ORIGINAL RESEARCH ARTICLE

Unmet family planning needs and associated factors among women with rheumatologic diseases

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Nezaket Sabır, Oğulcan Çöme and Tolga Günvar*

Dokuz Eylül University Faculty of Medicine, Department of Family Medicine, Izmir, Turkey

***For Correspondence**: Email: *nezaket.sabir@gmail.com*

Abstract

Women of reproductive age with rheumatologic diseases face increased risks during pregnancy, yet evidence on their family planning (FP) needs is limited. This study aimed to determine the prevalence of unmet family planning needs and to identify associated factors among women with rheumatologic diseases.This cross-sectional study included 378 women aged 18–49 attending the Dokuz Eylul University Rheumatology Outpatient Clinic (March–June 2024). Unmet FP need, defined using an expanded Bradley/Westoff framework, was 34.1%, nearly three times higher than national estimates. Independent predictors included older age, absence of teratogenic medication use, and reliance on social media or relatives for FP information, while longer disease duration and higher parity were protective. ROC analysis identified number of pregnancies as the strongest discriminator, with nulliparous women showing the highest risk. These findings highlight the need to integrate provider-led contraceptive and preconception counseling into rheumatology care. *(Afr J Reprod Health 2026; 30 [7]: 58-65).*

Keywords: family planning, unmet need, rheumatologic diseases, reproductive risk, primary care

Résumé

Les femmes en âge de procréer atteintes de maladies rhumatologiques sont exposées à des risques accrus pendant la grossesse ; toutefois, les données concernant leurs besoins en planification familiale (PF) restent limitées. Cette étude visait à déterminer la prévalence des besoins non satisfaits en planification familiale et à identifier les facteurs associés chez les femmes atteintes de maladies rhumatologiques. Cette étude transversale a inclus 378 femmes âgées de 18 à 49 ans consultant à la clinique externe de rhumatologie de l'Université Dokuz Eylul entre mars et juin 2024. La prévalence des besoins non satisfaits en PF, définie selon un cadre élargi de Bradley/Westoff, était de 34,1 %, soit près de trois fois supérieure aux estimations nationales. Les facteurs prédictifs indépendants comprenaient l'âge avancé, l'absence d'utilisation de médicaments tératogènes ainsi que le recours aux réseaux sociaux ou à l'entourage comme sources d'information en PF. En revanche, une durée plus longue de la maladie et une parité plus élevée exerçaient un effet protecteur. L'analyse ROC a identifié le nombre de grossesses comme le principal facteur discriminant, les femmes nullipares présentant le risque le plus élevé. Ces résultats soulignent la nécessité d'intégrer un conseil contraceptif et préconceptionnel, dirigé par les professionnels de santé, dans la prise en charge rhumatologique. *(Afr J Reprod Health 2026; 30 [7]:58-65).*

Mots-clés: planification familiale, besoins non satisfaits, maladies rhumatologiques, risque reproductif, soins de santé primaires

Introduction

Rheumatologic diseases affect the musculoskeletal system and are often considered multisystemic due to their impact on various organ systems. Rheumatologic conditions represent a diverse group of disorders, each with its own characteristic clinical features and specific treatment needs. [1]

Disorders such as rheumatoid arthritis (RA), systemic lupus erythematosus (SLE), ankylosing spondylitis (AS), and Sjögren's syndrome often manifest between the ages of 20 and 45, coinciding with the peak reproductive period in women. For instance, approximately 80–90% of SLE patients are women, with the majority diagnosed between 15 and 44 years of age.[2] Similarly, RA typically presents between the third and fifth decades of life, with women affected two to three times more frequently than men.[3] These epidemiological patterns highlight the importance of addressing reproductive health concerns in women diagnosed with rheumatologic conditions, including the impact on fertility, pregnancy outcomes, contraceptive choices, and the teratogenicity of medications. Moreover, pregnancy can adversely affect disease progression,

just as the disease itself may negatively impact pregnancy outcomes.[4] The goal in this population is to achieve planned pregnancies at the appropriate time.[5] Ideally, effective contraception should be used until the disease is brought under control, and necessary medication adjustments should be made before conception.[6] Additionally, patients not considering pregnancy should use reliable contraceptive methods. Despite the benefits of pregnancy planning and contraceptive care for women with rheumatic diseases, a minority of women received family planning(FP) counseling, used any contraception, and rarely used highly effective methods.[7]

