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Research Centre (Nutrition)

Embedding Eating Disorders research in the clinical protocol: An example from Spain



*Centro de Investigación Biomédica en Red
Fisiopatología de la Obesidad y Nutrición*



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BACKGROUND – Current work



NIHR Bristol BRC
Nutrition Theme
Level 3,
University Hospitals
Bristol Education &
Research Centre
Upper Maudlin
Street, Bristol
BS2 8AE

We aim to turn basic scientific discoveries into clinical research for the benefit of patients and the NHS.

Workstream

- Diet, activity and lifestyle in people with cancer
- Improving metabolic control in people with type 2 diabetes ←
- Optimising nutrition in children with obesity and other common chronic diseases
- Improving peri-treatment nutrition

BACKGROUND

PhD Thesis: *“Physical Activity and Sleep in Extreme Weight Conditions”*

Affiliated Institution: Faculty of Medicine and Health Sciences University of Barcelona.

Local
Departa
Univ
Barc
Spain



BACKGROUND – Eating Disorders Unit


Advanced Research Group in ED and Obesity Research.



- Clinical Psychologists and psychiatrist
- Psychologists in training
- PhD students and postdoctoral researchers
- Nurse
- Dietitian
- Statistician

Head of group: Prof. Fernando Fernandez-Aranda

BACKGROUND – Eating Disorders Unit



- **Anorexia Nervosa (subtypes AN-R, AN-BP)**

- **Bulimia Nervosa (BN)**

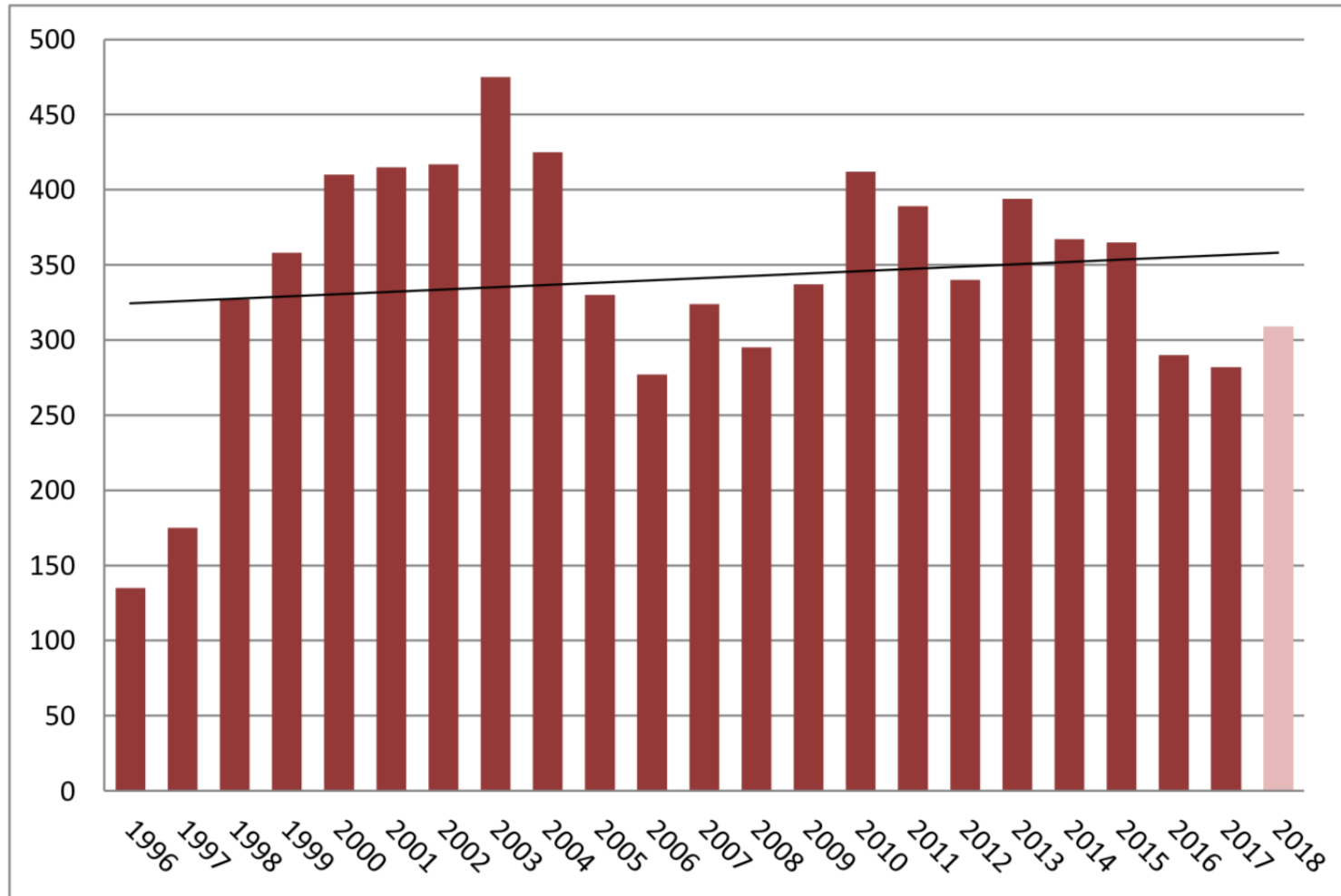
- **Binge Eating Disorders (BED)**

- **Other Specified Feeding or Eating Disorders (OSFED)**

- **Others: PICA, Rumination Disorder, Avoidant/Restrictive Food Intake Disorder, Unspecified Eating Disorder**

