Gestational diabetes and maternal-fetal-neonatal complications

Vanina Pagotto

Thesis plan approved for the doctorate in the Faculty of Medicine.
Buenos Aires University. Argentina

Italian Hospital of Buenos Aires
Clinical Research Department

Introduction

⇧ Prevalence diabetes: new data glycemia-pregnancy

Maternal-fetal-neonatal complications:

- Hypertensives syndromes : 10-25%
- Cesarean 22-30%
- Infections:
  - ➢ Genital infections
  - ➢ Urinary tract infections

} Preterm

- Macrosomia >4000 g 15-45% ⟹ Fetal trauma, Hypoglucemia

Introduction

Variable prevalence in Latin America:

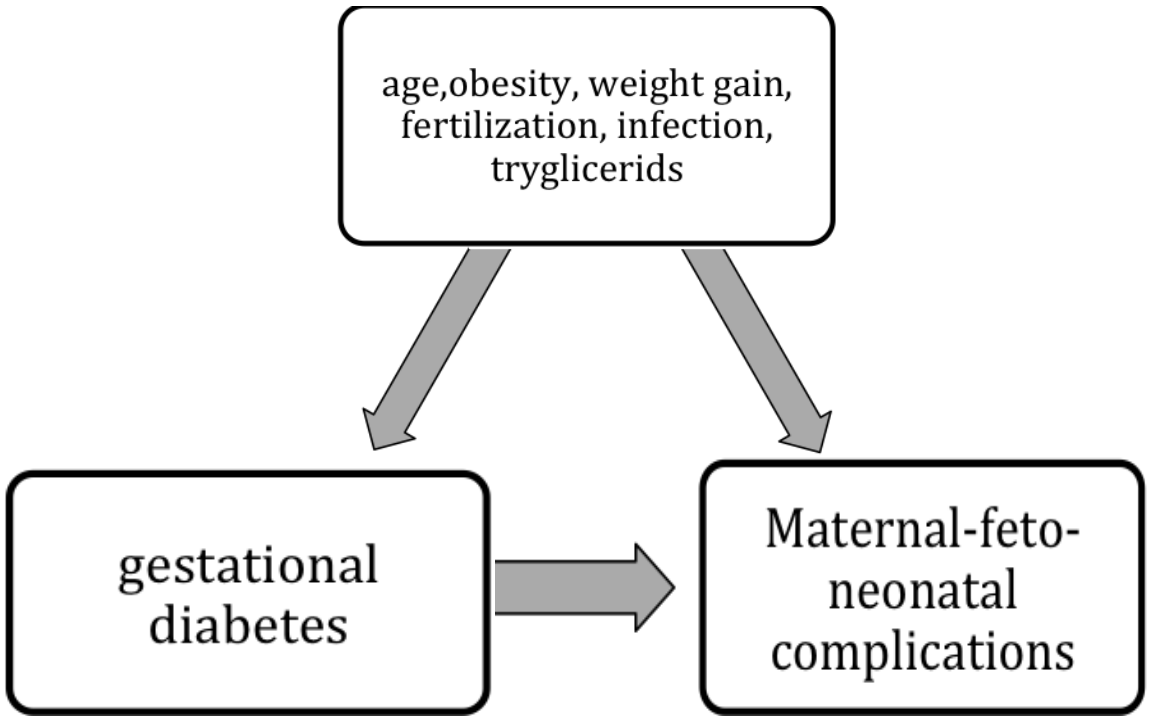
- Colombia 2.03-4.7%
- Brazil 7% -10%
- Chile 11%
- Argentina 7.5-9.86%

Limited information

Rev ALAD.2016;6:155-69
International Journal of Gynecology & Obstetrics. 2018 Jan 1;140(1):47–52.
Rev méd Chile.2004;132(8):931–8.
Rev Colomb Obstet Ginecol. 2002;53(1):81–5.

Objetive

To assess whether the diagnosis of gestational diabetes is a factor independently associated with maternal-feto-neonatal complications.

