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# Anxiety during early pregnancy predicts body fat percentage gain

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# 1. Anxiety: brief overview

*“Apprehensiveness or anticipation of future danger or misfortune accompanied by a **feeling of worry, distress, or somatic symptoms of tension.** The focus of anticipated danger may be internal or external.”*

ICD-11  
(Beta Draft)



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# 1. Anxiety: brief overview

- Is part of the stress response, is the subjective perception to the stress response
  - **Therefore is an adaptive response**
- As well as the stress, when become chronic has deleterious effects





# 1. Anxiety: brief overview

## Anxiety symptoms

Physical	Palpitations, breathing difficulties, shivering, sweating, nausea, muscular tension, fatigue, insomnia
Psychological	Restlessness, worry thoughts, insecurity, emptiness feeling, fear to lose control, irresoluteness, suicidal thoughts.
Behavioural	State of alertness, mental block, impulsivity, incapacity to stay calm, body rigidity, <b>FOOD INTAKE ALTERATIONS</b> , etc.
Cognitive	Concentration, memory and attention difficulties, worriedness, rumination, confusion, negative thoughts, susceptibility, etc.
Social	Irritability, self-absorption, difficulties to follow a conversation or express opinions, fear to conflicts, etc.





## 2. Anxiety, overweight and pregnancy in Chile

- Around **16 and 32%** of pregnant women has anxiety or depressive symptoms.

- 
- Ministerio de Salud, Chile. (2014). Protocolo de detección de la Depresión durante el embarazo y postparto y apoyo al tratamiento. División Prevención y Control de Enfermedades.

<http://web.minsal.cl/sites/default/files/files/ProtocoloProgramaEmbarazoypospartofinal12032014.pdf>



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## 2. Anxiety, overweight and pregnancy in Chile

- Around **60%** of pregnant women have overweight or obesity

- 
- Ministerio de Salud, Chile. (2015) Guía Perinatal 2015. Programa Nacional de Salud de la Mujer.

[http://web.minsal.cl/sites/default/files/files/GUIA%20PERINATAL\\_2015\\_%20PARA%20PUBLICAR.pdf](http://web.minsal.cl/sites/default/files/files/GUIA%20PERINATAL_2015_%20PARA%20PUBLICAR.pdf)



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## 2. Anxiety, overweight and pregnancy in Chile

- then, to what extent anxiety contributes to weight gaining during pregnancy?





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## 3. Study Objective

- To enhance the understanding of the role of anxiety as predictor for weight gained during pregnancy.

(Specifically fat percentage)



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## 4. Methods

- Participants:
  - Healthy pregnant women
  - Age between 18 and 35
- Instruments:
  - HADS (Hospital Anxiety and Depression Scale)
  - Body fat percentage (calliper)





## 4. Methods

- Evaluation 1:
  - 155 participants
  - 12-16 weeks
- Evaluation 2:
  - 91 participants
  - 24-28 weeks
- Data analyses: Correlational and Linear multiple regression model - predictive value of HADS scores over body fat percentage (%).



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## 5. Results

### - Correlations

- anxiety and depression (r: .69; p = .00)
- anxiety and body fat % (r: .30; p = .002)
- depression and body fat % (r: .255; p = 007).





## 5. Results

- Linear regression:
  - 8.8% of the variance in the overall fat % during the 3rd term of pregnancy is explained by the level of anxiety during the 1st term.
  - For every point in the HADS anxiety subscale, body fat % increased 0.5%, which represented one third of the standard deviation (beta = .29). (95%) IC: 0.2 - 0.8% ( $F(1, 90) = 8,54, p = .004$ ).



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## 5. Results

- Therefore the 21-point HADS top score may predict a theoretical increase of up to 10.5% of body fat. Depression impact was not significant remaining out of the model (Statistical power 0.75).





## 6. Conclusions

- **Insights over the effects** of high **anxiety** levels during 1st term of **pregnancy** affecting directly the **body fat % gained** by the 3rd term.
- **This predicting value of HADS scores** can be a useful instrument to prevent extreme weight gain and its well-known consequences for mothers and children.



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