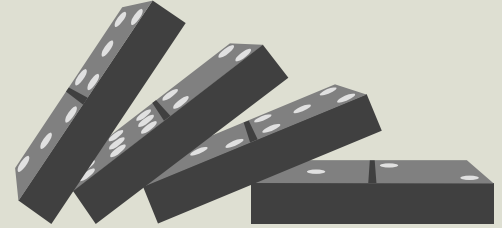


# CAN INFECTIOUS AND EMOTIONAL RISK FACTORS DIFFERENTIATE BETWEEN THE ONSET OF CHRONIC FATIGUE SYNDROME AND IRRITABLE BOWEL SYNDROME?

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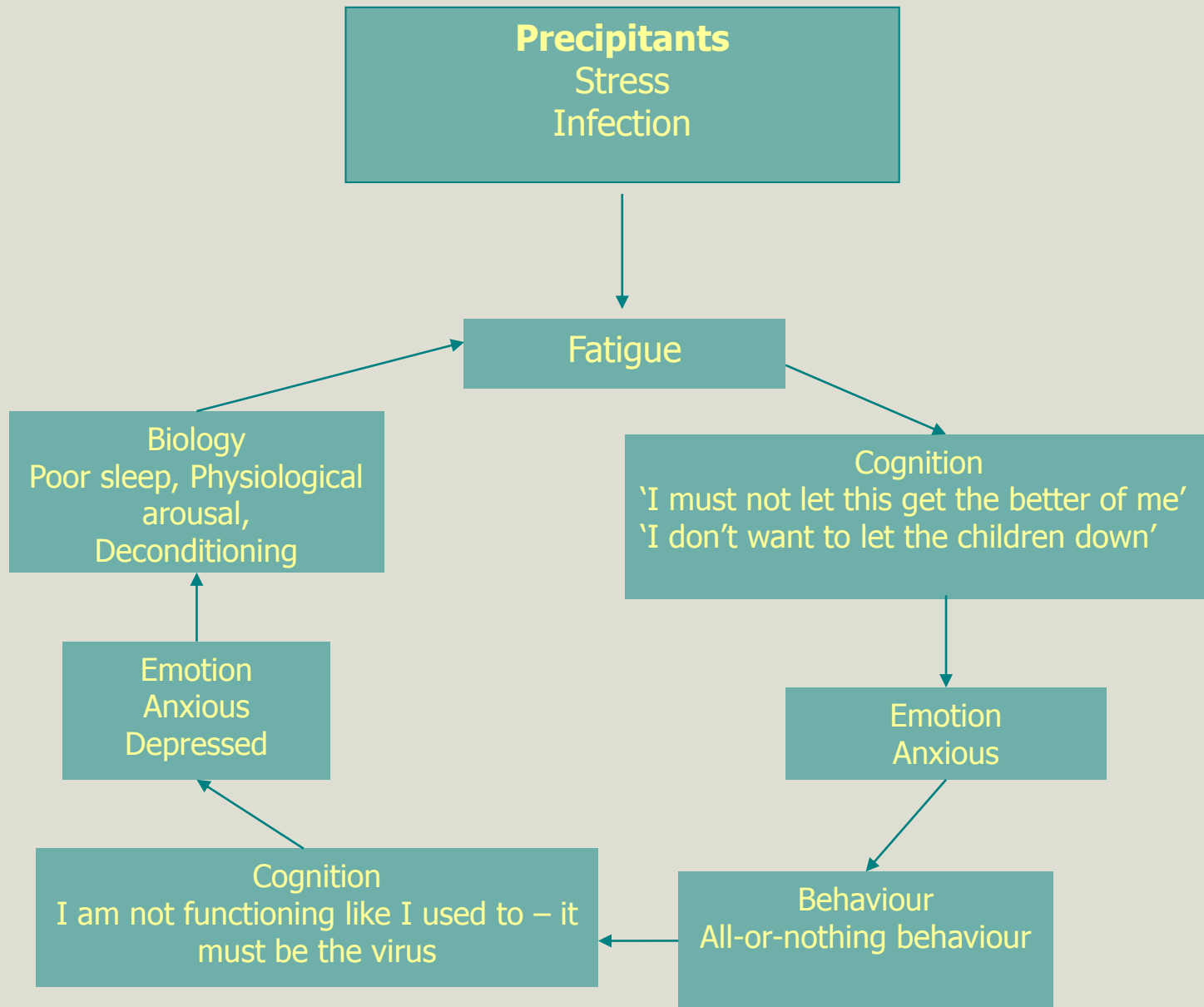
# Cognitive Behavioural Explanatory Models