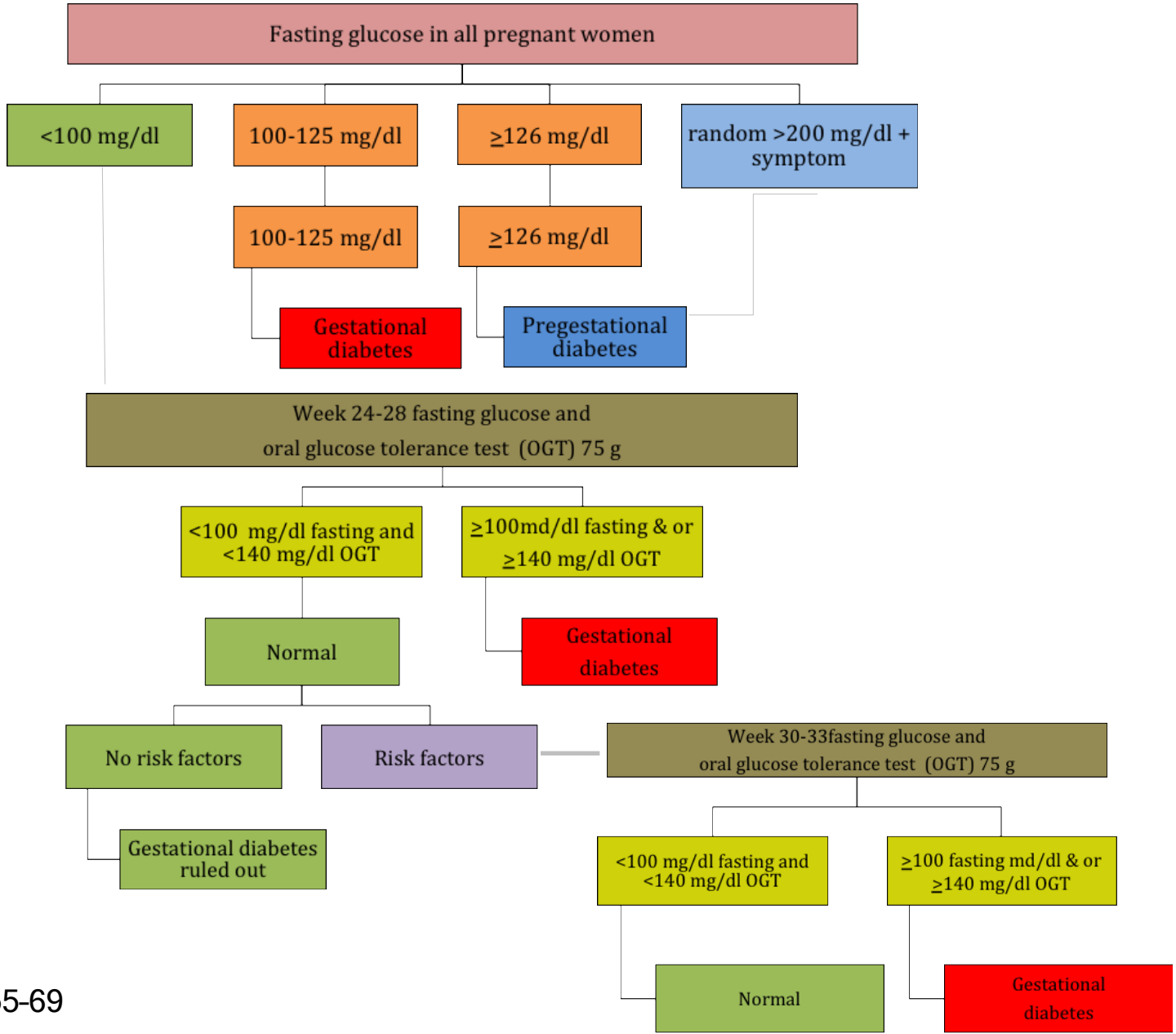


Methods

- Observational and analytical study
- Retrospective cohort of pregnant women:
  - ✓ over 18 years
  - ✓ single pregnancy
  - ✓ 01/06/2015 - 06/01/2018
- Data from clinical records
- Approval from ethical committee

