

In search of health: quality of life among postpartum Palestinian women

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Objectives: The postpartum period is a very important period for the health of the mother and the newborn. Despite its importance, research on this period is limited and tends to be more focused on biomedical aspects of the postpartum period. In the Occupied Palestinian Territory, little is known regarding women's postpartum wellbeing. This study utilizes the Maternal Postpartum Quality-of-Life instrument to assess Palestinian women's postpartum quality of life and the factors associated with variations in their quality-of-life scores. **Methods:** A cross-sectional survey utilizing the adapted Maternal Postpartum Quality-of-Life Questionnaire was completed in the Occupied Palestinian Territory with a final sample size of 1020 women. **Results:** The mean overall quality-of-life score for the sample was 21.53 (maximum = 30), suggesting that women are slightly satisfied with their lives in the postpartum period. Main variations in quality-of-life scores were associated with regional district, refugee status, the loss of a relative due to Israeli occupation violence, standard of living and pregnancy wantedness. **Conclusion:** The results of this study highlight the diversity and complexity of the social context, in particular the region where women live, and the issue of pregnancy wantedness in postpartum quality of life. They also call into question the services currently offered to postpartum women.

KEYWORDS: Palestine • postnatal • postpartum • quality of life • wellbeing

The postpartum period is a critical time for a woman physiologically, emotionally and socially, as well as for her newborn and family. This is a period when health problems may arise [1] and where a majority of maternal deaths occur [2]. It is also a time of tremendous physical, emotional and social change, which impact the mother's wellbeing [3]. Women are in need of support and practical help in caring for themselves and their child [1,2,4], especially where pain and fatigue may limit their ability to carry out regular tasks.

The majority of postpartum studies have focused on limited aspects of the experience [3], with a greater portion of studies focusing on the incidence of postpartum depression and its measurement, postpartum complications, and the administration of and access to postnatal care services [3,5–8]. While these are important issues for understanding women's postpartum experiences and the medical support needed, they are mainly limited to the biomedical aspects of this experience. Only a few studies in developing countries have investigated cultural beliefs, attitudes and practices related to the postpartum period and their implications for women's daily lives,

child-rearing and care-seeking behavior [9,10]. Various studies have noted the shortcomings of postpartum research, especially in the developing world [1,3,4,11–13]. In recent years, studies on overall postpartum wellbeing have gradually emerged, utilizing both qualitative [12–14] and quantitative methods [3,15]. These methods go beyond a simple count of physical and psychological health outcomes and provide a more holistic approach to assessing postpartum wellbeing by including items related to the postpartum woman's context [3,12–15].

It is well known that Palestinian women's postpartum care is limited in coverage and of questionable quality [16]. In the Palestinian context, as elsewhere, childbearing and motherhood are closely interlinked with prevalent cultural beliefs and practices. Typically, female relatives engage in initiating new mothers into motherhood, from breastfeeding, to bathing and physically caring for the child, giving advice, managing other aspects of health and wellbeing, and caring for the family. With increasing restrictions to mobility due to geopolitical and financial reasons [17,18], there is a possibility that this support system has

changed, especially as more young couples are leaving their homes to seek employment in the cities, which are mainly located in the center of the West Bank [18]. This could mean that new mothers must cope with motherhood in isolation from the traditional female relative support system.

Given the scarcity of information on the postpartum period in the Occupied Palestinian Territory, as well as the changing geopolitical context, we have embarked on a quality-of-life (QoL) study of postpartum Occupied Palestinian Territory women living in the West Bank and Gaza Strip, including Palestinian East Jerusalem. The purpose was to provide evidence for policy formulation and interventions that are appropriate for women's contextual needs. QoL tools have been previously used to assess the wellbeing of study-populations within a more holistic framework [3,19]. Women's perceptions of their wellbeing play a significant role in understanding what kind of support they require to prevent maternal morbidity and improve their experience during this vulnerable period of their lives. As the postpartum is a period of considerable change that encompasses many facets of women's lives [20], a QoL approach seemed appropriate to capture the complexity, diversity and specificity of this experience in the Palestinian context. It also assists in focusing on the postpartum period as a natural process requiring different support strategies rather than a series of problems to be solved [21].

In this study, we utilize an adapted version of the Maternal Postpartum Quality-of-Life Questionnaire (MAPP-QoL) [3] in order to assess Palestinian women's postpartum QoL and factors associated with the variations in their QoL scores. This tool was chosen because it includes physical, psychological, social and socioeconomic elements relevant to the postpartum – aspects that are relevant to the local Palestinian context. Furthermore, given the quantitative orientation of the tool, it can be used on a large sample size more easily than qualitative methods. To our knowledge, this is the first QoL study conducted on postpartum women in the Middle East and North Africa region, and we hope that it will be able to highlight important determinants of postpartum QoL as well as help to guide research and policy agenda.

Methods

Study instrument

The adaptation of the instrument was ascertained in a series of five focus-group discussions with postpartum women residing in the Ramallah governorate. The adapted Arabic-language version of the questionnaire included the original components as well as socio-demographic questions, satisfaction questions on items deemed important by women participating in the focus group discussions, and other questions on women's preferences, pregnancy intentions and care-seeking behaviors. Box 1 provides an overview of the main domains and items included in the instrument. The order of the MAPP-QoL items was maintained, with the exception of the item on satisfaction with sex life. This item was placed at the end of all the satisfaction questions because of uncertainty regarding the participants' willingness to answer this question, given the local norms [19]. Women were asked to indicate their level of satisfaction with each item on a scale of 1–6 (1 = very dissatisfied, 6 = very satisfied).