Predisposing factors

Precipitating factors

Perpetuating factors



# Questions

Does the nature of the moderate to severe infection determine the specific FSS syndrome?

Are the predisposing and perpetuating psychological factors common across the FSS?

# Prospective Design

## **Time 1**

cases of campylobacter and glandular fever  
complete questionnaires at the time of infection

## **Time 2**

3 month follow-up questionnaire of IBS and CFS  
symptoms

## **Time 3**

6 month follow-up questionnaire of IBS and CFS  
symptoms

# Recruitment

- Patients were recruited through Diagnostic Medlab in Auckland
- Positive *Campylobacter jejuni* tests
- Positive mono or VCA IgM tests
- GPs sent information to forward on to patients



Fig. 14.2. *Campylobacter jejuni*—electron micrograph. ( $\times 16500$ .)

# Time One Measures

- Hospital Anxiety and Depression Scale
- Negative Perfectionism
- Perceived Stress Scale
- Behavioural Responses to Illness
  - Limiting activity/resting
  - All-or-Nothing
- Illness Perception Questionnaire -Revised

# Outcome

## Chronic Fatigue Syndrome

1994 CDC criteria

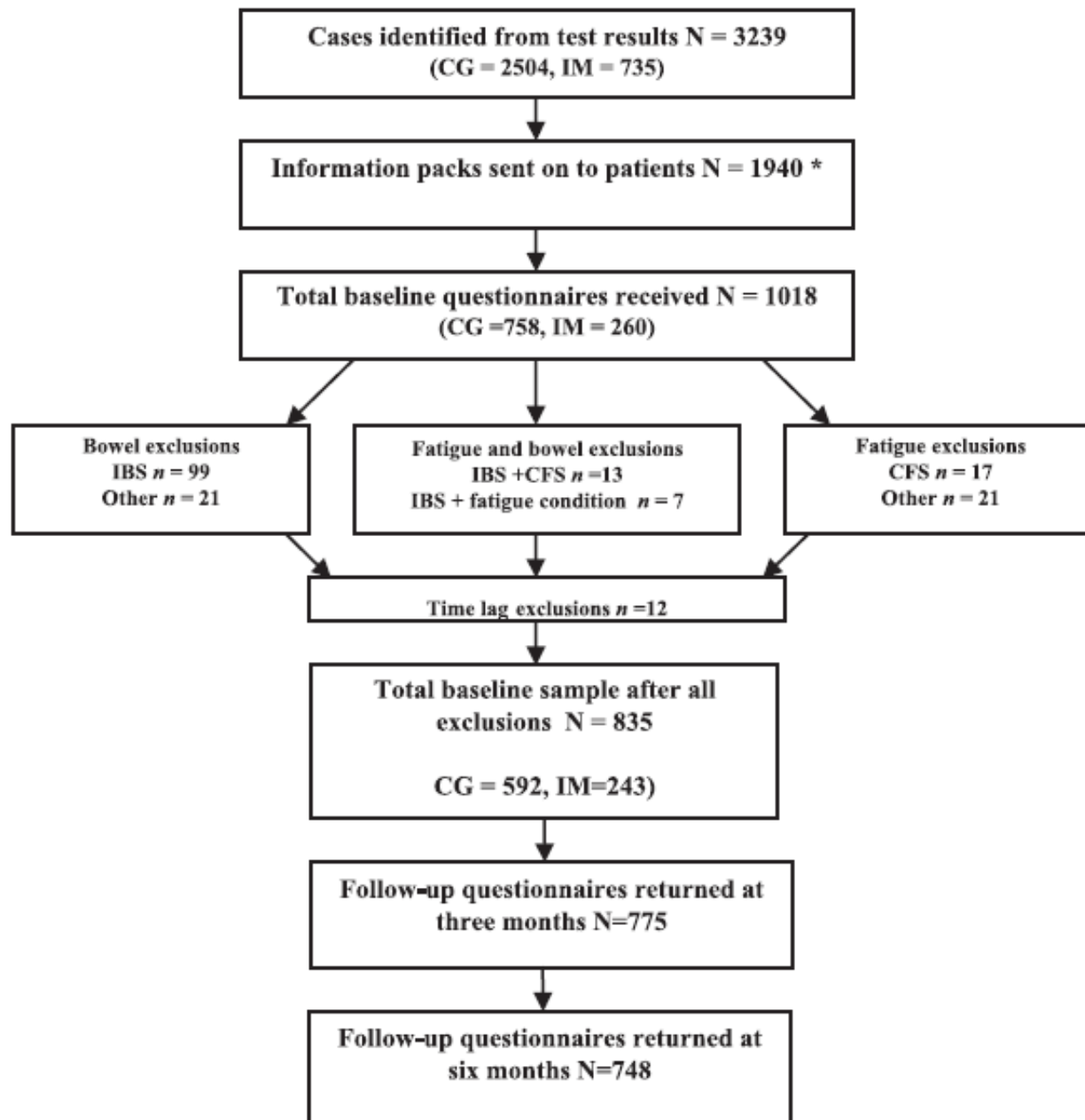
1991 British criteria

## Irritable Bowel syndrome

1992 Rome I modified

1999 Rome II criteria





# Sample

1018 patients recruited

758 Campylobacter

1500 sent out of 2542 positive cases

51% response rate

260 Glandular fevers

435 sent out of 737 positive cases

60% response rate

92% follow-up rate at 3 months

90% follow-up rate at 6 months

# Exclusions (n=171)

23 with a history of CFS

125 with a history of IBS

21 with other bowel conditions e.g.. Colon cancer, Crohn's disease

28 with other fatigue related conditions e.g. SLE, fibromyalgia, cancer