According to the World Health Organization (WHO), FP is defined as "the ability of individuals and couples to anticipate and attain their desired number of children and the spacing and timing of their births."[8] While this definition emphasizes autonomy and access, millions of women globally still face barriers to realizing it — a situation described as the unmet need for FP.[7] Unmet need for FP refers to the discrepancy between expressed fertility preferences and actual contraceptive use . Unmet FP need is associated with many adverse health outcomes; in 2019, approximately 160 million women and adolescents worldwide were reported to have an unmet need for FP.[7] In Turkey, national estimates from the Turkey Demographic and Health Survey report an unmet family planning need of approximately 12% among married women aged 15–49.[9] However, data specifically addressing unmet family planning needs among women with rheumatologic diseases remain limited. Focusing on FP needs in women with rheumatologic diseases is critical for healthcare providers.[5] FP services constitute a core component of primary care and represent the first point of contact for most reproductive health needs.[10] Women with rheumatic diseases often have limited interaction with primary healthcare services, as the management of their conditions typically takes place in secondary or tertiary care settings. As a result, they may not fully benefit from essential reproductive health services.

The adverse consequences of unmet FP needs are potentially more severe in this specific patient group than in the general population. This study aims to identify the current status of FP needs in this special population and to uncover contributing factors, thereby informing targeted interventions and promoting collaboration between rheumatology and family medicine.

Methods

Study design

This cross-sectional analytical study aimed to determine the extent to which FP needs are met and the influencing factors among women aged 18–49 who applied to the Rheumatology Outpatient Clinics at Dokuz Eylul University Hospital.

Study setting

The study was conducted at the Rheumatology Outpatient Clinic of Dokuz Eylul University Hospital in Balçova district, İzmir. Data collection took place between March and June 2024.

Sample size and sampling method

The sample size was calculated using the formula for an unknown population:
n=(1.96)2·0.5·(1−0.5)(0.05)2=377n=(0.05)2(1.96)2·0.5·(1−0.5)=377
The significance level was 95%, with a 5% margin of error and 50% prevalence.

Inclusion and exclusion criteria

Inclusion criteria: women aged 18–49 diagnosed with a rheumatologic disease and willing to participate.
Exclusion criteria: Participants who were not sexually active within the past 3 months (i.e., not sexually active according to the CDC definition) and those who were non-fertile for any reason (e.g., menopause, hysterectomy, infertility) were excluded from the study.

Data collection tools

The sociodemographic questionnaire consisted of 13 items, while the family planning assessment form included 10 structured questions, primarily closed-ended. Data were collected through face-to-face interviews conducted in a private area of the outpatient clinic after the consultation to ensure confidentiality and participant comfort.

The questionnaire consisted of:
A sociodemographic data form
A form to determine the status of FP needs
Form to Determine the Status of Meeting FP Needs
A structured form was developed to assess participants' unmet need for FP. The foundation of the form was based on the conceptual framework defined initially by Westoff (1978) and later expanded and refined by Bradley (2012).[11]

Furthermore, the scope of the form was expanded in line with current literature recommendations. Women using traditional methods with low effectiveness, those using their current method incorrectly or inconsistently, individuals dissatisfied with their current method, or those wishing to switch from traditional to modern contraceptive methods were also classified as having an unmet need for FP. The use of this expanded definition is significant in countries like Türkiye, where traditional contraceptive methods are still widely practiced.[12] Accordingly, the form was structured to incorporate both the classical criteria and the additional definitions proposed by researchers.

As a result; sexually active, fecund women who did not desire pregnancy within the next two years and met any of the following conditions were classified as having an unmet need for FP:
not using any contraceptive method using a method incorrectly or inappropriately;using traditional methods while desiring to switch to modern ones;currently pregnant or in postpartum amenorrhea following an unplanned pregnancy.

Data collection process

Data was collected between March and June 2024. Face-to-face interviews were conducted with patients attending the outpatient clinic. A total of 492 women were evaluated for eligibility. Out of these, 114 were excluded: 69 for being not sexually active, 36 for being postmenopausal, and 3 for other reasons that affected their fertility. As a result, 378 participants were included in the study.

