

SUMMARY

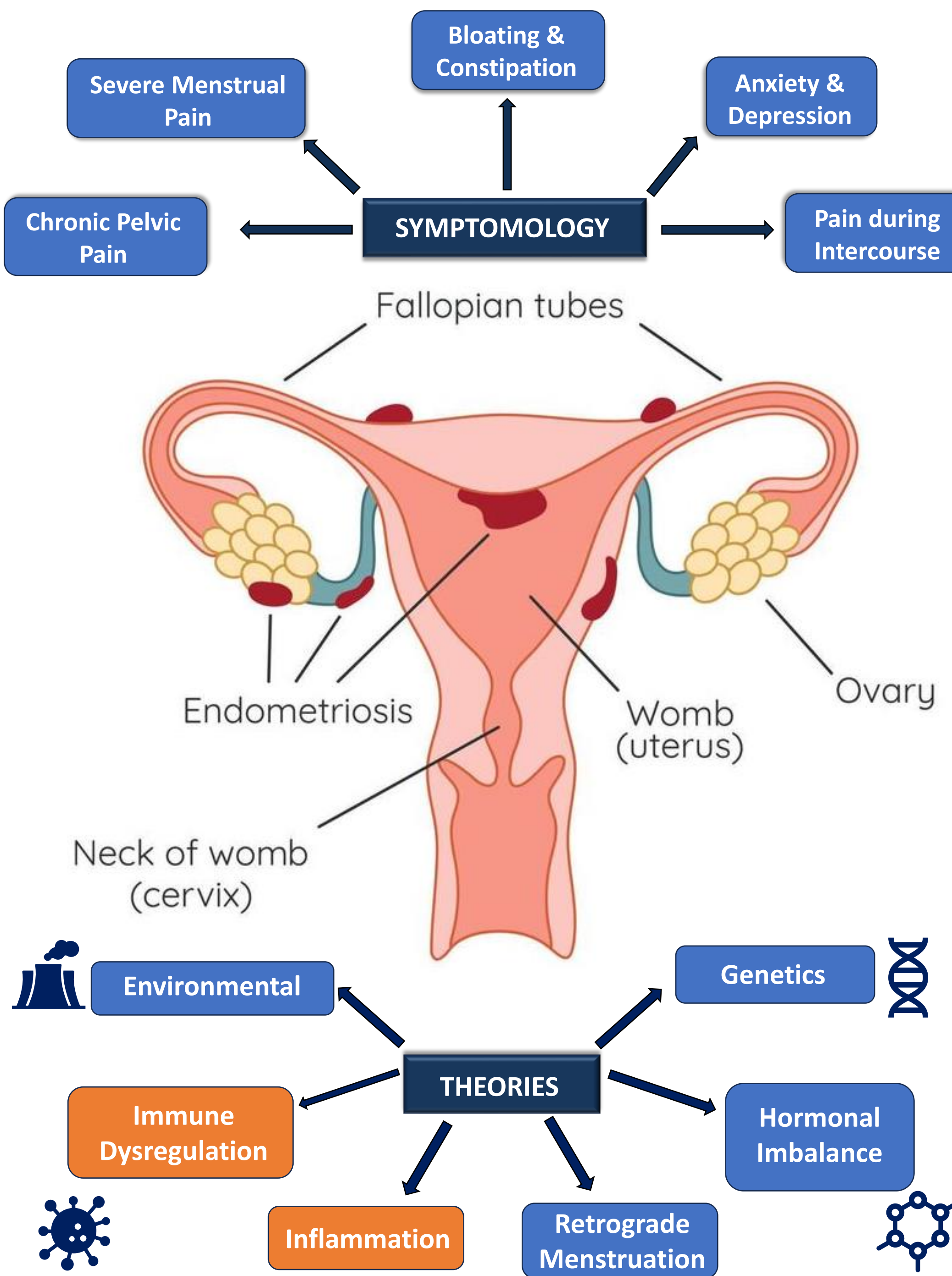
Objective 1: To evaluate the risk of endometriosis with the presence of migraines and immunological conditions.

Objective 2: To assess the association between recurrence of endometriosis and migraines and immunological conditions as a follow up to objective 1.