Methods

- Observational and analytical study
- Retrospective cohort of pregnant women:
  - ✓ over 18 years
  - ✓ single pregnancy
  - ✓ 01/06/2015 - 06/01/2018
- Data from clinical records
- Approval from ethical committee



Rev ALAD.2016;6:155-69

Sample size

- Women with gestational diabetes:

  Exposure factor 6.5%
- Women without diabetes:

  Exposure factor 2.7%
- Power of 80%
- Confidence level of 95%
- Ratio of 1: 4.

Patients were obtained: 1129

226 gestational diabetes
903 without gestational diabetes

https://www.openepi.com/Menu/OE_Menu.htm

Statistic analysis

1. Descriptive
2. Bivariate
3. Multiple logistic regression:
    - information criteria:
        - AIC
        - BIC
- $p < 0.05$
- Software R

Statistic analysis

1. Descriptive
2. Bivariate
3. Multiple logistic regression:
   - information criteria:
     - AIC
     - BIC

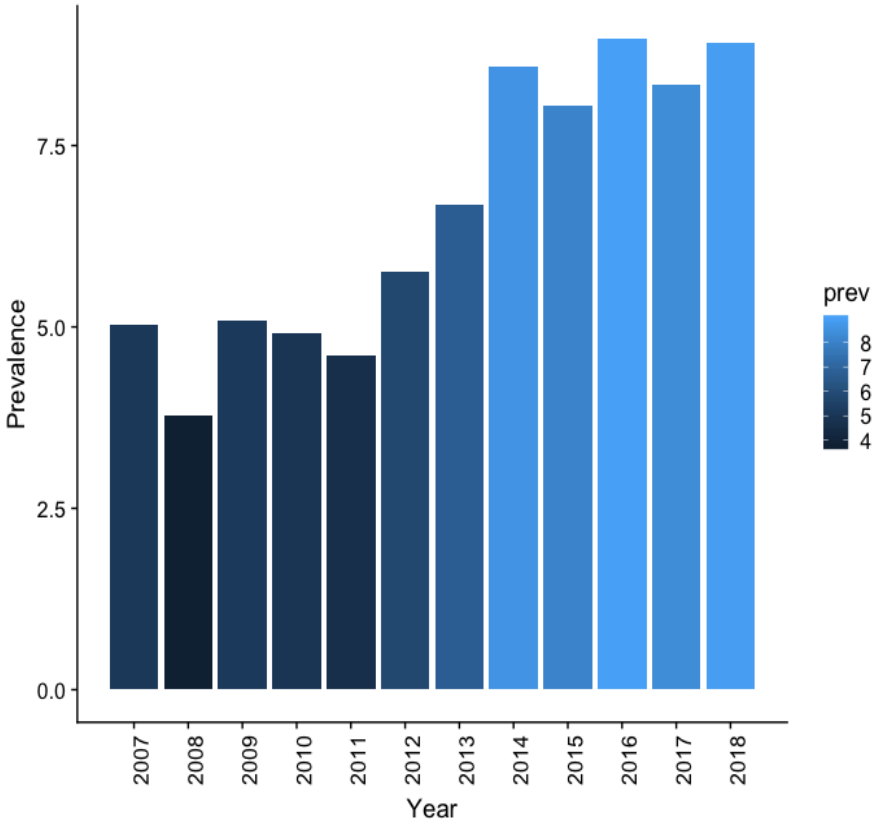
- $p < 0.05$
- Software R

Results

Preliminary

