



Exploring pelvic pain and quality of life profiles in the Translational Research in Pelvic Pain (TRiPP) cohort



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Introduction

Chronic pelvic pain (CPP) is a common condition affecting up to 26.6% of women, yet remains difficult to diagnose and treat, with women often suffering for many years. There are a variety of associated pathologies including endometriosis, however, frequently no underlying cause is identified and a chronic pain syndrome such as bladder pain syndrome (BPS) or chronic pelvic pain syndrome (CPPS) is diagnosed. However, even with identified pathology, there is little relationship between the severity of disease and pain symptoms.

The Translational Research in Pelvic Pain (TRiPP) project takes a deep phenotyping approach to improve understanding of the mechanisms underlying pelvic pain with a particular focus on endometriosis-associated pain and interstitial cystitis/bladder pain syndrome (IC/BPS). The present study focuses on the first phase of the TRiPP project which employs extensive baseline questionnaires to characterise the cohort and look for overlap or differences between the profiles of our pelvic pain subgroups.

Hypotheses:

- There are no differences in the clinical features between those with and without endometriosis or IC/BPS except for bladder symptoms themselves.
- Women with comorbid endometriosis and BPS have lower quality of life (QoL).

Methods

The TRiPP cohort is comprised of a control group and four pain groups: endometriosis-associated pain (EAP), bladder pain syndrome (BPS), comorbid endometriosis-associated and bladder pain syndrome (EABP), and pelvic pain only (PP).

Most participants were identified from existing endometriosis cohort studies in Oxford (Oxford REC ref 09/H0604/58) and Boston (IRB-P00004267), with additional BPS participants recruited in Porto (TRiPP REC ref 19/YH/0030). All participants were women of reproductive age (13-50 years old).

	Endometriosis	Urinary Symptoms	Pain perceived as arising from the bladder	Pelvic pain score on NRS (at least one)
EAP (N=237)	Surgical diagnosis	No	No	> 4/10
EABP (N=120)	Surgical diagnosis	Yes	Yes	> 4/10
BPS (N=72)	No history	Yes	Yes	> 4/10
PP (N=127)	No endometriosis (surgically confirmed)	No	No	> 4/10
Control (N=230)	No history	No	No	< 3/10

Table 1. Study design and inclusion criteria for the five study groups.

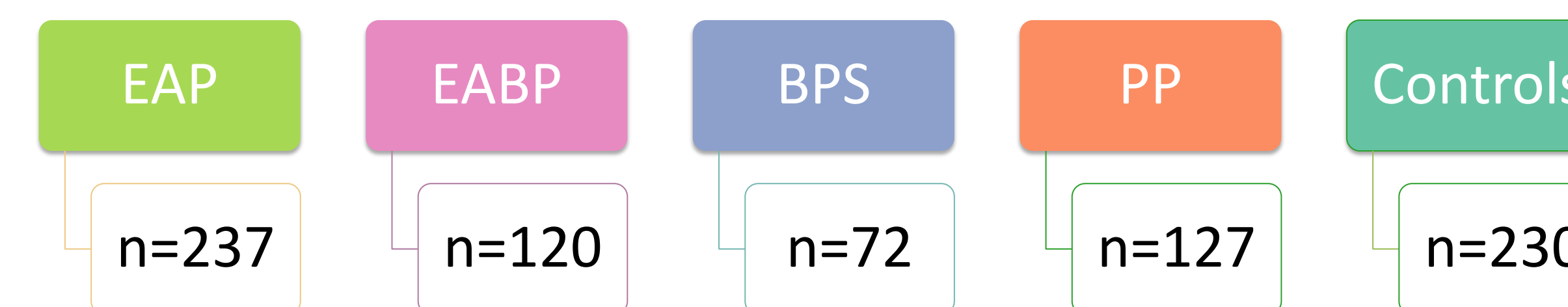
Participants completed the EPHEct Clinical Covariates¹ questionnaire which includes questions on: demographics, reproductive history, pelvic pain (dysmenorrhoea, non-cyclical pain, dyspareunia and bladder pain), medical comorbidities, factors relieving and worsening pain, QoL (short-form 36 (SF-36)) and pain catastrophising.

Statistical analysis to explore effects and associations between the groups were conducted on SPSS software.

