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# A Systematic Review of the Latest Treatments and Risk Factors in Pregnant Women with Systemic Lupus Erythematosus

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## ABSTRACT

This paper reviews the important medical problem of women with systemic lupus erythematosus during pregnancy. As an autoimmune disease, lupus can significantly impact the health of both mother and baby, making these pregnancies high-risk and requiring close monitoring as well as a team approach to care. This article will also present the most frequent problems encountered during pregnancy in these women, such as flares of the disease, obstetric complications, and fetal risk. Special attention is given to the use of medications. The article discusses drugs which can be used safely and are effective during pregnancy, those that are not harmful to the fetus and can keep the progress of the disease in check through the mother. Moreover, it will review the current state of treatment, and particularly therapeutic approaches developed over the last 10 years, for which scientific evidence and clinical experience are available. The purpose of this review is to emphasize the special difficulties encountered when treating pregnant women with SLE and to present clinical strategies that can improve the likelihood of a healthy pregnancy and delivery for both the mother and infant.

**Keywords:** Systemic lupus erythematosus (SLE), systematic literature review, pregnant women, pharmacological treatment methods.

## 1. INTRODUCTION

Systemic lupus erythematosus (SLE) is a chronic autoimmune disease with many factors combining to create its complex expression. It results in continuous or intermittent inflammation, which affects various organs and systems of the organism (Guła et al., 2025). In the case of systemic lupus, skin, joints, and kidneys are the classic targets, but this disease can strike any organ anywhere along its course. Lupus presents a broad spectrum of symptoms and clinical patterns, often mild in nature, yet occasionally degenerating into conditions requiring care (Guła et

al., 2025). Women are much more prone than men to come down with the ailment; they are said to be anywhere from six to ten times more likely. The great majority of cases occur among people aged 16-55 years, and there are more instances where symptoms emerge after than before this period. Often symptoms are either broadly across the whole body or strictly local.

### Symptoms

General symptoms frequently associated with this condition include fatigue, fever, loss of appetite, and a decline in overall well-being (Khogali, 2023). The symptoms that appear in specific body systems can be considered their particular characteristics. The articular system is the system most frequently involved by the disease process in lupus, occurring in almost all affected adults. Most typically, it affects the wrist, knee, small joints of the hand, and the joints of the foot. Frequent complaints are joint pain, joint swelling or effusion (fluid within the joint), and, in more severe cases, joint deformity.

*Muscular system:* A common symptom is muscle pain in lupus. The pain is intermittent and of varying severity. Along with pain, muscle atrophy also often appears, which results in weakness and poor physical condition.

*Skin and Mucous Membrane:* The erythema resembling a butterfly in shape on the face is a hallmark of the disease. It gets worse with sun exposure. In subacute lupus, rings show a change in their form, clearing inside or flaky lumps appear.

*Kidney* involvement occurs in about one-third of patients with SLE and is often associated with leakage of protein into the urine (proteinuria). It generally arises within the first two years of life and tends to primarily affect younger persons.

*Heart:* With lupus, characteristic is the so-called Libman-Sacks endocarditis, an endocardial disease that causes thickening (vegetation) on a valve. The circulatory system is also related to the risk of atherosclerosis and vasculitis.

*Respiratory system:* The risk of pneumonia in lupus is high.

*Nervous system:* Neuropsychiatric lupus.

*The digestive system* may become affected in systemic lupus erythematosus, affording a variety of symptoms in the intestines. The most common symptoms are heartburn and non-specific abdominal pain. But worse situations, such as enteritis, pancreatitis, and peritonitis, may also emerge.

*Eyes:* The sense of dryness and the feeling of a foreign object as though implanted are characteristics of lupus.

Both the causes of osteoporosis and the use of glucocorticoids contribute significantly to the increased risk of the disease.

