

Motherhood and pregnancy concerns of Saudi females with multiple sclerosis in Riyadh city: A quantitative analysis

Abdullah S. Alshehri, MD, May H. AlQahtani, Medical Student, Hana A. AlZuabi, Medical Student, Waad S. Alshahrani, Medical Student, Halah O. Alamawi, Medical student, Aseel A. Almandeel, MB, Faisal A. Al-Suwaidan, MD, Ahmed Saleh, MD.

ABSTRACT

الأهداف: استكشاف مخاوف النساء في الرياض المصابات بالتصلب العصبي المتعدد بشأن الأمومة ونتائج الحمل.

المنهجية: دراسة مقطعية استخدمت استبياناً عبر الإنترنت شمل نساء تتراوح أعمارهن بين 18 و50 عاماً، وتم تشخيصهن بالتصلب المتعدد من قبل أخصائي أمراض عصبية، وكانت مدة المرض على الأقل سنة واحدة. شمل الاستبيان سبعة أقسام تضمنت البيانات الاجتماعية والديموغرافية، وتاريخ الأمراض السابقة والحالية، والمخاوف قبل الحمل وأثناءه وبعد الولادة، والقلق الجسدي والنفسي بشأن الأمومة، والدعم النفسي والاجتماعي الذي يتلقاه المرضى.

النتائج: شمل التحليل النهائي 176 امرأة. وجدنا أن التعب هو أكثر الأعراض شيوعاً بنسبة 85.2%. كما كان 58% من المرضى يشعرون بالقلق بشأن الآثار السلبية للمرض والأدوية على الحمل والجنين. ووجدنا ارتباطاً ذا دلالة إحصائية بين مستوى الدعم الاجتماعي المدرك والرعاية خلال الحمل والمخاوف من عدم قدرتهم على إعداد الطعام لأطفالهم ($p=0.037$).

الخلاصة: كشفت دراستنا عن مخاوف مهمة لدى النساء السعوديات المصابات بالتصلب المتعدد في مختلف جوانب الحمل والولادة وتأثيرها على الجنين. قد تكون هذه المخاوف مرتبطة بنقص المعرفة الكافية. يمكن أن يكون التوجيه والمعلومات السليمة والدعم مفيدتين لهؤلاء النساء، مما يؤدي إلى تجربة حمل وولادة أكثر إيجابية وراحة.

Objectives: To explore the concerns among females in Riyadh city with multiple sclerosis (MS) regarding motherhood and pregnancy outcomes.

Methods: In this cross-sectional study, data were collected using an online questionnaire. Women who were aged 18–50 years and diagnosed with MS by a neurologist and had a disease duration of at least one year were included. The questionnaire consisted of 7 sections designed to collect information on the respondents' sociodemographic

characteristics; past and current medical history; pre-pregnancy, pregnancy, and postpartum concerns; physical and psychological concerns about parenthood; and psychological and social support.

Results: A total of 176 women were included in the final analysis. Fatigue was the most common MS symptom, reported by 85.2% of the respondents, and 58% of the respondents had concerns about their disease and medication having adverse effects on their pregnancy and fetal outcomes. We found a statistically significant association between the level of perceived social support and patient care during pregnancy and concerns that they would not be able to prepare food for their children ($p=0.037$, respectively).

Conclusion: We have identified several significant concerns of Saudi women with MS related to various aspects of pregnancy, delivery, and fetal outcomes. These concerns may be linked to a lack of adequate knowledge on the subject. Thus, receiving appropriate counseling, information, and support could greatly benefit these women and result in a more positive and comfortable pregnancy and delivery experience.

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From the Department of Obstetrics and Gynecology (Alshehri), Division of Neurology (Al-Suwaidan), Department of Medicine, Security Forces Hospital, from Princess Nourah Bint Abdulrahman University (AlQahtani, AlZuabi, Alshahrani, Alamawi, Al-Suwaidan), from King Abdullah bin Abdulaziz University Hospital (Almandeel), and from King Fahad Medical City (Saleh), Riyadh, Kingdom of Saudi Arabia.

