



香港中文大學  
The Chinese University of Hong Kong



香港中文大學醫學院  
**Faculty of Medicine**  
The Chinese University of Hong Kong



# Association of healthy lifestyle behaviours with incident irritable bowel syndrome: a large population-based prospective cohort study

Fai Fai Ho – supervised by Prof. Vincent Chi Ho Chung and Prof. Zhixiu Lin

PhD Candidate (CUHK)

BChinMed (HKBU), MPH (UOT)

Hong Kong Registered Chinese Medicine Practitioner

# Disclosures

- I have no financial disclosure and no conflicts of interest related to the presented content of this speech.

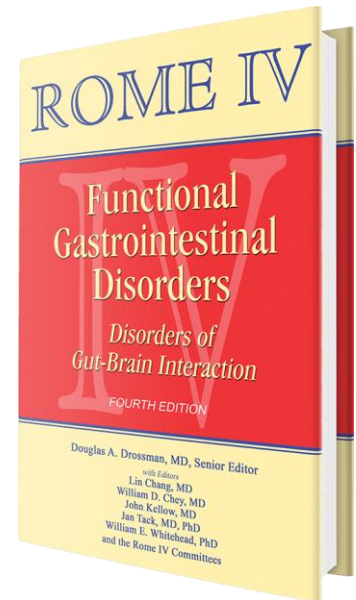
# Irritable bowel syndrome (IBS)

## Bowel Disorders

Brian E. Lacy,<sup>1</sup> Fermin Mearin,<sup>2</sup> Lin Chang,<sup>3</sup> William D. Chey,<sup>4</sup> Anthony J. Lembo,<sup>5</sup> Magnus Simren,<sup>6</sup> and Robin Spiller<sup>7</sup>

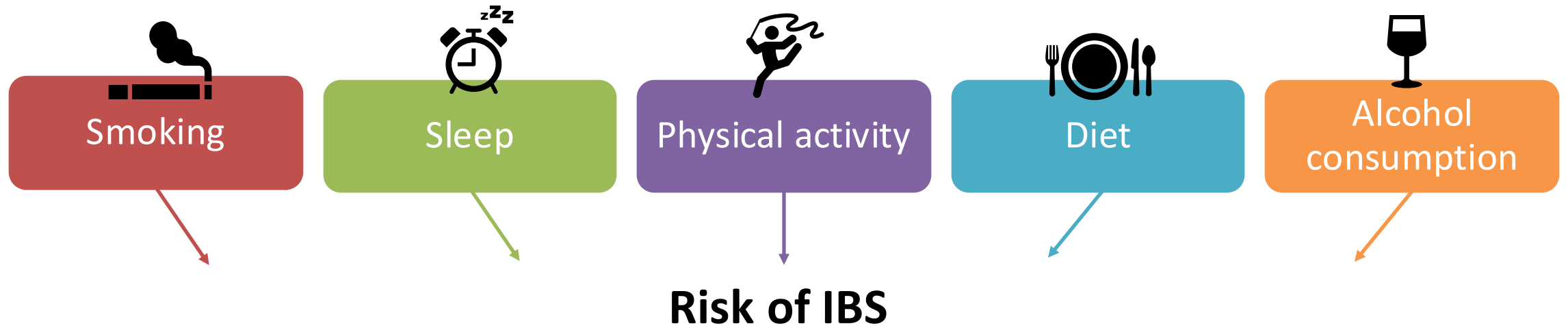


- Functional bowel disorder
- Characterised by **recurrent abdominal pain**, on average for at least 1 day per week in the past 3 months, **associated with** two or more of the following:
  - related to **defecation**
  - a change in **frequency of stool**
  - a change in **stool form**<sup>1</sup>
- **High prevalence**: 5% - 10% globally<sup>2</sup> (6.6% in HK<sup>3</sup>)
- There is **no cure** for IBS, so prevention through modifiable factors is essential



# Background

- Previous studies: The following 5 modifiable lifestyle factors are **independently** associated with IBS<sup>4-8</sup>
- However, their **combined** association with the incidence of IBS is currently unknown
- Current guidelines have **not** recommended any **lifestyle modification interventions** as primary prevention measures for IBS<sup>9-11</sup>



