





# Integration of Rheumatologic and Reproductive Healthcare in the MENA Region: A Narrative Review of Progress and Challenges

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## Abstract

Rheumatic diseases can have significant adverse effects on women's health, particularly during their reproductive years. Although the services provided to this group of patients have improved in the Middle East and North Africa (MENA) region in recent years, several challenges remain. These challenges stem from the unique socioeconomic background of various MENA countries along with cultural beliefs surrounding reproductive health, which differ significantly from other global regions. Furthermore, some members of the region have limited access to specialized high-risk pregnancy clinics and family planning services, adding to the obstacles of delivering high-quality reproductive health services to female patients. In this narrative review, we examine these various barriers towards advancing care of females with rheumatic diseases, focusing on limited access to family planning services, sexual health education, and suboptimal multidisciplinary collaborations. Ultimately, we seek to address these gaps and explore their implications to enhance the care of women with rheumatic diseases during their reproductive years in the MENA region.

## Keywords

Rheumatic Diseases, Reproductive Health, Healthcare, Middle East and North Africa (MENA), High-Risk Pregnancy

## 1. Introduction

Rheumatic diseases pose significant health challenges to those affected across the globe, and the Middle East and North Africa (MENA) region is no exception. Diseases such as rheumatoid arthritis (RA), systemic lupus erythematosus (SLE) and psoriatic arthritis (PsA) affect millions of individuals in this area. The MENA region shares a common language, socioeconomic landscape, and cultural heritage, which contributed to the formation of the Arab League of Associations for Rheumatology (ArLAR) in 1995 [1]. Despite these shared characteristics, the region remains underrepresented in rheumatology research in areas of disease characteristics, outcomes, and particularly, in the area we focus on in our review, reproductive health and rheumatic disease.

Although gender-specific data from MENA is limited, global trends indicate that women account for a significant majority of patients living with rheumatic diseases [2]. This underscores the critical need to integrate reproductive health, pregnancy, and family planning into the current scope of care for these conditions [3].

On the other hand, reproductive health is not simply an absence of disease or dysfunction; it's the overall well-being—physically, mentally, and socially—in relation to reproductive systems and functions. Individuals should enjoy a safe and fulfilling sexual life, have the ability to conceive, and make informed choices about if, when, and how often they wish to have children. This highlights the need for healthcare services to provide comprehensive support for women in reproductive health, pregnancy, and childbirth, focusing on family planning, sexual health, and maternal health to ensure the best possible outcomes [4]-[6].

Anecdotally, pregnancy was often discouraged among women with rheumatic diseases due to adverse pregnancy outcomes. However, the establishment of high-risk pregnancy clinics in various regions has revealed a more hopeful narrative; successful pregnancies with outcomes that parallel those of the general population.

High-risk multidisciplinary pregnancy clinics specialized in managing rheumatic diseases in pregnancy are vital for providing optimal care to this group of patients. These clinics significantly improve outcomes for both mothers and children. Motta *et al.* showed that patients receiving multidisciplinary care experienced improved pregnancy outcomes, with higher delivery rates and fewer unsuccessful pregnancies, regardless of their underlying rheumatological condition [7].

In another study, Bickerstaff and Beski found that 80 patients attending their multidisciplinary high-risk clinic observed favourable fetal outcomes without any adverse maternal outcomes [8]. Murry *et al.* went on to highlight how patient satisfaction in high-risk clinics was substantially high, alongside positive pregnancy outcomes, when compared to previous reports concerning pregnancies in women with rheumatic diseases [9].

Yet, there remain gaps in care throughout the MENA region [2]. Al-Emadi *et al.* highlighted the underrepresentation of integrated reproductive health services

for women with rheumatic diseases within rheumatology departments in the MENA region. They argued strongly for a coordinated care approach that addresses both rheumatic and reproductive health needs. This important message continues to resonate today, clearly calling for more in-depth exploration [2].

In this review, we aim to examine the efforts made to integrate rheumatologic and reproductive healthcare services for women with rheumatic diseases within the healthcare systems in the MENA region, particularly highlighting the current landscape and comparing it to 2016. Our goal is to identify the progress made since Al-Emadi's paper and outline areas where gaps still exist. Ultimately, we seek to address these gaps and explore their possible implications for enhancing the care of women with rheumatic diseases in the MENA region.

### **Current reproductive health care gaps for women with rheumatic diseases in the MENA region**

When discussing the reproductive health care gaps for women with rheumatic diseases, it is essential to focus on two key aspects. First, there are challenges in reproductive health, such as limited access to family planning services and lack of sexual health support and education.