Data analysis

Statistical analyses were performed using SPSS version 29.00. Descriptive statistics included frequency, percentage, mean, standard deviation, median, minimum, and maximum values. Chi-square and Mann–Whitney U tests examined associations between variables. Statistical significance was set at $p < 0.05$. To identify independent predictors of whether FP needs were met, binary logistic regression analysis was conducted, and odds ratios (ORs) with 95% confidence intervals (CIs) were reported.The overall fit of the logistic regression model was assessed using the Hosmer–Lemeshow goodness-of-fit test, Nagelkerke R^2, and classification accuracy. Additionally, receiver operating characteristic (ROC) analysis was performed to evaluate the discriminatory ability of significant variables, and the area under the curve (AUC) values were calculated along with 95% CIs and p-values. ROC analysis was conducted for continuous variables that remained independently associated with unmet family planning needs in the multivariable logistic regression model and were clinically interpretable. Optimal cut-off values were determined using the Youden index.

Ethical considerations

This research was conducted as a specialty thesis project and was approved by the Non-Interventional Research Ethics Committee of Dokuz Eylul University (Decision No. 2023/14-02, dated 03.05.2023). Institutional permission was obtained from the hospital administration. Participants were informed about the purpose of the study, and written informed consent was obtained from each participant..

Results

Sociodemographic characteristics:
A total of 378 women were included in the study, of whom 34.1% had unmet family planning (FP) needs. Women with unmet FP needs were significantly older than those whose needs were met. They also had a shorter duration of rheumatologic disease and a lower number of pregnancies. Occupational status differed significantly between the groups. None of the participants with unmet needs were healthcare workers, whereas 12.05% of those with met needs were (Table 1).

Reproductive and clinical characteristics:

The use of teratogenic medications was significantly lower among those with unmet needs compared to those with met needs.

Table 1: Comparison of sociodemographic, clinical, and counseling characteristics among women with met and unmet family planning needs

Category	Subcategory	Met family planning needs (n, %)	Unmet family planning needs (n, %)	p-Value
Age (Mean ± SD)	–	39,71 ± 6,65	41,20 ± 6,79	0.016*
Rheumatologic disease duration (Years) (Mean ± SD)	–	11,02 ± 7,32	9,27 ± 6,11	0.029*
Number of pregnancies(Mean ± SD)	–	2,28 ± 1,75	1,68 ± 1,32	<0.01*
Education Level	Primary School	73 (29,32)	31 (24,03)	0,273
	High School	68 (27,31)	45 (34,88)	–
	University&Master's Degree	108 (43,37)	53 (41,09)	–
Marital Status	Single	27 (10,84)	12 (9,30)	0.64
	Married	222 (89,16)	117(90,70)	–
Monthly Income	Income > Expenses	79 (31,73)	53 (41,09)	0.193
	Income = Expenses	153 (61,45)	68 (52,71)	–
	Income < Expenses	17 (6,82)	8 (6,20)	–
Occupation	Unemployed	126 (50.60%)	57 (44.19%)	<0.001*
	Healthcare Worker	30 (12.05%)	0 (0.00%)	-
	Other Professions	93 (37.35%)	72 (55.81%)	-
Rheumatologic Disease Diagnosis	Systemic Lupus Erythematosus	74 (29.72%)	28 (21.71%)	0.065
	Rheumatoid Arthritis	99 (39.76%)	42 (32.56%)	–
	Ankylosing Spondylitis/SPA	42 (16.87%)	29 (22.48%)	–
	Vasculitis	5 (2.01%)	9 (6.98%)	–
	Systemic Sclerosis	7 (2.81%)	6 (4.65%)	–
	Sjogren	14 (5.62%)	9 (6.98%)	–
	Psoriatic Arthritis	8 (3.21%)	6 (4.65%)	–
Use of Teratogenic Medications	Yes	126 (50.60%)	42 (32.56%)	<0.001*
	No	123 (49.40%)	87 (67.44%)	–
Family Planning Counseling (Recieved)	Yes	91 (36.5%)	38 (29.5%)	0.16
	No	158 (63.5%)	91 (70.5%)	–
Main Source of FP Information	Healthcare resources–physician	121 (48.6%)	24 (18.6%)	<0.001*
	Social media/internet	82 (32.9%)	64 (49.6%)	
	Relatives-family-friends	46 (18.5%)	41 (31.8%)	
Do you think your disease negatively affects your pregnancy?**	Yes	63 (47.7%)	18 (31.0%)	0.03*
	No	69 (52.3%)	40 (69.0%)	
Do you think your pregnancy negatively affects your disease?**	Yes	76 (57.6%)	15 (25.9%)	<0.001*
	No	56 (42.4%)	43 (74.1%)	

***These questions were only answered by participants with a history of pregnancy (n = 190)*

Table 2: Logistic regression analysis of ındependent variables associated with status of meeting family planning needs