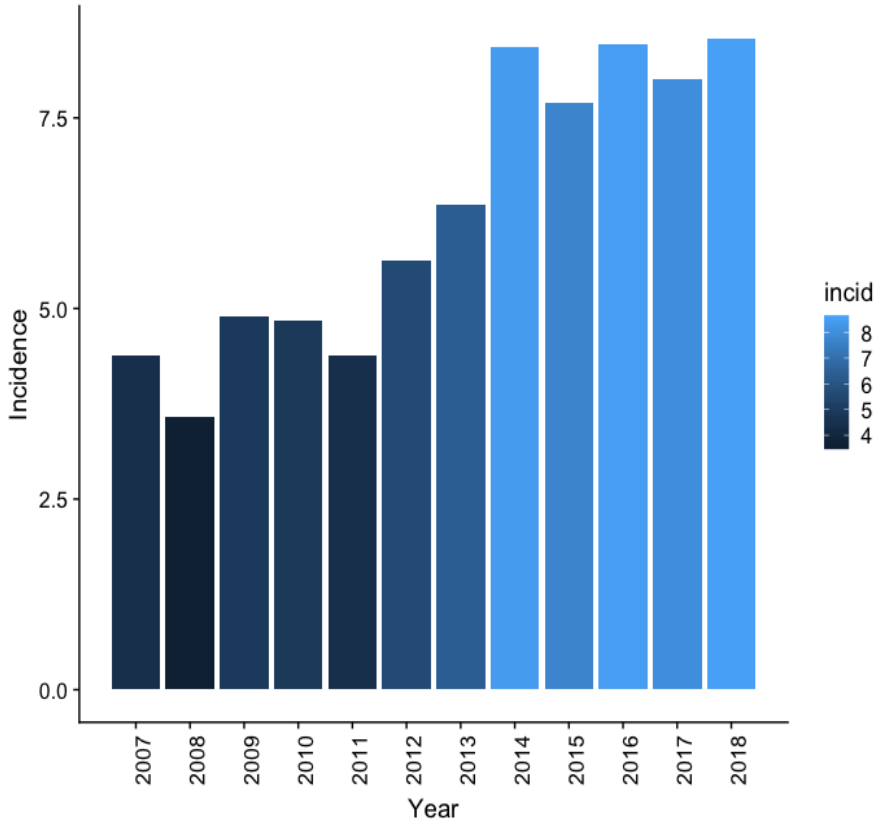
Prevalent cases= 1290

2015-2018= 691



Incident cases= 1214

2015-2018= 657

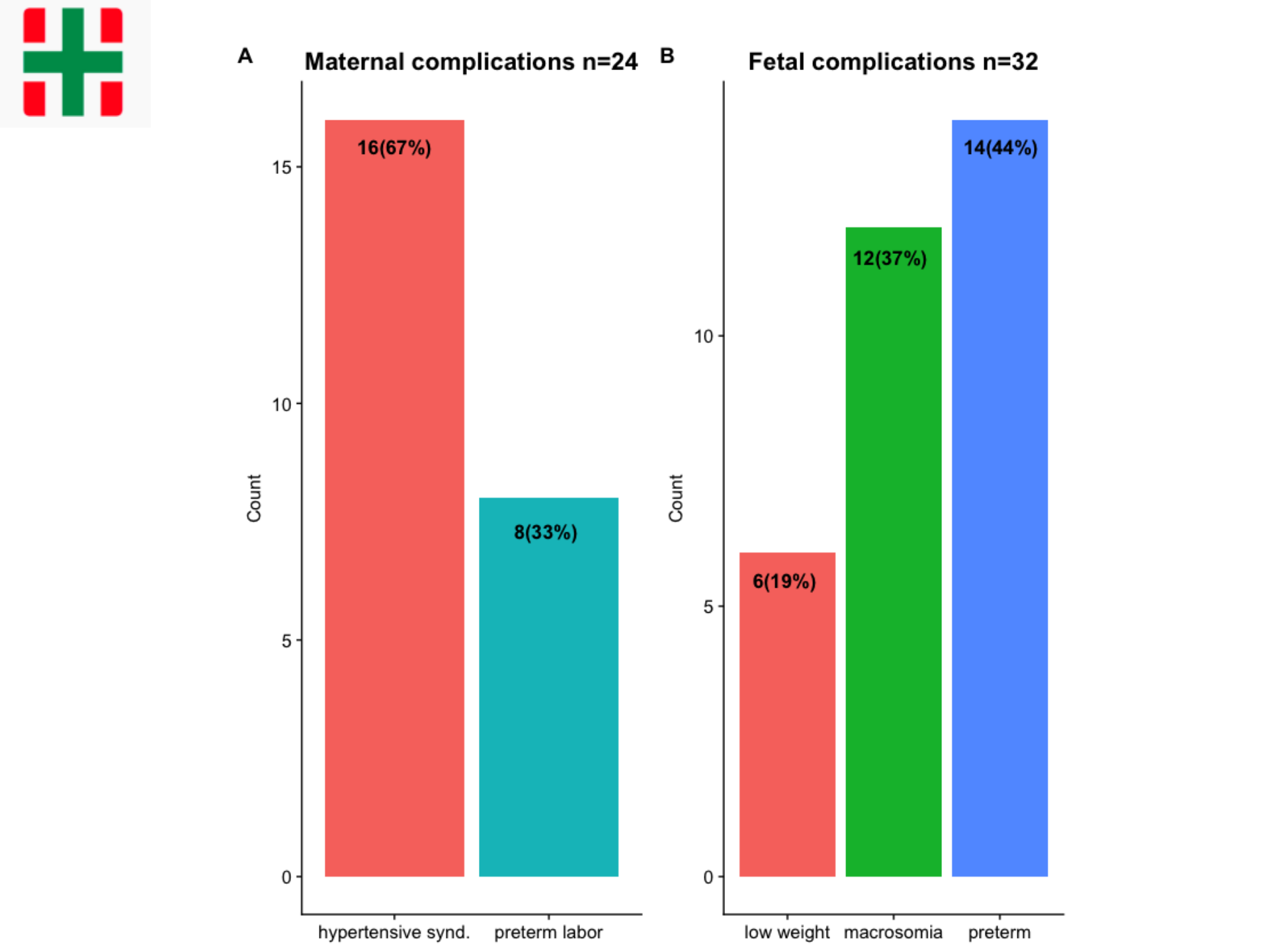


Year	Num/Denom	Prevalence %	IC9%	
2015	171/2125	8.1	7-9.3	
2016	178/1983	8.9	7.8-10.3	
2017	164/1966	8.3	7.2-9.6	
2018	178/1998	8.9	7.7-10.2	

Year	Num/Denom	Incidence %	IC9%	Pregestational Diabetes
2015	163/2117	7.7	6.6-8.9	8
2016	167/1972	8.5	7.3-9.8	11
2017	157/1959	8	6.9-9.3	7
2018	170/1990	8.5	7.4-9.9	8