Second, there are obstacles to the provision of reproductive healthcare. These include barriers within the healthcare system, such as insufficient specialized clinics, suboptimal multidisciplinary collaboration among healthcare providers, and considerable geographical challenges that hinder patients from accessing the necessary and appropriate services.

### **Challenges in reproductive health for women with rheumatic diseases**

These include several critical elements listed in **Table 1**.

**Family planning:** Navigating the complexities of rheumatic diseases can be challenging for women considering pregnancy [2] [10]-[12]. Understandably, most women of childbearing age express concerns regarding the effect of pregnancy on their condition and, contrariwise, the effect of their condition on fertility and pregnancy outcomes. The safety of rheumatic medications during pregnancy remains a matter of great concern to patients and clinicians alike. Additionally, access to comprehensive family planning services is often limited in the MENA region, leading to inadequate counselling and support regarding contraceptive options and pre-pregnancy planning [13].

Sexual health is a vital component of overall well-being, and women with rheumatic diseases may encounter challenges with sexual function and intimacy. The physical symptoms and treatment of adverse events can impact sexual health [14]-[16]. Moreover, cultural stigmas surrounding discussions of sexual health can prevent women from seeking professional assistance, resulting in inadequate care and support [17].

Preventing and treating sexually transmitted infections (STIs) is crucial for maintaining reproductive health. However, women, including those with rheumatic diseases, may encounter barriers to accessing STI prevention and treatment services [18], including geographical and financial barriers limiting access to

health services. There are misconceptions and a lack of awareness around STIs [18], resulting in diagnostic and treatment delay. There is often a shortage of confidential counselling services and a lack of appropriate diagnostic tools for STIs that exist in the region [19]. Cultural beliefs and the social stigma surrounding sexual health and STIs discourage women from seeking assistance and utilizing the available services [20] [21]. This not only increases the risk of complications during pregnancy but can negatively impact overall reproductive health.

Emotional and psychological factors are often affected by the cultural stigmas surrounding discussions of sexual health, particularly in more conservative societies such as in the MENA region. Such stigmas may prevent women from seeking the help they need, leaving them without adequate support and perpetuating a cycle of unaddressed sexual health issues [22].

Socioeconomic status and cultural beliefs significantly influence the quality of care received by women with rheumatic diseases in the region. Lower education levels can decrease health literacy, compromising patients' understanding of their conditions and available treatment options [23]. Additionally, cultural beliefs often impact treatment decisions and family planning choices, potentially leading to suboptimal care practices [24] [25].

Other challenges that women with rheumatic diseases may encounter include barriers in asserting their rights to reproductive health services, leading to disparities in care and outcomes. Roudi-Fahimi states, "Cultural and social gender roles in MENA societies shape women's perceptions of their health and influence their access to healthcare [26]. These roles often limit women's ability to seek and receive appropriate care, reflecting a broader inequality in how men and women are treated within the healthcare system" [27].

As such, barriers, including lack of awareness and cultural or societal pressures, might discourage seeking care or openly discussing reproductive health issues [26] [27].

**Table 1.** Challenges in reproductive health for women with rheumatic diseases.

- 
- Family planning
  - Sexual health
  - Prevention and treatment of sexually transmitted infections (STIs)
  - Psychological and psychological factors
  - Socioeconomic and cultural factors
  - Other gender-related factors
- 

### **Shortage of high-risk (multidisciplinary) pregnancy clinics**

The value of accessing high-risk pregnancy clinics specialized in rheumatic disease to optimize outcomes for this population has been highlighted earlier [7]-[9]. Adverse pregnancy outcomes, such as preterm birth and maternal hypertension, are common in this population of patients [28] [29]; hence, access to a specialized multidisciplinary clinic should be a standard in any developed healthcare system to improve their pregnancy outcomes.

These clinics integrate a dedicated team of professionals, including rheumatologists, obstetricians, maternal-fetal medicine specialists, and obstetric medicine practitioners, working collaboratively to support women at different pregnancy stages. These clinics offer pre-pregnancy counselling, antenatal monitoring, delivery planning, and management of complications, ensuring that mothers and their babies receive the best possible care tailored to their unique needs. Unfortunately, such clinics remain scarce in the region.

Furthermore, geographic and financial disparities, along with ongoing geopolitical conflicts in the region, complicate the development and access to these services [2] [30]-[32]. The deficiency in the coordination of care across all involved specialties is another challenge in establishing such services.