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Address correspondence and reprint request to: Dr. May H. AlQahtani, Princess Nourah Bint Abdulrahman University, Riyadh, Kingdom of Saudi Arabia. Email: mayalqahtani525@gmail.com
ORCID ID: <https://orcid.org/0009-0003-4462-3226>

Multiple sclerosis (MS) is a chronic autoimmune disorder that can cause disability in the central nervous system through the development of multiple demyelination plaques in the brain and spinal cord.^{1,2} The most common form of MS is relapsing-remitting MS (RRMS), which typically affects individuals at disease onset.³ It has various clinical symptoms, including visual defects, motor and sensory complaints, loss of coordination, tremor, incontinence, and cognitive impairment.⁴ Women are more commonly affected than men,⁵ and the proportion of women of childbearing age with MS is increasing.¹ Individuals with chronic, unpredictable conditions like MS may encounter difficulties in various aspects of their lives, including during motherhood.⁶ Hence, concerns can arise about the health of both the mother and the baby and about the potential risks associated with medications used to treat the illness.⁷ Despite the fact that MS is not a qualifying factor for high-risk pregnancy, Females with MS have fewer pregnancies than females without MS. This may be due to social issues rather than an inability to conceive. However, some studies have suggested that MS may affect the ability to conceive.⁸ Overall, MS is observed to be having decreased level of relapse especially during the third trimester. However, an increased level of relapses was observed in post-partum period specifically in the first 3 months period.⁹ The prevalence of induced vaginal delivery and elective cesarean section was high in a study, done by Andersen et al.¹⁰ Moreover, The likelihood of anesthesia causing MS relapses postpartum is low. While spinal anesthesia could pose a higher risk due to the vulnerability of demyelinated neurons to local anesthetics, epidural anesthesia is usually safer, as it introduces lower concentrations of anesthetics into the intrathecal space. Epidural anesthesia has been used effectively in MS patients, with studies showing no significant increase in relapse rates associated with its use.⁹

Even though disease-modifying anti-MS agents have been approved for more than 20 years, data on their safe use during pregnancy and breastfeeding are limited, and many drugs are not recommended for use during breastfeeding.¹¹ In addition, mothers with MS may have physical limitations and cognitive impairment, which can impact their ability to parent.¹² The MS patients

worry about balancing parenthood with their personal needs, struggle to interact with their children, and provide basic and crucial things to their child, and can develop insecurities about their children's well-being due to their inability to meet their own standards for motherhood.¹³ Individuals with incurable diseases, including MS, experience a range of emotions, such as disbelief, anxiety, stress, acceptance of their illness.¹⁴ Previous studies have examined factors that can protect a mother's physical and psychological well-being when dealing with MS. For example, social support has been identified as a protective factor, as it can alleviate concerns about the impact of the mother's MS on her children and reduce maternal depressive symptoms. In fact, social support was found to be a predictor of greater participation and satisfaction for mothers with MS.¹⁵

Limited data have been collected from females with MS in Saudi Arabia on their concerns about fertility, conception, and motherhood. Additionally, the consequences that these concerns have on their attitudes toward the disease, conception, and motherhood have not yet been explored. It is important to identify these concerns for several reasons. First, it will help to determine whether there are any common misconceptions among female MS patients and whether there is a lack of support for MS patients. Second, when researchers, physicians, other healthcare providers, and members of the community have more information about the issues that MS patients face, they will be better equipped to help create effective solutions that improve the patients' quality of life and decrease their associated stress and anxiety levels. Third, identifying these concerns will also allow a deeper examination of the social and psychological support provided to people with MS. Hence, the purpose of this study was to explore the concerns that females with MS who live in Saudi Arabia have about motherhood and pregnancy.

