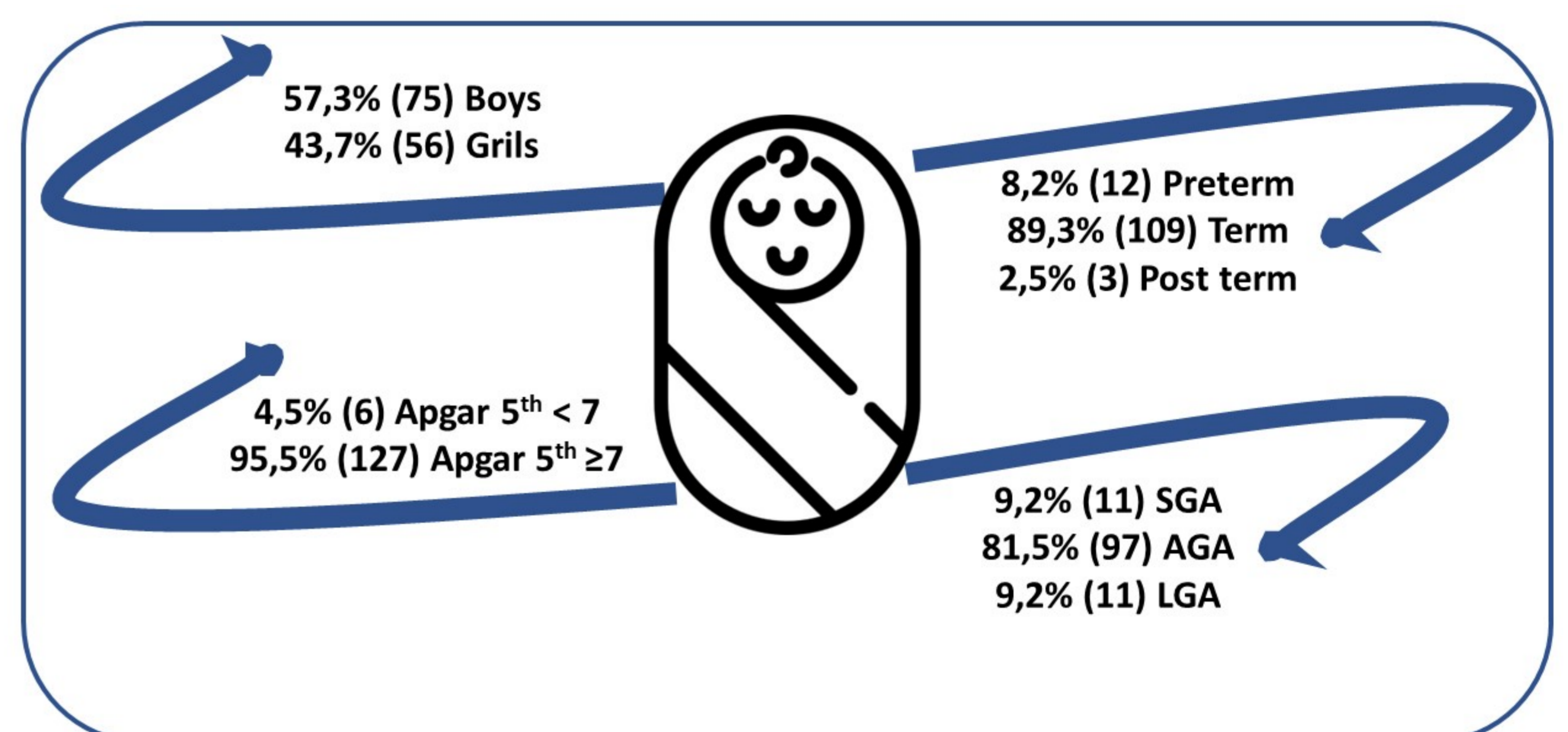
