DOI: 10.1097/JPN.0b013e31827ed6db

CE **Continuing Education**

J Perinat Neonat Nurs • Volume 27 Number 1, 25–33 • Copyright © 2013 Wolters Kluwer Health | Lippincott Williams & Wilkins

Prevalence and Predictors of Postpartum Depression Among Arabic Muslim Jordanian Women Serving in the Military

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ABSTRACT

The purpose of this cross-sectional correlational study was to investigate the prevalence of symptoms and psychosocial predictors of postpartum depression (PPD) among Arabic Muslim Jordanian women serving in the military. Jordanian active-duty military women who had given birth within the last year ($n = 300$) and were working in 4 military hospitals participated in the study. Tools used included the Edinburgh Postnatal Depression Scale, the Impact of Event Scale–Revised, and the Multidimensional Perception of Social Support. Sixty-seven percent of study participants had mild to moderate symptoms of PPD, and 16% had high levels of symptoms of PPD. Seventy-five percent reported having adequate social support, and 75% reported perceived stress above the cutoff score. There was a strong positive significant relationship between symptoms of PPD and perceptions of stress. There was a significant moderate negative relationship between symptoms of PPD and perception of social support. Income, intendedness of pregnancy, mode of birth, family social support, and perception of stress were the strongest predictors of PPD. There was a reciprocal relationship between PPD and psychosocial variables, with women having low levels of perceived stress and satisfaction with social support having fewer symptoms of postpartum. These findings demonstrate the need to address the psychosocial needs of Arabic Muslim Jordanian childbearing women serving in the military through comprehensive interventions. Findings highlight the importance of social support in decreasing perceived stress and symptoms of PPD in these women.

Key Words: Arabic Muslim women, military women, postpartum depression

Postpartum depression (PPD) is recognized globally as a mental health concern associated with childbearing. There is a growing awareness of the significance of mental health in childbearing women. This disorder is one of the most serious complications of childbirth having a long-term impact on women's mental and physical health, maternal health, infant development, and family relationships.[1–3] The incidence of depression in women is greatest during their reproductive years, ranging from 10% to 20%.[1] Women may develop symptoms that have a significant impact on women's health and the physical and emotional health of the infant and the family. It is associated with disturbances in maternal-child relationships that may have an adverse impact on the child's cognitive and emotional development.[1,4–6] Postpartum depression is becoming acknowledged as a major public health issue, often unrecognized by childbearing women or their healthcare providers. The negative impact of PPD on women's biopsychosocial health is a topic of interest for global studies.

The prevalence of PPD in military women has received little attention in the literature, particularly in minority groups such as Arabic Muslim women on active military duty, and what factors put these women at risk for PPD.[7,8] The purpose of this study was to investigate the prevalence of and psychosocial predictors of symptoms of PPD in Jordanian Muslim childbearing women serving in the military.

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Disclosure: The authors have disclosed that they have no significant relationships with, or financial interest in, any commercial companies pertaining to this article.

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Submitted for publication August 13, 2012; accepted for publication: November 19, 2012.

LITERATURE REVIEW

Literature was reviewed focusing on prevalence of and risk factors for PPD, studies of PPD in Arabic Muslim women, Jordanian Muslim women, and in women on active military duty. Postpartum depression is a multifactorial disorder associated with a complex of biological, psychosocial, interpersonal, cultural, and perinatal variables. Biological variables include hormonal changes in the levels of adrenal steroids and prolactin during pregnancy and early after birth, which may contribute to postpartum mood changes. Psychosocial variables include previous depression, self-esteem, intimate partner violence, family relationships, coping mechanisms, maternal role transition, and demographic variables such as marital age, educational level, and socioeconomic status. Interpersonal variables include family interaction, partner support, and marital satisfaction. Perinatal variables include parity, birth experiences, mode of birth, infant temperament and health, and infant gender.[1,2,9–11]

Postpartum depression occurs during the first year after giving birth and is manifest by symptoms such as depressed mood, helplessness, persistent guilt, lack of concentration, social withdrawal, lack of interest in self-care, lack of pleasure, and loss of energy. Other symptoms include a low sense of self-worth, changes in appetite, sleep pattern disturbances, and suicidal ideation. Physical symptoms include change in appetite, exhaustion or fatigue, and sleep disorders.[1,2,12] Women with symptoms of PPD often have low engagement in health promotion behaviors, which may negatively impact their physical, emotional, and psychological well-being.[13]

Symptoms and risk factors for PPD may vary across culturally diverse women, and further inquiry is warranted documenting these differences.[14–17] For example, immigrant or refugee status,[18,19] giving birth to a female child, not breast-feeding, plural marriage (men married to multiple wives), place of residence (rural or urban), and consanguinity (marriage to first or second cousins, currently 19.5% in Jordan[20]), have been identified as potential risk factors for PPD.