## 2. REVIEW METHODS

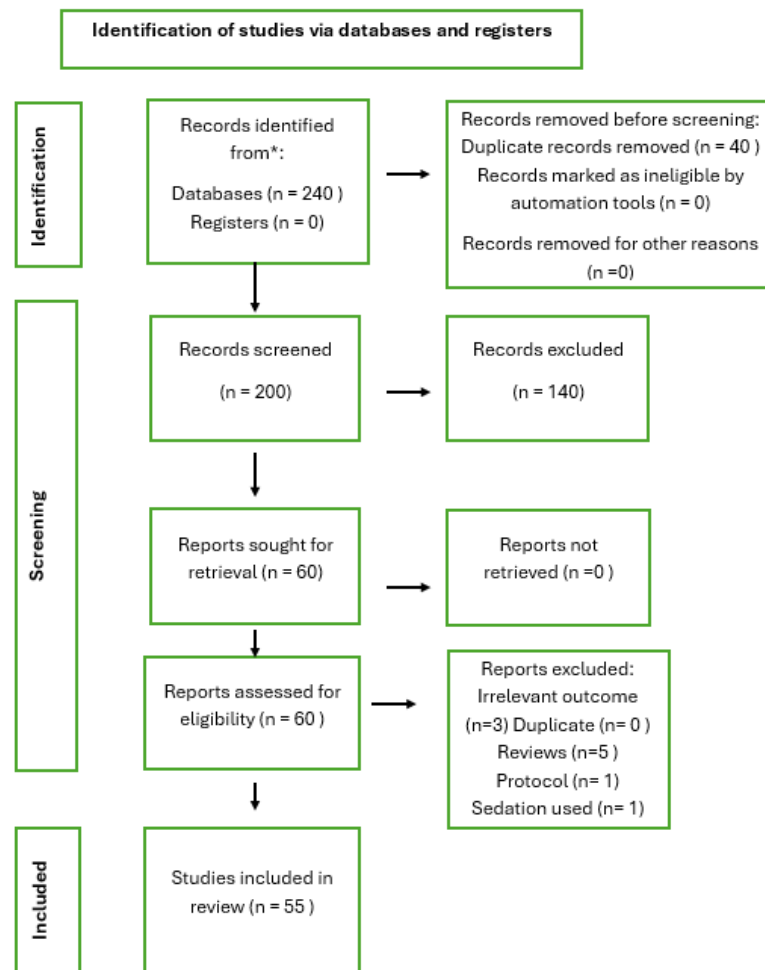
This review was written by searching the literature of drugs and the risks associated with pregnancy and the postpartum period when using the PubMed and Google Scholar databases as sources (Fig. 1). We searched the PubMed and Google Scholar databases for reports on the drugs and risk factors, particularly for childbirth risk. Additionally, when treating patients with this disease. This survey sought papers with the keywords: systemic lupus erythematosus (SLE), systematic literature review, pregnant women and pharmaceutical treatment methods. We chose to focus on articles that discussed the latest treatment strategies that have come out. The selected studies were evaluated by reviewing their titles, abstracts, and full texts.

## 3. RESULTS AND DISCUSSION

### 3.1. Treatment

The goal in systemic lupus erythematosus treatment is to achieve permanent remission of the disease as soon as possible and prevent organ damage. With these healthcare tools and more, themes of care are possible. Among the management of cutaneous manifestations, it is highly recommended to use photoprotection agents. Topical therapy includes corticosteroid-coated ointments or creams, as well as calcineurin inhibitors, such as tacrolimus. There is general use of nonsteroidal anti-inflammatory drugs (NSAIDs) in treating musculoskeletal disorders. Severe symptoms are treated with steroids, methotrexate, and antimalarial agents such as quinine sulfate. Mycophenolate mofetil has recently shown similar efficacy in lupus nephritis control to that of belimumab, a biologic therapy, which may justify its introduction to patients with moderately active systemic lupus erythematosus.

Prevention of heart disease involves the use of lipid-lowering agents (statins), antihypertensives, antidiabetic drugs, and omega-3 fatty acids. Osteoporosis prevention requires vitamin D and calcium supplies. There is no definitive cure for systemic lupus erythematosus at present; however, many patients can return to normal activities by following general advice. Chronic pharmacotherapy is required for taking care of symptoms and keeping diseases at bay.



**Figure 1:** PRISIMA consort chart of selected studies

Pregnancy and reversing 10 years' worth of course material. In patients with SLE during pregnancy, there are more risks for the mother and a fetus-risk status which demands particular concern and consideration.