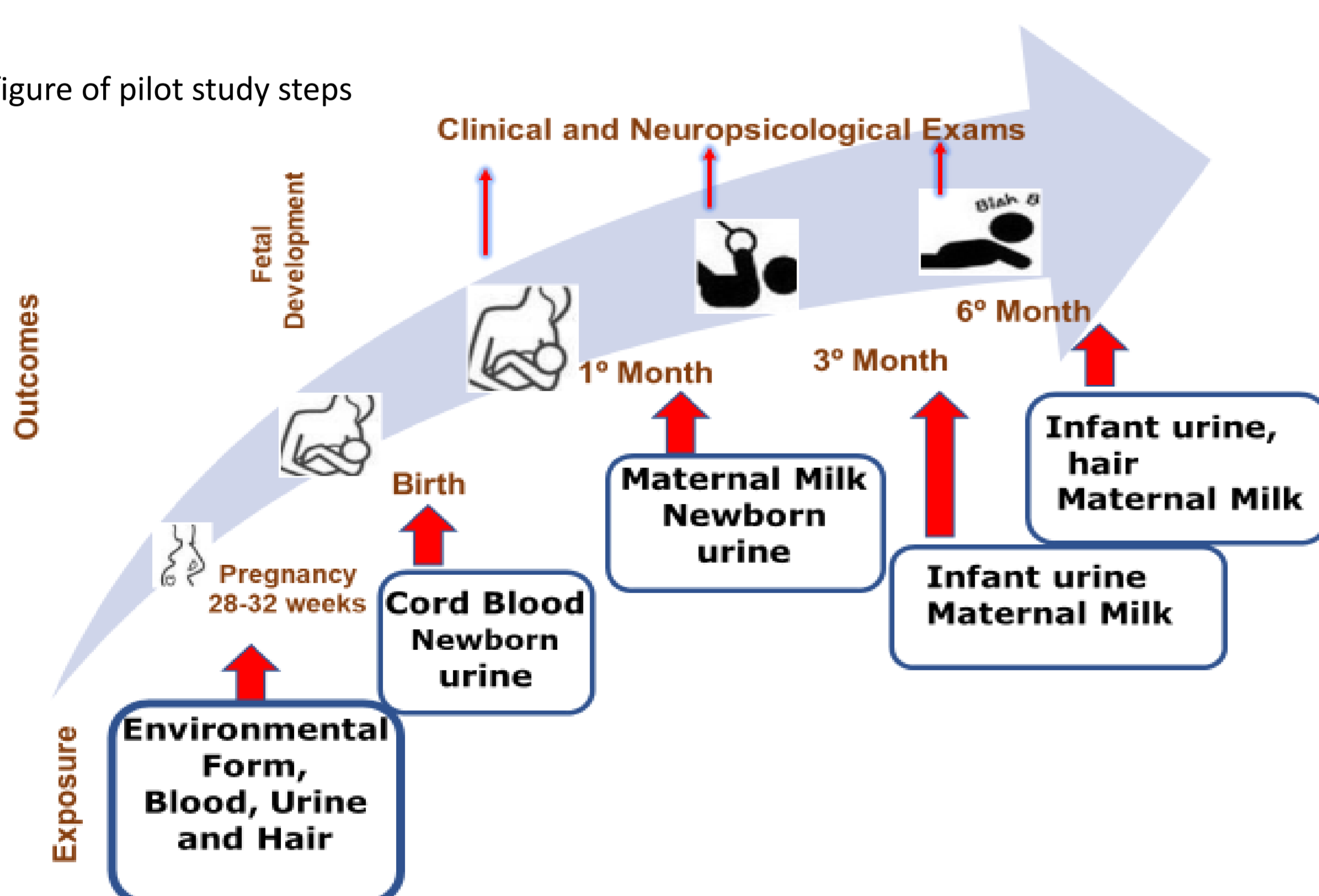


