

INTRODUCTION

Understanding the embryo-mother interaction in humans from fertilization is a process that has not yet been elucidated. The use of animal models does not reflect the reality of ultra-early human pregnancy development. In vitro models, besides being incomplete due to the mother's absence, present ethical dilemmas in the use of human embryos for biomedical research. Currently, some studies analyze pregnancy from a multi-omics approach; However, these focus on the later stages of pregnancy. Therefore, the objective of this work is to generate a robust biorepository of female fluids at an ultra-early stage of pregnancy that allows for an in-depth study of the embryo-mother crosstalk.

CONCLUSIONS

To our knowledge, the biorepository generated through this cohort is the first to integrally incorporate four maternal fluids for studying embryo-mother interaction in the ultra-early pregnancy period. The information obtained from multi-omics studies of the different fluids will allow the development of the human conception profile and its ultra-early development.

ACKNOWLEDGE

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METHODS

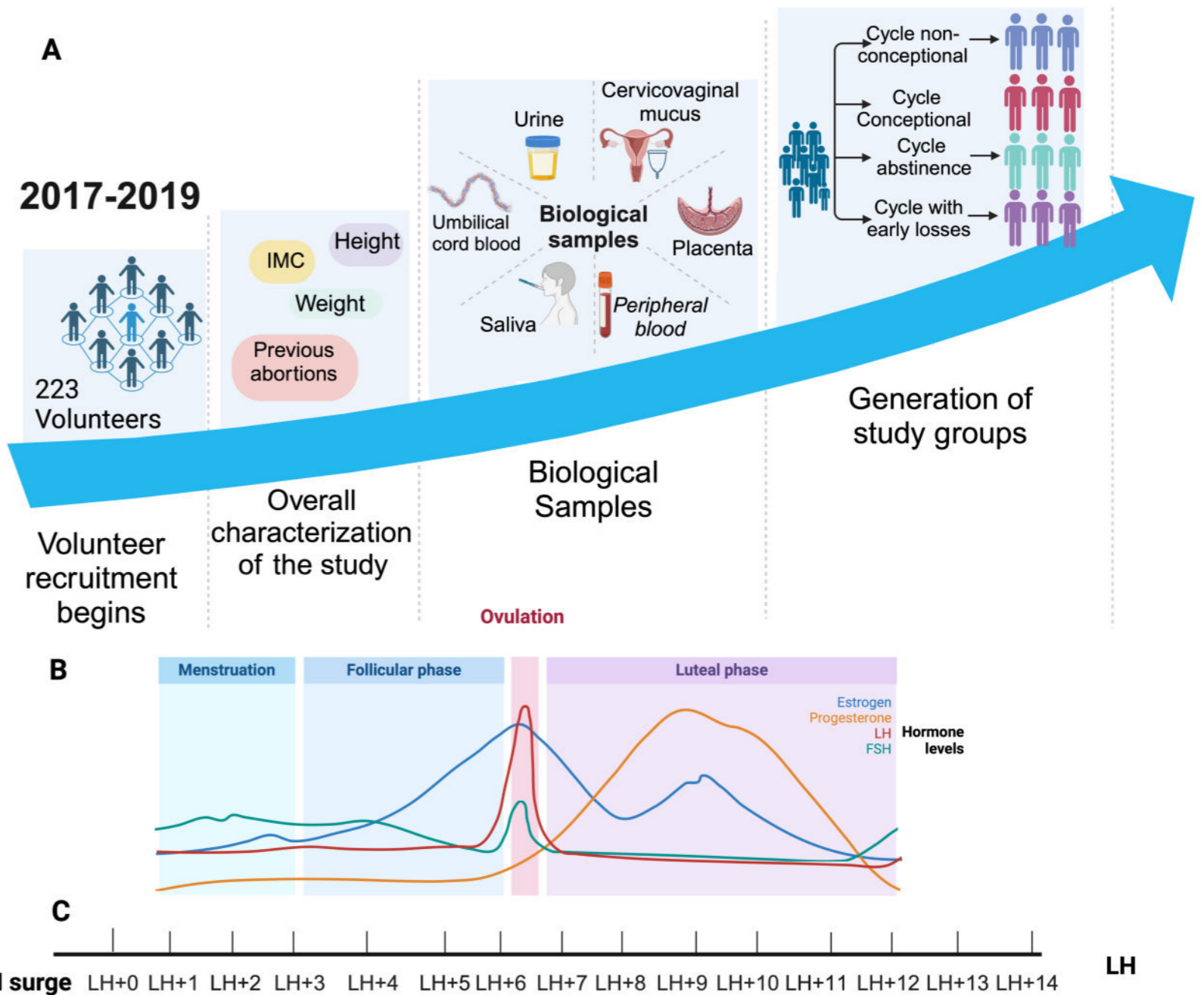


Figure 1: A) General workflow for the process of creating an ultra-early pregnancy female biorepository with biological samples recolecting from 2017 to 2019. B) Daily hormonal monitoring of volunteers. C) Longitudinal order of volunteers according to LH curve. The cohort has a bidirectional character and was characterized by the period from before ovulation to day 14 after fertilization.