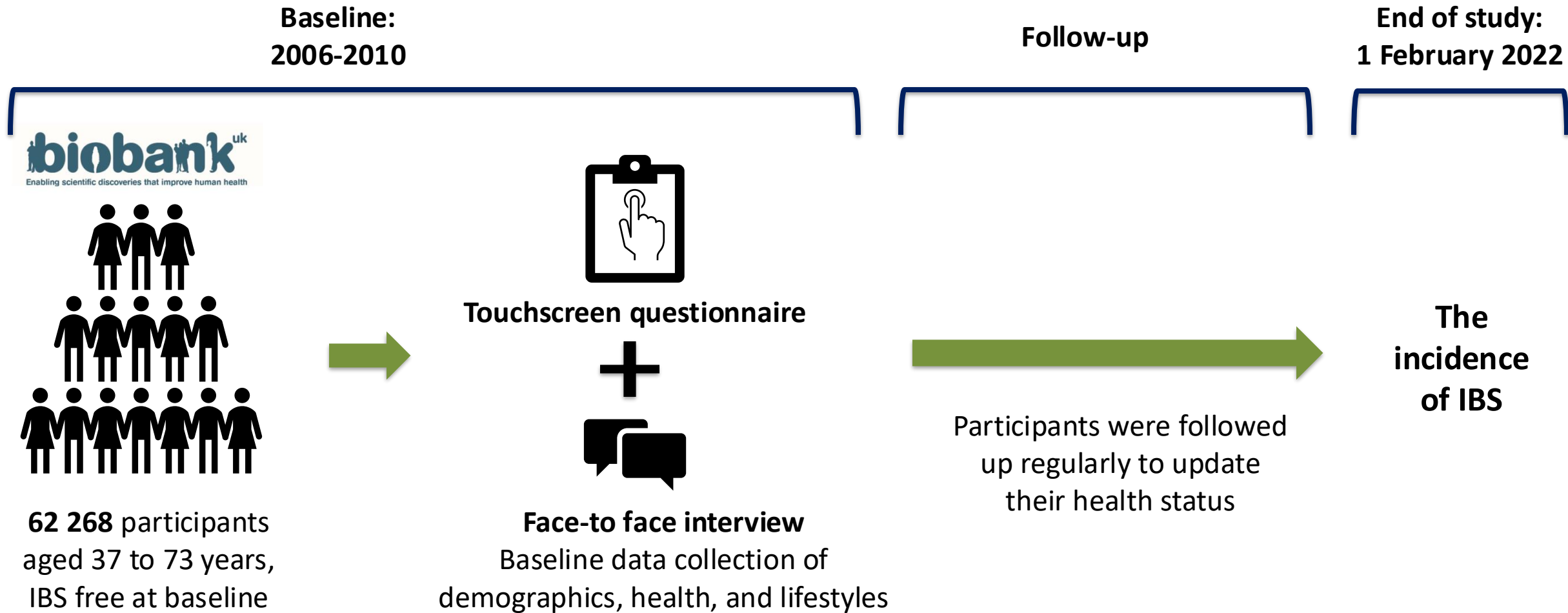
# Research objective

- To evaluate the **combined** association of the 5 healthy lifestyle behaviours with the incidence of IBS in a large prospective cohort from the **UK Biobank**

Hypothesis:



# Methods: UK Biobank study<sup>12,13</sup> (Population-based, prospective cohort study)



# Methods: Definitions of the 5 healthy lifestyle behaviours



## Never smoking



## Optimal sleep<sup>14-16</sup>

- 7-9 hr/day and
- No insomnia, narcolepsy, and difficulty getting up in the morning



## High level of vigorous physical activity<sup>17</sup>

- The activity that makes one sweat and breathe hard (e.g., aerobic exercise)



## High dietary quality<sup>18-20</sup>

- Higher intake of fruits, vegetables, nuts and legumes, low-fat dairy products, whole grains
- Lower intake of sodium, red and processed meats, Sweetened beverages