Sample & data collection

A double-sampling technique was used to obtain the sample for this study. A subsample of women reporting as pregnant in the nationally representative 2006 Palestinian Family Health Survey [16], which was conducted between 1 November 2006 and 20 January 2007, were included in the sample. The data collection took place between 13 August 2007 and 1 September 2007. This technique ensured that the women included in the sample were in their first year postpartum. A total of 1159 women reported as pregnant in the Palestinian Family Health Survey, of which 88.1% were included in the final sample of 1020 women who had given birth sometime between 1 November 2006 and 1 September 2007 (response rate of 88.3% resulted in a sample of 1023 women, where three women were excluded due to missing delivery-date information). Women who had not yet delivered were not included in the study. The questionnaire was administered through one-to-one interviews conducted by trained female fieldworkers at the postpartum women's place of residence.

Data analysis

Data analysis was conducted using Statistical Package for the Social Sciences (SPSS) version 15.0. Preliminary data analysis began with the examination of descriptive statistics. Postpartum QoL scores were scored according to the domains and algorithm defined by Hill *et al.*, with a possible range of scores from 0 to 30 (Box 1) [3]. Bivariate analyses were conducted using the MAPP-QoL domain scores and sociodemographic variables through t-tests and one-way analyses of variance (ANOVA). The variables that were significantly associated ($p \leq 0.10$) with QoL scores in the bivariate analyses were entered as independent variables in the multivariate regression analyses. Other variables that did not impact significantly but had social significance were maintained in the multivariate analysis; variables that were proxies for health status (e.g., visits to health professionals and having health insurance) were also entered in the multivariate analysis despite insignificance in the bivariate analysis. The principle assumptions for linear regression models were checked and found to be at acceptable levels for the sample. Chow tests were also conducted to assure that separate regression analyses by region were not necessary.

Variable explanations

Two factors were used as proxies for women's socioeconomic status: an amenities index and a crowding rate [22]. The amenities index includes a list of 18 household amenities. 'Yes' responses were counted for all women. A crowding rate was calculated by dividing the number of household members by the number of rooms for household use. A recoded binary pregnancy wantedness variable, where mistimed and unwanted pregnancies were categorized as unwanted, was included in the regression analyses.

Results

The mean age of the sample was 28 years (range: 15–46 years). The average number of children per woman was four, where 14.5% of the women in the sample were first-time mothers. Almost half of women reported that emotional support was the most important

type of support they needed during the postpartum period; while almost two-thirds of women indicated that the first week postpartum was the most difficult. TABLE 1 provides a summary of the sample characteristics as well as their support type preferences.

MAPP-QoL scores

The mean overall MAPP-QoL score was 21.53 (standard deviation = 3.66), where mean scores ranged from 19.74 in the socioeconomic domain to 23.12 in the relational-spouse domain. TABLE 2 provides an overview of mean QoL domain scores by region.

Most of the variables tested were significantly associated with at least one postpartum QoL domain in the bivariate analyses, with the exception of postpartum duration. Age, parity, refugee status, having used family planning at the time of conception, having lost a relative due to Israeli occupation violence, having a previous miscarriage or stillbirth, having previously lost a child soon after birth, having health insurance and a high crowding rate were all negatively associated with most MAPP-QoL domains. Residence in a rural setting, residence in the North West Bank, a high number of household amenities, education, employment, not visiting a health professional for personal-care issues during the postpartum period, and a wanted pregnancy were all positively associated with high postpartum QoL.

The multivariate analyses indicated that women with an unwanted pregnancy had significantly lower scores in all MAPP-QoL domains. Women residing in the North West Bank had higher scores in all the domains except the socioeconomic and the health-and-functioning domains. Refugee women had lower scores in all domains except the relational-spouse and the relational-family and friends domains. Women reporting to have lost a relative due to Israeli occupation had lower scores in all domains except the relational-spouse domain. Women with lower standards of living had lower scores in all domains except the health-and-functioning domain. Older women had lower scores in the health-and-functioning domain. Women who had experienced a previous miscarriage or stillbirth had significantly lower scores on the overall QoL, health-and-functioning, and relational-spouse domains. The number of health professionals seen for personal-care issues during the postpartum was significantly positively associated with the relational family and friends domain scores.

The total percent of variance (R^2) explained by the model ranged from 6.5% in the health-and-functioning domain to 16.2% in the socioeconomic domain. TABLES 3 & 4 summarize the results of the regression analyses for each of the domains.

Discussion

The results indicate that a high of 44.1% of women reported that emotional support to be the most important type of support they needed during the postpartum period, compared with other types of support. As can be seen from the women's responses (TABLE 1), only approximately 21% of women felt that medical support was the most important type of support they needed. This indicates that health services and community-outreach programs need to go beyond the biomedical in order to fulfill women's needs as women express them. This finding highlights the need to include

Box 1. Maternal Postpartum Quality-of-Life Questionnaire domains and items.

Psychological baby domain

- Amount of control you have over your life
- Your peace of mind
- Your happiness in general
- Your life in general
- The amount of worries you have in your life
- Your baby's health
- Your ability to feed your newborn
- Your daily life routine

Socioeconomic

- Your home/apartment/place where you live
- Your neighborhood
- Your financial independence
- Your ability to meet financial obligations
- Your access to medical care
- Your access to transportation
- Your living conditions in your home
- Your materialistic possessions
- Your financial capacity
- Your employment
- Your husband's employment

Health and functioning

- Your health
- The amount of pain that you have
- Amount of energy for daily activities
- Your ability to take care of yourself without help
- Your physical appearance
- Your breasts
- Your surgical incision or episiotomy
- Your sex life

Relational spouse

- The emotional support you get from your husband
- Your relationship with your husband
- Your husband's health
- Your overall conditions in your home
- Your overall surrounding/environment

Relational family and friends

- Your ability to meet family obligations
- The assistance with baby care and other children
- Time for other children
- The emotional support you get from
 - Extended family
 - Friends or other people
- Time for maintaining the household
- Time for friends/relatives
- Time for husband
- Time for yourself

