



Research article

Factors influencing quality of life among syrian refugees pregnant women in Jordan: A cross-sectional study

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ABSTRACT

Background: Pregnancy is a critical period of transition incorporating important normal physical, emotional, hormonal, and physiological status changes. These changes might affect the quality of life (QOL) of pregnant woman. This study aimed to examine the levels of quality of life and perceived social support of Syrian refugees' pregnant women in Al-Zaatari Refugee Camp in Jordan.

Methods: A cross-sectional survey design was used. A sample of 319 pregnant women was recruited from two maternal health clinics at Al-Zaatari Refugee Camp. Data were collected from June to August 2020 using the Arabic version of World Health Organization Quality of Life (WHOQOL-BREF), the Multidimensional Perceived Social Support (MSPSS) questionnaires, and two sheets were used to assess sociodemographic and obstetric variables.

Results: The study reveals that Syrian refugees' pregnant women had good satisfaction with their overall QOL and health status and social support. A significant relationship was found between the socioeconomic index and QOL. Also, age, being in the third trimester, and parity correlated negatively with QOL. In contrast, those who stayed in Jordan as a refugee for a longer period reported better QOL.

Conclusion: Syrian women in Jordan, in general, have a good QOL and high level of social support. However, women were least satisfied with their physical health domain. Several factors affected QOL including income, employment status, age, number of children, and pregnancy trimester. Social support is an important factor in improving the QOL among Syrian refugees' pregnant women.

1. Introduction

Pregnancy is a period of transition with important physical and emotional changes that may influence quality of life (QOL) even in uncomplicated pregnancies [1, 2]. The World Health Organization (WHO) defines QOL as “an individual's perception of their position in life in the context of the culture and value system in which they live and in relation to their goals, expectations and standards and concerns” [3]. Pregnant women QOL can also be influenced by other factors including fatigue, nausea, vomiting, headache, back pain, loss of appetite, heartburn, hemorrhoids, and shortness of breath [2, 4]. Other factors can also influence pregnant women QOL such as maternal age, prime parity, early gestational age, obesity, and smoking [2]. It has been also argued that displacement and being refugee pregnant women may affect QOL negatively [5, 6]. Refugee women are among vulnerable populations who may frequently

suffer from traumatic events that pose risks to their health, especially, during pregnancy [7].

Pregnant women need the support of caring family members, friends, and health professionals. It has been reported that lack of social support can increase the risk of low birth weight babies [8], preterm birth, and labor progress [9]. Further, pregnant women with low support have also reported increased depressive symptoms and reduced QOL [9]. Therefore, focusing on factors that can affect pregnant women QOL may help adopt the right strategies to improve maternal health [10].

2. Background

Jordan is one of the most affected countries by the Syrian crisis as it is hosting 671.55 thousand of Syrian refugees [11]. Around 84% of these Syrian refugees live in urban areas compared to 16% living in three

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refugee camps in Jordan. The largest number of those residing in camps live in Al-Zaatari camp (78,597) [11]. Out of the total number of Syrian refugees, 50.3% were females, among those the reproductive age ranges from 15–49 year, the total fertility rate is 4.7%, and the percentage of pregnant women is 10.6% [12]. Those women face many challenges due to the changing family dynamics, entering to a new society and community, lacking social or psychological support, and safety issues relating to being a female refugee [13]. Syrian women displacement forced them to live in a state with insufficient environmental health measures that includes the lack of safe water, poor sanitation, living in a crowded area and poor hygiene [14]. These challenges may cause adverse maternal and neonatal outcomes such as preterm labor and low birth weight [15, 16]. Syrian refugees' pregnant women are also exposed to negative psychological effects such as depression and stress. These problems are significantly associated with low social support, low monthly income, and recent immigration [5]. Consequently, forced displacement might affect the psychological, physical, and social domains of QOL of the pregnant women [17, 18, 19].

Despite the growing evidence supporting the relationship between QOL and social support and health outcomes in general, there is a lack of research studies examining levels of QOL and social support among Syrian refugees' pregnant women globally and, in particular, in Jordan. In addition, studies exploring the relationships between social support, socio-demographic and pregnancy clinical data and QOL are lacking worldwide and do not exist in Jordan. Hence, this current study was carried out to examine the levels of QOL and social support among Syrian refugees' pregnant women and to examine factors influencing it to raise awareness among healthcare professionals and pregnant women.

