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Prevalence of Sexual Dysfunction in Female Patients With Rheumatoid Arthritis: A Systematic Review and Meta-analysis

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ADMINISTRATIVE INFORMATION

Support - None.

Review Stage at time of this submission - Data extraction.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 06 January 2024 and was last updated on 06 January 2024.

INTRODUCTION

Review question / Objective Female sexual dysfunction (FSD)—a prevalent medical problem worldwide—involves several domains of sexual life: decreased or even disappearing sexual desire, sexual arousal disorders, inadequate lubrication, sexual pain, inability to obtain sexual satisfaction, and inability to achieve orgasm. FSD occurrence involves complex pathophysiologic processes, including anatomic, psychological, neurobiological, and hormonal aspects. FSD affects women's quality of life, marital relationships, and social harmony. Rheumatoid arthritis (RA) is a chronic inflammatory joint disease, which can cause cartilage and bone damage as well as disability. RA with a prevalence of 0.5 to 1.0% affects women three times more frequently than men. Some observational studies have explored the prevalence and predictors of FSD in female patients with RA; however, until now, there have been no systematic review and meta-analysis of pooled data that provide reliable estimates of FSD prevalence among females with RA to help us understand the risk factors that might influence their association. The present study investigated the global prevalence of FSD, analyzed the association between FSD risk and RA, and evaluated the predictors of FSD among females with RA.

Condition being studied Female sexual dysfunction (FSD)—a prevalent medical problem worldwide—involves several domains of sexual life: decreased or even disappearing sexual desire, sexual arousal disorders, inadequate lubrication, sexual pain, inability to obtain sexual satisfaction, and inability to achieve orgasm. FSD occurrence involves complex pathophysiologic processes, including anatomic, psychological, neurobiological,

and hormonal aspects. FSD affects women's quality of life, marital relationships, and social harmony. Rheumatoid arthritis (RA) is a chronic inflammatory joint disease, which can cause cartilage and bone damage as well as disability. RA with a prevalence of 0.5 to 1.0% affects women three times more frequently than men. Some observational studies have explored the prevalence and predictors of FSD in female patients with RA; however, until now, there have been no systematic review and meta-analysis of pooled data that provide reliable estimates of FSD prevalence among females with RA to help us understand the risk factors that might influence their association.

METHODS

Participant or population Global females with RA.

Intervention Not applicable.

Comparator Not applicable.

Study designs to be included The study included all published studies investigating the prevalence of FSD among females with RA, regardless of race or age, and the outcome measure was the prevalence of OAB.

Eligibility criteria Studies were considered eligible if they reported the prevalence of SD in adult (age, 18y) female patients with RA (diagnosed according to American College of Rheumatology (ACR) 1987 criteria or ACR/European League Against Rheumatism 2010 criteria). The exclusion criteria included the following: (1) case reports, reviews, editorials, conference abstracts, and letters to the editor; (2) duplicates, or surveys investigating the same sample; (3) studies with insufficient information on SD definition; (4) surveys that included children; (5) articles with no extractable data on the main outcomes; and (6) full text not being available.

Information sources We conducted a search in PubMed, Embase, Web of Science, and Cochrane Library, for the literature published from inception to December 10, 2023, to collect the observational studies that reported the prevalence of SD in RA female patients, with no language limitations.

Main outcome(s) The reports were evaluated for suitability by 2 independent investigators by screening the titles and abstracts; full texts of the potential articles then were collected for more detailed examination. If necessary, the non-English articles were translated using Google Translate. If there were duplicate publications, the study with the most comprehensive details was chosen. Any discrepancies were resolved by consensus, and the kappa statistic was used for measurement of the agreement degree. The following data were extracted from the included articles into a Microsoft Excel spreadsheet (Microsoft Corporation, Redmond, WA) by 2 authors independently: first author's name, publication year, study location (country), diagnostic method of SD, sample size, number of subjects by sex (if available), number of non-RA healthy controls (if available), RA-directed medication distribution, number of RA female patients with SD, and number of controls with SD (if available). We also tried to extract the data regarding the risk factors for SD (ie, odds ratios [ORs] with confounder adjustment).

Quality assessment / Risk of bias analysis The quality evaluation criteria for cross-sectional studies, comprising 11 items as recommended by the Agency for Healthcare Research and Quality (AHRQ), were utilized to assess the quality of the articles. A score of 0 points will be assigned to responses categorized as "No" or "Unclear", while a score of 1 point will be assigned to responses categorized as "Yes". The quality of the literature was positively correlated with the score, such that a higher score indicated higher quality. The quality assessment mentioned above was evaluated through a discussion between two researchers. The evaluation was performed by two investigators, with a third party acting as an adjudicator in case of any disagreement. Scores ≤ 5 were considered low quality.

Strategy of data synthesis We combined the proportion of RA patients with concurrent NAFLD in each study to provide a pooled prevalence rate of NAFLD, using a random-effects model for providing more conservative estimates. We presented the values as percentages and 95% CI. In addition, we pooled the extracted adjusted ORs (aORs) for BMI and methotrexate to obtain overall estimates. The inconsistency index (I2) test was used for assessment of the heterogeneity between the studies, which ranges from 0% to 100% and is categorized as low heterogeneity (25%–49%), moderate heterogeneity (50%–74%), and high heterogeneity (75%); to define a significant heterogeneity degree, the chi-squared test was used with a P value <0.05. Subgroup analyses were conducted, and a P value (P for interaction) <0.05 showed a significant difference between the subgroups. All statistical analyses were performed using STATA (StataCorp).

Subgroup analysis Subgroup analyses were conducted according to different items, such as study year, region, design, sample size, quality, and FSD measure, and a P value (P for interaction) <0.05 showed a significant difference between the subgroups.

Sensitivity analysis Sensitivity analysis was carried out to test the stability of the meta-analysis results. By excluding individual studies that may have led to heterogeneity due to their poor methodology, poor quality, small sample size or large proportion, or by combining effect quantities with different effect modes, whether the results were consistent or not was observed. If there was little difference between the 2 results, the sensitivity of the results was low, and the results were considered stable with high reliability.

Country(ies) involved China (Affiliated Xiaoshan Hospital, Hangzhou Normal University).

Keywords prevalence; sexual dysfunction; rheumatoid arthritisdiabetes; systematic review; meta-analysis.

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