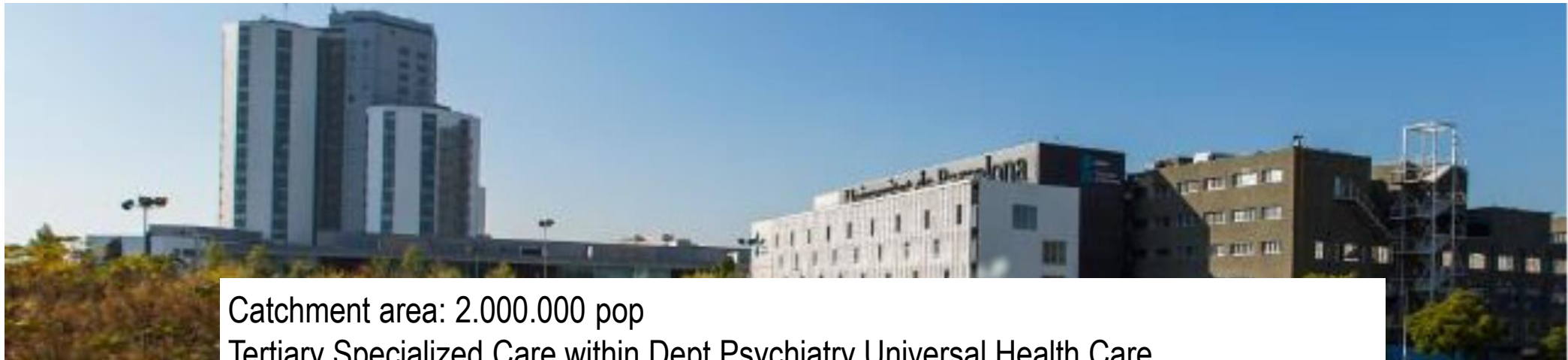
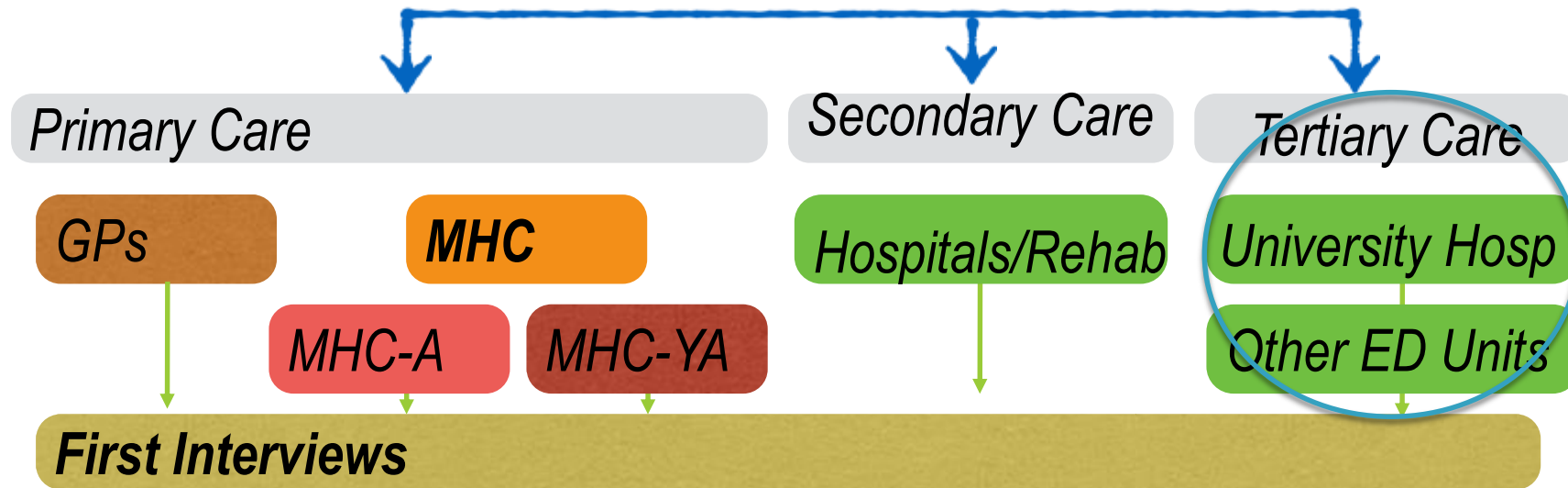
BACKGROUND – Eating Disorders Unit

New Referrals per year:



>8 000 ED

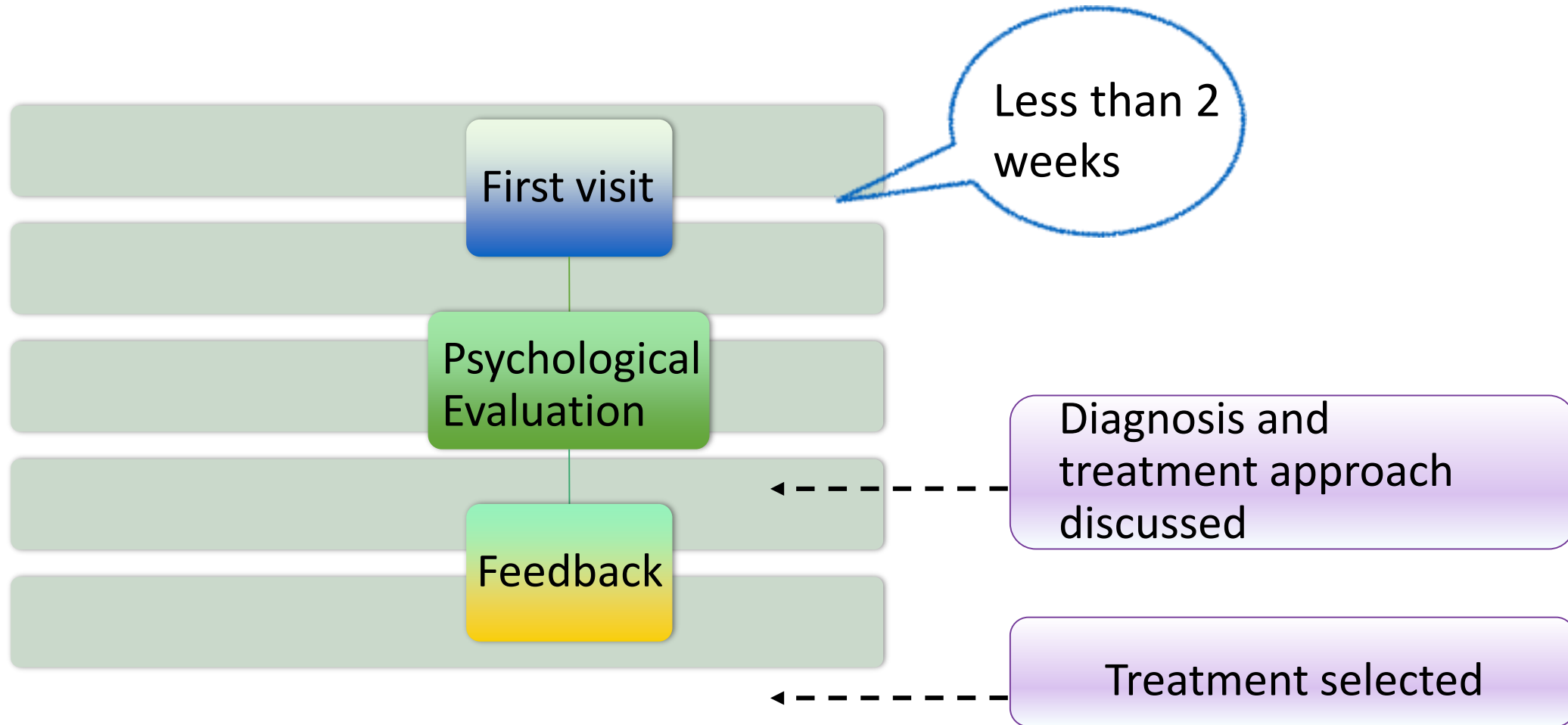
BACKGROUND – Eating Disorders Unit



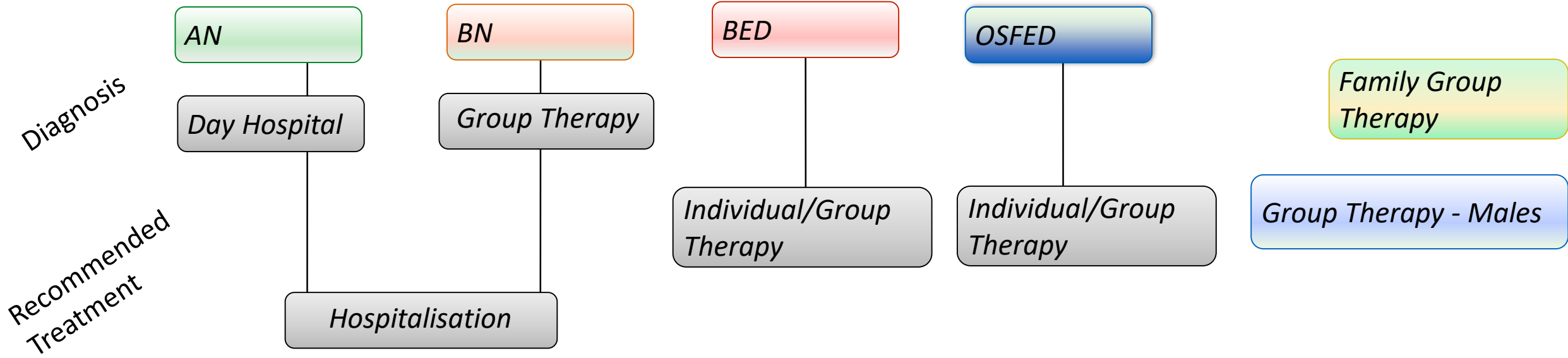
Catchment area: 2.000.000 pop

Tertiary Specialized Care within Dept Psychiatry Universal Health Care

BACKGROUND – Eating Disorders Unit



BACKGROUND – Eating Disorders Unit



BACKGROUND

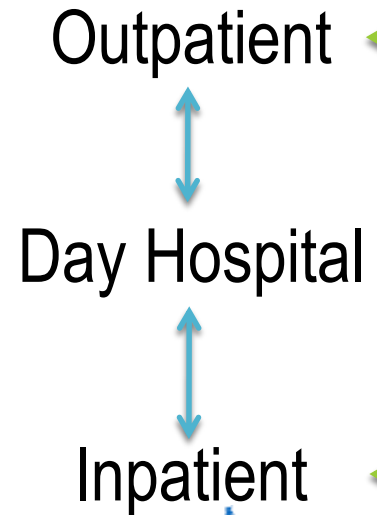
Therapy Settings



Cognitive-Behavioural Therapy (CBT) approach

3-4 months
9-15h

16 weekly session



2-3 months

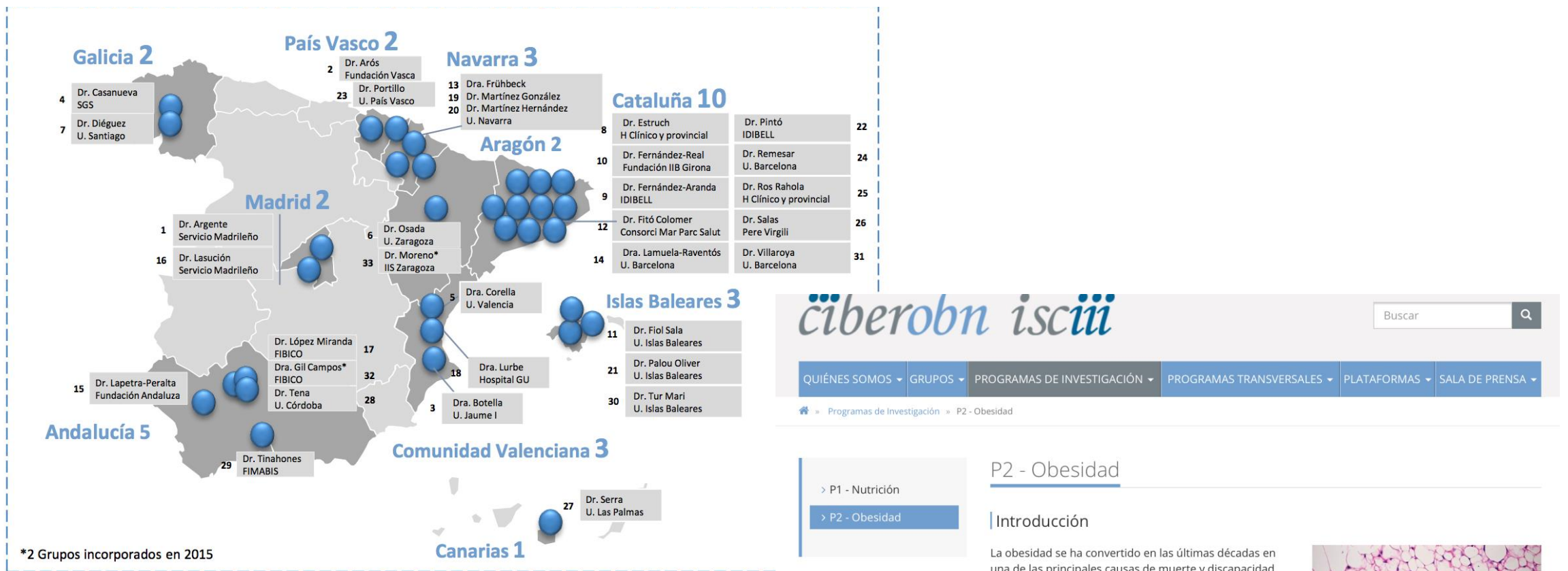
RESEARCH AS PART OF THE CLINICAL PROTOCOL

- Researchers actively support all clinical programmes:
 - a) Clinical assessment for diagnosis
 - b) Supervision
 - c) Group therapy

RESEARCH AS PART OF THE CLINICAL PROTOCOL

CIBERobn: Collaborative Research Network in Obesity and Eating Disorders in Spain – Active since 2007

33 Groups from different disciplines



RESEARCH AS PART OF THE CLINICAL PROTOCOL

Obtaining ethics

United Kingdom:



**Health Research
Authority**

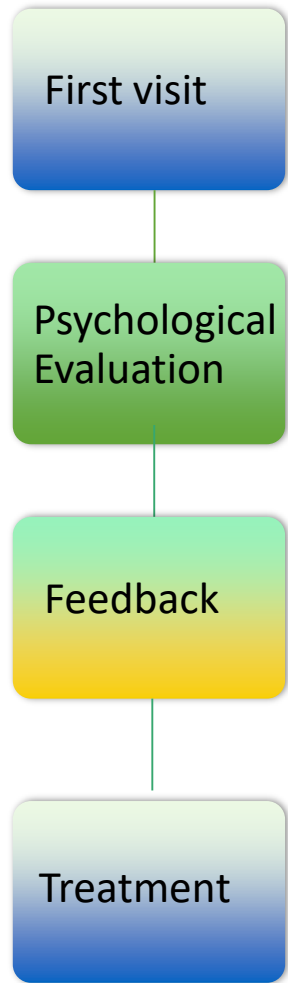
- Centralised
- Slow turnaround
- 1 application per study
- Amendments required for minor changes

Spain:



- Hospital-based
- Turnaround 1-2 months after submission
- 1 application per project
- Flexibility

RESEARCH AS PART OF THE CLINICAL PROTOCOL



Questionnaires

- Sociodemographic characteristics
- Subjective experience of ED
- Temperament and Character Inventory – R
- Eating Disorders Inventory-2
- Symptom Checklist-90-R
- Barratt’s Impulsivity Scale

Semi-Structured Interviews

- Symptomatic behaviour
- History of ED and weight
- Compulsive/impulsive behaviour



Protocol d'anorèxia i bulímia nerviosa

DADES SOCIODEMOGRÀFIQUES (PROTOCOL I)

Estat civil: 1 Casada, 2 Soltera, 3 Divorciada, 4 Viduàdua

En cas d'estar soltera es troba actualment: 1 Amb xicota, 2 Sense xicota

Estudis: 1 Estudi primari, 2 Graduat escolar, 3 Batxillerat no acabat, 4 Batxillerat acabat, 5 CCU, 6 Formació professional no acabada, 7 Formació professional acabada, 8 Estudi universitari no acabat, 9 Estudi universitari acabat, 10 Altres

Situació laboral: 1 Treballa, 2 En atur, 3 Estudiant, 4 En formació, 5 Mestre/a de casa, 6 Batxa laboral, 7 Treballa i estudia

Professió:

Grup familiar: 1, 2, 3, 4, 5

Ordre de naixement: 1, 2, 3, 4, 5, 6

Per què: 1 Pa, 2 Pl, 3 Pressió xicota o conjuge, 6 Ordre judicial



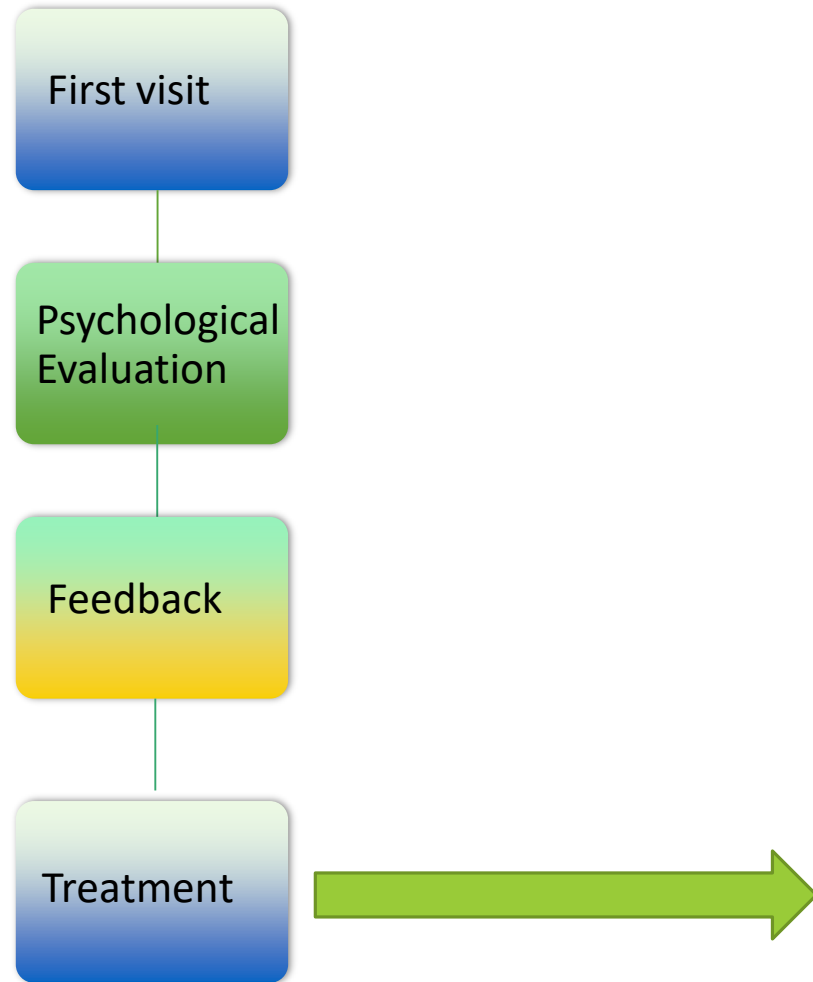
Registro de alimentación

Nombre y apellido: _____ NHC: _____

DÍA/HORA	DONDE/CON QUIEN	COMIDA	A / V IA / IV	SITUACION
Desayuno		Sólido:		
		Líquido:		
		Postre:		
Comida		1er plato:		
		2º plato:		
		Postre:		
Merienda				
Cena		1er plato:		
		2º plato:		
		Postre:		