Table 1. Sample characteristics.

| Item | Value |
|--|------------|
| Age | |
| Mean | 28.05 |
| Range | 15–46 |
| Standard deviation | 6.186 |
| Parity | |
| Mean | 4.11 |
| Range | 1–14 |
| Standard deviation | 2.416 |
| Number of amenities available in the household | |
| Mean | 8.32 |
| Range | 1–16 |
| Standard deviation | 2.643 |
| Crowding rate (persons/room) | |
| Mean | 2.23 |
| Range | 0.31–13.00 |
| Standard deviation | 1.366 |
| Postpartum duration (weeks) | |
| Mean | 21.0188 |
| Range | 0–44 |
| Standard deviation | 10.013 |
| Locality type (%) | |
| Urban | 53.1 |
| Rural | 29.5 |
| Camp | 17.4 |
| Region (%) | |
| North West Bank | 22.3 |
| Center West Bank | 12.9 |
| South West Bank | 18.2 |
| Gaza | 46.6 |
| Did you lose a relative due to Israeli occupation violence? (%) | |
| Yes | 18.5 |
| No | 81.5 |
| Education (%) | |
| Primary | 24.1 |
| Preparatory | 36.7 |
| Secondary | 24.5 |
| Post-secondary | 14.7 |
| Employment (%) | |
| Employed | 4.6 |
| Not employed | 95.4 |

Table 1. Sample characteristics.

| Item | Value |
|--|-------|
| Family planning use (%) | |
| Was using directly before pregnancy | 27.6 |
| Was not using | 72.4 |
| Pregnancy wanted-ness (%) | |
| Wanted | 62.8 |
| Mistimed | 25.2 |
| Unwanted | 12.0 |
| Number of visits to health professionals for personal health issues in the postpartum (%) | |
| None | 36.5 |
| One | 32.6 |
| Two | 28.6 |
| Three | 2.3 |
| Do you have health insurance? (%) | |
| Yes | 85.4 |
| No | 14.6 |
| Have you ever had a miscarriage or a stillbirth? (%) | |
| Yes | 41.2 |
| No | 58.8 |
| Have you ever given birth to a child that died soon after? (%) | |
| Yes | 11.2 |
| No | 88.8 |
| What is the most important type of support you need during the postpartum? (%) | |
| Social | 9.7 |
| Emotional | 44.1 |
| Practical | 5.1 |
| Medical | 20.8 |
| Financial | 20.3 |
| What is the most difficult period during the postpartum? (%) | |
| First week | 61.2 |
| First month | 24.0 |
| First 3 months | 9.3 |
| First 6 months | 2.3 |
| First year | 0.6 |
| No difficulty | 2.7 |

Table 2. Quality-of-life domain scores by region.

| Region | Measure | Overall quality of life | Socioeconomic | Health and functioning | Psychological baby | Relational family and friends | Relational spouse |
|-------------------|--------------------|-------------------------|---------------|------------------------|--------------------|-------------------------------|-------------------|
| North West Bank | Mean | 22.37 | 20.22 | 21.30 | 23.36 | 23.82 | 24.76 |
| | Minimum | 10.58 | 4.20 | 6.75 | 0.00 | 11.25 | 4.50 |
| | Maximum | 29.85 | 30.00 | 30.00 | 30.00 | 30.00 | 30.00 |
| | Standard deviation | 3.96 | 6.03 | 5.41 | 5.05 | 3.68 | 4.68 |
| Central West Bank | Mean | 21.02 | 20.00 | 20.88 | 21.51 | 21.28 | 22.44 |
| | Minimum | 4.11 | 2.40 | 3.75 | 0.75 | 0.00 | 0.00 |
| | Maximum | 29.53 | 30.00 | 29.25 | 30.00 | 30.00 | 30.00 |
| | Standard deviation | 3.96 | 5.38 | 4.51 | 4.81 | 4.46 | 4.56 |
| South West Bank | Mean | 21.58 | 19.36 | 21.70 | 22.47 | 22.48 | 23.26 |
| | Minimum | 9.85 | 6.00 | 6.86 | 7.50 | 10.00 | 9.00 |
| | Maximum | 27.38 | 28.20 | 30.00 | 30.00 | 30.00 | 30.00 |
| | Standard deviation | 3.22 | 4.50 | 4.44 | 3.88 | 3.20 | 3.77 |
| Gaza Strip | Mean | 21.25 | 19.58 | 20.97 | 21.77 | 22.38 | 22.47 |
| | Minimum | 8.53 | 1.80 | 4.50 | 6.00 | 6.00 | 4.50 |
| | Maximum | 30.00 | 30.00 | 30.00 | 30.00 | 30.00 | 30.00 |
| | Standard deviation | 3.53 | 5.49 | 4.40 | 4.29 | 3.69 | 4.19 |
| All | Mean | 21.53 | 19.74 | 21.16 | 22.22 | 22.57 | 23.12 |
| | Minimum | 4.11 | 1.80 | 3.75 | 0.00 | 0.00 | 0.00 |
| | Maximum | 30.00 | 30.00 | 30.00 | 30.00 | 30.00 | 30.00 |
| | Standard deviation | 3.66 | 5.44 | 4.67 | 4.51 | 3.79 | 4.37 |

Total number of participants = 1020.

community-based home-visiting programs within existing maternal and child health services to provide women with the support they need, especially in the first week postpartum, given that almost two-thirds of women indicated that this was the most trying period.

The mean MAPP-QoL scores indicate that Palestinian women are generally slightly satisfied with their lives during the postpartum period. The main factors found to affect the QoL scores in this study were: region, refugee status, the loss of a relative due to Israeli occupation violence, a high crowding rate and the number of amenities in the household, previous miscarriage or stillbirth, and the wantedness of the pregnancy.