Results

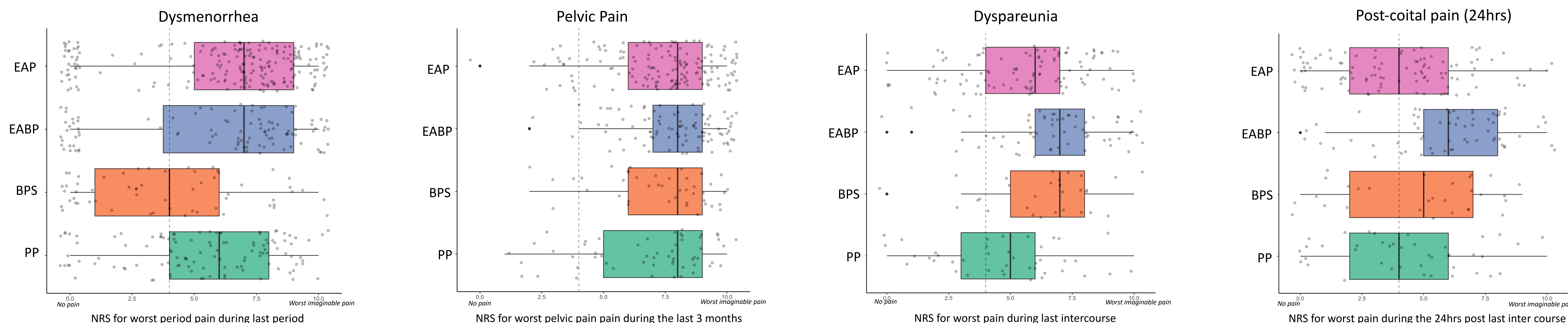
785 participants were included in the analysis (mean age=27.6)

Participants in all pain groups reported high NRS scores for all pelvic pain measures (mean: >6/10 for at least one measure).



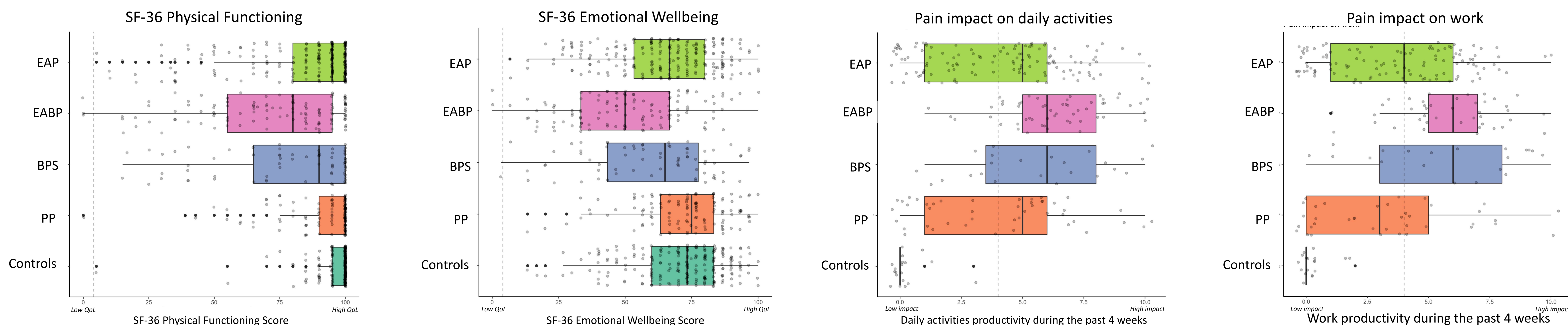
Pelvic Pain Numerical Rating Scales (NRS)

- The presence of endometriosis was associated with significantly higher dysmenorrhoea scores (EAP and EABP vs BPS and PP ($p < 0.001$)) and these women also reported significantly higher non-cyclic pain than those in the PP group ($p < 0.05$).
- The presence of bladder symptoms was associated with significantly higher dyspareunia scores (EABP vs EAP and PP and BPS vs PP ($p < 0.001$)).
- More than 50% of participants in each of the pain groups reported interrupting and/or avoiding sexual intercourse due to pain in the last 12 months. Additionally, 49.2% of the participants in the EABP group reported "always" experiencing dyspareunia in the last 12 months.



Quality of Life (QoL)

- QoL (SF-36) scores for the control group were in line with reference population data while CPP patients had significantly lower QoL across all SF-36 subscales ($p < 0.001$).
- Similar to the pain results, the EABP group suffered the most across all the health measures while the PP group's profile was closest to control group's profile.
- Significant effects were also observed between the pain groups for pain interference with their work ($F(3,209)=9.76$, $p < 0.001$) and daily lives ($F(3,244)=10.51$, $p < 0.001$), with the EABP suffering more compared to the EAP and PP groups ($p < 0.001$).



Conclusions

- Overall women with CPP show high levels of pain and poor QoL.
- However, those with comorbid endometriosis and BPS (EABP) are particularly likely to suffer with high pain intensity, low QoL and many other comorbidities.
- The EABP group has not received much interest previously and therefore deserve more detailed exploration of appropriate therapeutic strategies.
- Our results also highlight the importance of dyspareunia as a symptom of all forms of CPP which is often neglected both in research and in clinical settings.
- Next phases of TRiPP will explore further the underlying pain mechanisms in women with CPP using clinical, biological, physiological and psychological data.

References

[1] Vitonis, A. F., Vincent, K., Rahmioglu, N., Fassbender, A., Louis, G. M. B., Hummelshoj, L., ... & Zondervan, K. T. (2014). World Endometriosis Research Foundation Endometriosis Phenome and biobanking harmonization project: II. Clinical and covariate phenotype data collection in endometriosis research. *Fertility and sterility*, 102(5), 1223-1232.

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