3. Methods

3.1. Study design

A cross-sectional study design was used.

3.2. Study participants and settings

The study was conducted at two selected maternal and child health clinics located in Al-Zaatari Refugee Camp in the Northeastern part of Jordan. The target population was all Syrian refugees' pregnant women who attend maternal health clinics in Al-Zaatari Camp. The inclusion criteria were Syrian refugees' pregnant women living in Al-Zaatari Camp for at least 6 months, having no complication in the current pregnancy, and able to give consent.

To determine the appropriate sample size, G* Power was used. To do so, a small effect size of 0.20, alpha set at 0.05, and power of 0.80 was used and based on that, 319 participants were required to conduct the study. About 330 women were approached; however, 11 women refused to participate for different reasons and 319 agreed to participate and completed the questionnaire. From there were no dropouts or withdrawals. A pilot study was conducted with a sample of 30 participants whom data was not included in the final analysis.

3.3. Data collection procedure and ethical considerations

All appropriate ethical approvals were obtained prior to data collection. All participants were informed that participation was voluntary. Potential risks and benefits were explained and all participants were informed that collected data will be stored in a private password-protected computer and that only the researchers would have access to them. All participants gave a written informed consent before the commencement of data collection and a date to collect data was agreed upon.

The third researcher visited Al-Zaatari camp on the days agreed with participants for the purpose of data collection. At the start of each clinic, the researcher met with the nurse/midwife responsible for that

clinic to obtain their permission to see pregnant women. Then, each participant was asked if she was still interested to take part in the study. Upon her agreement, the purpose of the study was explained and data collection commenced. On average, the researcher interviewed 5–8 women daily. Participants were encouraged to ask the researcher whenever they have questions. The data were collected using structured –face-to-face interviews to complete the questionnaires in a private and quiet place as many Syrian refugees could not write or read appropriately. The data collection period lasted for three months from June to August 2020. Each questionnaire took around 30–35 min to be completed.

3.4. Measures

Socio-demographic data about age, educational level, marital status, job/employment status, monthly income, duration of residence in Al-Zaatari, living status (separate or with family), smoking husband's age, and husband's level of education and job were collected using a specially designed checklist.

Another checklist was used to collect data about women's gravidity, parity, trimester of pregnancies, abortion, term baby, preterm baby, number of living children, type of previous births, sex of fetus in current pregnancy, previous complications (before, during and after giving birth), and whether current pregnancy was normal or assisted, planned, or unplanned.

3.4.1. Quality of life

The Arabic version of the World Health Organization (WHOQOL-BREF) was used [20]. It comprises of 26-items that are scored using a five-point Likert scale. The scale measures four domains of QOL including physical (7 items), psychological health (6 items), social relationships (3 items) and environmental domains (8 items). Summation of specific items is used to identify each domain scores and, then, these scores are transformed on a scale ranging from 0 (lowest score denoting low QOL) to 100 (highest score denoting high QOL). Several studies among Arabic-speaking populations used the Arabic version of the WHOQOL-BREF and demonstrated good internal consistency, reliability, and validity (Al Sayah et al., 2013) [21]. Alshraifeen et al. (2020) reported a Cronbach's alphas of 0.851, 0.819, 0.737 and 0.814 for the physical, psychological, social relationships and environmental domains, respectively [22]. In the current study, the Questionnaire demonstrated good internal consistency (Cronbach alpha ranging between 0.66 and 0.84) and discriminant validity. The Cronbach's alpha for the WHOQOL-BREF was (0.79).

