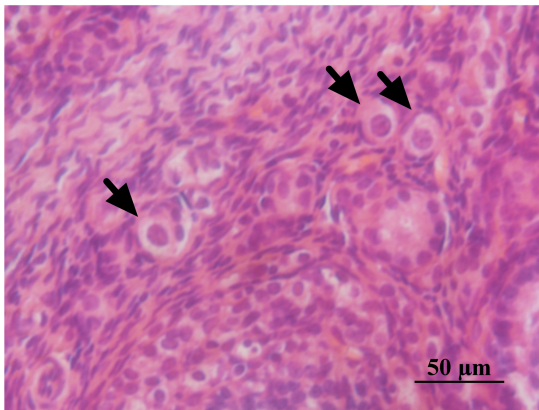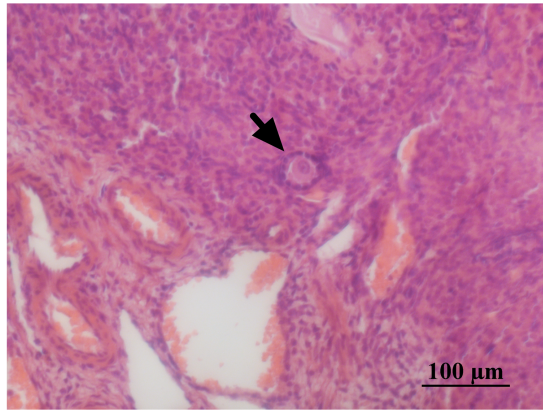**Primordial follicle**

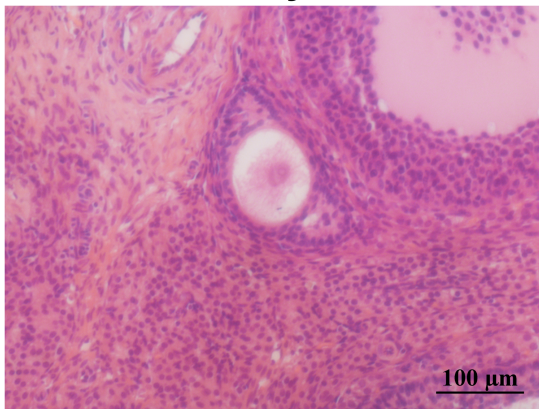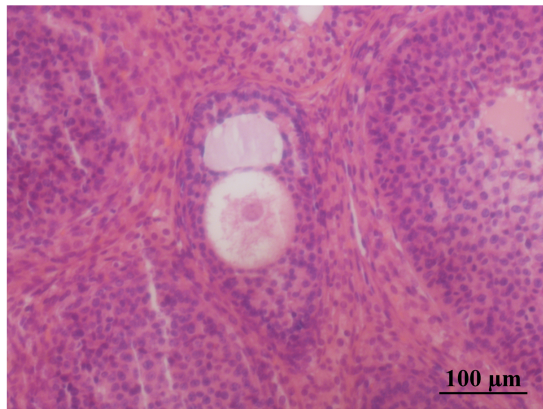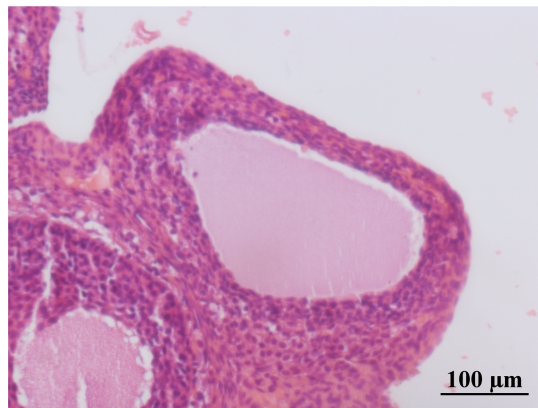**Primary follicle**

Secondary follicle

Antral follicle

Cystic follicle

Supplementary Figure 1. Representative images of primordial, primary, secondary, antral and cystic follicles. Representative microphotographs of the ovaries of our rats were obtained using a camera attached to an optical microscope and ovaries were stained with HE.

Supplementary Table 1: Descriptive information on variables and data sources explored across 26 Brazilian states from 2000 to 2017.

Variable name	Unit	Source
Socioeconomic indicators		
GDP per capita	Reais (R$)	Brazilian Institute of Geography and Statistics (IBGE)
Health outcomes and risks		
Prevalence of polycystic ovary syndrome	Cases per 100,000 habitants	Global Health Data Exchange/GBD Results Tool
SEV of diet high in sugar-sweetened beverages	Risk-adjusted prevalence, from 0 to 1	Global Health Data Exchange/GBD Results Tool
SEV of high fasting glycaemia	Risk-adjusted prevalence, from 0 to 1	Global Health Data Exchange/GBD Results Tool
SEV of high LDL-cholesterol	Risk-adjusted prevalence, from 0 to 1	Global Health Data Exchange/GBD Results Tool

GDP: Gross domestic product. SEV: Summary of exposure value. GBD: Global Burden of Disease study.

Supplementary Table 2: Glossary of metrics and definition of variables used in the ecological study.

Metric and variables	Definition
GDP per capita	It is the gross domestic product divided by the midyear population. GDP is the sum of the gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources.
Prevalence	The total number of cases of a given disease in a specified population at a designated time. It is differentiated from INCIDENCE, which refers to the number of new cases in the population at a given time.
Summary Exposure value (SEV)	A measure of a population's exposure to a risk factor that takes into account the extent of exposure by risk level and the severity of that risk's contribution to disease burden. SEV takes the value zero when no excess risk for a population exists and the value one when the total population is at the highest level of risk; we report SEV on a scale from 0% to 100% to emphasize that it is risk-weighted prevalence.
Polycystic Ovary Syndrome	PCOS is defined according to NIH criteria (as recommended by American College of Obstetricians and Gynecologists [ACOG]), which includes chronic anovulation and hyperandrogenism (established by hormone measurements or clinical findings) in women in whom secondary causes have been excluded. PCOS included the following ICD-10 code: E28.2.
Diet high in sugar-sweetened beverages	Diet high in sugar-sweetened beverages is defined as any intake (in grams per day) of beverages with ≥50 kcal per 226·8 gram serving, including carbonated beverages, sodas, energy drinks, and fruit drinks, but excluding 100% fruit and vegetable juices.
High fasting plasma glucose	High fasting plasma glucose is defined as serum fasting plasma glucose of greater than 4·8–5·4 mmol/L.
High LDL-cholesterol	We estimated blood concentration of low-density lipoprotein (LDL) in units of mmol/L. We used a TMREL with a uniform distribution between 0·7 and 1·3 mmol/L.

ICD: International classification of diseases. TMREL: Theoretical minimum risk exposure level.