In a group of 37 lupus patients who underwent 78 pregnancies, the offspring's remaining half inherited signs of the disease. This study was designed to determine negative pregnancy outcomes in women with SLE, compare these results to age-matched pregnant women without SLE, and identify the factors responsible for the adverse effects. Gestational diabetes (GDM) and other maternal complications were seen in 32% of pregnancies; among fetal outcomes, low birth weight and preterm delivery occurred in 51% of cases. Although such diseases are common among people of the same age who are not pregnant, women with SLE have a 5-fold higher incidence of contracting GDM in pregnancy, a higher likelihood of mothers becoming hypertensive, and require cesarean sections in delivery. Also, prematurity and low birth weight children were more common in pregnancies of SLE pregnancies. High-dose steroids during pregnancy were also significantly related to an increased risk of developing GDM. Preterm births were related to a number of adverse factors: maternal cystitis, hypertension and preeclampsia, as well as gestational diabetes mellitus. Pregnant women with SLE can suffer much more than women of the same age without SLE, both for mother and the unborn child.

In their study specifically linking cyclosporin A (CsA) and glucocorticosteroids given in high doses to adverse outcomes during pregnancy of SLE patients (Zhang et al., 2023). Of 282 women with lupus examined in the research, 53.3% experienced adverse pregnancy outcomes. Patient groups have been established that can be used early in the course of disease. We expect that studying ways of improving maternal and fetal outcome will ultimately help patients to change their personal risk factors. Without enough levels of C3, these women with systemic lupus erythematosus diseases are particularly prone to some side effects. Women with low C3 levels had a higher risk of side effects and pregnancy losses. Use of ciclosporin A is linked to an increased risk of adverse pregnancy

outcomes (APOs) and preterm birth. Higher doses of synthetic glucocorticoids: A study found that increasing doses of GC was associated with both APOs and PL, with specific limit points at 8.5 mg/day for APOs and 9.5 mg/day for PL. Protective factors have also been found. Thus, the study showed that, in particular, if disease remission is achieved at least six months before a pregnancy, then this serves as a protective factor against splits. Diseases like lupus nephritis can further complicate pregnancies. Women who have had a past history of lupus nephritis convey extended risk. These findings underscore the difficulties present in pregnancy management for systemic lupus erythematosus (SLE) and stress the necessity for attentive individualized care to minimize risks. More prominently, this group also points out that care needs to be taken when pregnant women have positive anti-TB antibody levels, low C3 hemolysis materials, or use high doses of glucocorticoids as well as ciclosporin A. All these factors, they comment, taken together. Taken as a single point in an investigation of pregnancy and complications, they focus such an in-depth study with such a broad base that even the mind can begin to conceive after years of such reports.

The findings imply from the study on humanity of SLE in pregnancy above: Pregnancy in women with SLE is associated with significant obstetric and fetal complications (Poh et al., 2020). Yet, the high incidence of adverse outcomes suggests that medical attention and fetal health should be pursued in all pregnancies of these patients as a preventive strategy for improving the prognosis.

Conducted a retrospective cohort study involving 75 pregnancies in women with SLE, followed at Singapore General Hospital between 2000 and 2016 (Sangah et al., 2023). The data suggest that pregnancy, in women with systemic lupus erythematosus (SLE), brings a greater risk of adverse outcomes for mother and infant. This conclusion intriguingly implies that SLE does not necessarily affect women's pregnancies less as a whole just because the disease is conquered at the time of conception.

Astonishingly, 33.9% of pregnancies were terminated prematurely -- a situation of major worry. This number generally fits into a distributed pattern also seen in other investigations, one which instead states the necessity of monitoring carefully and managing effectively pregnancies with SLE.