Methods. Ethical approval for this study was obtained from the Institutional Review Board of Princess Nourah bint Abdulrahman University. This study was conducted in accordance with the principles outlined in the Declaration of Helsinki. Informed consent was obtained from all respondents prior to their participation in the study via electronic means. They were informed that their participation was voluntary, and all data collected were kept confidential. This cross-sectional study was conducted in Riyadh city, Saudi Arabia, between February 2022 and October 2023. The inclusion criteria were as follows: adult women aged 18–50 years, a definite diagnosis of MS by a neurologist, and a disease duration of at least one year. We adopted

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Table 1 - Demographics data (n=176).

Variables	N (%)
<i>Age</i>	
18-29 years	52 (29.5)
30-39 years	83 (47.2)
40-49 years	36 (20.5)
50 or older	5 (2.8)
<i>Nationality</i>	
Saudi	165 (93.7)
non-Saudi	11 (6.3)
<i>Education</i>	
No educational degree	2 (1.1)
school	39 (22.2)
university	114 (64.8)
postgraduate	21 (11.9)
<i>Job</i>	
student	29 (16.5)
healthcare worker	15 (8.5)
non healthcare worker	43 (24.4)
housewife	89 (50.6)
<i>Income</i>	
enough	76 (43.2)
enough and save	35(19.9)
not enough	43(24.4)
not enough and debt	22 (12.5)
<i>Social status</i>	
single	78 (44.3)
married	98 (55.7)
<i>Number of children</i>	
0	77 (43.8)
1-2	50 (28.4)
3-4	32 (18.2)
5 or more	17(9.7)

Table 2 - Disease course among patients (n=176).

Variables	N (%)
<i>Severity of the disease</i>	
Mild	46 (26.1)
Moderate	108 (61.4)
Severe	22 (12.5)
<i>Age onset of the disease</i>	
12< years old	13 (7.4)
12-18 years old	39 (22.2)
18 > years old	124 (70.5)
<i>Hospitalization</i>	
Yes	137 (77.8)
No	39 (22.2)
<i>Number of hospitalizations</i>	
1-5	97 (55.1)
6-10	22 (12.5)
11-15	8 (4.5)
>15	10 (5.7)
<i>Family history of MS</i>	
Yes	37 (21)
No	139 (79)
<i>Most common experienced Multiple sclerosis symptoms</i>	
Symptom	N (%)
Fatigue	150 (85.2)
Visual problems	129 (73.3)
Numbness and tingling	138 (78.4)
Muscle problems (spasm, stiffness, weakness)	113 (64.2)
Mobility	69 (39.2)
Pain	95 (54)
Thinking, learning and planning problems	77 (43.8)
Depression and Anxiety	113 (64.2)
Sexual problems	41 (23.3)
Bladder problems	93 (52.8)
Bowel problems	57 (32.4)
Speech and swallowing problems	43 (24.4)

a convenience sampling technique to select our target respondents. The sample size was calculated using the G-power analysis program, which determined that a minimum of 100 participants were needed for the study, with a confidence level of 95% ($\alpha=0.05$) and a power of study of 95% ($\beta=0.05$). However, we used a sample of 176 respondents. The data collection was conducted using a self-administered online questionnaire consisting of seven sections. Data were collected on the respondents' sociodemographic characteristics; past and current medical history; pre-pregnancy, pregnancy, and postpartum concerns; physical and psychological worries regarding parenthood; and psychological and social support received. The questionnaire was pilot tested using a small group (n=30) of MS patients to assess the reliability and validity of the instrument. We then proceeded to administer the questionnaire

to the targeted number of participants needed for the data collection. The data were analyzed using SPSS version 24. The data were subjected to both descriptive and comparative statistical analyses. Frequencies and percentages were calculated for some of the data, while the χ^2 test was used to analyze the associations among all the qualitative variables. To identify prior related research, a systematic literature review was conducted using multiple databases including PubMed, Scopus, and Google Scholar. Keywords such as "multiple sclerosis," "motherhood," "pregnancy," and "Saudi women" were employed to locate relevant studies published in peer-reviewed journals. The search was limited to articles published within the last ten years to

ensure the inclusion of recent findings. Each identified study was then analyzed for relevance to the current research focus, and reference lists were reviewed to discover additional pertinent literature.