The crowding rate and the number of household amenities were used in the analysis of this study as proxies for socioeconomic status. Women's postpartum QoL was positively associated with better socioeconomic status. This is comparable with international literature [23,24], indicating that socioeconomic status is associated with health status, access to health services, wellbeing and life satisfaction. In this sample, women with better socioeconomic status were also less likely to have an unwanted or untimely pregnancy, which has been negatively associated with maternal wellbeing in other studies [25–28] and QoL in this study.

Pregnancy intention and wantedness have been issues of much debate in the literature [25–28]. Previous studies have associated unwanted pregnancies with poor infant and maternal outcomes, negative behaviors during pregnancy and increased stress during pregnancy and after delivery [25–28]. Similarly, the results of this

study indicate that an unwanted pregnancy is negatively associated with perceived QoL. In this study, an unintended pregnancy was negatively associated with most domains in the bivariate analyses but was not significant in the regression analysis. This may indicate that wantedness rather than intention is a more important indicator of postpartum wellbeing. However, the meaning that women assign to wantedness of pregnancy in the Palestinian context needs further investigation, as it is probably quite different from other countries where fertility is low and single motherhood is prevalent.

Similar to the findings of an analysis of the 2004 Demographic and Health Survey [28], the data indicate that there is an inverse relation between pregnancy wantedness and women's age and parity. The association between wantedness and a poorer perception of socioeconomic components of QoL may be linked to women's perceptions of the household's ability to cope with the costs associated with childrearing.

In this study, women reporting previous miscarriage or stillbirth were significantly more likely to have lower scores on the overall QoL, health-and-functioning, and relational-spouse domains. Previous studies have shown that women who have experienced a miscarriage were at greater risk of depressive morbidity [29–31] and are generally in a vulnerable emotional state. Other studies have also examined the effects of experiencing a miscarriage on the relationship between a woman and her spouse [30]. One Swedish study found that there was no statistically significant association between previous history

Table 3. Regression table: overall maternal postpartum quality-of-life, socioeconomic, and health-and-functioning domains.

| Independent variables | Overall quality of life | | | Socioeconomic | | | Health and functioning | | |
|---|-------------------------|-------|--------|---------------|-------|--------|------------------------|-------|--------|
| | β | SE | Sig. | β | SE | Sig. | β | SE | Sig. |
| Constant | 19.569 | 2.107 | <0.001 | 12.626 | 3.080 | <0.001 | 22.029 | 2.789 | <0.001 |
| North/Gaza | -1.085 | 0.353 | 0.002 | -0.375 | 0.516 | 0.467 | -0.578 | 0.467 | 0.216 |
| North/South | -0.809 | 0.364 | 0.026 | -0.603 | 0.532 | 0.257 | 0.104 | 0.482 | 0.830 |
| North/Center | -1.778 | 0.402 | <0.001 | -0.869 | 0.588 | 0.140 | -0.633 | 0.533 | 0.235 |
| Number of health professionals visited | 0.180 | 0.137 | 0.189 | 0.291 | 0.200 | 0.146 | -0.231 | 0.181 | 0.203 |
| Urban rural | -0.020 | 0.292 | 0.946 | -0.254 | 0.428 | 0.552 | -0.561 | 0.387 | 0.148 |
| Urban camp | -0.160 | 0.327 | 0.626 | 0.055 | 0.479 | 0.909 | -0.348 | 0.433 | 0.422 |
| Refugee status recode | 0.663 | 0.259 | 0.011 | 0.778 | 0.379 | 0.040 | 0.679 | 0.343 | 0.048 |
| Currently working/not working | -0.330 | 0.568 | 0.561 | -0.380 | 0.830 | 0.647 | -0.967 | 0.751 | 0.199 |
| Pregnancy wanted-ness | -1.151 | 0.270 | <0.001 | -0.950 | 0.395 | 0.016 | -1.392 | 0.358 | <0.001 |
| Age | -0.035 | 0.029 | 0.220 | -0.031 | 0.042 | 0.452 | -0.062 | 0.038 | 0.103 |
| Years of schooling | -0.016 | 0.041 | 0.692 | 0.020 | 0.060 | 0.740 | -0.029 | 0.055 | 0.597 |
| Parity | 0.048 | 0.083 | 0.559 | 0.038 | 0.121 | 0.753 | 0.096 | 0.109 | 0.382 |
| Health insurance? | 0.082 | 0.337 | 0.807 | 0.570 | 0.493 | 0.248 | -0.006 | 0.446 | 0.989 |
| Did you lose a relative due to the Israeli occupation? | 0.756 | 0.293 | 0.010 | 0.988 | 0.428 | 0.021 | 0.663 | 0.388 | 0.087 |
| When you found out you were pregnant, were you using any form of family planning? | 0.350 | 0.289 | 0.227 | 0.285 | 0.423 | 0.500 | 0.480 | 0.383 | 0.211 |
| Have you ever had a miscarriage or stillbirth? | 0.481 | 0.239 | 0.045 | 0.562 | 0.350 | 0.109 | 0.682 | 0.317 | 0.031 |
| Have you ever given birth to a child that died soon after? | 0.325 | 0.370 | 0.379 | 0.690 | 0.541 | 0.203 | 0.314 | 0.490 | 0.522 |
| Duration of postpartum | 0.006 | 0.011 | 0.592 | 0.003 | 0.017 | 0.839 | 0.013 | 0.015 | 0.406 |
| Crowding | -0.274 | 0.093 | 0.003 | -0.536 | 0.136 | <0.001 | -0.047 | 0.123 | 0.702 |
| Amenities available in household | 0.229 | 0.047 | <0.001 | 0.560 | 0.069 | <0.001 | 0.055 | 0.062 | 0.376 |
| R ² | | | 0.132 | | | 0.162 | | | 0.065 |

Total number of participants = 1020.