3.4.2. Social support

The Multidimensional Scale of Perceived social Support (MSPSS) was used [23]. It includes 12 items that are scored on a 7 point Likert-type scale ranging from 1 (very strongly disagree) to 7 (very strongly agree) providing an assessment of the support received from family, friends, and significant others. The total scores are calculated using the average of the sum of the 12 items responses and each subscale scores are calculated by summing 4 specific items and then dividing by 4. Higher scores suggest high levels of perceived social support. Levels of social support are categorized as low, medium, and high if participants achieve total scores of 1–2.9, 3–5 and 5.1–7, respectively [24]. The reliability, validity, and factor structure of the MSPSS have been identified across a number of different samples where Cronbach's alpha coefficient was 0.93 for the total scores and 0.91, 0.89 and 0.91 for the family, friends and significant others subscales denoting good internal consistency and reliability. Merhi & Kazarian (2012) validated the MSPSS among Arabic-speaking population [25]. Alshraifeen et al. (2020) also reported a Cronbach's alphas of 0.91 for the total score and Cronbach's alpha scores of 0.92 for Significant others; 0.91 for the Family subscale; 0.82 for Friends subscale demonstrating good internal consistency reliability [22]. The Cronbach's alpha for the MSPSS in the current study was (0.97).

3.5. Data analysis

The Statistical Package for Social Science (SPSS) Version 25 was used to analyze data. The P-value statistical significance was considered at 0.05 level. Descriptive statistics, the 2-sample independent t-test, One-way ANOVA, the Bivariate Pearson's (r) test and a Multivariate Linear Regression Analysis model were used to answer the research questions.

4. Results

4.1. Socio-demographical characteristics of syrian Refugee's woman

As shown in Table 1, age ranged between 16 to 48 years (Mean = $27.89 \pm SD = 7.10$). The majority of respondents were ≤ 18 –35 years (79%), were housewives (85.6%), living in Al-Zaatari camp as refugees for more than seven years (83.7%). All women reported living with their husbands and families and 68% had a monthly income ranging from 101 to 300 Jordan Dinars (JOD's).

4.2. Women' overall quality of life (QOL) and social support

Syrian women were highly satisfied with their overall QOL ($M = 3.55$, $SD = \pm 0.73$) and health status ($M = 3.64$, $SD = \pm 0.79$) (Table 2). The overall mean score of QOL was 60.12 ($SD = \pm 6.96$) suggesting that pregnant women were satisfied with their QOL in general. In terms of QOL domains, women scored highest in the Social support ($M = 69.8$, $SD = \pm 2.63$), and the Psychological domains ($M = 62.45$, $SD = \pm 1.65$), suggesting higher satisfaction with their social life.

Concerning social support, Table 2 shows that the overall mean score of perceived social support was 56.45 ($SD = \pm 20.57$) suggesting that women were highly satisfied with the support received from either their families, friends, or significant others. Support from family was the highest with a mean score of 19.49 ($SD = \pm 7.4$) compared to the lowest from friends ($M = 17.66$, $SD = \pm 8$).

4.3. Quality of life, social support, and socio-demographics

Table 3 shows that women's perceived overall social support score correlated significantly and positively with their perceived QOL ($r = 0.502$, $p = 0.01$) suggesting that more support improved women's QOL. The highest correlation was found between support from family members and women's overall QOL ($r = 0.474$, $p = 0.01$). Also, refugees women perceived social support correlated significantly and positively with their overall satisfaction with QOL ($r = 0.250$, $p = 0.01$) but not with their general satisfaction with their own health.

Age had a weak negative correlation with QOL ($r = -0.174$, $p = 0.01$) suggesting that QOL declined with increasing age. Being a refugee in Jordan for a longer time was associated with better QOL ($r = 0.150$, $p = 0.01$) and improved their social support network ($r = 0.310$, $p = 0.01$) suggesting that even though they are staying as refugees in Jordan, they may have managed to widen their social relationships which may have improved their QOL positively.

Instead of presenting the relationships between income, education level and occupation and QOL separately, a socioeconomic state index (SES) was calculated to facilitate data analysis and presentation. According to Cowan et al. (2012) socioeconomic state index can be defined as one's access to financial, social, cultural, and human capital resources. The results show that SES correlated significantly and positively with women's mean perceived QOL score, $r = 0.348$, $p < 0.010$, indicating that as women's mean socioeconomic state index tended to rise, their mean perceived QOL tended rise incrementally too on average.

4.4. Predictors of refugees' women QOL

To understand factors predicting the QOL of Syrian refugees' women, a Multivariate Linear Regression Analysis was conducted (Table 4). The

Table 1. Syrian Refugee women' socio-demographic characteristics (N = 319).