Postpartum depression in Arabic Muslim women

The reported incidence of PPD among Arabic Muslim women ranges from 10% to 37%.[21–27] In a sample of 125 Arabic Muslim women living in the United Arab Emirates in the Middle East, 20% demonstrated moderate to high levels of symptoms of PPD. Study participants with significantly high levels of symptoms of PPD reported poor relationships with their mother-in-law, not breast-feeding, and having a negative body image.[21] In another study conducted in the United Arab Emirates, 10% of study participants ($n = 137$) had high levels of symptoms of PPD. Predictive variables included a history of depression, multiparity, and not breast-feeding.[23,24] In Lebanese Muslim women, the prevalence of symptoms of PPD ranged from 16% to 26% depending on if they lived in rural or urban areas of the country. Low levels of social support, a history of depression, and pregnancy complications were significantly associated with PPD symptoms.[27] Among 100 Moroccan Muslim women, the prevalence of symptoms of PPD was 20%. There were significant relationships between PPD and poor marital relationships, lack of parental support, ill newborns, and intimate partner violence.[9]

In 237 Bahraini women, the prevalence of postpartum depressive symptoms was 37%. A history of depression and perceived lack of support from husbands were significant predictors of symptoms of this disorder.[25]

Among Arab women living in northern Israel ($n = 2326$), 16.3% scored above 10 on the Edinburgh Postnatal Depression Scale (EPDS). There were significant differences in postpartum depressive symptoms as compared with Jewish Israeli and Arab Beouin women. Findings highlight the need to consider differences in levels of PPD in cultural subgroups of childbearing women.[26]

Postpartum depression among Jordanian women

Few studies have specifically assessed the prevalence of and risk factors for symptoms of PPD in Jordanian Muslim women.[28–30] Oweis[28] found a 27% prevalence of symptoms in 278 Jordanian primiparous women. There were significant correlations between experiencing symptoms of PPD and giving birth to a daughter, low levels of maternal education, and low socioeconomic status. In another study of 300 Jordanian women, 42% had high levels of symptoms of PPD. Perceived postpartum stressors including impaired interpersonal relationships were significant predictors of PPD.[29]

In a study of 353 Jordanian women, there was a 22% prevalence of significant symptoms of PPD. Predictors of symptoms included previous depression, unplanned pregnancy, difficult relationship with their mother-in-law, dissatisfaction with care, stress, lack of social support, giving birth to a daughter, and perceived low parenting knowledge.[30] The 2007–2008 Jordanian maternal morbidity report did not include any reference to PPD as a health concern in childbearing women.[31]

Postpartum depression in women on active military duty worldwide

The consequences of military services on childbearing and women's mental health are highly significant, since stressful workplace conditions may put military women at greater risk for mental disorders. Working conditions

may contribute to the stressors women experience, resulting in negative physiological, psychological, and social outcomes. Childbearing women serving in the military are a vulnerable group and may develop symptoms of PPD because of a complex combination of personal, familial, and professional stressors and other variables.[32–39]

One study conducted in the United States found that 6% to 20% of active-duty military personnel met the clinical criteria for a mental disorder, with lifetime prevalence estimates of approximately 40%.[32] A study of 109 American active-duty military women found that 50% had significant levels of symptoms of PPD 2 weeks after giving birth, and at 6 to 8 weeks postpartum, 40% were still experiencing these symptoms.[8]

Another study found a 20% incidence of symptoms of PPD in 87 American women serving in the military.[33] Low self-esteem, prenatal anxiety and depression, a history of depression, low levels of social support, and poor marital relationships predicted symptoms of PPD. In addition, difficult infant temperament, and child care stress were contributing factors. There was no association between military specific factors and symptoms of PPD.[33]

O'Boyle and associates[38] found that 24% of screened active-duty military women in the United States tested positive for symptoms of PPD, with 15% having suicidal ideation. They suggested that identification of risk factors during pregnancy provides baseline data for follow-up, which may prove helpful in the development of comprehensive interventions for military women based on their special needs.