## 2. Methods

Our study consisted of two parts; a survey and a literature review. The survey was conducted in September 2024, to assess the progress made since Al-Emadi *et al.* called for a coordinated care approach for women living with rheumatic diseases in 2016. We also aimed to assess the current state of rheumatology services related to female reproductive health across the MENA region.

The survey comprised seven targeted questions developed based on anticipated challenges in the region, such as gaps in family planning, maternal health services, and multidisciplinary care. The questions of the survey are highlighted in **Table 2**. The survey was distributed electronically to rheumatologists in the 18 countries that constitute the entire ArLAR in the MENA region. The survey responses were analyzed using descriptive statistics. We calculated the frequencies and percentages for categorical responses to summarize the presence or absence of high-risk pregnancy clinics, training programs, educational campaigns, and multidisciplinary care in each country. All data were compiled and analyzed using Microsoft Excel. No inferential statistical methods were applied, as the goal was to provide a descriptive overview of service availability and trends across the surveyed countries.

As for the literature review, we systematically searched PubMed, Embase and Cochrane Library for published literature up until December 2024, which addressed potential barriers to the management of reproductive health in patients with rheumatic diseases in the MENA region. Search terms included Rheumatic Diseases, Rheumatic disease and pregnancy, Reproductive Health, Middle East and North Africa (MENA), Arab countries, Gulf corporation countries (Kuwait, Saudi Arabia, UAE, Bahrain, Oman, Qatar), and High-Risk Pregnancy. We reviewed the titles and abstracts matching our search criteria. All retrieved articles were in English. Articles not highlighting patients in the MENA region were excluded.

## 3. Results

Of the 18 countries included in this study, responses were received from 9 out of

the 18 countries approached.

**Table 2** provides an overview of the currently available high-risk rheumatology clinics in the region. According to Al-Emadi *et al.*, three out of seven participating MENA countries (Qatar, United Arab Emirates (UAE), and Egypt) established high-risk pregnancy clinics in 2016 [2]. This year's survey indicates that five additional countries now offer such clinics, bringing the total to eight: Kuwait, Oman, Bahrain, Sudan, and Iraq, alongside those established in 2016. Additionally, some countries have set up multiple clinics, such as Kuwait, Oman, and UAE, to accommodate their growing populations. The majority of the clinics were multidisciplinary clinics (6 out of 9), and training programs for rheumatologists focusing on the management of rheumatic disease during pregnancy were provided to 4 out of the 9 countries. Despite this, the majority of the countries surveyed had further education opportunities for learning more about the management of rheumatic diseases during pregnancy (6 out of 9). Educational campaigns focused on educating women with rheumatic disease during their reproductive age were provided to the majority of patients (6 out of 9). It is essential to highlight that some countries did not respond to the survey and, as a result, are not represented in **Table 2**, even though they may have high-risk clinics.

**Table 2.** Overview of the currently available high-risk rheumatology clinics, training and educational opportunities for rheumatologists and educational campaigns for women with rheumatic diseases in the MENA Region.

Country	Do you have high risk pregnancy clinics?	Number of hospitals running high risk pregnancy clinics	Multidisciplinary clinic?	Training programs for rheumatologists focusing on managing rheumatic diseases during pregnancy?	Conferences or courses for rheumatologists focusing on managing women with rheumatic diseases during pregnancy?	Educational campaigns focusing on educating women with rheumatic diseases during their reproductive age?
Kuwait	Yes	3	Yes	No	Yes	Yes
Oman	Yes	2	Yes	No	Yes	Yes
Iraq	Yes	1	Yes	Yes	Yes	Yes
Bahrain	Yes	Unknown	Yes	Yes	Yes	Yes
UAE	Yes	2	Yes	No	Yes	Yes
Sudan	Yes	Unknown	Yes	Yes	No	Yes
Syria	No	0	No	Yes	No	Yes
Morocco	No	0	No	No	Yes	No
Palestine	No	0	No	No	No	No