- Endometriosis is a chronic estrogen-dependent condition whose etiology is not fully understood. Here we investigated potential immunological and inflammation-based pathways.
- Used a population-based case-control study to explore inflammatory and immunological risk factors for initial endometriosis diagnosis as well as recurrence.
- We observed a significant association between endometriosis risk and migraines resulting in a suggested 60% increased risk. A significant association of over 3x increased risk was also observed with recurrence of endometriosis and migraines.
- The association between migraines and endometriosis risk and recurrence has interesting clinical implications regarding experiences of pain, and the underlying biological mechanisms of this association should be further investigated.

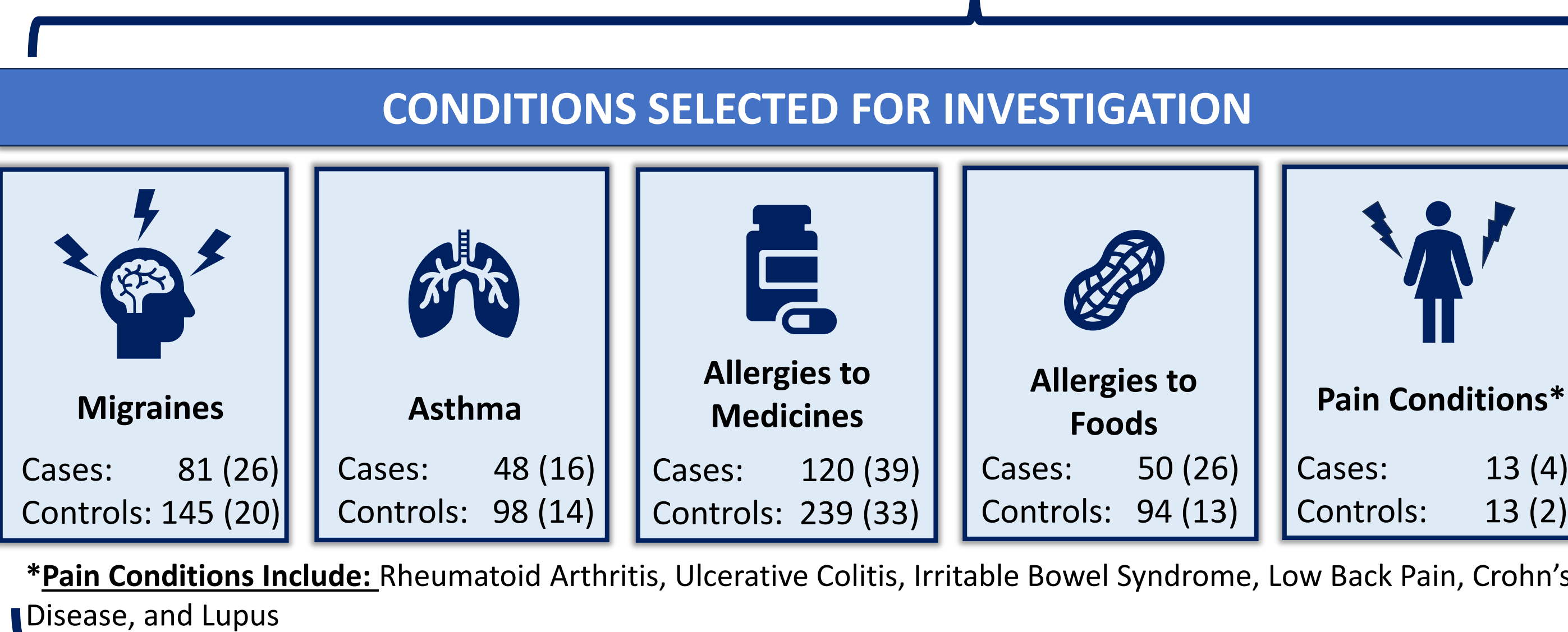
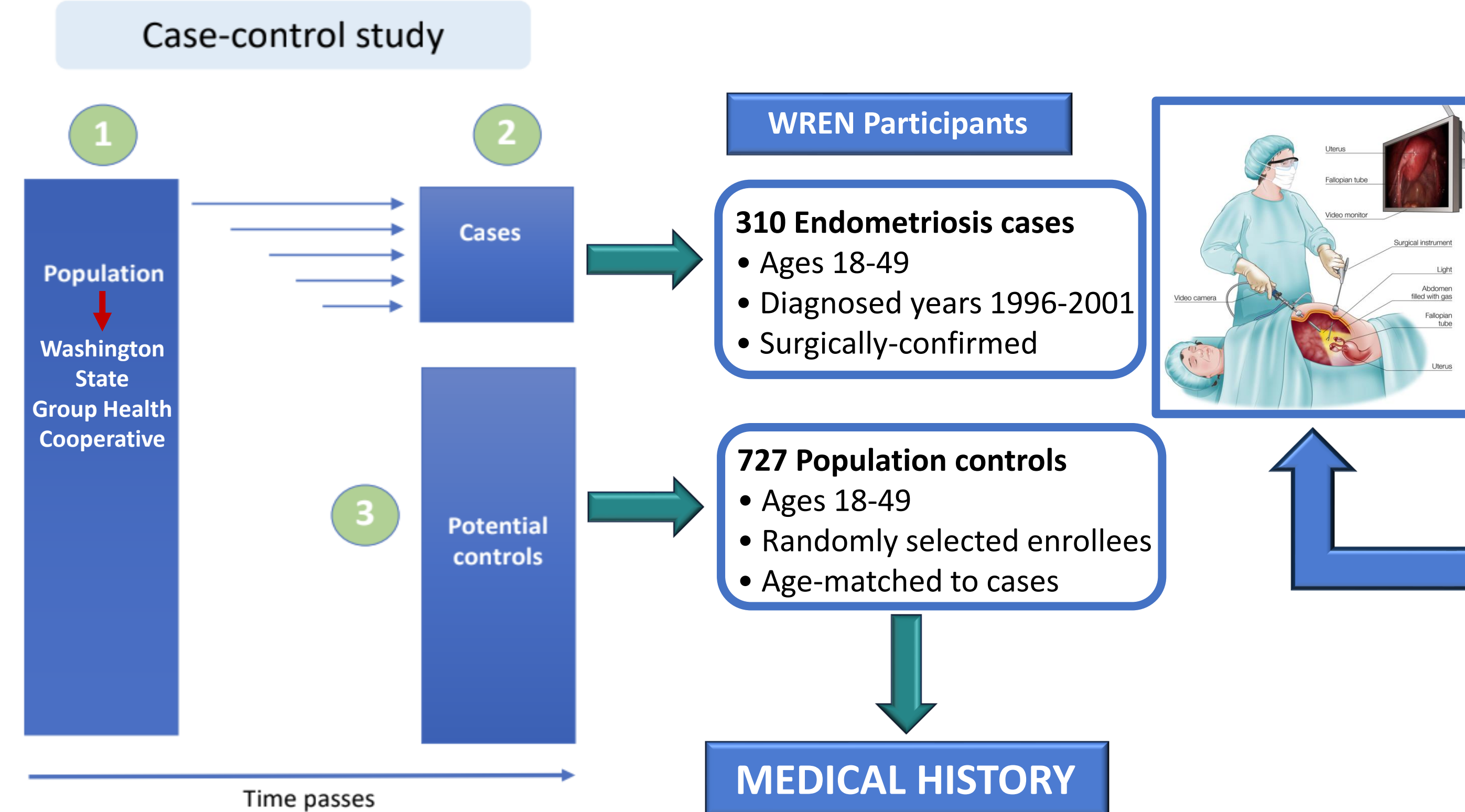
BACKGROUND

- Endometriosis is a chronic disease characterized by the abnormal growth of endometrium-like tissue outside of the uterus.
- This condition affects ~10% of women during their reproductive years and results in dysmenorrhea, infertility, and chronic pelvic pain.
- There is currently no cure for endometriosis and the underlying mechanisms remain unknown.