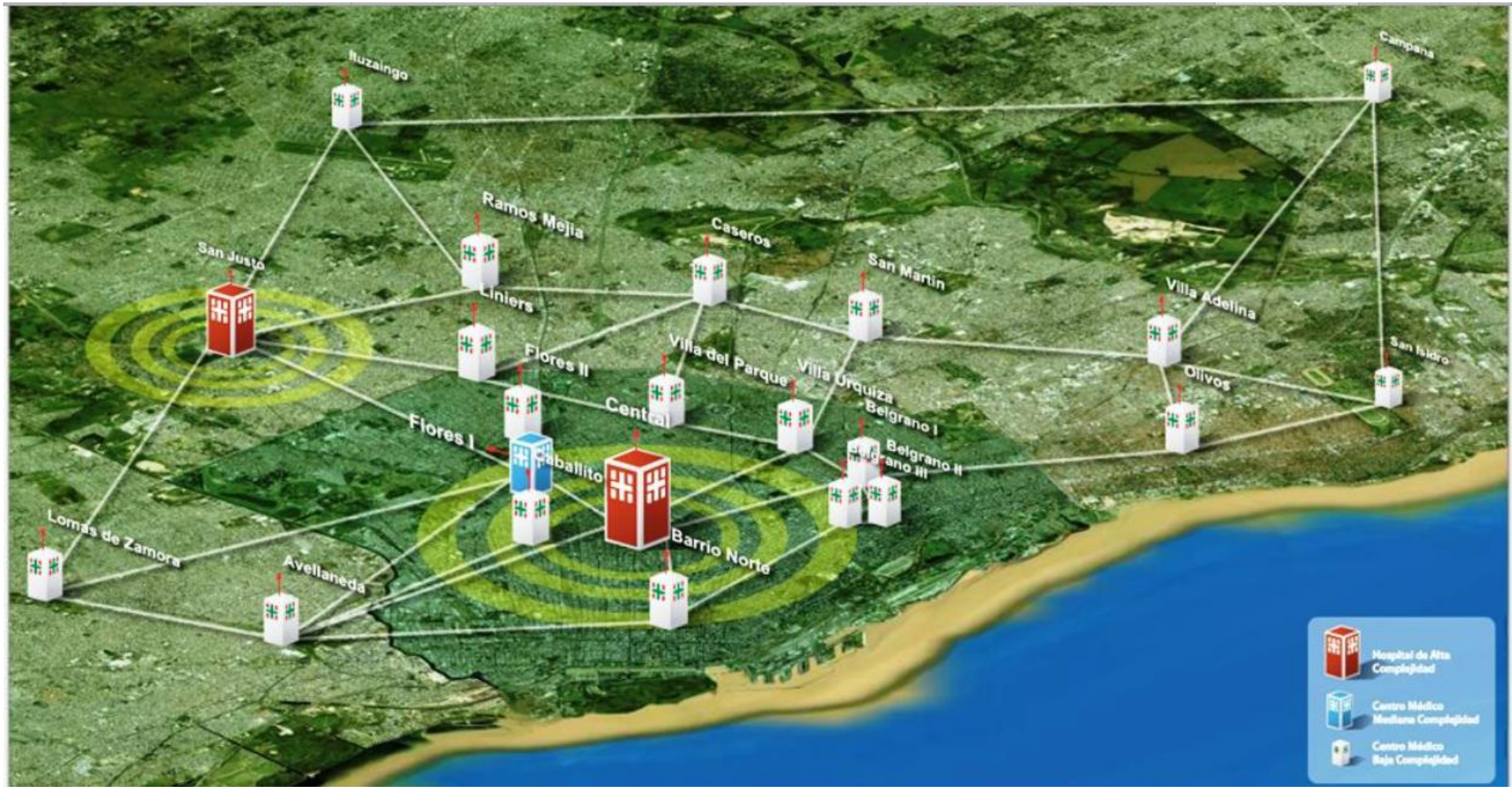
Variables	Gestational diabetes n=108
Age mean (sd)	34.9 (6.00)
Weight preconcep mean (sd)	74.6 (20.11)
BMI median [IQR]	27.24 [23.36, 32.92]
Weigh delivery mean (sd)	83.55 (20.25)
Weigh gain kg mean (sd)	8.73 (6.14)
Risk factors	
RF Relatives(%)	49 (45.4)
RF insulin resistance(%)	23 (21.3)
RF metformin(%)	16 (14.8)
RF ethnic(%)	2 (1.9)
RF previous gestationalDBT(%)	23 (21.3)
RF Macrosomia(%)	10 (9.4)
Pre Gestational DBT(\%)	6 (5.6)
Multiparous(%)	66 (61.6)
Some abortion(%)	33 (30.5)
Bariatric(%)	1 (0.9)
Fertilization(%)	13 (12.0)
Nutritional assessment(%)	94 (87.9)
Insulin(%)	33 (30.6)
Infection(%)	21 (9.4)
Newborn weight mean (sd)	3313.19 (557.98)