Results. A total of 176 women with MS were included in the final analysis. Most of the respondents were 30–39 years old (47.2%), and the majority (93.7%) of the respondents were Saudi. The majority (64.8%) of the respondents had attained a university education, and slightly more than half (50.6%) of the respondents were housewives. Among the respondents, 43.2% reported that they had enough income, 55.7% were married, and 43.8% did not have children. The distribution

of these variables is presented in Table 1. Table 2 summarizes the disease course data of the respondents. The findings revealed that the disease was moderately severe in 61.4% of the respondents and that the disease developed when the respondent was older than 18 years of age in 70.5% of cases. The majority (77.8%) of the respondents had been hospitalized before, and 55.1% had been hospitalized between one and five times during the course of their disease. The majority (79%) of the respondents had no family history of MS. Fatigue was the most common MS symptom experienced; it was reported by 85.2% of the respondents. Table 3 shows the respondents' prenatal concerns about the impact of MS medications on pregnancy. More than half of the

Table 3 - Prenatal Concerns regarding effects of MS medication.

Concerns regarding effects of MS medications	Strongly agree	Agree	Neutral n (%)	Strongly disagree	Disagree
I am concerned that my medications will interrupt my menstruation.	16 (9.1)	45 (25.6)	49 (27.8)	38 (21.6)	28 (15.9)
I am concerned that my medications will cause early menopause.	14 (8)	37 (21)	64 (36.4)	34 (19.3)	27 (15.3)
I am concerned that my medications are not safe on my fetus when I'm pregnant.	57 (32.4)	45 (25.6)	44 (25)	15 (8.5)	15 (8.5)
I am concerned that my medication will affect my relationship with my husband.	32 (18.2)	35 (19.9)	55 (31.3)	29 (16.5)	25 (14.2)

Table 4 - Antenatal concerns regarding pregnancy with MS.

Concerns regarding pregnancy with MS	Strongly agree	Agree	Neutral n (%)	Strongly disagree	Disagree
I am concerned that MS could lead to infertility?	20 (11.4)	38 (21.6)	69 (39.2)	31 (17.6)	18 (10.2)
I am concerned about increasing complication risk during pregnancy due to MS, like bleeding.	24 (13.6)	39 (22.2)	65 (36.9)	29 (16.5)	19 (10.8)
I am concerned that MS can increase risk of intrauterine fetal death.	16 (9.1)	36 (20.5)	61 (34.7)	36 (20.5)	27 (15.3)
I am concerned I could not be able to take care of myself during pregnancy due to my illness.	44 (25)	48 (27.3)	45 (25.6)	25 (13.6)	15 (8.5)
I am concerned about increasing the attacks during pregnancy.	23 (13.1)	34 (19.3)	57 (32.4)	33 (18.8)	29 (16.5)
I am concerned that pregnancy will lead to disabilities.	34 (19.3)	35 (19.9)	50 (28.4)	29 (16.5)	28 (15.9)
I am concerned that MS could lead to Premature labor.	22 (12.5)	29 (16.5)	70 (39.8)	33 (18.8)	22 (12.5)
I tried to avoid conception due to MS or medication of MS?	52 (29.5)	41 (23.3)	37 (21)	20 (11.4)	26 (14.8)
<i>Concerns regarding delivery and birth</i>					
Am concerned that labor pain will be worse as in my case.	29 (16.5)	43(24.4)	57(32.4)	31 (17.6)	16 (9.1)
I am concerned that giving me the back needle (epidural needle) may worsen my health condition.	31(17.6)	39 (22.2)	60(34.1)	25(14.2)	21(11.9)
I am concerned that I will only have the choice of cesarean section to deliver my child.	25 (14.2)	37 (21)	63 (35.8)	26 (14.8)	25 (14.2)
I am concerned that normal delivery may negatively affect and worsen my health condition in the future.	33(18.8)	33 (18.8)	54 (30.7)	32 (18.2)	24 (13.6)
I am concerned that I will suffer from the attacks of the disease during the delivery.	35(19.9)	40(22.7)	48(27.3)	32(18.2)	21(11.9)
I am concerned about the occurrence of delivery's complications such as bleeding.	16 (9.1)	25 (14.2)	80(45.5)	32(18.2)	23(13.1)
Due to my concerns, having an integrated medical team (obstetrician, neuro-physiotherapist) beside me during childbirth reduce my anxiety?	61 (34.7)	39 (22.2)	50 (28.4)	12 (6.8)	14(8.0)