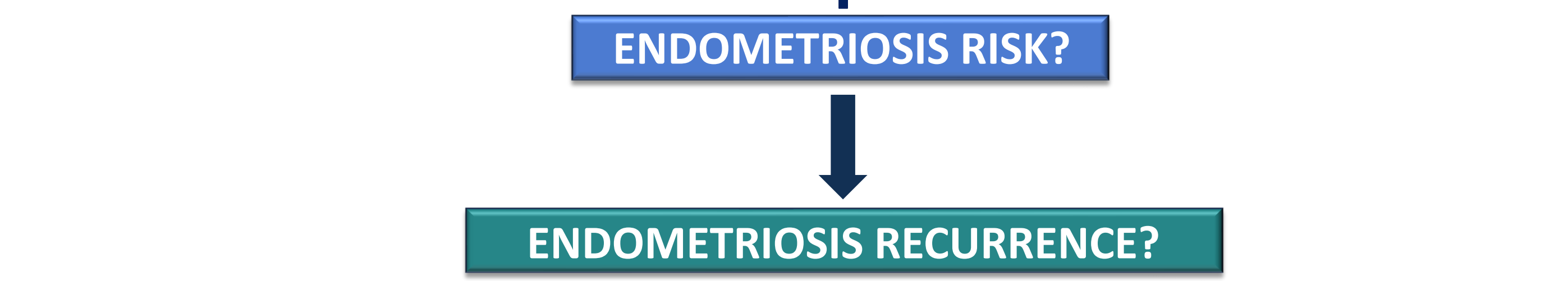


METHODS

Women's Risk of Endometriosis Study (WREN) 1996-2001



*Pain Conditions Include: Rheumatoid Arthritis, Ulcerative Colitis, Irritable Bowel Syndrome, Low Back Pain, Crohn's Disease, and Lupus



