

# Direct cost of prenatal control in a cohort of pregnant women in Colombia

Carrasquilla-Sotomayor M<sup>1</sup> , Alvis Zakzuk NJ<sup>2</sup>, Salcedo Mejía F<sup>1</sup>, Jerez Arias M<sup>3</sup>, Paz Wilches J<sup>4</sup>, Fernández Mercado JC<sup>5</sup>, Alvis Zakzuk NR<sup>1</sup>, Moyano L<sup>1</sup>.

1. ALZAK Foundation, Cartagena, Colombia; 2. ALZAK Foundation- Universidad De La Costa, Barranquilla, Colombia; 3. Fundación SERSOCIAL IPS Cartagena, Colombia; 4. Mutual SER EPS, Cartagena, Colombia; 5. MUTUALSER EPS - University of Cartagena - Clínica Crecer, Cartagena, VAC, Colombia.



## OBJECTIVES

To estimate direct medical costs (DMC) of pregnancy and pregnancy-related complications and comorbidities among women of childbearing age (15-44 years).

## METHODS

Records of women between 2018-2021 were analyzed, from eight weeks of pregnancy until the end of the pregnancy. Patients were stratified by pregnancy risk level, and pre-existing Body Mass index (BMI). Mean pregnancy health care costs adjusted by risk level, BMI, pre-existing health conditions and maternal age were estimated. Standard deviation (SD), median, interquartile range (IQR) were calculated. All costs were adjusted for inflation and reported in 2021 US dollars with an exchange rate of 3,981.16 Colombian pesos.

## CONCLUSIONS

Policies to improve the prevention of pregnancy-related complications and reduce unintended pregnancies are essential to lower the impact of pregnancy on the overall economic burden of the Colombian health system.

## RESULTS

Table 1. Pregnancy cohort characteristics

Characteristic	N = 4,003 <sup>1</sup>	Characteristic	N = 4,003 <sup>1</sup>
Age in years	25.62 (±6.32)	Nutritional condition	
BMI	25.76 (±5.21)	Normal weight or underweight	1,902 (47.51%)
Risk		Overweight	1,322 (33.03%)
Low risk	2,247 (56.13%)	Obesity	779 (19.46%)
High risk	1,756 (43.87%)	Pregnancy-related complications	
Department		Cesarean birth	1,461 (36.50%)
Atlántico	1,198 (29.93%)	Preeclampsia	553 (13.81%)
Bolívar	1,030 (25.73%)	Abortion	386 (9.64%)
Sucre	662 (16.54%)	Gestational diabetes	92 (2.30%)
Córdoba	647 (16.16%)	Others	43 (1.07%)
Magdalena	463 (11.57%)	Regime	
Cesar	3 (0.07%)	Subsidized	3,242 (80.99%)
		Contributory	761 (19.01%)

<sup>1</sup>n (%); Mean (±SD)

Table 2. Direct medical costs for risk conditions at the beginning of pregnancy

Conditions at the beginning	n	Mean	CI95%-Lower	CI95%-Upper	Media	IQR 25%
Risk group						
Low risk	2,247	\$ 373.90	\$ 345.26	\$ 402.54	\$ 188.97	\$ 104.24
High risk	1,756	\$ 515.90	\$ 477.29	\$ 554.52	\$ 205.09	\$ 112.44
Nutritional condition						
Normal weight or underweight	1,902	\$ 410.04	\$ 377.76	\$ 442.32	\$ 193.04	\$ 105.40
Overweight	1,322	\$ 419.53	\$ 381.52	\$ 457.55	\$ 192.60	\$ 109.64
Obesity	779	\$ 528.30	\$ 464.14	\$ 592.46	\$ 198.48	\$ 105.23
Total cost	4,003	\$ 436.19	\$ 412.75	\$ 459.63	\$ 193.79	\$ 107.03

**4,003 pregnancies of 3,974 women with one or more pregnancies were analyzed.** The mean age and BMI were 26.62 years (SD 6.32) and 25.8 (SD 5.2). The 43.87% of pregnant were in high risk, 19.5% had obesity and 33.0% overweight at the onset of pregnancy.

**The average annual DMC of pregnancy was US\$436.2 (SD\$756.6), median US\$193.8 (IQR:\$107.0-\$375.9).** Costs in high-risk pregnancy were greater (mean US\$515.9 [SD \$825.0]) than low risk pregnancy with average cost US\$373.9 (SD \$692.2).

Figure 1. Average cost distributed by cost component (%).