Figure 2: Newborns Profile

Descriptive figure of pilot study steps

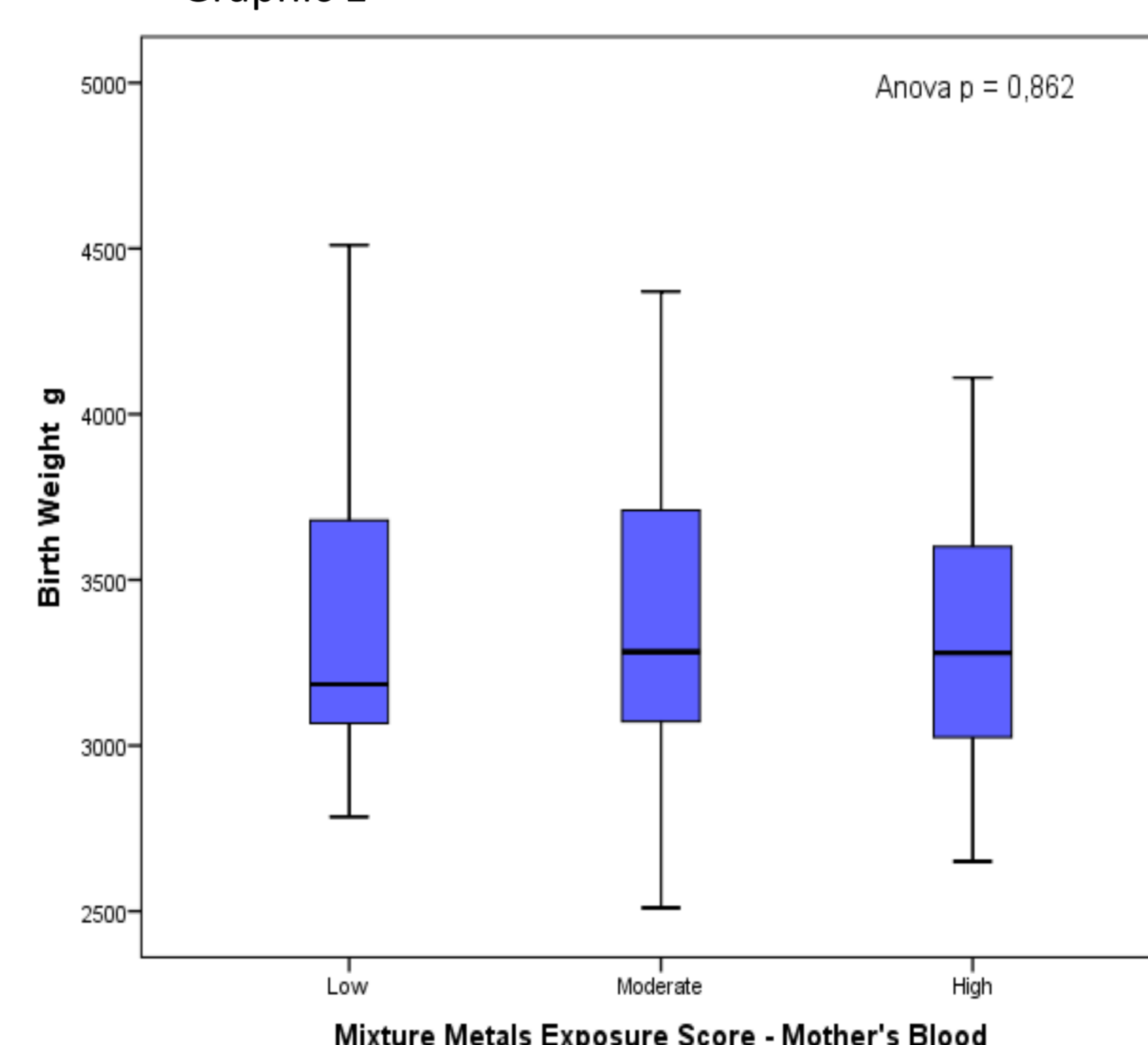


For the construction of metal combined exposure scoring, the concentrations of each metal in tertiles were classified. The combination of the exposure scores of each metal was categorized as low, moderate and high exposure, according table 1.

Table 1

Exposure Classification	Scores Range
Low	4
Moderate	5-8
High	9-12

Graphic 1



Graphic 2