Screening in a sample of 3882 women in a US Navy and Marine Corps community showed a 4.6% prevalence of women at high risk for clinical depression. These researchers concluded that all facets of military family life should be evaluated in relationship to mental health.[39]

The findings of the reviewed studies support the importance of gaining further understanding of the prevalence of and risk factors for developing PPD. In general, there is a paucity of literature on PPD in women on active military duty, particularly in those who are culturally diverse. No published studies could be found documenting the incidence of symptoms of PPD among Muslim women in Arabic countries serving in the military. In the Hashemite Kingdom of Jordan, the prevalence and predictors of PPD in Muslim women serving in the military have not been documented.

Theoretical model

Beck's[1] model of PPD was used to guide this study. This theory has identified 20 significant risk factors for the development of PPD. According to this model, women experiencing PPD are described by the biopsychosocial components within the context of the family and the community.

The development of PPD is associated with the interface of social, cultural, psychological, and biological risk factors. The more women are exposed to multiple risk factors, the more likely it is that they will develop symptoms of PPD. This model served as a guide for this study of the prevalence of and risk factors for symptoms of PPD in Jordanian Muslim women serving on active military study.

RESEARCH DESIGN AND METHOD

This cross-sectional, descriptive, correlational study examined the prevalence of symptoms of PPD and the predictive relationship between symptoms of PPD, social support, maternal characteristics, demographic data, and level of stress among Jordanian women on active military duty. Sampling as well as data collection and analysis are described.

Sampling

Convenience sampling was used to recruit study participants. Inclusion criteria were Jordanian women serving on active duty in the Jordanian Armed Forces who had given birth to a healthy term newborn within the past year (both primiparas and multiparas). Exclusion criteria were a history of PPD, maternal cognitive impairment, or maternal or infant complications.

Geographical stratified sampling technique was used to select the study settings. These included the Prince Rashid Ibin Al-Hassan Military Hospital (north region), Al-Hussein Hospital and Queen Rania Hospital for Children (central region), and Prince Ali Bin Al-Hussein Military Hospital (south region of Jordan).

Female military personnel enter the armed services on a volunteer basis and are allowed 3 months paid maternity leave, which may include a week before the estimated date of anticipated birth. New mothers are allowed 1 hour during their duty for breast-feeding. Healthcare services are provided without cost to all military women and their children including prenatal care, birthing, and postpartum care, with family planning services and newborn assessment and screening, immunizations, pediatric care, and medical-surgical services as needed. Infant checkups are provided in the first week after birth, and 6-week postpartum maternal checkups are also provided without cost.

Data collection and analysis

Ethics approval to conduct the study was obtained from the university scientific research committee and the institutional review boards of the military hospitals.

Women were approached by clinic personnel and invited to participate in the study. Completion of the instruments was considered as informed consent for their voluntary participation. Data were collected in a private room in maternal/child clinics by 2 Jordanian Muslim Arabic speaking investigators.

The recommended sample size according to a power analysis was 271. Data were collected from 300 active-duty military women. In 2006, there were 4883 women serving in the Jordanian military.[40]

Arabic versions of instruments included the EPDS, the Impact of Event Scale–Revised (IES-R), and the Multidimensional Scale of Perceived Social Support (MDPSS). The EPDS is an instrument designed to detect symptoms of PPD. It consists of 10 short statements with 4 possible responses that measure women's feelings during the past weeks.[41–44] The EPDS Arabic version has an internal reliability of 0.84%.[45] In use with Jordanian women, the internal reliability of the EPDS was 0.87% in one study[28] and 0.82% in another sample.[29] The cutoff score of 11 when used with Arabic women has been recommended.[17,24] With this cutoff score, the Arabic translation of this instrument had a sensitivity of 92% and a specificity of 96%. Scores ranging from 21 to 30 indicated that women had severe symptoms of PPD.

The IES-R is a Likert scale that measures current subjective distress in relation to a specific stressor.[45] The 20 items describe episodes of distress in those who had experienced a recent stressful life event that may include childbirth. This scale has 3 subscales: Intrusion (score, 0-32), Avoidance (score, 0-28), and Hyperarousal (score, 0-20). The total score on traumatic stress is derived from the sum of all items. A total score of more than 40 is indicative of a significant stress response.