The study was prospective, in terms of sample collection, and retrospective in sample analysis. Retrospective analyzes are conducted once the outcome of each cycle is confirmed, which can be conceptional or non-conceptional, clinically determined by the elevation of bHCG in plasma, two weeks after ovulation. In the case of pregnancy, volunteers were followed until delivery.

RESULTS

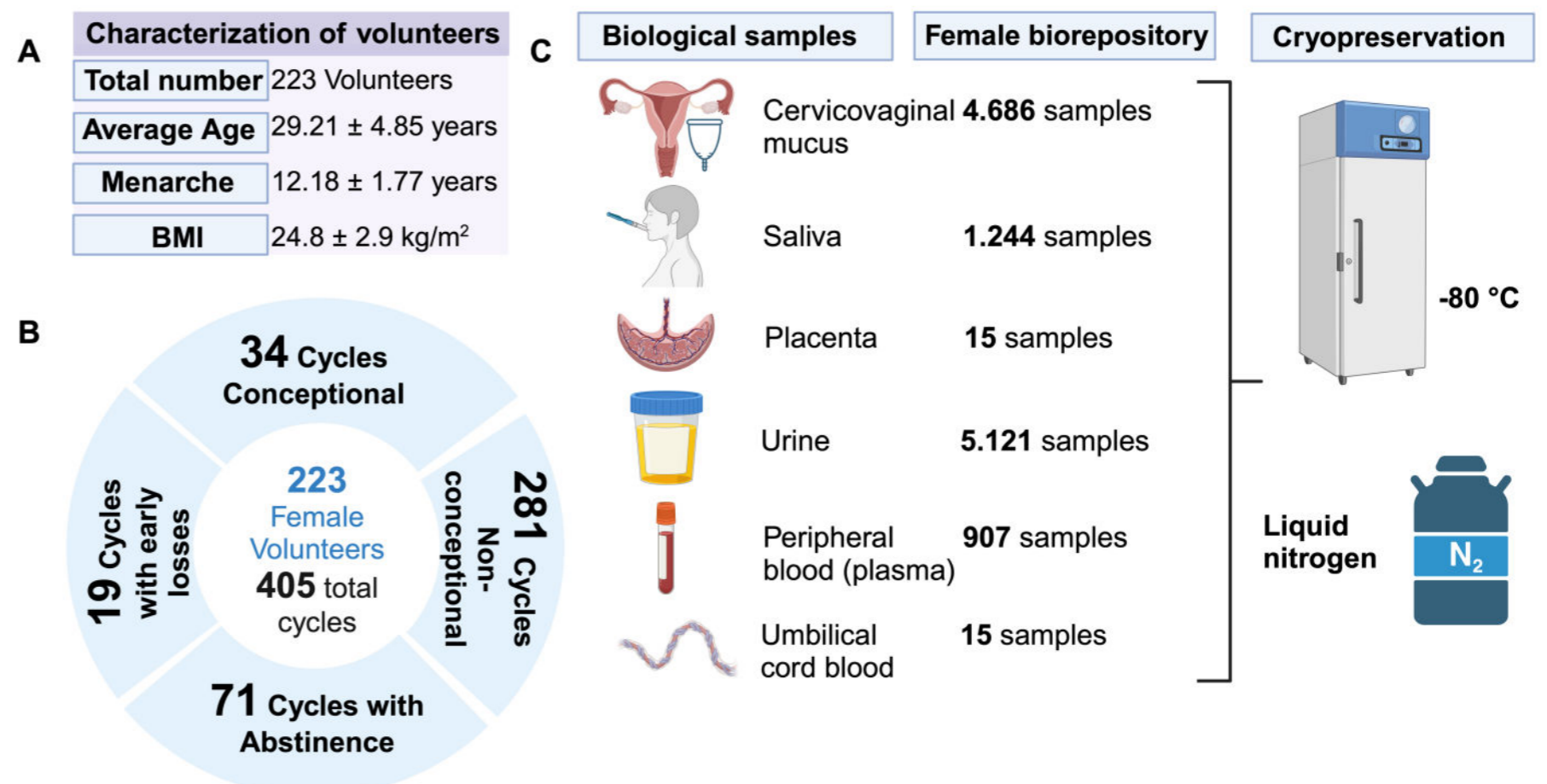


Figure 2: Generation of study groups and female biorepository. A) Full characterization of the female volunteers in the study. B) Four groups incorporated in the study with their respective number of volunteers. C) Female biorepository generated between 2017 and 2019.

