
CONFERENCE ABSTRACT

Complex methods to assess complex problems: using Natural Language Processing to explore Health Related Quality of Life in endometriosis

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Antonio Sarria-santamera^{1,4}

1: Nazarbayev University School Of Medicine, Nursultan, Kazakhstan

4: REDISSEC, Spain

Background and Objectives:

Endometriosis is a benign, although chronic painful condition that represents a major burden in women's life, affecting all the domains of their health related quality of life (HRQL). The objective of this work is to conduct a Systematic Review of Systematic Reviews assessing HRQL of women with endometriosis, and to test a methodology based on Natural Language Processing (NLP) to assess factors associated with losses of HRQL linked with the most relevant clinical symptoms that women with endometriosis experience: pain and dyspareunia.

Methods:

We extracted free text from articles included in the Systematic Reviews with 'Pain' and 'dyspareunia' as keywords, and we used NLP to identify their occurrences, grammatical variants and meaningful context words. Our model used a word2vec skip-gram approach to predict context following our keywords.

Results:

Text data included 6,430 context words corresponding to 1,655 unique words in the 17 different systematic reviews that were included for review.

Conclusions:

The method we have tested using NLP has demonstrated to be valid to capture the complexity of issues that surround endometriosis and affects women's HRQL. Among the diversity of symptoms that women with endometriosis experience, chronic pelvic pain has the highest impact on their HRQL. Pain affects their physical health, but also the social and functioning dimensions of women's life. Painful intercourse has also a significant impact on the sexual life of women with endometriosis, and disturbing the emotional wellbeing of women. HRQL is also affected by the clinical complexities of endometriosis, the difficulties to reach to a diagnosis as well as to provide women with effective medical care. Different measurements, instruments and approaches have been proposed to measure HRQL in endometriosis, but it seems necessary the use of common instruments to facilitate comparisons across studies.