The MDPSS is a 12-item self-reported scale to assess the perception of the adequacy of social support from the family, friends, significant others, and professional support from the healthcare team.[46] Each item measures the adequacy of social support from family and friends, using a 7-point Likert scale ranging from 1 (*very strongly disagree*) to 7 (*very strongly agree*). The total score ranges from 12 to 84; the higher the score, the higher the perceived support. Prior to this study being conducted, the tool was first translated into Arabic by a research assistant and back translated into English by another independent research assistant. Two English forms (the original and the translated) were compared in terms of conceptual rather than literal meaning of the items. The translator and back translator met to examine the difference in the 2 forms and to reach a consensus. Arabic version was pilot tested with 20 Jordanian military women. The Cronbach α (level of reliability) was 0.87.

Sociodemographic data were also collected, including age, marital status, education, military rank and position, shift work, monthly income, parity, pregnancy intendedness, mode of birth, infant gender, and infant feeding method.

SPSS version 16 was used for data analysis including 2-step hierarchal regression analysis. To explore the differences in symptoms of PPD in relation to sociodemographic variables and psychosocial variables, a post hoc test (Tukey HD) was also used.

FINDINGS

Findings are categorized as demographic data, prevalence of symptoms of PPD, and predictors of PPD. Tables 1–3 summarize the findings.

Demographic profile

Three hundred women participated in the study. Demographic data are summarized in Table 1.

Prevalence of symptoms of PPD

Thirty-nine percent of study participants had mild levels of symptoms of PPD (10-15 points on the EPDS), 28% of the participants had moderate levels of symptoms of PPD (16-20 moderate level on the EPDS), and 16% of the participants had a severe levels of symptoms of PPD (scoring >21 on the EPDS). Women who scored 10 or more on EPDS were screened for suicidal thoughts, with 6% reporting suicidal thoughts. These were referred for mental health services.

There was a correlation between symptoms of PPD and age, educational level, monthly income, and pregnancy intendedness. Women satisfied with their monthly income, with a high level of education, and having a planned pregnancy had lower scores on the EPDS. There was also a positive significant association between breast-feeding and having fewer symptoms of PPD. Women who had given birth 8 to 12 months previously (short interpregnancy interval) were more at risk for having symptoms of PPD. Women who perceived having adequate social support reported lower levels of symptoms of PPD. Study participants who had a male infant enjoyed more social support because of a strong cultural preference for sons. Women having instrumental and cesarean births were more at risk for symptoms of PPD. Women in this study used avoidance and intrusion strategies to cope with childbirth-related stress as measured by the IES-R.

Predictors of PPD

This study also explored the predictors of PPD among Jordanian military women. Sociodemographic variables (age, level of education, monthly income, infant gender, infant age, breast-feeding, military rank, and mode of

Table 1. **Demographic data**

	%
Maternal age, mean, y	29
Marital status, mean (range = 18-46)	
Divorced	1
Married	299
Educational level	
High school	44
College degree	56
Living arrangements	
Nuclear family	78
Extended family	22
Religion, Muslim	100
Military rank	
Unlisted	47.7
Officers	52.3
Husband employment	
Nonmilitary	42
Military	58
Profession	
Allied health professionals	50
Registered nurses	50
Working hours	
Days only	30
Shift work	70
History of depression	
Absent	95
Present	5
Pregnancy intendedness	
Unplanned	34
Planned	66
Parity (range = 1-7 children)	
Primiparous	29
Multiparous	71
Mode of birth	
Spontaneous, vaginal	60
Instrumental	10
Cesarean birth	30
Infant gender	
Male	49
Female	51
Infant feeding	
Formula-feeding	42
Breast-feeding	58
Age of infant at the time of data collection	
<4 mo	34
4-8 mo	27
8-12 mo	37
Monthly income, mean	$200-$650

Table 2. **Model 2-step multiple hierarchal regression of postpartum depression on psychosocial variables (R^2 = 0.16) of the variance**

	Model 1			
Variables	β			ρ
Age	−.28			**.001**
Parity	.78			**0.01**
Monthly income	−.76			**0.02**
Pregnancy intendedness	1.86			**0.005**
Mode of birth	1.06			<**0.001**
	R	R^2	**Adjusted R^2**	
	0.40	0.16	0.14	<0.001

[a]Bold values indicate is 0.01 level of significance.

birth), social support (perception of support networks), and perceived stress levels were predictors of symptoms of PPD. Findings are summarized in Tables 2 and 3.