Women who have the syndrome of systemic lupus erythematosus (SLE), if they have anti-Ro (SS-A) antibodies or take hydroxychloroquine, this kind of sickness will be picked up before it gets worse, lowering their chances of preterm birth. This suggests that certain kinds of antibodies and treatments may help pregnant women with systemic lupus diabetes (SLE) achieve better antepartum results. The proportion of antiphospholipid syndrome (APS) fetuses with adverse effects was significantly higher in pregnancies, with 80% experiencing complications. In this article, it was also listed that preconception counseling and interdisciplinary care play a vital role in improving outcomes for women with SLE who want to get pregnant. Accurate assessment of risk is crucial, and termination of pregnancy should be considered when the danger to mother or baby becomes unacceptably high. In summary, the results emphasize the urgent need for sustained research and improved management strategies for pregnant women with SLE to enhance outcomes for both mother and child (Poh et al., 2020).

A case-control study showed that women with SLE whose members have systemic lupus erythematosus suffer ills during pregnancy at a rate notably higher than their healthy sisters. A total of 40.3% of the SLE pregnancies were bad: the odds ratio (OR) for side effects with respect to controls was 2.64, illustrating how it was more than double that of normal. Even though SLE is under control when the woman conceives, there is still a significantly greater rate of complications at 36.8%, compared to 20.3% for controls who are healthy. This indicates that well-managed SLE poses risks for pregnant women. This study showed that in 15.3% of SLE women had a miscarriage. The risks were significantly higher (OR 5.85) compared to the general population. The same was true for preterm delivery, which occurred in 12.4% of cases (OR 1.72). Furthermore, among females who had a pregnancy, the incidence of cases prognosis as preeclampsia was significantly higher than for non-preeclampsia SLE patients: 17.8% (N.B. only one case) and 0%; the odds ratio as 3.92 underscores that SLE is a serious risk factor for this condition in pregnancy. So far as infant complications are concerned, in addition to more frequent respiration difficulties, there was also a higher rate of admission to intensive care units (ICUs) with an OR in this case of 4.99—infants born to mothers with SLE face potential complications even if they might be came into the world healthy. Also observed is that in this study, there were no maternal or neonatal fatalities. Even so, this remains a positive point amid the increased risk of pregnancy associated with SLE. In conclusion, the study shows that diligent care and regular checks are crucial for pregnant women with SLE, whether the disease is inactive or not, because complications are seen to be likely (Braga et al., 2022).

### 3.2. SLE and Pregnancy

The preceding studies call attention to the critical importance of preconception care in women with lupus who are trying to become pregnant. Numerous studies that have been published over the last 10 years address child-rearing problems in such patients. One of

the works showed that women with systemic lupus erythematosus (SLE) should be given comparatively greater attention at the time of fertility (Wang et al., 2022). Wherever disease permits, appropriate intervention should be taken for reproductive problems to ensure high quality of long-term life. High activity of systemic lupus erythematosus (SLE) boosts the risk of having difficulties in conceiving and bearing children. Women with more active disease often feel anxious or troubled by their reproductive health. In addition, certain medications used to treat SLE may impact fertility and pregnancy, all of which further worries these patients.

These findings point to the key role healthcare providers play in giving comprehensive education and guidance to SLE women about reproduction. That includes how the disease can influence fertility or pregnancy outcomes. According to the study, mental health and social support also play an important role in addressing reproductive issues. A good support network can allay these concerns.

As a result, the research Wang et al., (2022) has shown from various factors that there is an intricate relation between systemic lupus and pregnancy. It also underscored the pressing demand for targeted education and support for women with lupus who want to have babies--a subject unparalleled by other writings elsewhere about Chinese women's experiences in these years of great change. Despite the innovations in the past decades to provide care for pregnant patients with SLE, the grave threats still facing both mother and child remain unchanged.

The report Saleh et al., (2020) involves an evaluation of the incidence of adverse pregnancy outcomes (APOs) among SLE patients under medical supervision in the Department of Rheumatology at Lund University Hospital, Sweden, during 2002-2018. Clinical and laboratory data were analyzed over time. Such 28 women with 59 pregnancies were covered. It showed that women with systemic lupus erythematosus (SLE) have great difficulty in carrying babies safely. Even with better care, many problems still happen during both mothers' and babies' deliveries.

Regular checkups and close monitoring are vital to reduce both the frequency and severity of these troubles. Key clinical factors such as the history of lupus nephritis (LN) and the presence of antiphospholipid syndrome (APS) have been identified as major contributors to APO in SLE patients, and careful attention should be paid when evaluating the risks of pregnancy.