respondents agreed (25.6%) or strongly agreed (32.4%) that they were concerned about the adverse effects of their medications on fetal safety. Furthermore, 19.9% agreed and 18.2% strongly agreed that they concerned that the adverse effects associated with anti-MS medication would disrupt their relationship with their partner. The respondents' antenatal concerns about pregnancy and giving birth with MS are presented in Table 4. Interestingly, more than half of the respondents shared that they had had fearful thoughts about their medical condition and medications, even to the extent that they had considered avoiding pregnancy. Similarly, about half of the respondents agreed (27.3%) or strongly agreed (25%) that they were concerned about not being able to perform or take care of themselves during pregnancy. In terms of their concerns about delivery and birth, the majority (19.9%) of the respondents strongly agreed that they were concerned that they would have an MS-related attack during delivery, and 18.8% were concerned that experiencing a normal delivery would worsen their health condition in the future. Additionally, 34.7% of the respondents strongly agreed that having an integrated medical team (i.e., an obstetrician and neuro-physio-therapist) beside them during childbirth would reduce their anxiety. The results presented in Table 5 outline the postnatal concerns of the respondents, including those associated with breastfeeding and the postpartum period, as well as their physical and psychological concerns. The majority of the respondents (38.1% strongly agreed and 26.7% agreed) expressed concerns about experiencing postpartum blues, sadness, or depression due to the effects of MS. The majority of the respondents (20.5%

strongly agreed and 30.1% agreed) admitted that they were worried about being unable to prepare food for their child, and many (19.9% strongly agreed and 27.3% agreed) also expressed concerns about their inability to help their child with his or her homework (Table 5). Table 6 shows the associations between the respondents' concerns and the level of perceived social support. A statistically significant association was found between the level of perceived social support and respondents' concerns that they would not be able to take care of themselves during pregnancy due to their illness ($p=0.001$). Also, a statistically significant association was found between the level of perceived social support and respondents' concerns that they would not be able to prepare food for their children ($p=0.037$).

Discussion. In this study, five major categories of pregnancy and childbearing concerns and issues were examined: (a) pregnancy concerns, including pregnancy hesitancy, (b) the influence of MS and its associated medications on future childbearing plans, (c) birth and delivery concerns, (d) postpartum period and breastfeeding concerns, and (e) baby well-being, childcare, and parenting concerns. There is considerable variation in the range of MS symptoms depending on the involved parts of the brain, and spinal cord.¹⁶ Here, we analyzed commonly experienced MS symptoms, and our results indicated that the most common symptom experienced by the respondents was fatigue. In a study conducted by Broch et al¹⁷ based on the total fatigue score, the prevalence of fatigue among MS patients was 81% with higher prevalence among females compared to males (83% vs 78%, $p=0.02$). In terms of the concerns of MS patients, Ghafoori et al. found that patients

Table 5 - Postnatal concerns.