Independent Variable	Category	B	S.E.	Odds Ratio	95% Confidence Interval	p-value
SourceofFP information	Healthcare resources–physician(ref)	-	-	(ref)	(ref)	(ref)
	Social media/internet	3.818	0.824	45.529	9.060–228.796	<0.001*
	Relatives-family-friends	3.375	0.821	29.218	5.851–145.902	<0.001*
Use of Teratogenic Medications	Yes (ref)	-	-	(ref)	(ref)	(ref)
	No	2.612	0.651	13.626	3.806-48.778	<0.001*
Pregnancy affects disease**	Yes (ref)	-	-	(ref)	(ref)	(ref)
	No	1.457	0.887	4.293	0.755–24.402	0.100
Disease affects pregnancy**	Yes (ref)	-	-	(ref)	(ref)	(ref)
	No	-0.656	0.859	0.519	0.088–3.071	0.470
Age	(Continous Variable)	0.289	0.070	1.335	1.165–1.530	<0.001*
Rheumatologic disease duration	(Continous Variable)	-0.146	0.053	0.864	0.779–0.958	0.006*
Number of pregnancies	(Continous Variable)	-1.319	0.379	0.267	0.127–0.562	<0.001*
Education Level	Primary School	-	-	(ref)	(ref)	(ref)
	High School	-2.839	0.926	0.058	0.010–0.359	0.052
	University&Master's Degree	-1.456	0.762	0.233	0.052–1.038	0.14
Marital Status	Single	-	-	(ref)	(ref)	(ref)
	Married	-21.264	14.893.994	0.000	-	0.999

***These questions were only answered by participants with a history of pregnancy (n = 190)*

Table 3. ROC analysis results

Variable	AUC (95% CI)	Std. Error	p-value	Optimal Cut-off*	Sensitivity	Specificity
Disease duration	0.568 (0.509–0.628)	0.030	0.029	≈2.5	0.89	0.88
Number of pregnancies	0.605 (0.547–0.663)	0.030	0.001	≈0.5	0.84	0.84

Participants who did not receive FP counseling were more likely to have unmet needs , though this difference was not statistically significant.

Marked differences were observed in sources of FP information between the two groups. Women whose FP needs were met were more likely to report physicians as their primary source of information, whereas reliance on social media and relatives was more common among women with unmet FP needs. Beliefs regarding the interaction between rheumatologic disease and pregnancy were also significantly associated with FP status. Women who believed that pregnancy does not affect their disease were more likely to have unmet FP needs. Similarly, those who believed that their disease does not affect pregnancy were more frequently observed in the unmet FP group .

Multivariate logistic regression analysis was conducted to identify factors associated with unmet FP needs. The dependent variable was binary: "0" indicated that FP needs were met, while "1" indicated that they were unmet. The logistic regression model was statistically significant (Omnibus Test: $\chi^2 = 107.601$, $df = 11$, $p < 0.001$), indicating that the predictors as a set reliably distinguished between those with met and unmet family planning needs. The Hosmer–Lemeshow test yielded a non-significant result ($p = 0.243$), suggesting a good fit. The model explained approximately 61.1% of the variance (Nagelkerke $R^2 = 0.611$) and correctly classified 84.7% of the

cases, with a sensitivity of 94.7% and a specificity of 62.1%.

Participants who obtained their FP information from social media or the Internet were significantly more likely to report unmet FP needs than those who received information from healthcare providers (reference group). Similarly, those who relied on relatives, family, or friends had significantly increased odds of unmet need.

Those not using teratogenic medications were also more likely to have unmet FP needs.

Among continuous variables: Age was positively associated with unmet need while disease duration, and number of pregnancies were inversely associated (Table 2).A receiver operating characteristic (ROC) analysis was conducted to evaluate the discriminatory ability of disease duration and number of pregnancies in predicting whether participants' FP needs were met. Among the variables examined, the number of pregnancies demonstrated the highest discriminative performance with an area under the curve (AUC) of 0.605 (95% CI: 0.547–0.663, $p = 0.001$). Disease duration showed a modest predictive ability (AUC = 0.568, 95% CI: 0.509–0.628, $p = 0.029$). Based on the Youden index, the optimal cut-off values were approximately 2.5 years for disease duration (sensitivity = 0.89, specificity = 0.88) and 0.5 for the number of pregnancies (sensitivity = 0.84, specificity = 0.84) (Table 3).

