SYSTEMATIC REVIEW

ENDOMETRIOSIS-ASSOCIATED PAIN AND PSYCHOMETRIC PROPERTIES OF EQ-5D

Author Job Title	Research department - M.J.A. de Ridder
Approver Name	Ernesto Diringuer
Approver Job Title	Chief Executive Office
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Intended Recipient	User with access to MYCB1.NL/ALETTA/Doctor

Introduction

Endometriosis is a benign gynaecological disease characterised by severe pelvic pain and infertility, while a range of non-clinical symptoms including lack of energy and depression can also be experienced. These symptoms can have severe effects on a women's health related quality of life (HRQoL). Tracking a patient's HRQoL, endometriosis-associated pain in particular, is crucial in disease management, but there exists no recommendations on what patient-reported outcome measure (PROM) is best to use for this.

There is a wealth of literature on the psychometric performance of the EQ-5D in pain, but this has not yet been verified for endometriosis-associated pain. Therefore, this review aims to validate the responsiveness and construct validity of the EQ-5D in endometriosis-associated pain.

Given this review is intended as a scoping of the literature, it would be advisable to consider conducting a more in depth review in the future. This review cannot be considered comprehensive or definitive, and only gives an initial indication of whether the EQ-5D could be valid in endometriosis-associated pain.

Methods

A search strategy was developed to identify studies on the validity and responsiveness of the EQ-5D for adults with endometriosis-associated pain. The search strategy combined free text and controlled vocabulary words, including "psychometric characteristics", "EQ-5D", "endometriosis" and "pain", all with spelling variations, acronyms and related terms. The search strategy was as follows:

1. (validity) OR (responsiveness) OR (psychometric characteristic*) OR (psychometric aspect*) OR (psychometric propert*)
   AND
2. (euroqol) OR (euro qol) OR (eq5d) OR (eq 5d) OR (eq-5d) OR (euro adj qual) OR (eq adj 5d[tw])
   AND
3. (endometriosis-associated pain) OR ((endometriosis) AND (pain))

Two online medical libraries, Pubmed and Embase, were investigated. Moreover, a Google Scholar search was performed to identify possible grey literature, or additional literature of interest.

Identified literature (both published and grey literature) were assessed against the following predefined eligibility criteria: literature was eligible for inclusion if they were primary studies or reviews of the literature, they examined construct validity or responsiveness of the EQ-5D, they regard pain in endometriosis as the primary health condition, and their main focus was on an adult population (18 years or older). Studies were excluded if they investigated psychometric characteristics other than construct validity or responsiveness (e.g. face validity or reliability), if they represent translation of a GPBM or if they were not published in English.

Results

A total of 233 potentially eligible records were identified, this number includes duplicates. Title, abstract and full text screening removed 223, 5 and 2 studies respectively. The remaining three articles [1-3] were considered relevant, since they reviewed either construct validity and/or responsiveness of the ED-5Q in endometriosis-associated pain or they investigated the psychometric properties of another instrument in comparison to the EQ-5D. Each of the studies is summarised below.

Strong evidence in support of the EQ-5D in endometriosis patients comes from the two included systematic reviews [2,3]. The first review performed by Bourdel and colleagues [2] describes the range of HRQoL instruments used in endometriosis studies and analyses their strengths and weaknesses. The EQ-5D was used in 24 out of 201 selected studies and proved to be accurately validated. The questionnaire was also found to be responsive, which was only the case for three of the 24 identified scales. Together with the SF-36, the EQ-5D was found to be the most useful generic questionnaire in endometriosis.

The second systematic review by Nicolas-Boludo and colleagues [3] aimed to determine the PROM tool that was most appropriate for use in endometriosis care by reviewing the literature. For each tool several features were analysed, including construct validity. The EQ-5D was one of the 13 PROMs (out of 48) that had their construct validated. This study also shows the EQ-5D to be responsive, even though it is not disease specific.

Strong evidence is also supplied by the last included study by Aubry and colleagues [1]. They performed a prospective observational study to determine the most efficient tool for assessing HRQoL by comparing the French version of the EHP-5, an endometriosis specific PROM, and the EQ-5D. It was found that both these tools showed excellent and equivalent responsiveness, while the construct validity of the EHP-5 was higher as it was more sensitive to the presence of HRQoL impairing pain symptoms. Still, the EQ-5D did show good discriminative ability for the majority of pain symptoms.

Conclusion

This scoping review screened 233 records that were potentially relevant to assess the psychometric performance of the EQ-5D in endometriosis-associated pain. Three studies were included in this review. All evidence suggests that the EQ-5D is responsive and valid in endometriosis-associated pain.

However, as this is only a scoping review, findings of this review should be considered carefully. A full systematic review may lead to the identification of other studies which may provide further evidence in support or against these initial findings.

Version control

Version number	Author	Date	Change description
1	Madelous de Ridder	25-04-2022	Initial version
2	Ernesto Diringuer	9 - 05 - 2022	Review / update

References

1. Aubry, G., Panel, P., Thiollier, G., Huchon, C., & Fauconnier, A. (2017). Measuring health-related quality of life in women with endometriosis: comparing the clinimetric properties of the Endometriosis Health Profile-5 (EHP-5) and the EuroQol-5D (EQ-5D). *Human reproduction (Oxford, England)*, *32*(6), 1258–1269. https://doi.org/10.1093/humrep/dex057
2. Bourdel, N., Chauvet, P., Billone, V., Douridas, G., Fauconnier, A., Gerbaud, L., & Canis, M. (2019). Systematic review of quality of life measures in patients with endometriosis. *PLoS One*, *14*(1), e0208464.
3. Nicolas-Boluda, A., Oppenheimer, A., Bouaziz, J., & Fauconnier, A. (2021). Patient-Reported Outcome Measures in Endometriosis. *Journal of Clinical Medicine*, *10*(21), 5106.