# Percentage caseness at follow up across infection type

	<i>Campylobacter</i> Gastroenteritis (CG)	Infections Mononucleosis (IM)
IBS - 3 months	15%	7%
IBS - 6 months	11%	8%
CF - 3 months	5%	9%
CFS - 6 months	5%	8%

**At 3 months:** 14/145 (9.7%) identified cases met criteria for both CF and IBS

**At 6 months:** 7/118 (5.9%) identified cases met criteria for both CF and IBS

# Summary of results for Chronic Fatigue vs non-cases at 3 months

	Odds ratio	95% CI
Gender	2.39	1.03-5.56
Age	1.00	0.97-1.03
<b>Infection type IM vs CG*</b>	<b>2.61</b>	<b>1.00 - 7.14</b>
Anxiety	2.63	1.50-6.92
Depression	3.22	1.17-5.85

\* For CB predicting IBS onset OR = 3.37 (depression non sig)

# Summary of results for CFS vs non-cases at 6 months

	Odds ratio	95% CI
Gender	1.49	0.71-3.13
Age	1.00	0.97-1.03
<b>Infection type IM vs CG*</b>	<b>1.30</b>	<b>0.52-3.22</b>
Anxiety	2.58	1.24-5.35
Depression	3.95	1.87-8.36

\* For CB predicting IBS onset OR = 2.42 (depression non sig)

# Predictors of IBS, CFS and PCS at 6 months

- Somatisation
- Anxiety and Depression
- Perceived stress
- Perfectionism
- Negative illness/symptom beliefs
  - Symptoms long lasting
  - uncontrollable
  - distressing
  - serious consequences
- All-or-nothing behaviour

*Spence & Moss-Morris. GUT. 2007, 56, (8), 1066-1071.*

*Moss-Morris et al. Psychological Medicine, 2011, 41, (5), 1099-1108*

*Hou et al (2012). Journal of Neurology, Neurosurgery and Psychiatry.*

# TO CONCLUDE



Type of infection or acute event may predict nature of persistent physical symptoms

Psychological variables appear common across condition.

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