A: Abacón; V: Vómito; IA: Impulso al atracón; IV: Impulso al vomitar

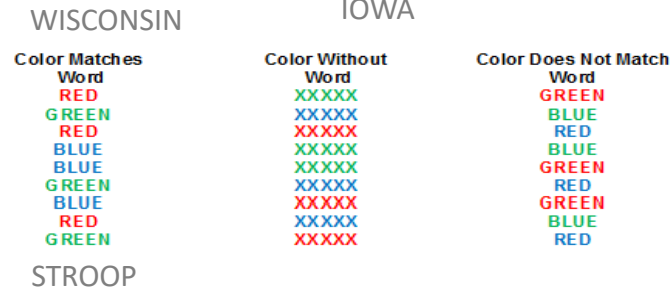
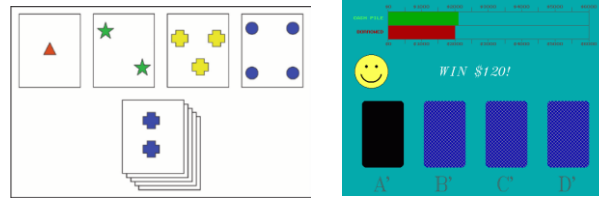
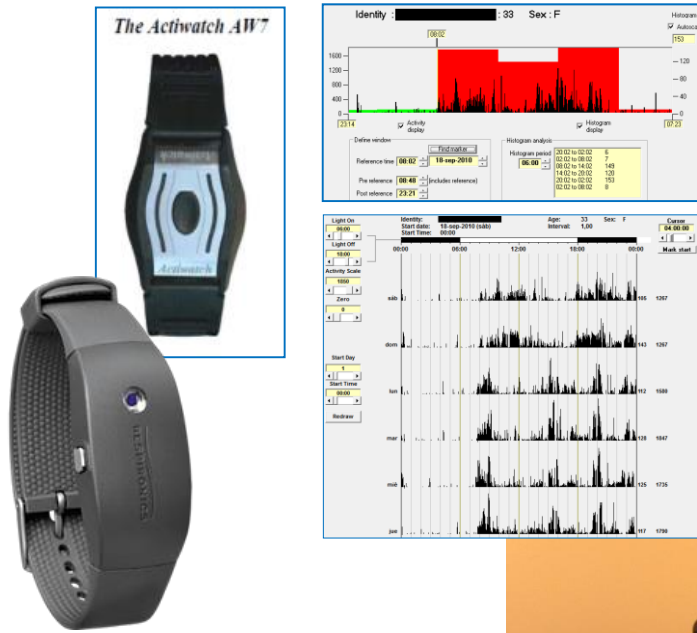
RESEARCH AS PART OF THE CLINICAL PROTOCOL



Patients approached about potential involvement in research. Based on:

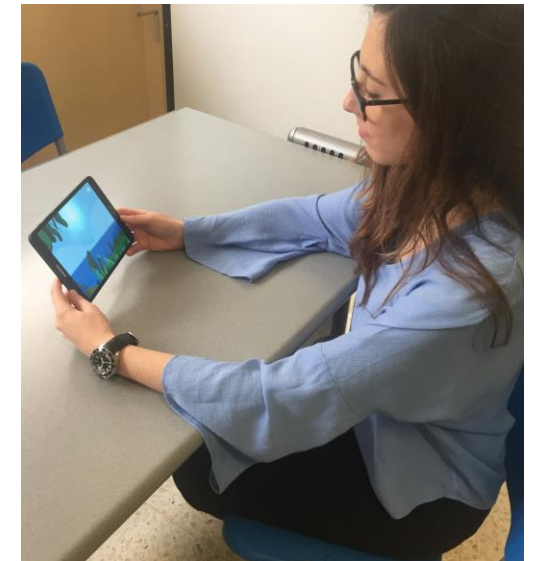
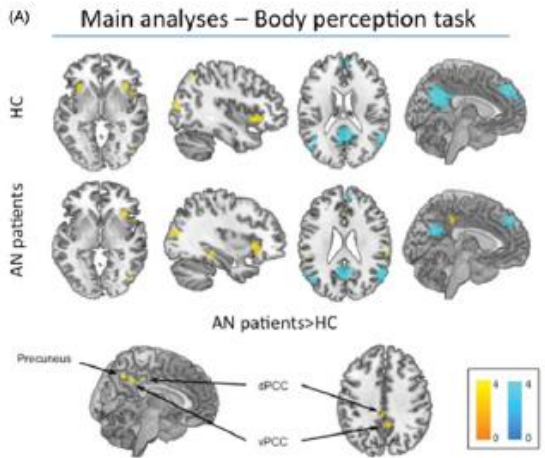
- Cleared for research participation by clinical psychologist/psychiatrist
- Current studies
- Diagnosis
- Treatment followed
- Study eligibility criteria

RESEARCH IN CLINICAL PRACTICE



Questionnaires

- Pittsburgh Sleep Quality Index
- Compulsive Exercise Test
- Epworth Sleepiness Scale
- Yale Food Addiction Scale



RESEARCH IN CLINICAL PRACTICE

Feedback

“It gives you something to do during the day.” AN patient – day hospital

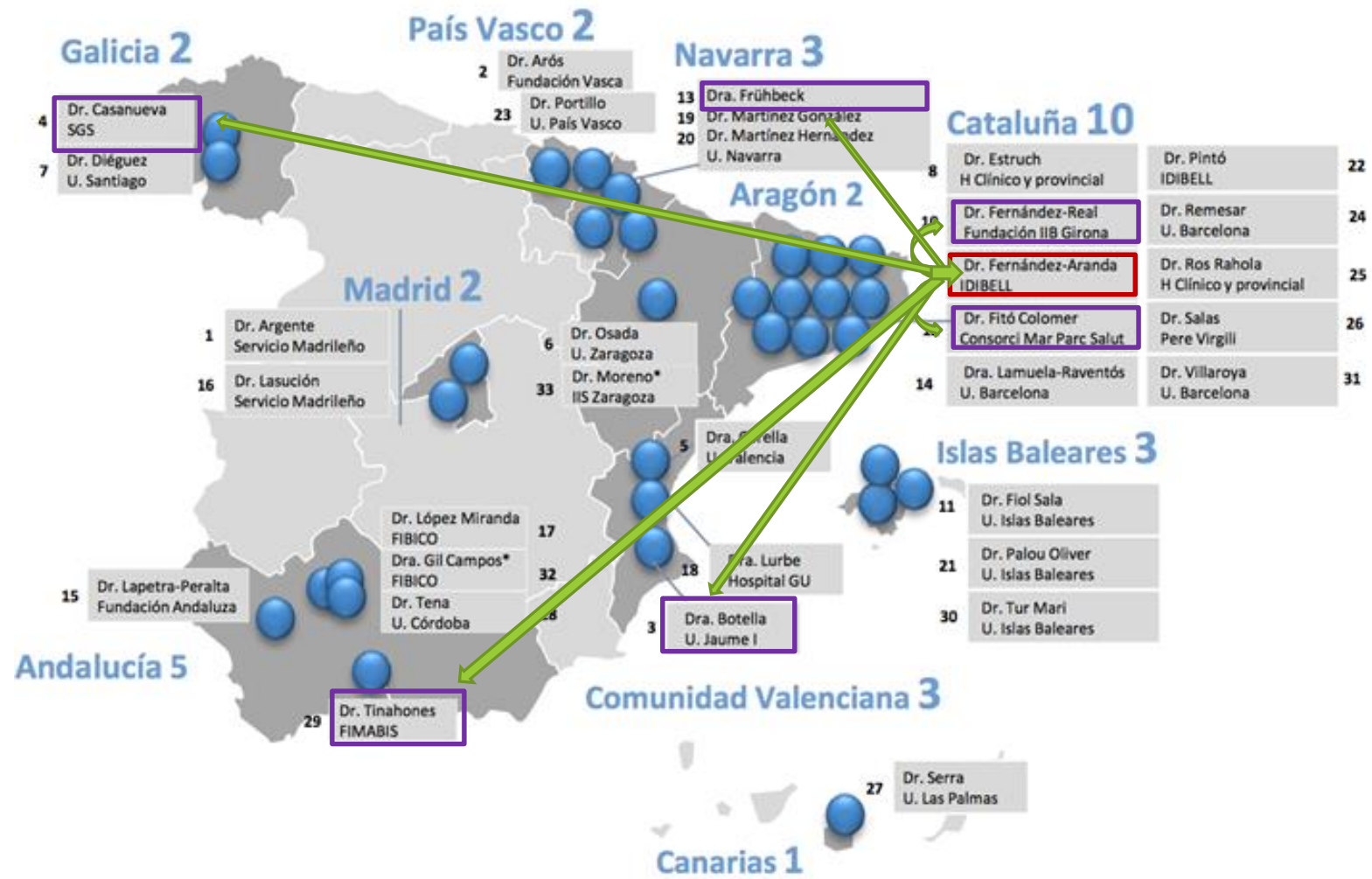
“They are entertaining activities to do between therapies, where you do not have to think about yourself or your condition.” AN patient – day hospital