Women's Risk of Endometriosis Symptom Recurrence (WRENSYR) 2003-2005

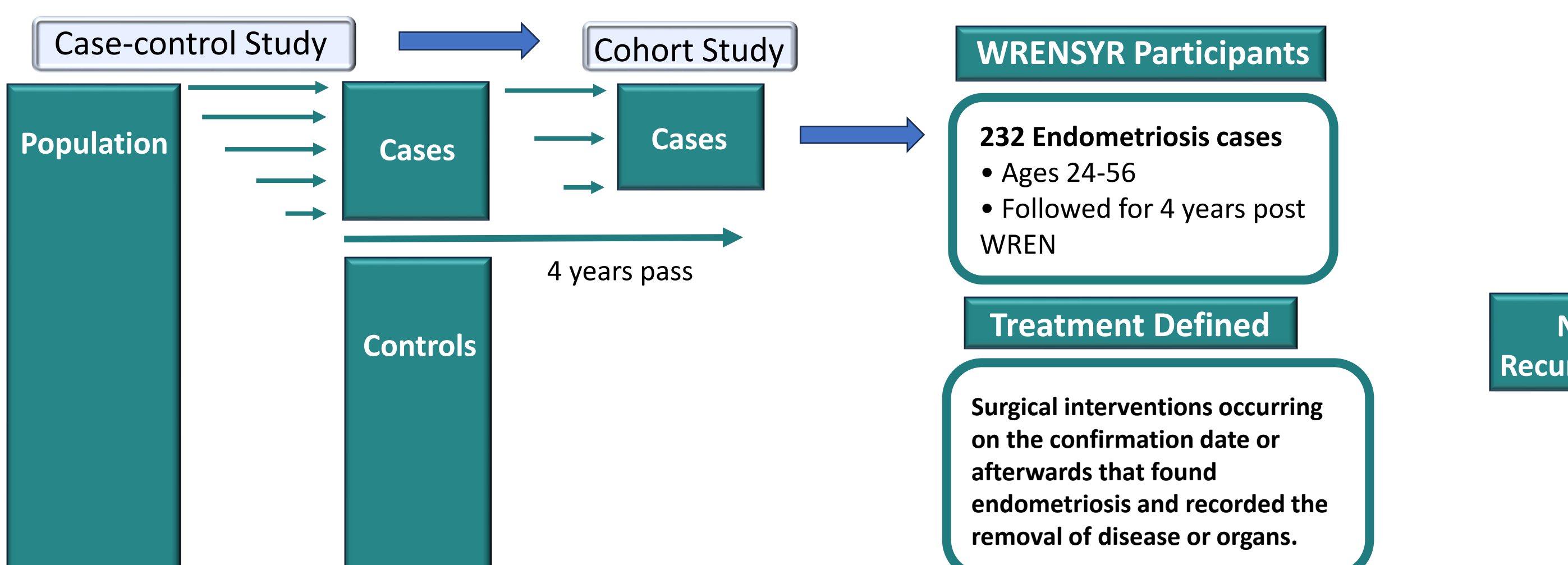