β : β -coefficient; Center: Central West Bank; Gaza: Gaza Strip; North: North West Bank; SE: Standard error; Sig.: Significance; South: South West Bank.

of miscarriages and depressive mood in early pregnancy and the postpartum period or with postpartum problems, such as dissatisfaction with support [31].

It may be that past feelings of loss as a result of a miscarriage or stillbirth may have caused some of these women to be more anxious in later childbirth, which was noted by some women taking part in the focus-group discussions conducted prior to the survey (results not reported). In this study, women reporting past miscarriages were more likely to be less educated, in the older age groups, have more children and report their last pregnancy as either unwanted or mistimed. The higher parity and prevalence of unwanted pregnancies among these women may be associated with the greater likelihood of these women being in the older age groups and, hence, are at the later stages of childbearing.

Women who reported loss of a relative due to Israeli occupation violence had significantly lower scores on most of the QoL domains. The nature of this association may be multifaceted. The international literature indicates that grief resulting from the loss of a loved one is a stressful life event that can have an adverse affect on emotional wellbeing, can induce greater stress and has been associated with restlessness in children [32–34]. Further analysis of the data also indicates that women who have lost a relative owing to Israeli occupation were more likely to live under more crowded conditions and have fewer household amenities available. This may indicate that there is an economic component associated with the loss of a relative and its consequences on the women's QoL. We do not have any information from this sample to conclude whether women who have lost a relative owing to Israeli occupation are more likely to be in the

Table 4. Regression table: psychological baby, relational family and friends, and relational spouse domains.

| Independent variables | Psychological baby | | | Relational family and friends | | | Relational spouse | | |
|---|--------------------|-------|--------|-------------------------------|-------|--------|-------------------|-------|--------|
| | β | SE | Sig. | β | SE | Sig. | β | SE | Sig. |
| Constant | 18.615 | 2.638 | <0.001 | 24.021 | 2.224 | <0.001 | 23.926 | 2.525 | <0.001 |
| North/Gaza | -1.592 | 0.442 | <0.001 | -1.458 | 0.372 | <0.001 | -2.079 | 0.423 | <0.001 |
| North/South | -0.959 | 0.456 | 0.036 | -1.410 | 0.384 | <0.001 | -1.369 | 0.436 | 0.002 |
| North/Center | -2.264 | 0.504 | <0.001 | -2.901 | 0.425 | <0.001 | -2.780 | 0.482 | <0.001 |
| Number of health professionals visited | 0.132 | 0.171 | 0.442 | 0.448 | 0.145 | 0.002 | 0.240 | 0.164 | 0.144 |
| Urban rural | 0.049 | 0.366 | 0.894 | 0.447 | 0.309 | 0.148 | 0.364 | 0.350 | 0.299 |
| Urban camp | -0.170 | 0.410 | 0.678 | -0.211 | 0.346 | 0.542 | -0.167 | 0.392 | 0.670 |
| Refugee status recode | 0.797 | 0.325 | 0.014 | 0.483 | 0.274 | 0.078 | 0.418 | 0.311 | 0.179 |
| Currently working/not working | 0.138 | 0.711 | 0.846 | 0.048 | 0.599 | 0.936 | -0.773 | 0.680 | 0.256 |
| Pregnancy wantedness | -1.486 | 0.338 | <0.001 | -0.923 | 0.285 | 0.001 | -1.025 | 0.324 | 0.002 |
| Age | -0.030 | 0.036 | 0.395 | -0.017 | 0.030 | 0.582 | -0.032 | 0.034 | 0.347 |
| Years of schooling | 0.035 | 0.052 | 0.500 | -0.098 | 0.044 | 0.024 | -0.007 | 0.050 | 0.895 |
| Parity | 0.101 | 0.103 | 0.330 | -0.018 | 0.087 | 0.837 | -0.019 | 0.099 | 0.845 |
| Health insurance? | 0.013 | 0.422 | 0.975 | -0.268 | 0.356 | 0.451 | 0.039 | 0.404 | 0.924 |
| Did you lose a relative due to the Israeli occupation? | 0.991 | 0.367 | 0.007 | 0.610 | 0.309 | 0.049 | 0.359 | 0.351 | 0.306 |
| When you found out you were pregnant, were you using any form of family planning? | 0.406 | 0.362 | 0.262 | 0.364 | 0.305 | 0.233 | 0.104 | 0.346 | 0.764 |
| Have you ever had a miscarriage or stillbirth? | 0.493 | 0.300 | 0.100 | 0.182 | 0.252 | 0.470 | 0.546 | 0.287 | 0.057 |
| Have you ever given birth to a child that died soon after? | 0.621 | 0.464 | 0.181 | -0.281 | 0.391 | 0.473 | 0.276 | 0.444 | 0.535 |
| Duration of postpartum | -0.008 | 0.014 | 0.593 | 0.013 | 0.012 | 0.263 | 0.012 | 0.014 | 0.389 |
| Crowding | -0.245 | 0.117 | 0.036 | -0.195 | 0.098 | 0.048 | -0.309 | 0.112 | 0.006 |
| Amenities available in household | 0.188 | 0.059 | 0.001 | 0.037 | 0.050 | 0.462 | 0.237 | 0.057 | <0.001 |
| R ² | | | 0.106 | | | 0.097 | | | 0.127 |

Total number of participants = 1020.

β : β coefficient; Center: Central West Bank; Gaza: Gaza Strip; North: North West Bank; SE: Standard error; Sig.: Significance; South: South West Bank.

low socioeconomic segments of the population as a result of that loss, or whether low socioeconomic status makes them more vulnerable to the loss of a relative.