Concerns	Strongly agree	Agree	Neutral	Strongly disagree	Disagree
<i>Physical and psychological worries of MS patients regarding pregnancy.</i>					
I am concerned that my condition will affect my infant breastfeeding practices.	41 (23.3)	51 (29)	50 (28.4)	22 (12.5)	12 (6.8)
I am concerned that MS drugs affect breastmilk.	49 (27.8)	63 (35.8)	45 (25.6)	11 (6.3)	8 (4.5)
I am concerned about experiencing MS relapse during your postpartum period.	58 (33)	53 (30.1)	46 (26.1)	13 (7.4)	6 (3.4)
I am concerned I might experience postpartum blues/sadness/depression due to my illness.	67 (38.1)	47 (26.7)	40 (22.7)	11 (6.6)	11 (6.3)
<i>Physical and psychological worries of MS patients regarding pregnancy.</i>					
Inability to prepare food to the child.	36 (20.5)	53 (30.1)	49 (27.8)	21 (11.9)	17 (9.7)
Inability to provide hygienic environment to the child.	28 (15.9)	53 (30.1)	45 (25.6)	33 (18.8)	17 (9.7)
Inability to take the child to the park with him/her.	33 (18.8)	48 (27.3)	45 (25.6)	32 (18.2)	18 (10.2)
Inability to help the child with his/her homework.	35 (19.9)	48 (27.3)	48 (27.3)	28 (15.9)	17 (9.7)
Inability to provide social and emotional support to the child.	29 (16.5)	38 (21.6)	46 (26.1)	42 (23.9)	21 (11.9)
Inability to nurse the child when he/she is sick.	31 (17.6)	49 (27.8)	39 (22.2)	36 (20.5)	21 (11.9)
Inability to provide support to the marital needs.	41 (23.3)	41 (23.3)	45 (25.6)	26 (14.8)	23 (13.1)

Table 6 - Association between concerns and level of perceived social support.

Factors	Level of perceived social support			P-value
	Low	Medium	High	
<i>I am concerned that my medications are not safe on my fetus when I'm pregnant</i>				
Strongly agree	10 (50)	26 (36.6)	21 (25.3)	0.117
Agree	7 (35)	15 (20.5)	23 (27.7)	
Neutral	3 (15)	20 (27.4)	21 (25.3)	
Strongly disagree	0 (0)	8 (11)	7 (8.4)	
Disagree	0 (0)	4 (5.5)	11 (13.3)	
<i>I am concerned I could not be able to take care of myself during pregnancy due to my illness</i>				
Strongly agree	11 (55)	18 (24.7)	15 (18.1)	<0.001*
Agree	7 (35)	14 (19.2)	27 (32.5)	
Neutral	1 (5)	28 (38.4)	16 (19.3)	
Strongly disagree	1 (5)	10 (13.7)	13 (15.7)	
Disagree	0 (0)	3 (4.1)	12 (14.5)	
<i>I am concerned that I will suffer from the attacks of the disease during the delivery</i>				
Strongly agree	8 (40)	14 (19.2)	13 (15.7)	0.065
Agree	6 (30)	14 (19.2)	20 (24.1)	
Neutral	4 (20)	25 (34.2)	19 (22.9)	
Strongly disagree	2 (10)	14 (19.2)	16 (19.3)	
Disagree	0 (0)	6 (8.2)	15 (18.1)	
<i>I am concerned I might experience postpartum blues/sadness/depression due to my illness</i>				
Strongly agree	12 (60)	28 (35.6)	29 (34.9)	0.138
Agree	6 (30)	19 (26)	22 (26.5)	
Neutral	2 (10)	20 (27.4)	18 (21.7)	
Strongly disagree	0 (0)	6 (8.2)	5 (6)	
Disagree	0 (0)	2 (2.7)	9 (10.8)	
<i>I'm concerned that I wouldn't be able to prepare food to my child</i>				
Strongly agree	8 (40)	15 (20.5)	13 (15.7)	0.037*
Agree	8 (40)	21 (28.8)	24 (28.9)	
Neutral	4 (20)	25 (34.2)	20 (24.1)	
Strongly disagree	0 (0)	6 (8.2)	15 (18.1)	
Disagree	0 (0)	6 (8.2)	11 (13.3)	

*Pearson χ^2 test: $p < 0.05$ is considered significant

were concerned about the negative impact of their medication on the fetus when taken during pregnancy and that this concern prevented them from considering pregnancy.¹³ This concern was one of the most common concerns observed in our study, alongside the concern of disruption of the relationship with their partners as a side effect of the medication.