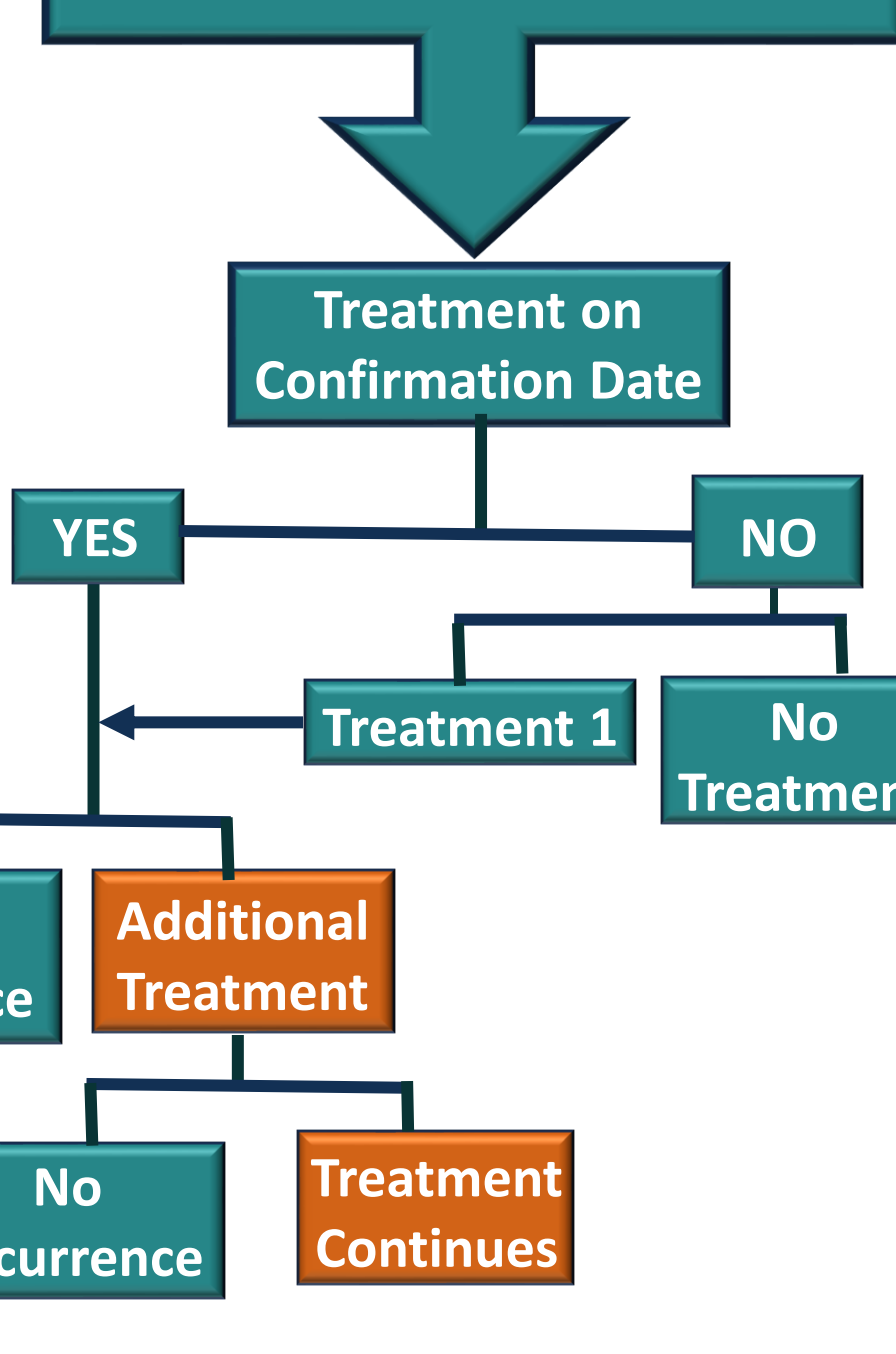
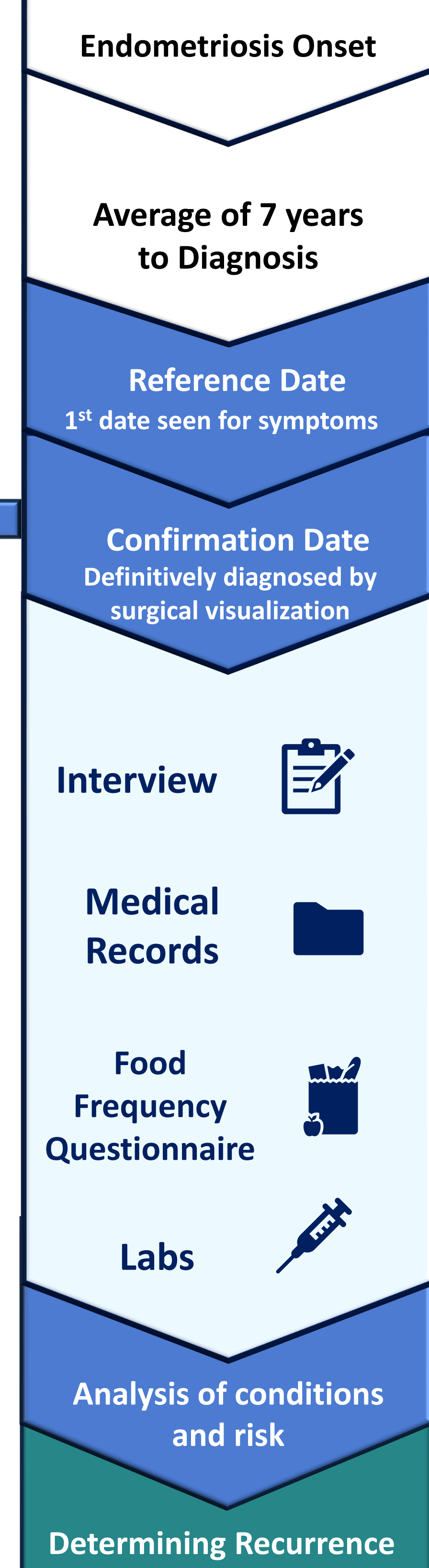