In addition, immunologic markers such as antiphospholipid antibodies (aPL) and hypocomplementemia--low complement levels--are important indicators of adverse results. Their monitoring during pregnancy in women with SLE is important, to try to manage problems before they actually occur. The study also suggested that whether a pregnancy is the first conception or a subsequent one might influence the risk of complications, providing useful information for medical personnel in risk assessment and prevention.

To sum up, although prenatal care for pregnant women with SLE has improved, in this study Saleh et al., (2020) drew attention to the ongoing demand for more research and more effective strategies in order to bring about better health for both mothers and their offspring.

### 3.3. Pharmacological treatment in pregnant women with systemic erythematosus lupus

Pharmacological treatment for pregnant women with systemic lupus erythematosus (SLE) must be meticulously planned and carefully tailored. Corticosteroids, including prednisone, prednisolone, and methylprednisolone, are generally considered safe to use during pregnancy. On the other hand, drugs like methotrexate and leflunomide are contraindicated because they could give birth to defects—a pregnant woman is strictly prohibited from using either drug.

It is essential to develop an individualized treatment plan, assessing the benefits and risks for both mother and fetus while also considering drugs that are approved and safe during pregnancy. Women planning pregnancy should discontinue these medications well in advance, and they should use effective contraception throughout therapy if it is possible for them to become pregnant. Non-steroidal anti-inflammatory drugs (NSAIDs) can be given to expectant mothers prior to 32 weeks' gestation. They offer an alternative for pain control during this period. However, their use should be closely monitored due to insurance complications (Patro-Małysza et al., 2016).

All therapeutic interventions must be chosen based on established safety profiles and proven efficacy. Use of immunosuppressive drugs during pregnancy with SLE: Corticosteroids: It is best to use the lowest possible dose. In case of exacerbations, pulse therapy can be used. Repeated use is associated with impaired neuropsychological development of the child. High steroid doses raise the risk of diabetes, high blood pressure, preeclampsia, and early rupture of the fetal membranes. Still, short-term use to relieve symptoms and control the disease is allowed. Similarly, fluorinated corticosteroids like dexamethasone and betamethasone should be used sparingly, limited to a single course, primarily to enhance fetal lung maturation when preterm delivery is expected. - Since children exposed to a multiple-sclerosis outbreak at school in the 1980s had delayed mental development and did not fulfill the levels of neuropsychological

testing found in the normal population until they reached about 16 years old, it is best to give azathioprine only once, after which there should be no further administration.

Antimalarial drugs (e.g., hydroxychloroquine) are associated with a reduction in disease exacerbations, chronic hepatitis B reactivation, and neonatal lupus syndrome (NLS) as well as to be safe for both mother and fetus. From somewhere between the 1590s (and even earlier) up to now, most cases of systemic lupus erythematosus in girls of child-bearing age that come to me have received the best results of any therapy as their current treatment—a single larger-than-rest dose or prednisone combined with chloroquine. Since prednisone has multiple well-documented beneficial effects on SLE, and continuation of the pregnancy is usually recommended, prednisone can be recommended for women with mild or moderate cases of SLE during pregnancy. The specific effects of prednisone on pregnancy are that it helps to reduce disease activity, decreases the frequency of flare-ups, and lowers the chance of congenital heart block (Clowse, 2006).

Immunosuppressants (e.g., azathioprine): Azathioprine and calcineurin inhibitors (tacrolimus, ciclosporin) are considered safe during pregnancy, although azathioprine should be used at the lowest effective dose. Studies show that they are safe and effective in this setting. A study linked maternal therapy to late developmental delays, such as increased use of special education services by offspring (particularly female), but this remains to be confirmed. Neurocalcinosis Nephrocalcinosis has also been reported at higher doses, and there is a specific risk of fetal cytopenia and immunosuppression; therefore, up to 2 mg/kg/day is recommended (Ostensen et al., 2006).