Discussion

This study examined the prevalence and associated factors of unmet FP FP needs in reproductive-age women diagnosed with rheumatologic diseases. The unmet need for FP among women of reproductive age with rheumatologic diseases was found to be 34.1%, a significantly elevated figure when compared to estimates from the general population in Turkey. According to the 2018 Turkey Demographic and Health Survey (TDHS), the unmet FP need among married women aged 15–49 was approximately 12%, showing a notable increase from previous years.[13] Despite the increased reproductive risks associated with autoimmune conditions and their treatments, accumulating evidence suggests that women affected by rheumatologic diseases often encounter substantial barriers in accessing adequate FP counseling and services.[14] The notably high rate of unmet family planning need observed in our study underscores an underrecognized gap in reproductive healthcare for this vulnerable patient population.

Older women in our study were more likely to have unmet FP needs, consistent with previous evidence showing that reproductive goals shift with age from birth spacing toward fertility limitation, while access to appropriate methods often lags behind.[15,9] This may suggest that while reproductive intentions tend to evolve with age, health systems might not be adequately attuned to this transition. Older women, despite remaining at risk, could be overlooked in contraceptive counseling practices. In contrast, women with longer disease duration and higher parity were less likely to have unmet needs, possibly reflecting greater healthcare engagement and accumulated contraceptive experience. Similar trends have been reported in other chronic disease populations, where longer care histories and prior pregnancies improve contraceptive uptake.[16] All participating healthcare professionals reported that their FP needs were fully met. This finding may be attributed to the fact that, due to their professional training, healthcare workers tend to possess greater knowledge—and consequently more favorable attitudes and behaviors—regarding FP.[17] Women not using teratogenic medications were markedly more likely to have unmet needs. Previous studies have shown that women receiving teratogenic medications are more likely to use contraception when they receive proper counseling.[18] This may be because the idea of potential harm to a future pregnancy makes both patients and providers more alert and proactive.

The source of FP information emerged as the strongest predictor of unmet need. Compared to women counseled by healthcare professionals, those relying on social media or the Internet had almost thirtyfold higher odds of unmet need, and those depending on family or friends had similarly elevated odds. These findings underscore the pivotal role of provider-led counseling and the need to counter misinformation in both digital and community settings, echoing evidence from national and global studies.[19,20] Beyond biomedical and demographic explanations, it is important to consider how reproductive risk is socially constructed and perceived. As anthropologist Mary Douglas argues, risk is not only a matter of

statistical probability, but also a product of cultural meaning and social classification. In the context of rheumatologic disease, risk perception may be shaped by cultural norms, family expectations, religious beliefs, and the trust placed in different information sources. For example, women who rely on informal networks such as relatives or social media may interpret reproductive risks differently than those advised by medical professionals. These differences are not solely about access to knowledge but reflect broader patterns of authority, moral judgment, and social identity.Thus, in addressing reproductive decision-making among women with chronic illness, it is essential to account not only for biomedical risk but also for the social and cultural frameworks through which that risk is recognized, interpreted, or, in some cases, disregarded.

Our ROC analysis showed that the number of pregnancies was the best predictor of whether family-planning needs were met (AUC = 0.605, 95% CI = 0.547–0.663), with an optimal cut-off of 0.5 pregnancies. This indicates that women with rheumatologic disease who have not yet experienced a pregnancy are at the highest risk of unmet need, and that once at least one pregnancy occurs, the likelihood of appropriate family-planning care rises markedly. This finding shows the critical window before a first pregnancy for providing targeted preconception counseling and contraceptive support, so that potential risks related to disease activity and medication can be addressed proactively.

Limitations

This study's cross-sectional design precludes causal inference between identified factors and unmet family-planning needs. Information on reproductive intentions and contraceptive use relied on self-report and may be subject to recall or social-desirability bias. Participants were recruited from a single center, which could limit generalizability to other regions or healthcare settings with different access to rheumatologic or reproductive services. Finally, although we adjusted for several key variables, unmeasured factors such as partner attitudes and detailed medication adherence may still confound the associations observed.

Recommendations for future research

Longitudinal, multi-center studies are needed to confirm these associations and to clarify temporal relationships between disease course, reproductive history, and contraceptive behavior. Qualitative research exploring patient and partner perspectives could illuminate barriers to early counseling and inform culturally tailored interventions. Interventional trials assessing structured preconception counseling integrated into rheumatology care would further determine how targeted strategies influence contraceptive uptake and pregnancy planning outcomes.

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Authors' contribution

NS conceived and designed the study, collected and analysed the data, and drafted the initial manuscript. OÇ and TG contributed to data interpretation, critically reviewed and edited the manuscript. All authors read and approved the final version of the manuscript.

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