Figure 1: WREN and WRENSYR cases baseline demographics and reproductive characteristics.

Study	Participants (n)	Median age (IQR)	White race	College Graduate	Income (≥\$70,000)	BMI (≥30)	Current Smoker	Nulliparous
Controls (727)		39 (33-44)	83%	41%	28%	20%	17%	30%
Cases (310)		39 (33-44)	85%	46%	23%	21%	20%	48%
WRENSYR (232)		46 (39-50)	87%	49%	23%	16%	17%	49%

TIMELINE



RESULTS

Figure 2: Odds ratios (95% CI) for endometriosis risk and migraines and immunological conditions. (WREN)

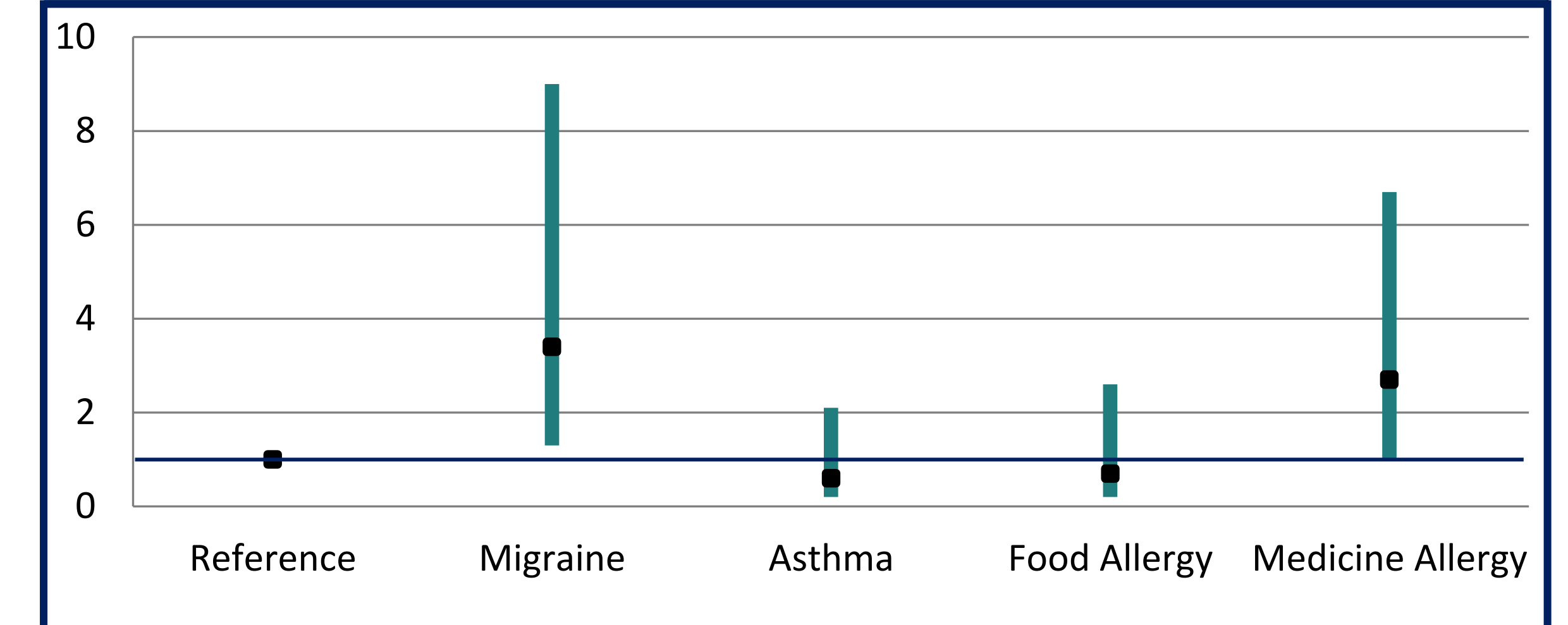
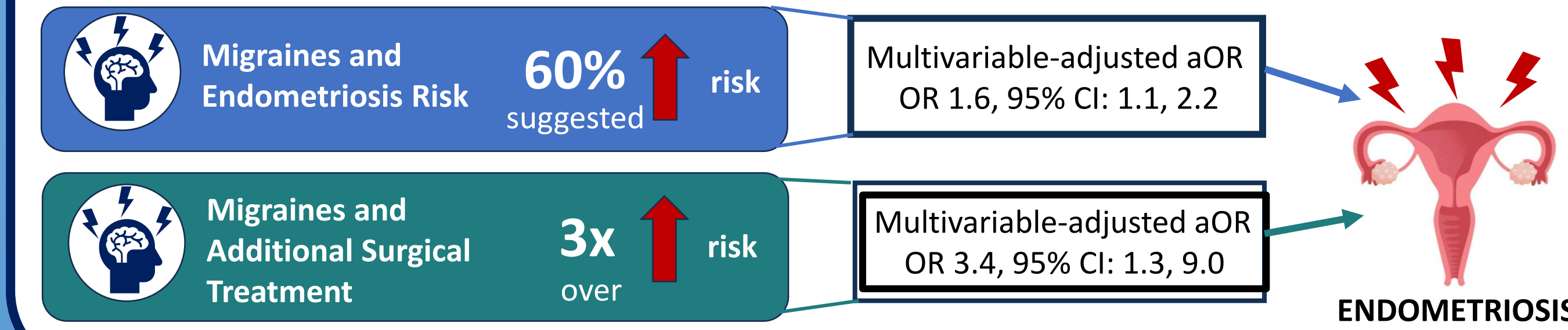
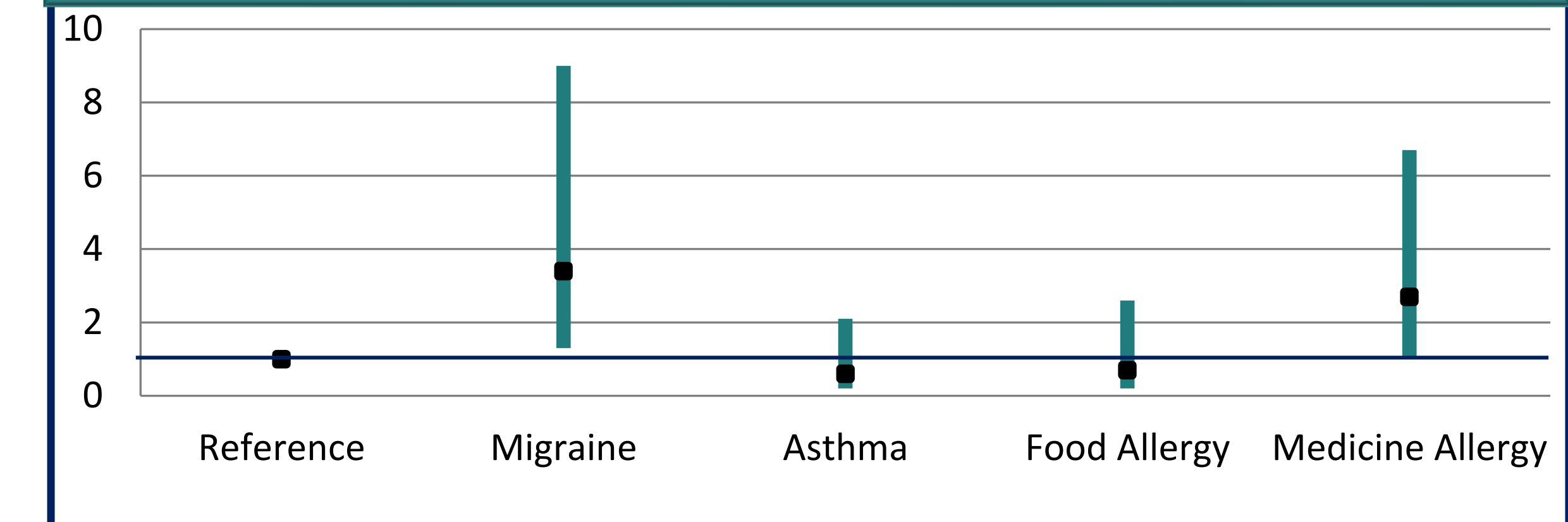