Usage of biologic agents during pregnancy is now more frequent, but is still restricted to anti-TNF drugs that are not appropriate for SLE (Desai et al., 2016). Intravenous infusions of immunoglobulins (IVIG) and plasmapheresis stay as alternate options in selected cases (Lateef and Petri, 2013). All pregnant women with SLE, particularly those receiving corticosteroids and heparin, are required to take calcium supplements. Though vitamin D in pregnant women who have low levels of it has been shown to cause bad pregnancy outcomes, prenatal supplementation has not been shown to lessen these risks (Aghajafari et al., 2013).

Bisphosphonates, due to their long half-life, need to be treated with caution in women of childbearing age. Drugs contraindicated in pregnancy include:

- Leflunomide
- Methotrexate
- Mycophenolate mofetil
- Cyclophosphamide
- Warfarin

General principles of treatment of SLE in pregnancy:

- Pregnancy planning during remission (at least 6 months of stable disease).
- Regular check-ups with a rheumatologist and a high-risk gynecologist.
- Monitoring of risk factors should include assessment of proteinuria, renal function, relevant autoantibodies (e.g., anti-Ro/SSA), and disease activity.
- Avoiding harmful drugs - if necessary, changing therapy to a safe one before becoming pregnant.

Women with systemic lupus erythematosus (SLE) face unique challenges in childbirth because of the complexity of their disease and the potential for complications brought on by it. Studies have shown that women with SLE in their pregnancies can expect a high level of adverse outcomes.

In the research, Alkoky et al., (2016) analyzed the medical records and electronic databases of all pregnant patients with SLE who attended the Rheumatology Clinic between 2007 and 2014. The data set had 150 pregnancies by 64 different lupus patients. Of the total number of live births, 70% were successful. Adverse fetal events were observed in 48 (32%) pregnancies. There were 43 miscarriages (28.6%), six induced abortions (4%), two intrauterine fetal deaths (1%), and one neonatal death (1%). A total of 44 infants (29%) weighed less than 2,500 g at birth; four (3%) were born preterm (gestation less than 37 weeks), restricted intrauterine growth was included in 19 instances (12.6%), and four babies (3%) had congenital malformations. Thirty pregnancies (20%) were complicated by obstetrical events, including preeclampsia in five cases (3%), gestational diabetes in four cases (2%), and one case of postpartum hemorrhage (1%). Lupus exacerbations were observed in 18 pregnancies (12%) and thrombosis occurred during five cases (3%). There were no maternal deaths.

In general, pregnancies accompanied by lupus frequently have bad endings for both mother and fetus, regardless of the course of illness.

Childbirth in women with systemic lupus erythematosus (SLE) carries risks such as preeclampsia and preterm birth. In a study involving 60 pregnancies among 48 women with SLE, 83% resulted in live births, with 5% of those being premature due to preeclampsia. Half of deliveries were vaginal, while 33% required cesarean sections. Pre-existing hypertension and secondary antiphospholipid syndrome were identified as key predictors of complications. Additionally, postpartum SLE flare-ups occurred in 53% of patients, underscoring the importance of careful management throughout pregnancy and after delivery (Ahmed et al., 2020). The study's summary key points are presented in Table 1.

**Table 1:** characteristics of the included studies

Article	Study Type	Aim	Outcome	Person Who Performed Reduction
Khogali, 2023	Retrospective comparative study	To evaluate adverse pregnancy outcomes in patients with systemic lupus erythematosus (SLE)	The outcomes of 78 pregnancies in 39 women with SLE were analyzed. Adverse effects on the mother or fetus were found in 32% of pregnancies and 51% of mothers-to-be experienced adverse side-effects. To analyze the data, we looked at the outcomes of 78 pregnancies in 39 women with SLE. Adverse effects on the mother or fetus were found in 32% of pregnancies and 51% of mothers-to-be experienced adverse side-effects.	Rheumatology residents
Poh et al., 2020	retrospective cohort study	To describe the maternal and fetal outcomes in systemic lupus erythematosus (SLE) pregnancies followed-up in a single tertiary referral center.	The majority (88%) had no activity in the SLE disease at baseline. Most pregnancies resulted in a live birth (74.7%). Babies were born at a mean gestational age of 37.4 weeks (SD 3.4). Fetal outcomes were adverse in 53.3%. Preterm delivery was the most common type of adverse fetal outcome in tepidated pregnancies (33.9%). There was an even greater frequency of miscarriages (20%) and fetal growth restriction (17.3%). There was 1 neonatal death and SLE flares occurred in a third (33%).	Rheumatology residents
Braga et al., 2022	Case-Control Study	Retrospective case-control study that included all pregnant women with SLE managed at a Portuguese tertiary center, between 2010 and 2019. Pregnancy	One hundred twenty-four SLE pregnancies were included. Of the patients, 95.2% were in remission at conception. In 13.7% of cases, a lupus flare was diagnosed during gestation and in 17.9% in the postpartum period. The live birth	Medical Doctor at Centro Hospitalar do Porto