The association between refugee status and perceived QoL also seems to be mediated by various factors. The international literature shows that refugees are generally at a disadvantage and tend to live under poorer conditions and have poorer health statuses [35]. This is comparable with the results of this study. Further analysis, however, indicates that there may be other dimensions to this association. Approximately 67% of the refugees in the study sample reside in the Gaza Strip (66.9% of the Gaza Strip sample were refugees). The Gaza Strip has been characterized by spiraling deterioration in socioeconomic and political conditions, as well as more stringent restrictions on movement than in the West Bank [101].

Given that the Central West Bank has the best socioeconomic conditions, in comparison to other Palestinian regions, and although it has also been negatively affected by closures, military incursions and isolation, it has been to a lesser extent than the North of the West Bank [101], the low ranking of the Central West Bank seems peculiar. Furthermore, Gaza Strip respondents had similar, and at times better, scores than the Central West Bank, while the fieldwork for this study was conducted at a time of high levels of factional violence, dwindling economic conditions and increased closure in the Gaza Strip.

Various studies have pointed to differences among the regions of the West Bank and Gaza Strip [18,36], and some have also noted more striking variations within the West Bank [18,36]. Johnson notes that the variations in living practices and preferences were stronger among households living in the different regions of the

West Bank and Gaza Strip than they were among households living in different types of localities or with varying degrees of wealth [36]. QoL instruments, such as the one used in this study, are highly dependent on individuals' stated satisfaction and perception of wellbeing. Satisfaction is relative and may not necessarily reflect actual conditions [37]. The literature has shown that what people consider to be satisfactory varies, and can be determined by ethnicity, education, socioeconomic status and gender, among other factors [37–39]. Lazarus demonstrated that class and education play a role in determining what women want and expect in their experience of medical care during pregnancy and childbirth [38]. Women with better socioeconomic status and higher levels of education had expectations that constituted higher levels of control and choice, and a more elaborate conception of quality medical care, reflecting higher exposure to choices; while poorer women reported preferences that seemingly required less of the health provider, given limited choices and exposure to the notion of choice. This may indicate that poorer women attain their levels of satisfaction more quickly than women of higher socioeconomic status; or that they are less demanding of the health system in general and would require less input from the health professional in order for them to attain their levels of satisfaction.

The regions of the Occupied Palestinian Territory can vary considerably in terms of the behaviors and preferences of their residents [36], as well as their degree of exposure to the outside world and other modes of living [18]. In a study of the populations of three main West Bank towns, the authors noted that the populations of these towns differ in their acceptance of and adherence to the local context and ways of life and their perceptions of the possibilities available [18]. The three West Bank towns in question are Ramallah in the Center, Hebron in the South, and Nablus in the North. Ramallah has become of central importance to the Palestinian Authority-controlled West Bank, with the most modern lifestyles and the most open status to the outside world. Hebron is the largest town in the West Bank and the main urban setting in the South West Bank but maintains a more traditional way of life. Nablus is the largest city and cultural center in the North West Bank but has been the most isolated as a result of closures and siege [17]. Thus, these regional characteristics can help provide a partial explanation for the variations between the North, Central and South West Bank in terms of perceived QoL.

A possible explanation for the relatively low MAPP-QoL scores of Central West Bank women may lie in the greater proportion of young couples coming to the Central West Bank in search of better living conditions [18]. While the socioeconomic status of these couples may improve by moving to the Central West Bank, they are often cut off from their traditional support system, especially given movement and access restrictions [40]. Social-support systems have been demonstrated to have a positive effect on postpartum wellbeing in other studies [1–5,7]. It may be that the more intact support systems in other regions of the Occupied Palestinian Territory have played a role in buffering the effects of closure and difficult socioeconomic conditions. Further study is required to understand the regional variations in QoL scores.

While the living conditions in the Gaza Strip have been consistently worse than the West Bank, a Palestinian study of QoL conducted at the end of 2005 indicated that Gaza Strip residents had higher QoL scores [19]. In the case of the Gaza Strip, it may be that, under conditions of impoverishment, women in the Gaza Strip had adapted their expectations and, consequently, their ability to 'desire' and express their satisfaction in an adequate manner was limited under conditions of severe distress [37,39]. It may also be that motherhood has mediated the effects of conflict and deprivation by providing women with a source of joy and self-esteem in a culture that values children and often defines women in terms of their role as mothers and wives [41,42].

When compared with US women taking part in a MAPP-QoL study [3,15], the women in this sample seem to have comparable overall MAPP-QoL Scores. The main variations in the scores seem to exist in the relational-family and health-and-functioning domains, where the Palestinian women had higher scores, and the socioeconomic domain, where the US women had better scores. Although the US sample is much smaller than the sample in this study, the variations in domain scores are indicative of contextual variations where Palestinian women rely more heavily on family social-support systems during the postpartum than US women.

Expert commentary & five-year view

The results of this study have highlighted the diversity and complexity of the social context; in particular, the region where women live and the issue of pregnancy wantedness, in postpartum QoL, calling for more in-depth research to more deeply understand the determinants of variations by district. The role of pregnancy wantedness in determining QoL scores indicates that further research is also required to understand the nature and meaning of pregnancy wantedness in the Occupied Palestinian Territory in order to institute more effective family-planning services that better serve Palestinian women's needs.

Postpartum care in the Occupied Palestinian Territory is deficient in its availability, quality, propriety of timing, integration of maternal–infant services and utilization [16,43]. Given the changes in the traditional support structures that have begun to take form, more active involvement of the healthcare system, the community and the spouse will be needed in order to bridge support gaps. Creative alternatives to increase coverage and quality of postpartum care might include systematizing regular home visits, integrating maternal and infant postpartum care (given the high utilization of medical infant-care services), and raising awareness in society and among policy-makers of the importance of the postpartum period for the health of the population, as well as the need to go beyond biomedical services to fully address women's needs during this trying period. Removing movement restrictions within the West Bank and between the West Bank and Gaza Strip will make it easier for women to access their traditional familial social-support systems, which can play an important role in the provision of emotional and practical support to the new mother, as well as health services in general. Although this would be an important intervention, it is one that would require a political solution beyond the scope of this study.