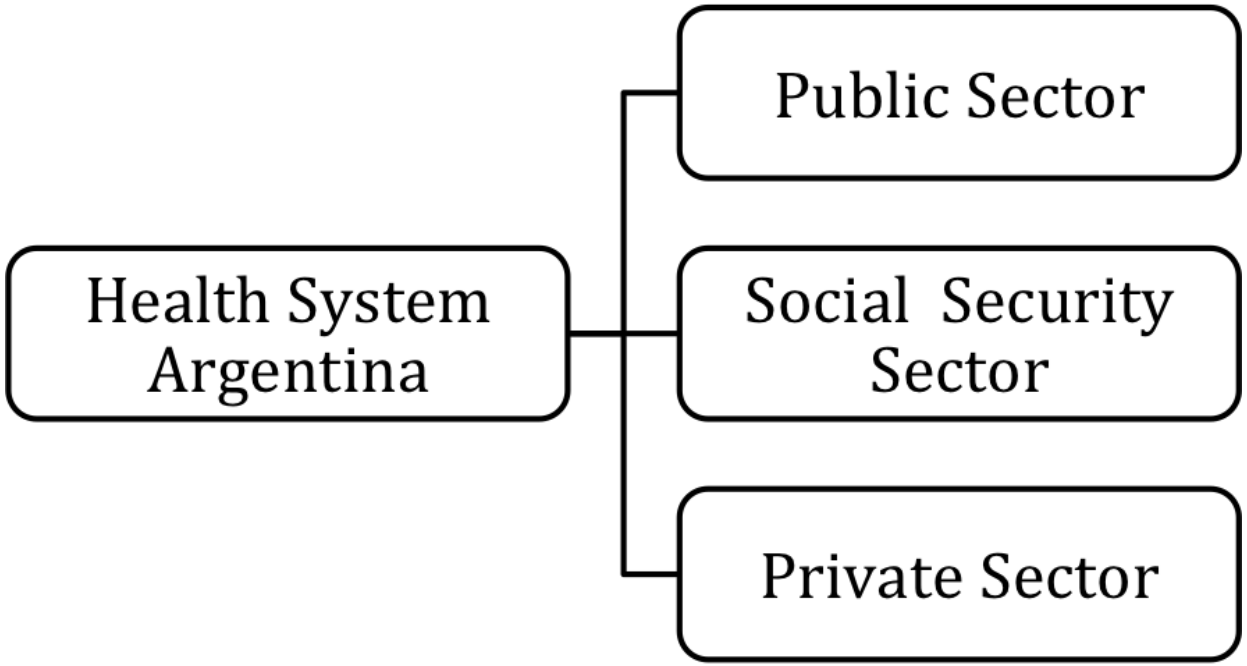

Type of delivery n=108
Count
0
20
40
60
75 (70%)
13 (12%)
20 (18%)
elective ces.
intrap. ces.
vaginal


A
Maternal complications n=24
Count
16(67%)
8(33%)
hypertensive synd.
preterm labor
B
Fetal complications n=32
Count
6(19%)
12(37%)
14(44%)
low weight
macrosomia
preterm

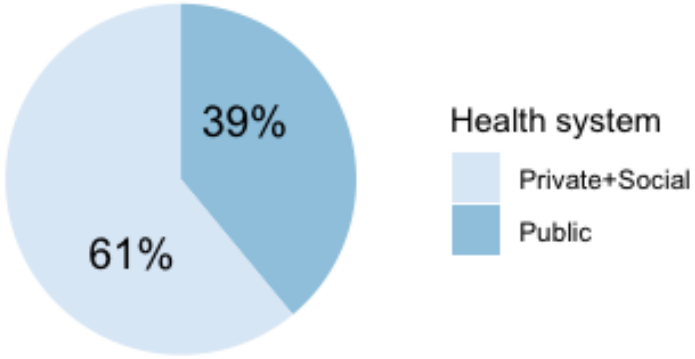
Questions?

- Incidence or prevalence?
- External validity


Ituzaingo
Ramos Mejia
Caseros
San Justo
Liniers
San Martin
Villa Adelina
Campana
Flores II
Villa del Parque
Villa Urquiza
Central
Belgrano I
San Isidro
Olivos
Flores I
Caballito
Belgrano II
Belgrano III
Lomas de Zamora
Barrio Norte
Avellaneda
Hospital de Alta Complejidad
Centro Médico Mediana Complejidad
Centro Médico Baja Complejidad



Argentina



City of Buenos aires