#### 4. Discussion

Our results highlight that although most countries do have specialized pregnancy clinics, 3 of the 9 countries did not. It is clear that there is a shortage of rheumatologists with training focused on women's health and rheumatic conditions in the region, as only four of the nine countries have training programs focusing on rheumatic diseases in pregnancy (**Table 1**). There are several factors that are taken

into consideration during the management of rheumatic diseases during the prepartum, intrapartum and postpartum period which include making sure the patients are on pregnancy safe medications, and that their disease is in remission, and that it is safe for them to proceed with a planned pregnancy. Once pregnant, close follow up of clinical and laboratory parameters is essential, to monitor for possible disease flare, which could lead to poor pregnancy outcomes [33]. Having specialists trained in recognizing and managing potential complications during pregnancy is therefore essential. By highlighting these unique challenges in the MENA region, we hope to encourage countries to initiate specialized clinics as well as training rheumatologists in the management of rheumatic diseases during pregnancy. Patient education and awareness are also key, as by providing them with education around their disease and changes that can occur during pregnancy, they are able to recognize and report potential changes early to their treating physician. Having patient awareness campaigns, booklets and information leaflets that can be distributed at the pregnancy clinics can be considered as this may be a helpful resource for the patients.

Due to the complex nature of some of the rheumatic diseases during pregnancy, having a multidisciplinary approach to the care of rheumatology patients is essential. Integrating nurse specialists and nurse-led care has proven effective in various specialties, enhancing patient counselling, treatment, monitoring, education, and psychosocial support [3] [34]. Nurses frequently serve as educators, initial contacts for care, and aid in the management of chronic illnesses. Unfortunately, their contributions are often undervalued in the region, where there is a notable deficiency in specialized training programs for nurses focused on rheumatology [34]. Women with rheumatic diseases require comprehensive counselling on critical aspects of reproductive health, including the importance of achieving disease control prior to conception, regular follow-up, discussion of effective modes of contraception, and ideally personalized family planning discussions tailored to their condition [2]. Improving the collaboration between rheumatologists and obstetricians is essential to improve patient education in these areas, ultimately leading to better overall care.

**Table 2** outlines the status of educational campaigns for women with rheumatic diseases regarding reproductive health in the MENA region based on our survey results. Based on our findings, healthcare systems in several MENA countries have made meaningful strides in establishing high-risk pregnancy clinics with multidisciplinary input—a significant strength in the integration of rheumatologic and reproductive care. For example, the UAE and Kuwait have implemented multiple multidisciplinary clinics, showing leadership in regional innovation. Additionally, countries like Iraq and Bahrain provide rheumatologist-focused training programs, which are essential for improving provider competency. However, persistent barriers continue to hinder broader adoption. Weaknesses include the absence of region-specific guidelines, limited nurse-led care initiatives, and a lack of structured education for patients. In many countries, services

are overly reliant on a small number of specialists concentrated in urban areas, leaving rural populations underserved. For instance, while Sudan reported high-risk clinics, it lacked rheumatologist-specific training and educational initiatives for women. Similarly, Syria, Morocco, and Palestine had no reported clinics or education programs, highlighting significant healthcare delivery gaps. These findings underscore the disparity across the region and emphasize the need for scalable, replicable models of care. Integrating nurse-led support, establishing virtual care for underserved areas, and developing culturally sensitive guidelines may help overcome these barriers.

Finally, the absence of local or regional recommendations explicitly addressing the management of rheumatic diseases during pregnancy poses a significant challenge. Reliance on international recommendations may not always align with local healthcare systems, resources, and unique cultural considerations, highlighting the unmet need for region-specific recommendations.

The main limitation of our study is the low response rate to our survey. We received responses from only 9 out of the 18 countries (50%) to which the survey was sent. A higher response rate would have provided a more accurate depiction of the current management of this patient population in the MENA region. It is possible that there are high risk pregnancy clinics in other countries in the MENA region who did not participate. We hope that future follow up studies will help us gather this information from those additional countries.

## **5. Conclusion**

Integrating rheumatologic and reproductive healthcare for women in the MENA region presents several challenges that require a comprehensive approach. Solutions should prioritize empowering patients, enhancing healthcare provider training, improving access to multidisciplinary clinics, and developing region-specific guidelines. By addressing these gaps, healthcare systems can create a supportive environment that ensures comprehensive care for women with rheumatic diseases, ultimately improving their quality of life and reproductive health outcomes.

## **Authorship Contributions**

All authors contributed equally to the literature review and the preparation of this manuscript.

## **Agreement to Conditions**

All authors of the manuscript have read and agreed to its content and are accountable for all aspects of the accuracy and integrity of the manuscript. The submitted article is an original work that was not considered or reviewed by any other publication and has not been published elsewhere in the same or a similar form.

## **Conflicts of Interest**

The authors declare no conflicts of interest.

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