Two-step hierarchal regression analysis was used. In the first model, parity, monthly income, pregnancy intendedness, and mode of birth were the stronger predictors of PPD, which explained 16% of variance among Jordanian Arabic Muslim women serving in the military. In model 2, social support from family, friends, and others and intrusion and avoidance strategies were significant predictors in the prediction of PPD, explaining 52% of variance. Having an instrumental or cesarean birth, pregnancy intendedness, and intrusion stress strategy were strong predictors of symptoms of PPD among study participants.

DISCUSSION

This is the first published study documenting the prevalence of symptoms of PPD and psychosocial predictors of PPD among Arabic Muslim Jordanian women on active military duty. Findings have important implications for clinicians caring for such cultural subgroups of childbearing women.

Levels of moderate or severe symptoms of PPD in this sample of women (44%) compares with other studies reporting a prevalence of 27% in Jordanian primiparous women[28] and 40% in Jordanian civilian women.[29,30] In studies of US active-duty military women, 11% to 20% tested positive for symptoms of PPD, which is consistent with a prevalence of 10% to 15% in the general population of postpartum women.[1,2] These levels are of concern in this sample and merit further inquiry.

The prevalence of symptoms of PPD in this sample may be related to the multiple roles of Jordanian mothers on active military duty, with challenging competing demands. Strong adherence to traditional gender roles puts pressure on Arabic Muslim women who combine motherhood with nontraditional military roles. These women have unique stressors specific to their work environment, including fatigue related to shift work, and military assignments that take them away from their family.

Table 3. **Step multiple hierarchal regression of psychosocial variables and postpartum depression ($R^2 = 0.52$)[a]**

	Model 2				
Variables	β				ρ
Monthly income	−.54				**0.03**
Pregnancy intendedness	1.40				**0.006**
Mode of birth	.77				**<0.001**
MDPSSS-Fa	−.13				**0.007**
IES-Hy	.21				**0.01**
IES-In	.37				**<0.001**
	R	***R*²**	**Adjusted *R*²**	***R*² change**	
	0.72	**0.52**	0.50	0.36	<0.001

Abbreviations: IES-Av, Avoidance subscale of Impact of Event Scale; IES-Hy, Hyperarousal Subscale of Impact of Event Scale; IES-In, Intrusion subscale of Impact of Event Scale; MDPSS-Fa, Multidimensional Perception of Family Social Support; MDPSS-Fr, Multidimensional Perception of Friends' Social Support; MDPSS-Oth, Multidimensional Perception of Others Social Support.
[a]Values in bold are statistically significant.

In addition, traditional gender roles and the primacy of motherhood in this culture may contribute to these levels of symptoms of PPD. In a study of Jordanian women employed outside the home, determinants of depressive symptoms were embedded in the family and social environment rather than their employment.[47] The fact that 58% of study participants had their husbands also working in the military may also be an added stressor for these women.

Compared with 6% of study participants who reported suicidal thoughts, suicidal ideation was 15% in American military women.[32] This finding highlights the importance of early detection and treatment of symptoms of PPD.

The correlation between fewer symptoms of PPD and selected demographic variables including breastfeeding is consistent with findings in other studies.[10,23] Breast-feeding mothers may experience satisfying maternal-child relationships, which may be protective of maternal mental health.

The finding that lower levels of symptoms of PPD were noted in women having perceived adequate social support should be considered in the context of Jordanian cultural and traditional practices and Arabic Muslim societies in general, in which the family provides social support for childbearing women. Study participants having a male infant enjoyed enhanced social support, which is consistent with other studies of Arabic Muslim women.[29,30] This finding is related to Jordanian traditional cultural practices, including infant gender preference. The birth of a son is considered desirable and thus women having a son traditionally receive more social support.[28,48] This means women giving birth to a daughter, particularly if she has no sons, may be more at risk for symptoms of PPD.

The finding that women having instrumental or cesarean births had higher levels of symptoms of PPD is comparable with other findings in the literature.[10] The use of avoidance and intrusion strategies to cope with stress highlights the perception of childbirth-related stress in Jordanian women serving in the military. These stressors may result from the competing demands of home, family, and professional responsibilities as well as cultural expectations of Jordanian women. It is suggested that perinatal education include strategies to help childbearing women to learn to manage stressors more effectively and offer opportunities for Arab Muslim women on active military duty to come together to discuss their unique cultural issues.

LIMITATIONS OF THE STUDY

Limitations of this study include the design itself. Causal relationships among the variables under study cannot be assumed. Findings can be generalized only to Arab Muslim military women serving in the Jordanian Armed Forces giving birth to healthy newborns. However, the findings of this study have important implications for nursing practice for those caring for culturally diverse childbearing women.