## Moderate alcohol intake<sup>17,21,22</sup>

- 5-15 g/day



# Results: Combined associations of healthy lifestyle behaviours with the risk of IBS

- During a mean follow-up of 12.6 years, 961 (1.5%) incident IBS were recorded

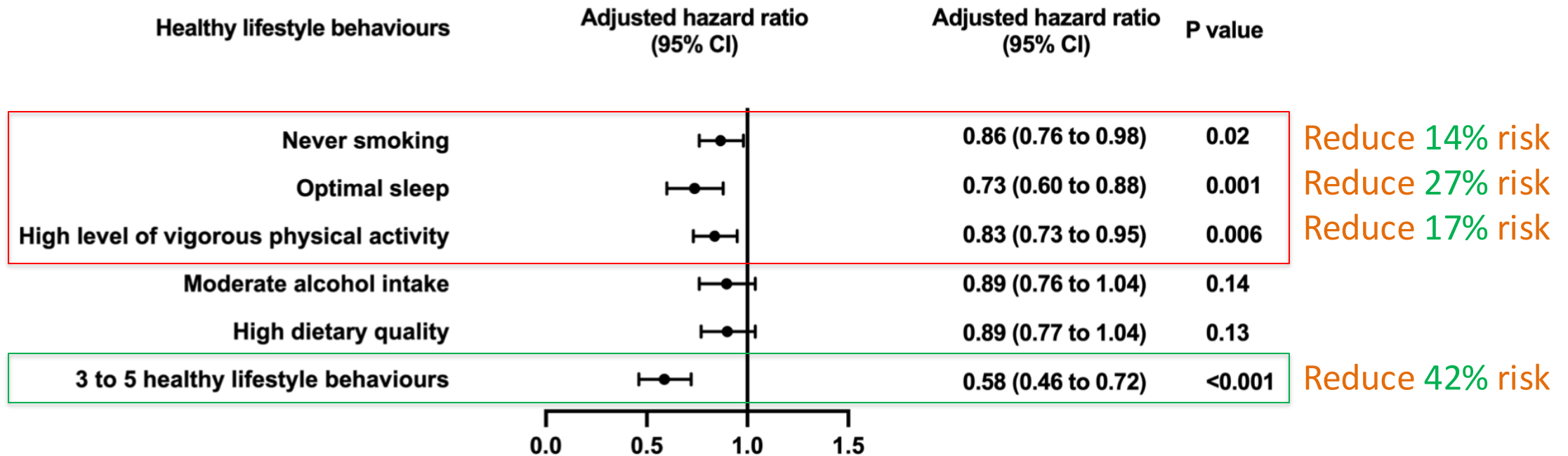
	Number of healthy lifestyle behaviours†				P value for trend
	0	1	2	3 to 5	
No. of participants	7604 (11.8)	20 662 (32.1)	21 901 (34.1)	14 101 (21.9)	
Person-years	95 763	260 868	277 306	178 802	
No. of IBS events	153 (2.0)	339 (1.6)	297 (1.4)	172 (1.2)	
Adjusted hazard ratio‡ (95% CI)	1 (reference)	0.79 (0.65 to 0.96)	0.64 (0.53 to 0.78)	0.58 (0.46 to 0.72)	<0.001
		Reduce 21% risk	Reduce 36% risk	Reduce 42% risk	

- A higher number of healthy lifestyle behaviours was significantly associated with a lower incidence of IBS (all  $P < 0.05$ )





# Results: Independent associations of each healthy lifestyle behaviour with the risk of IBS



- Never smoking, optimal sleep, and high level of vigorous physical activity demonstrated a significant **independent inverse** association with the incidence of IBS
- Although of a **smaller** magnitude than adhering to 3 to 5 behaviours

# Potential implications



## Future Research

Unraveling potential underlying mechanisms responsible for the observed associations between healthy lifestyle behaviours and IBS



## Clinical Application

Incorporating lifestyle modifications as a primary prevention strategy for IBS into clinical guidelines



## Healthcare Policy

Urging policymakers and relevant institutions to formulate strategies and policies promoting the adoption of healthy lifestyle behaviours

# Conclusions

- Adhering to a **higher** number of healthy lifestyle behaviours is significantly associated with a **lower** incidence of IBS in the general population
- Our findings suggest the potential of lifestyle modifications as a **primary prevention strategy** for IBS

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