It should be noted that while the use of the MAPP-QoL instrument provides us with a holistic understanding of women's perceptions of their lives during the postpartum period, the instrument has a limited ability to provide detailed information on specific aspects of women's lives during the postpartum period. In order to gain the necessary insight into these aspects and better understand women's postpartum experiences, qualitative data-collection methods were utilized in the instrument-validation phase of this study.

While the usefulness of QoL tools, such as that used in this study, have been increasingly noted [3,12–15,19], it is also important to enhance the substance of these tools through complementary data-collection methods or further research into areas highlighted by these methods. The MAPP-QoL tool is an important starting point to understanding women's postpartum wellbeing that should also be followed by further research into postpartum health issues and morbidity, as well as social and emotional components of the postpartum experience. This will assist in better informing health policy and interventions.

It is likely that the utilization of QoL tools and measures will increase in the next few years. In the Middle East, there has been increasing interest in undertaking QoL research, indicating that QoL research in the region is likely to grow. Further development of culturally applicable and valid tools is important to assuring accuracy and relevance in the data collected. These tools can be effective in informing policy decisions and health interventions. They will also be important in guiding research.

References

Papers of special note have been highlighted as:

• of interest

•• of considerable interest

- 1 MacArthur C, Winter H, Bick D *et al*. Effects of redesigned community postnatal care on women's health 4 months after birth: a cluster randomised controlled trial. *Lancet* 359(9304), 378–385 (2002).
- 2 The Technical Working Group. *Postpartum Care of The Mother and Newborn: a Practical Guide*. WHO, Geneva, Switzerland (1998).
- 3 Hill PD, Aldag JC, Hekel B, Riner G, Bloomfield P. Maternal postpartum quality of life questionnaire. *J. Nurs. Meas.* 14(3), 205–220 (2006).
- **Important in instrument development and provides a background on quality-of-life research in the postpartum period.**
- 4 Wilkins C. A qualitative study exploring the support needs of first-time mothers on their journey towards intuitive parenting. *Midwifery* 22, 169–180 (2006).
- **Provides a background on women's needs in the postpartum period.**
- 5 Dennis CE. Preventing postpartum depression part II: a critical review of nonbiological interventions. *Can. J. Psychiatry* 49(8), 526–538 (2004).

- 6 Gibb S, Hundley V. What psychosocial well-being in the postnatal period means to midwives. *Midwifery* 23(4), 413–424 (2007).
- 7 Kaewsarn P, Moyle W, Creedy D. Traditional postpartum practices among Thai women. *J. Adv. Nurs.* 41(4), 358–366 (2003).
- 8 Lawn J, Cousens S, Zupanet J. 4 million neonatal deaths: when? where? why? *Lancet* 365, 891–900 (2005).
- 9 Piperata A. Forty days and forty nights: a biocultural perspective on postpartum practices in the Amazon. *Soc. Sci. Med.* 67, 1094–1103 (2008).
- 10 Maimbolwa MC, Yamba B, Diwan V, Ransjo-Arvidson AB. Cultural childbirth practices and beliefs in Zambia. *J. Adv. Nurs.* 34, 263–274 (2003).
- 11 AbouZahr C, Berer M. When pregnancy is over: preventing post-partum deaths and morbidity. In: *Safe Motherhood Initiatives: Critical Issues*. Berer M, Ravindran T (Eds). Blackwell Science, Oxford, UK, 183–189 (1999).
- 12 Symon A, Macdonald A, Ruta D. Postnatal quality of life assessment: introducing the Mother-Generated Index. *Birth* 29(1), 40–46 (2002).

- **Important in instrument development and provides a background on quality-of-life research in the postpartum period.**
- 13 Symon A, MacKay A, Ruta D. Postnatal quality of life: a pilot study using the Mother-Generated Index. *J. Adv. Nurs.* 42(1), 21–29 (2003).
- **Important in instrument development and provides a background on quality-of-life research in the postpartum period.**
- 14 Symon A, McGreavey J, Picken C. Postnatal quality of life assessment: a validation of the Mother-Generated Index. *BJOG* 110, 865–868 (2003).
- **Important in instrument development and provides a background on quality-of-life research in the postpartum period.**
- 15 Hill PD, Aldag JC. Maternal perceived quality of life following childbirth. *J. Obstet. Gynecol. Neonatal Nurs.* 366, 328–334 (2007).
- **Important in instrument development and provides a background on quality-of-life research in the postpartum period.**
- 16 Palestinian Central Bureau of Statistics. *Palestinian Family Health Survey, 2006: Final Report*. Palestinian Central Bureau of Statistics, Ramallah, Palestine (2007).

Ethical conduct of research

Verbal consent was received from the participants of the study. Full disclosure of study objectives, secrecy, anonymity and the full freedom to take part in or discontinue participation in the study were assured to the study participants. Ethical approval was obtained from the ethical committee at the Institute of Community and Public Health at Birzeit University.

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Key issues

- Despite its importance to maternal and child health, research on the postpartum period is limited.
- Quality-of-life tools have been increasingly utilized in health research and can be important in providing insight into the perceived wellbeing of population groups.
- These tools should be complemented by other data-collection tools in order to check validity and applicability.