Figure 3: Odds ratios (95% CI) for additional treatment and migraines and immunological conditions. (WRENSYR)



FUTURE DIRECTIONS

- Food allergies and medicine allergies were defined broadly and could be further investigated with a refined questions on food allergies and medicine allergies and their relationship to endometriosis.
- Treatment in this analysis was defined as a surgical intervention, as it is a measurement of recurrence used in other studies and allows for the gold-standard for assessment of presence and allows for the removal of endometriosis lesions. This however does not encompass the range and diversity of treatment pathways experienced by people with endometriosis. Future analyses could include a broader investigation into to treatment (e.g. medications) to better capture the patient experience and recurrence.
- The suggested relationship between migraines and endometriosis risk and recurrence could be further explored to determine whether it contributes to endometriosis development or if the conditions have a shared etiology. The relationship between endometriosis and migraines is supported by current literature. Less is known regarding migraines and the recurrence of endometriosis.
- To our knowledge we are the first to have looked at the association between pain conditions, including migraines, and endometriosis recurrence. This study allowed the unique opportunity to follow a cohort of cases over an extended amount of time to identify predictors of recurrence.
- A challenge with endometriosis is that undiagnosed endometriosis may be present in the non-cases (i.e., controls). However, controls with endometriosis symptoms who could be considered probable cases were excluded from study selection.

ACKNOWLEDGEMENTS

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