		outcomes were compared between SLE patients and a group of matched healthy pregnant women.	rate was 84.6%, and the incidence of adverse outcomes was 40.3% (OR 2.64, 95% CI 1.67–4.18).	
Wang et al. 2022	Cross-sectional study	This study aimed to investigate the contributing factors of reproductive concerns and to evaluate their impact on health-related quality of life.	The results indicated that female SLE patients were more concerned about the child's health and personal health than becoming pregnant, fertility potential, partner disclose and acceptance; SLE patients with the characteristics of living in rural residence, having no reproductive history, fearing unexpected pregnancy, sexual distress, and depression showed more serious fertility concerns.	Rheumatology residents
Saleh et al., 2020	Observational Study	Evaluated the occurrence of adverse pregnancy outcomes (APO) occurring in 2002-2018 among patients with SLE from the catchment area of Department of Rheumatology in Lund, Sweden.	Research findings are tabulated according to the order peptides were found. We studied 28 patients with a total of 59 pregnancies. Even after multivariable analysis, SLE is still by far related to the risk of APO in general. The strongest relationship was significantly correlated (OR = 6.0, P < 0.01) with the earlier occurrence of lupus nephritis. SLE with antiphospholipin antibody syndrome (AS) was associated with a higher rate of miscarriages (OR 3.3, p=0.04)	Rheumatology residents

**3.4. Further Care**

Postnatal care for women with systemic lupus erythematosus (SLE) needs comprehensive and tailor-made solutions. There are all kinds of challenges to women with systemic lupus erythematosus and especially special needs when it comes to postpartum care. Watchful and personalized treatment is the key during the postpartum period. Regular assessment of the course of SLE activity should be done so that the postpartum doctor sees if any side effects are arising from birth. Conception or partum can result in systemic disease, and this state must be monitored closely by clinical examination and laboratory testing. Psychological and emotional support are important because postpartum depression is often more prevalent than might be expected in women with chronic diseases (Gamba et al., 2024).

Future pregnancies must also be discussed as SLE could well affect them. Women need to be informed about potential future risks and how to manage them, so they have the necessary knowledge before their next pregnancy. Postpartum care for women with lupus includes careful monitoring of complications such as thrombosis, particularly in the case of the first six months after childbirth; this period is extremely risky for maternal health, and lives must be saved at all costs (Ruiz-Irastorza and Khamashta, 2011).

## 4. CONCLUSION

Based on a survey of the past ten years' literature, it may be inferred that despite advances in treatment, pregnancy in women with systemic lupus erythematosus (SLE) still poses special risks for mother, fetus, and baby. High levels of spontaneous abortion, low birth weight and other obstetric complications continue to occur. In addition, some patients have flares of disease or thrombotic events during pregnancy. The absence of maternal deaths is a reflection of improvements in care; nevertheless, such pregnancies still need to be managed at specialized referral centers. Planning pregnancy during remission and providing multidisciplinary specialist care is essential to minimize risks and enhance outcomes. However, several problems must be dealt with that are awaiting further study.

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### Author's Contribution

Natalia Sioch- Conceptualization, writing- rough preparation, methodology, investigation  
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### Informed consent

Not applicable.

### Ethical approval

Not applicable.

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### Conflict of interest

The authors declare that there is no conflict of interest.

### Data and materials availability

All data associated with this work are present in the paper.

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