Variable	Frequency	Percentage
Age (years)-Mean (SD)		27.89 (7.10)
Age groups (years)		
≤ 17 years	14	4.4
18–22 years	72	22.6
23–27 years	79	24.8
28–32 years	53	16.6
33–38 years	85	26.6
Educational level		
Primary school	164	51.4
Secondary school	99	31
High school	43	13.5
College or higher degree	13	4.1
Occupation		
Housewife	273	85.6
Part-time job	30	9.4
Full time Job	16	5
Husband's age (years)- Mean (SD)		31.72 (7.86)
Husband's Age groups (years)		
18–22 years	40	12.5
23–27 years	75	23.5
28–32 years	60	18.8
33–38 years	84	26.3
≥ 39 years	60	18.8
Husbands educational level		
Primary school	179	56.1
Secondary school	77	24.1
High school	48	15
College or higher degree	15	4.7
Husband's employment		
No	54	16.9
Yes	265	83.1
Husband's job		
Unemployed	54	16.9
Technical based Job	171	53.6
Owns business/Free Business	78	24.5
Licensed Professional	16	5
Households monthly income		181.29 (102.49)
≤ 100 JOD	76	23.8
101–300 JOD	217	68
301–600 JOD	26	8.2
Smoker		
No	311	97.5
Yes	8	2.5
Number of years as a refugees in Jordan		7.73 (1.62)
< 7 years	52	16.3
≥ 7 years	267	83.7
Living condition/with family	319	100
Number of support persons/loved ones		6.15 (2.4), Mdn. = 2
1–2 persons	12	3.8
3–5 persons	131	41.1
6–9 persons	152	47.6
≥ 10 persons	24	7.5

model was generally statistically significant with an overall significance of $f(6,312) = 32.34$, $p < 0.001$. Women's age (years) correlated significantly and negatively with their mean perceived QOL score (Beta = -0.186 , $p < 0.001$), suggesting that older women appear to score significantly lower mean QOL on average. For each additional one-year in women's age, their corresponding mean QOL declined by 0.186 points on

Table 2. Women overall Quality of Life (QOL) and Social Support (N = 319).

	Mean	SD	Maximum possible score
Quality of Life (QOL-BREF)			
QOL 1: Overall perception of quality of life	3.55	0.73	
QOL 2: Overall perception of health	3.64	0.79	
Mean Overall Quality of Life (QOL-BREF)	60.12	6.96	20-100 Points
Mean Satisfaction with Physical Health (Phys)	52.3	1.52	
Mean Satisfaction with Psychological Health (Psys)	62.45	1.65	4-20 points
Mean Satisfaction with Social Health (SOC)	69.8	2.63	4-20 Points
Mean satisfaction with Environmental Health (ENV)	56	1.57	4-20 Points
Perceived Social support (MSPSS) total score	56.45	20.57	12-84 Points
Social Support from Significant others (SO)	19.30	7.4	4-28 Points
Social Support from Family members (FAM)	19.49	7.08	4-28 Points
Social support from Friends (FRI)	17.66	8	4-28 Points

Table 3. Correlations between QOL, Social support, and Socio-demographic data.

	WHOQOL	GS-QOL	GS-HEALTH	Phys	Psych	SOC	ENV	MSPSS	SO	FAM	FRI	SES	Age
QOL1 How would you rate your quality of life (GS-QOL)	.499**												
QOL2 How satisfied are you with your health (GS-HEALTH)	.300**												
Perceived Social support (MSPSS) total score.	.502**	.250**	.087	.152**	.194**	.647**	.345**						
Social Support from significant others (SO)	.469**	.233**	.064	.171**	.161**	.590**	.339**						
Social Support from Family members (FAM)	.474**	.294**	.128*	.176**	.227**	.562**	.330**						
Social support from Friends (FRI)	.447**	.171**	.051	.081	.152**		.288**						
Household Socioeconomic Index (ses)	.348**	.181**	.100	.208**	.192**	.267**	.386**	.214**	.216**	.173**	.202**		
Age of the women-years	-.174**	-.235**	-.256**	-.084	-.288**	-.062	-.130*	-.075	-.094	-.129*	.006	.077	
Duration of stay In Jordan as a Refugee (Months/years)	.150**	.023	-.063	.054	.006	.230**	.086	.310**	.280**	.236**	.335**	.178**	.193**

** Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed).

Table 4. Multivariate Linear Regression Analysis of the Refugee women's perceived Quality Of Life (Qol) N = 319.