“You learn so much about yourself!” AN patient – day hospital

“It feels good to know you are giving something back.” BED patient – weekly group therapy

“If it can help improve treatment for myself or other people like me, why not?” BN patient – weekly group therapy

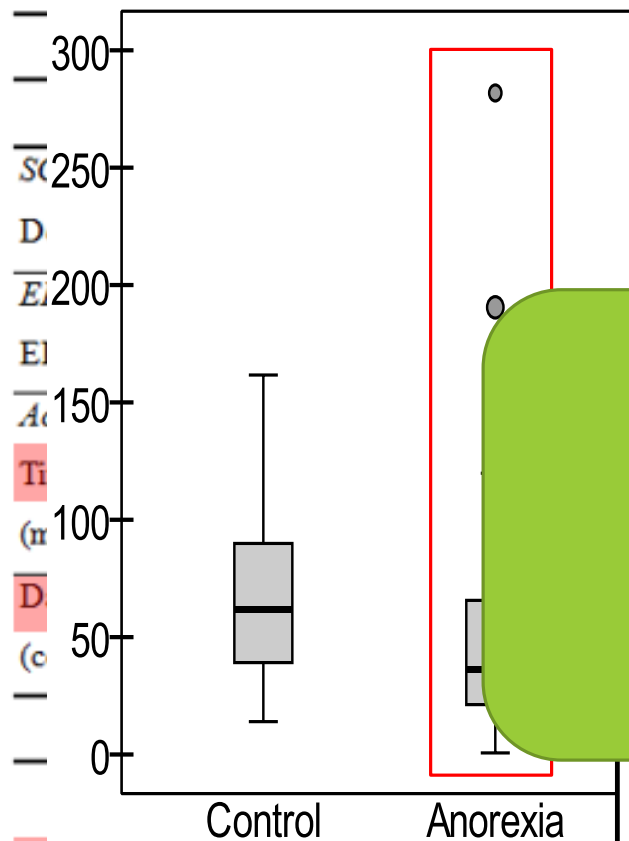
RESEARCH IN CLINICAL PRACTICE



RESEARCH OUTPUT

- Risk Factors Associated with Eating Disorders and Obesity (neurocognition, hormones, clinical personality, sensorial aspects, brain activity, DNA-GWAS)
- Common and differential factors in extreme weight conditions.
- Eating disorders and behavioral addictions.
- Food Addiction and Therapeutic Implications
- Response to treatment and new technologies
- Nutrition and Cognition

RESEARCH OUTPUT – Associated Psychobiological Factors



High PA levels	61.1%
(% within each group)	

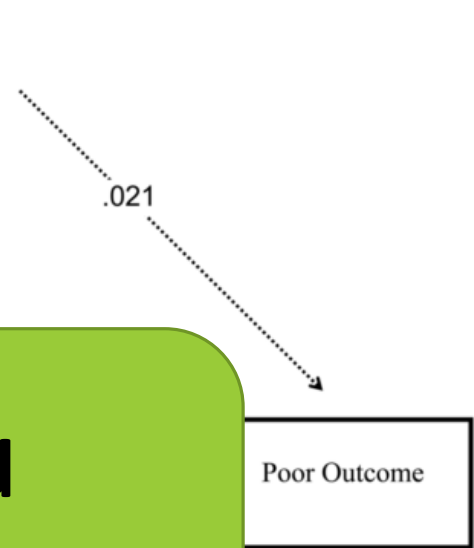
Sauchelli et al. (2015). *European Psychiatric Journal*

ns and SD	Factor group					
	AN (n=88)	$F_{(1,202)}$	p	MD	$ d $	
0	2.04	0.99	152.53	<.001	1.35*	1.72*

Physical Activity education and guidelines as part of treatment

Physical activity in AN:

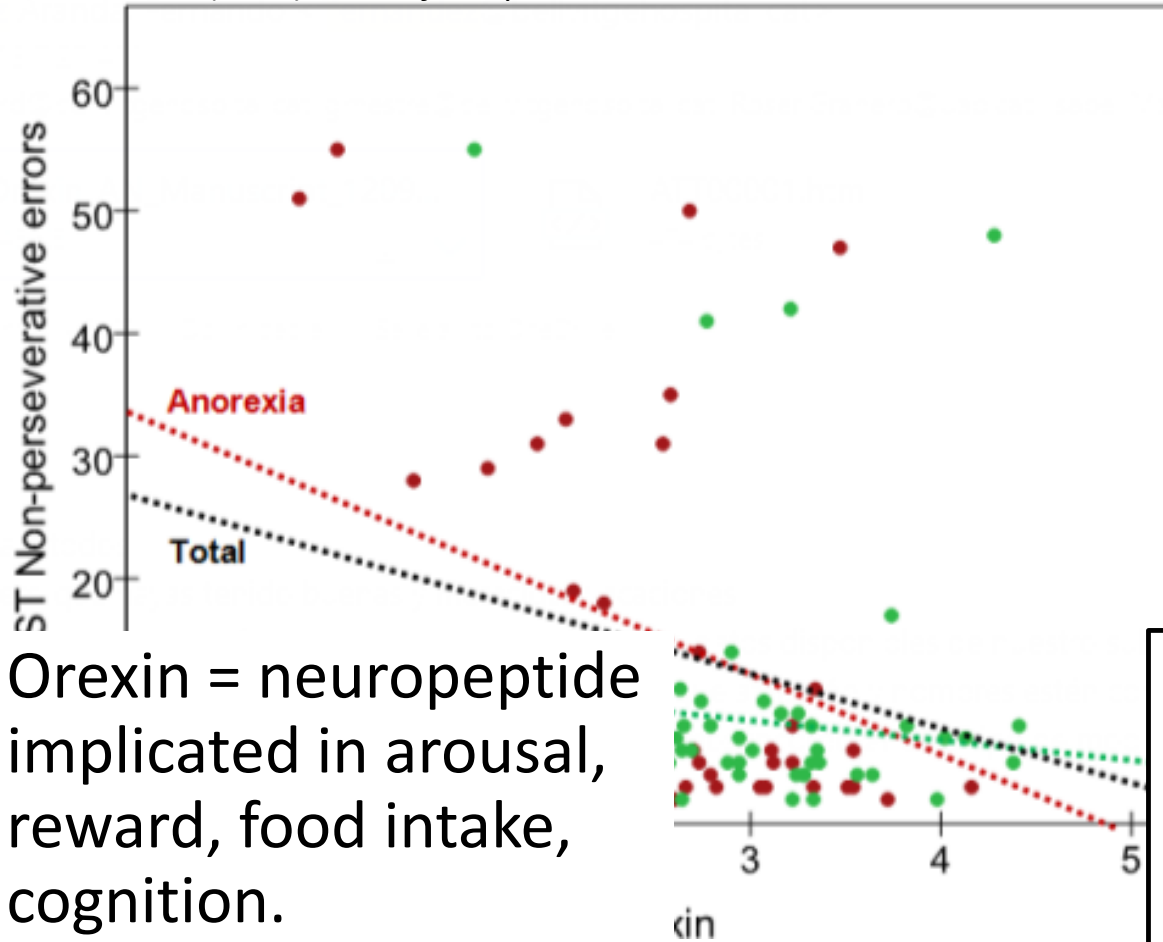
- a) Heterogeneity exists
- b) Healthy physical activity may be beneficial for treatment outcome.



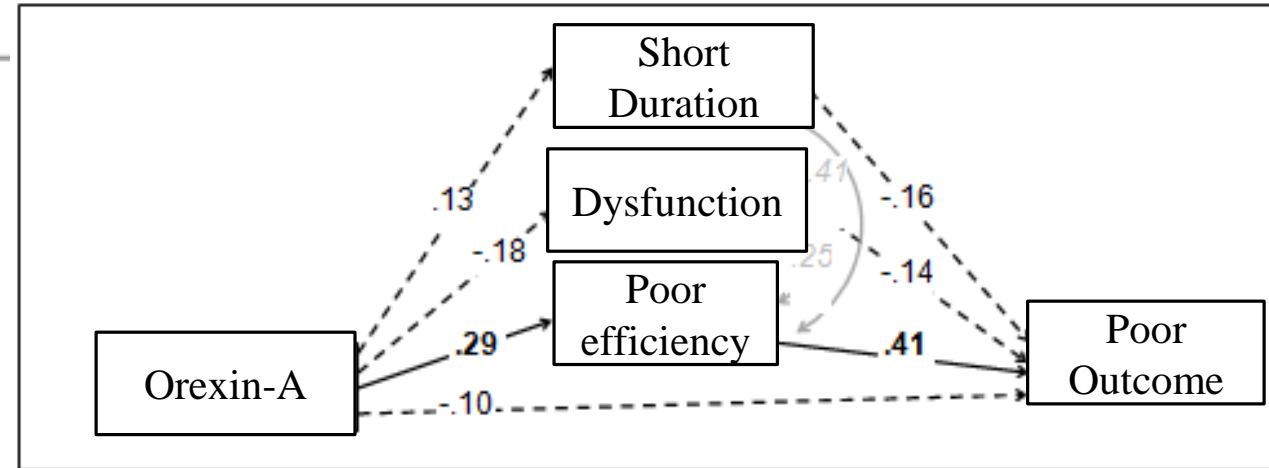
RESEARCH OUTPUT – Associated Psychobiological Factors

Orexin on cognitive performance

Steward et al. (2019). *Scientific Reports*



Orexin = neuropeptide implicated in arousal, reward, food intake, cognition.



Orexin on poor sleep quality and treatment outcome.

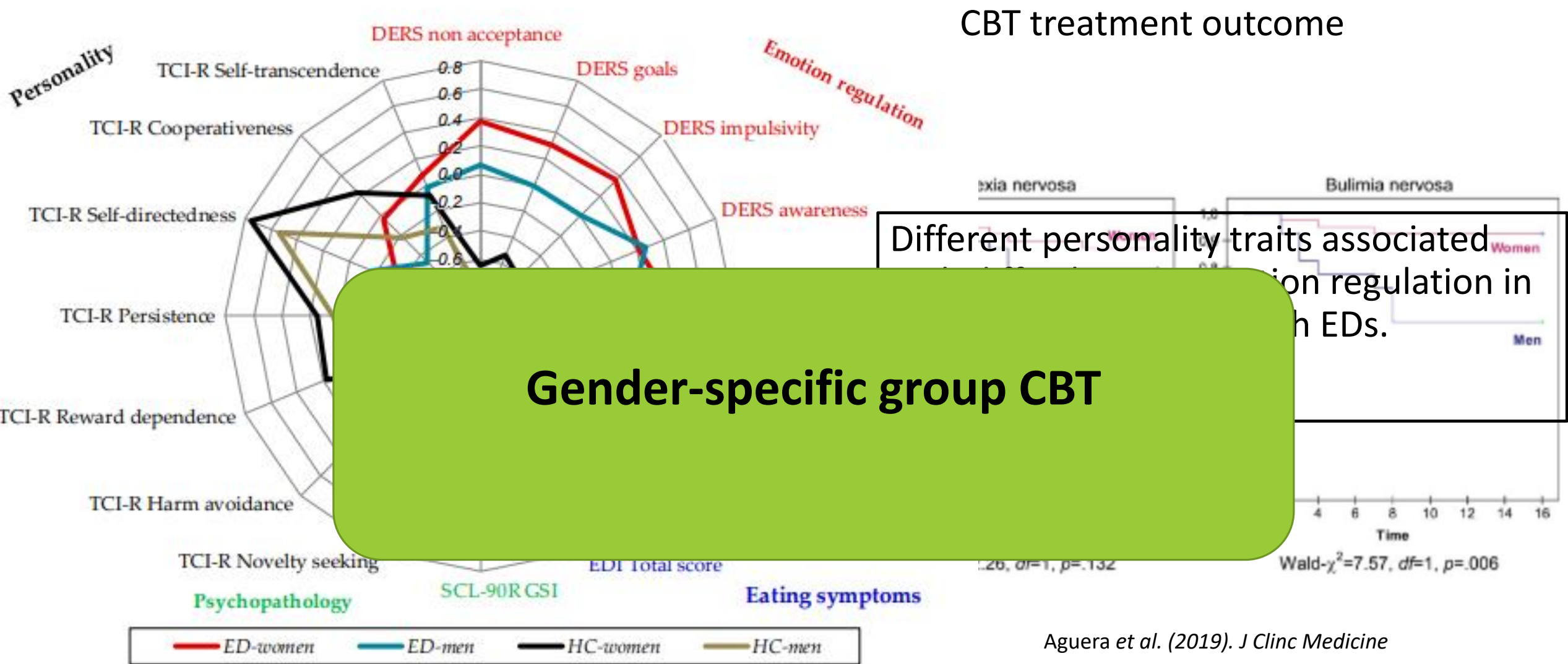
Sauchelli et al. (2016). *Psychoneuroendocrinology*.