- 17 Office for the Coordination of Humanitarian Affairs. *Increasing Need, Decreasing Access: Tightening Control on Economic Movement*. Office for the Coordination of Humanitarian Affairs, Jerusalem, Israel (2008).
- 18 Taraki L, Giacaman R. Modernity aborted and reborn: ways of being urban in Palestine. In: *Living Palestine*. Taraki L (Ed.). Syracuse University Press, NY, USA, 1–50 (2006).
- Provides contextual background on Palestinian society and Palestinian women.
- 19 Mataria A, Giacaman R, Stefanini A, Nandoo N, Kowal P, Chatterji S. The quality of life of Palestinians under a chronic political conflict: assessment and determinants. *Eur. J. Health Econ.* 10(1), 93–101 (2008).
- 20 Albers L. Health problems after childbirth. *J. Midwifery Womens Health* 45(1), 55–57 (2000).
- 21 Brady M, Winikoff B. Rethinking postpartum health care. *Proceedings of the Population Council*. NY, USA, 10–11 December 1992.
- 22 Chittleborough CR, Baum FE, Taylor AW, Hiller JE. A life-course approach to measuring socio-economic position in population health surveillance systems. *J. Epidemiol. Community Health* 60, 981–992 (2006).
- 23 Pinquart M, Sorensen S. Influences of socioeconomic status, social network, and competence on subjective well-being in later life: a meta-analysis. *Psychol. Aging* 15(2), 187–224 (2000).
- 24 Lantz PM, House JS, Mero RP, Williams DR. Stress, life events, and socioeconomic disparities in health: results from the Americans' Changing Lives study. *J. Health Soc. Behav.* 46, 274–288 (2005).
- 25 Trussell J, Vaughan B, Stanford J. Are all contraceptive failures unintended pregnancies? Evidence from the 1995 National Survey of Family Growth. *Fam. Plann. Perspect.* 31(5), 246–247 (1999).
- 26 Santelli J, Rochat R, Hatfield-Timajchy K *et al.* The measurement and meaning of unintended pregnancy. *Perspect. Sex. Reprod. Health* 35(2), 94–101 (2003).
- 27 Sable MR, Wilkinson DS. Impact of perceived stress, major life events and pregnancy attitudes on low birth weight. *Fam. Plann. Perspect.* 32(6), 288–294 (2000).
- 28 Giacaman R, Abu-Rmeileh NM, Mataria A, Wick L. Palestinian women's pregnancy intentions: analysis and critique of the Demographic and Health Survey 2004. *Health Policy* 85(1), 83–93 (2008).
- 29 Swanson KM. Research-based practice with women who have miscarriages. *Image J. Nurs. Sch.* 31(4), 339–345 (1999).
- 30 Abboud L, Liamputtong P. When pregnancy fails: coping strategies, support networks, and experiences with health care of ethnic women and their partners. *J. Reprod. Infant Psychol.* 23(1), 3–18 (2005).
- 31 Rubertsson C, Waldenstrom U, Wickberg B, Radestrad I, Hildingsson I. Depressive mood in early pregnancy and postpartum: prevalence and women at risk in a national Swedish sample. *J. Reprod. Infant Psychol.* 23(2), 155–166 (2005).
- 32 Lavee Y, McCubbin, HI, Olson DH. The effect of stressful life events and transition on family functioning and well-being. *J. Marriage Fam.* 49(4), 857–873 (1987).
- 33 Broman CL, Riba ML, Trahan MR. Traumatic events and marital well-being. *J. Marriage Fam.* 58(4), 908–916 (1996).
- 34 Goodyer IM, Wright C, Altham PM. Maternal adversity and recent stressful life events in anxious and depressed children. *J. Child Psychol. Psychiatry* 29(5), 651–666 (1988).
- 35 Taraki L. Palestinian society: contemporary realities and trends. In: *Palestinian Women: A Status Report*. Birzeit University Women's Studies Program, Ramallah, Palestine, 1–22 (1997).
- Provides contextual background on Palestinian society and Palestinian women.
- 36 Johnson P. Living together in a nation of fragments: dynamics of kin, place, and nation. In: *Living Palestine*. Taraki L (Ed.). Syracuse University Press, NY, USA, 51–102 (2006).
- Provides contextual background on Palestinian society and Palestinian women.
- 37 Sen A. The possibility of social choice. *Am. Econ. Rev.* 89(3), 349–378 (1999).
- Useful in understanding differences in perceived satisfaction in relation to differences in class, exposure and degree of deprivation.
- 38 Lazarus E. What do women want? issues of choice, control, and class in pregnancy and childbirth. *Med. Anthropol. Q.* 8(1), 25–46 (1994).
- Useful in understanding differences in perceived satisfaction in relation to differences in class, exposure and degree of deprivation.
- 39 Mataria A, Giacaman R, Khatib R, Moatti JP. Impoverishment and patients' "willingness" and "ability" to pay for improving the quality of health care in Palestine: an assessment using the contingent valuation method. *Health Policy* 75, 312–328 (2005).
- 40 Wick L. Building the infrastructure, modeling the nation: the case of birth in Palestine. *Cult. Med. Psychiatry* 32(3), 328–357 (2008).
- 41 Khawaja M. The recent rise in Palestinian fertility: permanent or transient? *Popul. Stud. (Camb.)* 54, 331–346 (2000).
- 42 Joseph S. Fieldwork and psychosocial dynamics of personhood. *Front. J. Women Stud.* 13(3), 9–32 (1993).
- 43 Dhaher E, Mikolajczyk RT, Maxwell AE, Kramer A. Factors associated with lack of postnatal care among Palestinian women: a cross-sectional study of three clinics in the West Bank. *BMC Pregnancy Childbirth* 8(26), 8–26 (2008).

Website

- 101 Amnesty International, Christian Aid, CAFOD *et al.* The Gaza Strip: a humanitarian implosion. Oxfam. www.oxfam.org.uk/resources/downloads/oxfam_gaza_lowres.pdf (Accessed 25 March 2008)

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