	Beta Coefficient	95% C.I for Beta coefficient		t-value	p-value
		Lower Bound	Upper Bound		
(Constant)	58.577	55.165	61.989	33.777	<0.001
Women's age	-.186	-0.275	-.098	-4.142	<0.001
Household socioeconomic Index (SES)	1.798	1.166	2.429	5.599	<0.001
Perceived Social support score-MSPSS	.138	.107	.170	8.693	<0.001
Gestational age= Third Trimester	-1.970	-3.339	-.602	-2.833	.005
Sex of the expected current pregnancy = Unknown	-1.496	-2.947	-.046	-2.029	.043
Past exposure to PPH = Yes.	3.719	1.303	6.135	3.029	.003

average. Also, refugees women Socioeconomic (SES) Index converged significantly and positively with their QOL (Beta = 1.798, $p < 0.001$), suggesting that for each additional one standard points rise in women's measured SES, their corresponding mean perceived QOL tended to rise by 1.798 points on average. The model showed that the Syrian refugees women perceived social support (MSPSS) converged significantly and positively with their QOL (Beta = 0.138, $p < 0.001$), denoting that for each rise of one point in women's perceived MSPSS score, their corresponding mean QOL was predicted to rise by 0.138 points on average, controlling for the other predictors nonetheless.

Women's gestational age also correlated significantly and negatively with their mean perceived QOL (Beta = -1.970, $p = 0.005$). Furthermore, the model showed that women with an unknown sex of their current conceived fetus had significantly lower mean perceived QOL than those whose fetus sex was known regardless of its sex (Beta = -1.496, $p =$

0.043). Interestingly, women with a positive history of PPH perceived a significantly greater QOL than those women with a negative PPH maternal history (Beta = 3.719, $p = 0.003$).

5. Discussion

Up to the researcher knowledge, this study is the first to examine the QOL among Syrian refugees' pregnant women inside a refugee camp in Jordan. Overall, Syrian refugees women were generally satisfied with their QOL and health status. This finding contradicts those reported by Nabolsi et al. (2020) who found that Syrian refugee women at their reproductive age and who live outside camps in Jordan had low level of QOL [26]. Syrian women in the current study also had higher levels of QOL compared to Jordanian pregnant women who had moderate level QOL [27]. This difference might be because of the residency place where

living in a camp may provide a more social environment as justified by Abdo, Sweidan & Batieha (2019) who found that psychological and social domain scores were less among Syrian refugees who live outside camps than Jordanian people. This explanation might apply to the current study where participants perceived social support as an important factor that influenced their perceived QOL positively [28].

Women's perceived support by friends significantly and positively influenced their mean perceived QOL score which is supported by previous studies [29, 30, 31]. Similarly another study on Iraqi refugees in Jordan reported that women recorded the highest scores in social performance [32]. This may be because Iraqi women who have migrated to Jordan long before Syrian women may have become well settled over time as a result of the social network they have developed and this may have enabled them to cope with their needs as documented in the study [32]. In the current study the majority of participants lived in Jordan for more than 7 years and had perceived a significantly greater QOL than those who stayed for less than seven years in Jordan. This result is supported by Bauer, Brand & Zeeb (2020) who found that work and education level were higher among families with more than five years of stay in Germany that may have helped them to have a better QOL [33].

This study also found that education level, monthly income, and employment status have significant positive effects on pregnant Syrian refugees' women QOL. Same findings were reported by previous authors [10, 26, 33]. Nabolsi et al., (2020) found that the educational level and employment status were directly and significantly correlated with QOL during pregnancy among refugee women in Jordan. The authors from Iran [10] also conclude that the factors that were directly and significantly correlated with QOL during pregnancy were social support, socioeconomic status, and sexual function. In Germany, a strong positive relationship between socioeconomic status and level of support among Syrian refugees was found [33]. In the current study, the majority of husbands were working which may have influenced the general satisfaction with QOL among the study participants. Abdo, Sweidan & Batieha (2019) previously reported same findings.