Orexin in Anorexia Nervosa is associated to:

- a) poorer cognitive performance
- b) impoverished sleep

Effects on treatment outcome in Anorexia Nervosa.

RESEARCH OUTPUT – Gender Differences



Different personality traits associated with emotion regulation in EDs.

Aguera et al. (2019). *J Clin Med*

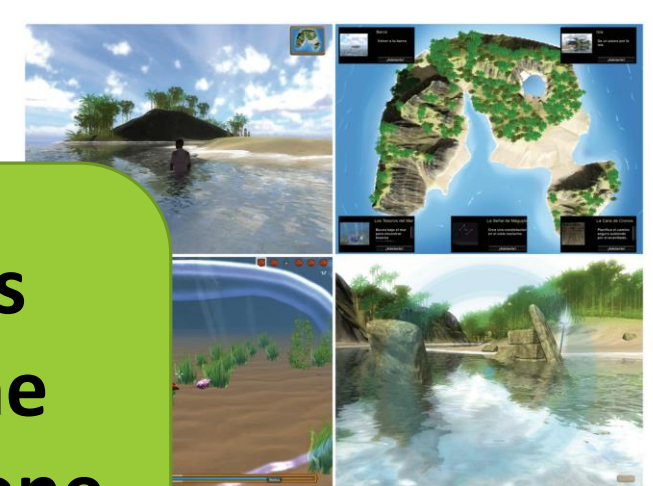
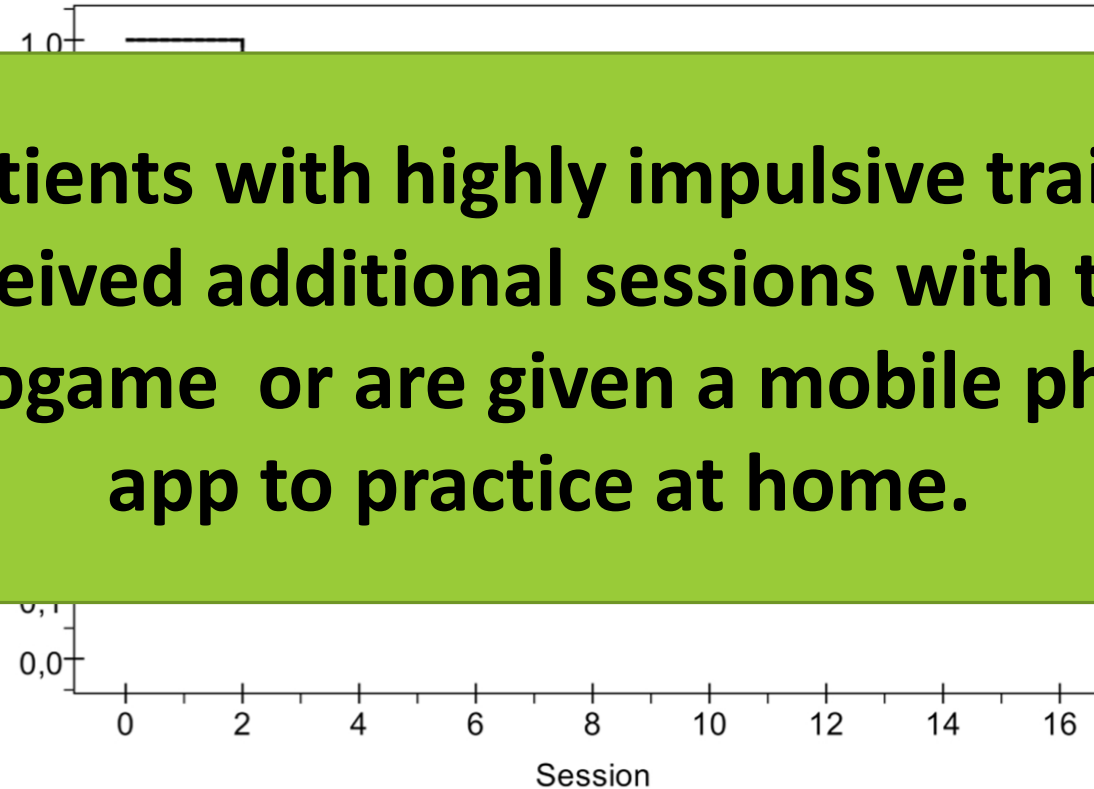
Aguera et al. (2017). *Eur. Eat. Disorders Rev.*

RESEARCH OUTPUT – Response to treatment and new technologies

Adjunct use of Serious Videogames during CBT improves outcome

CBT+ SVG: 20
CBT-SVG: 18

Patients with highly impulsive traits received additional sessions with the videogame or are given a mobile phone app to practice at home.



Fernandez-Aranda et al. (2015). *Cyberpsychology, behavior and social networking*.

RESEARCH OUTPUT – PredimedPlus



Patients referred to the Eating Disorders Unit for neurocognitive assessment

PREDIMED-PLUS CLINICAL TRIAL

The Predimed-Plus clinical trial has become the biggest milestone in nutrition investigation accomplished in Spain. Predimed-Plus evaluates the effect of an intensive lifestyle intervention aiming at losing weight with an energy-restricted Mediterranean diet, physical activity promotion and behavioral support on the primary prevention of cardiovascular diseases.

6,874 participants were recruited in 23 centers and hospitals, with the support of other 7 groups.



CONCLUSIONS

Embedding research in the clinical protocol...

.... Is possible, but requires a very open and proximal collaboration between researchers and clinicians.

.... Can facilitate the research process and patient-led research questions.

.... Speeds up evidence-based clinical practice.

.... Shape the way researchers understand a clinical condition.

Feedback from patients is positive.

THANK YOU FOR YOUR ATTENTION



Acknowledgements

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*Centro de Investigación Biomédica en Red
Fisiopatología de la Obesidad y Nutrición*

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Dr. Isabel Sanchez

Dr. Nadine Riesco



The research team and patients at the Eating Disorders Unit