Regarding the respondents' concerns about the effects of MS on themselves and pregnancy, this group of women were concerned about a wide range of issues, including the potential effect of MS on fertility,

complications during pregnancy, the possibility of fetal death, and whether they would be able to care for themselves while pregnant. The outcomes of our study are in agreement with those of previous research that investigated the concerns of women with MS.¹³ However, our data indicated that there may be some country-to-country variation in the concerns of women with MS. For example, a significant number of our respondents expressed that they were worried about their ability to care for themselves while pregnant due to their medical condition. This suggests that societal and cultural elements may have an impact on the development of such concerns. Furthermore, our results revealed that, in Saudi Arabia, a high percentage of women with MS reported being concerned about the possibility of fetal mortality compared to a similar prior study, which found that fears of passing the disease on to their infants were more frequently reported.⁷ A study showed that females were concerned that their symptoms would interfere with parenting, and that they will need help by family members, which made feel to be a burden to them.⁷ Similarly, when we examined the physical and psychological worries of the respondents in the context of pregnancy, we found that the inability to meet the needs of marital relationship and not being able to help their child with homework were the most common concerns. Health care and social support is an important factor that affects maternal health and stress. For instance, it was reported that with good communication between the health care workers regarding the management plan and discussions with the patient, was associated reassurance and trust. Peer support groups either by social media or organizations for mothers with MS, had mixed reactions. Some of them think it's helpful, others find them negatively affecting, especially when communicating with someone with more severe MS form.⁷ Our analysis of the association between concerns and level of perceived social support revealed that women with higher perceived social support were not as concerned about their ability to take care of themselves during pregnancy due to their illness or their ability to prepare food for their children. The MS patients emphasized on the need support from spouse, family and support organizations. Most importantly in early post-partum period due to the probability of MS relapse. They also commented on the lack of counselling and coaching regarding pregnancy and infertility following the diagnosis, and that the focus was on mainly on the physical problems.¹³ Having multiple resources led to conflicts about MS and reproductive issues. The conflicting information was

usually gathered from resources other than health care workers. Mostly, it didn't impact the decision of MS patients to have children. However, it led to unnecessary anxiety.⁷ The most significant limitation of this study is that a cross-sectional design was utilized; thus, it was only possible to establish the relations between factors and not causalities. Second, since the questionnaire was disseminated and completed online, it was not possible to observe and thus gain insight into the behavior of the respondents in their natural settings. Also, using a larger sample would have allowed us to generate more precise results; however, it was not feasible to recruit more respondents within the study period. The study findings cannot be generalized to the entire Saudi Arabian population because the respondents were from only one region.

In conclusion, MS is a serious obstacle for Saudi women who want to have children and experience motherhood. In this study, the respondents expressed high levels of concern about different aspects of pregnancy and delivery. Our findings indicate that Saudi women with MS are concerned about the effects of MS medications on their pregnancy, experiencing attacks during delivery, fetal mortality, and their inability to provide appropriate care for the child. Lack of social support was also found to be linked with a higher level of concern, especially regarding childcare. All these concerns can lead to women with MS avoiding or hesitating about experiencing pregnancy and motherhood. Some of their concerns can be attributed to a lack of knowledge. Thus, women with MS may benefit from improving their knowledge regarding their condition. Possible solutions include more health campaigns to be conducted regarding this subject, providing education in the form of pre-conception counseling, and educational materials either through multimedia or brochures. Additionally, neurologist, ObGyne, health educators should be prepared to educate and answer the questions and concerns of women with MS.

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