Abdo, Sweidan & Batieha's (2019) agree with the current study findings that Syrian refugees' women were less satisfied with their physical health. They reported low physical health and other challenges facing them in seeking healthcare services notwithstanding the assistance provided by the Jordanian Government. This could be because of the cost required to seek these services, specifically, after the introduction of the new healthcare fees in 2014 or because of the lengthy bureaucratic procedures and the dearth of documents required to grant access for healthcare services. Congruent with these findings, a previous study in Alzatari Camp showed that Syrian pregnant women were dissatisfied with the reproductive health services provided including insufficient physical examination, drugs, incompetent healthcare professionals, and lack of privacy and female healthcare professionals. These reasons might also influence the physical health of pregnant refugee women [34]. In contrast, Nabolsi et al. (2020) found that the highest mean score in their study was the physical functioning. This difference in the findings could be because their sample were staying outside refugee camps and not pregnant.

This study also found that age has an effect on the physical domain and QOL in general. Balíková & Bužgová (2014) confirms that women over the age of 29 reported a lower QOL than younger women previously [35]. Our findings also supported Fredriksen-Goldsen et al. (2015) who found that age negatively affected women's QOL. They explained their findings by the change in the level of hormones by age and health problems associated with aging such as high blood pressure and osteoporosis [36]. Nabolsi et al., (2020) agree that women energy may be drained and their functioning abilities are reduces as a result of aging and amounting family demands in unusual living conditions such as resettlement.

The current study found that women with low parity had higher QOL scores than women with high parity. The results confirmed what was reported in three previous studies [26, 27, 37]. This finding could be

because the increased number of children may place more demands on mothers, which may drain their energy due to the growing demands to achieve their expected role as a mother and wife [26]. In the current study, it was reported that women in their third trimester of pregnancy scored low means in terms of QOL. These finding is consistent with previous research studies [38, 39, 40]. This finding might be because the increasing weight of the fetus can cause back pain and introduce some changes to woman's body organs, which may lead to worsening QOL, especially in the last trimester of pregnancy [33].

Women who had a previous positive history of pregnancy complications had perceived a significantly higher mean of QOL than those who did not have any previous maternal complications. This finding suggest that those women who have had postpartum hemorrhage (PPH) previously may have taken better care of themselves during the current pregnancy and this may have improved their QOL [41]. Complications during pregnancy among Syrian refugees' women are well documented in previous studies [16, 26, 41]. Semasaka's (2019) interviewed pregnant women who had complications during previous pregnancies such as PPH and found an increase in awareness among women with previous pregnancy complications as they attempted to avoid same complications in future pregnancies.

6. Limitations

Difficulty accessing Alzatari Camp meant that more time was required to gain ethical approval. The researcher was restricted in the number of visits and the length of time they can remain in the facility and participants had to wait for lengthy times occasionally for the purposes of privacy and sterilization as the research was conducted during the Corona pandemic crisis. Lastly, self-report bias might be another limitation were mothers might have answered questions in a manner that shows them to be of a good character.

7. Conclusions

Despite the acceptable level of satisfaction with QOL among pregnant Syrian refugees' women in the current study, women were least satisfied with their physical health. So more focus on the physical domain is needed from healthcare professionals and policy makers. Providing good quality of antenatal care from nurses and midwives may enhance the physical health positively among pregnant women. More efforts are needed to highlight the effect of the family size and the burden of the third trimester of pregnancy on QOL among Syrian refugees' pregnant women. Enhancement of the social and psychological support from family members and healthcare professionals is recommended.

Ethical approval

The study has been approved by the Institutional Review Board (IRB) at Jordan University of Science and Technology (816/2019) and from the UNHCR in Al-Zaatari (72330/3681).

Declarations

Author contribution statement

Karimeh Alnuaimi; Ali Alshraifeen, PhD; Hala Aljaraedah, MSc: Conceived and designed the experiments; Performed the experiments; Analyzed and interpreted the data; Contributed reagents, materials, analysis tools or data; Wrote the paper.

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Data availability statement

The data that has been used is confidential.

Declaration of interest's statement

The authors declare no conflict of interest.

Additional information

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