IMPLICATIONS FOR CLINICAL PRACTICE

The International Council of Nurses has called for an increased focus on evidence-based decision making in clinical nursing practice (http://www.icn.ch). Studies such as this one provide evidence that document the concerns of Arabic Muslim childbearing women serving in the military and can help nurses seek more effective interventions to meet their unique needs and those of other cultural groups of women.

A global research priority is to close current gaps in nursing care that includes women and their support systems and the provision of direct professional care.[49] This study reflects this priority.

Maternal/child nurses caring for women and infants across the childbearing year play an important role in the prevention, identification, and management of PPD in women serving in the military. Understanding risk factors, especially in culturally diverse women, is essential.

The need for greater emphasis on woman-centered care has been identified.[50] Family planning strategies to ensure that pregnancies are intended may decrease perinatal depression with positive effects on maternal-child relationships and other family relationships. In a recent study of contraceptive use among Jordanian Muslim women, it was noted a significant relationship exists between the psychological well-being of women and contraceptive use.[51] These findings have implications for health and social policies in Jordan regarding the mental health and wellness of women of childbearing age. Preconception planning to ensure the intendedness of pregnancy may help to decrease the incidence of perinatal depression.

Designing and implementing culturally appropriate programs based on meeting the physical, psychosocial, mental, and spiritual needs of Jordanian women are essential.[52,53] Healthcare should include opportunities for women to "connect with people and services through innovative mechanisms and delivery models that emphasize community and social networking."[50(pS13)] Helping women strengthen their social support networks is an important nursing intervention.

For example, the Centering Pregnancy model of group care is being used increasingly.[54,55] This model has been found helpful for US military women who identified the sense of not being alone when engaged in group prenatal care.[56] One study of Muslim women and group perinatal care concluded that the Centering Pregnancy model may be helpful in improving perinatal outcomes where lack of support and strong cultural and traditional practices exist.[57] While PPD was not specifically addressed in two of the studies,[56,57] another study conducted in the United States found that women at risk for psychosocial stress benefited from group care and demonstrated lower levels of social conflict and depression during the first year following giving birth.[54] Such group prenatal care provides not only continuity of care but also facilitates the creation of a community of women who support each other. This may contribute to a reduction in PPD, especially in women worldwide who are serving on active military duty who may be at risk for perinatal mood disorders because of multiple stressors, including socio-cultural variables.

There are also clinical implications for childbearing women serving in the military worldwide including those in the United States. Postpartum fatigue in active-duty military women returning to work exhausted who have not regained full functional status may contribute symptoms of PPD.[7] Finding ways to increase social support and reduce fatigue in these women may prove helpful. It has been strongly recommended that "each woman has adequate help to cope with the challenges in the period after birth."[50(pS13)]

Gjerdingen and associates[58,59] describe a primary care–based management model for PPD. This includes education provided for women at each healthcare encounter, including information on PPD.[11,52] This model also includes maternal screening prenatally, at maternal postpartum visits, or during pediatric well-child visits that has been recommended by other professionals.[2,59] If the screening is positive, active treatment should be implemented. Embedding mental health services with primary care, pediatric, and/or women's health clinics will facilitate access.[59–61] Such interventions should include sensitivity to the unique cultural situations of women serving in the military and infant gender preferences, especially in Arabic Muslim countries such as Jordan. It has been noted that "when an Arab Muslim client expresses ... self, it is the collective self that is expressed, including familial needs, interests, norms, and values."[53(p121)] Nurses caring for Arabic Muslim childbearing women in the United States may extrapolate implications to guide culturally competent care of these women.

It is suggested that decision makers and health policy development committee at the military healthcare settings develop protocols for the prevention, assessment, and management of PPD. For example, this may be facilitated through the Jordanian Health Care Accreditation Council applying standards focusing on the care of new mothers and their families. Such interventions that focus on reducing and managing symptoms of PPD in military postpartum women have the potential to improve outcomes. Positive outcomes of interventions to prevent and manage PPD may include sustained breast-feeding and enhanced mothering, decreased costs for healthcare, increased job satisfaction, and enhanced quality of life for military families.[8]

More scholarly inquiry is needed on PPD in culturally diverse women such as Arabic Muslim women. It is recommended that research assessing the perceptions of Jordanian childbearing women serving in the military about their healthcare needs be pursued. Interventional studies are recommended for assessment of treatment

strategies for ameliorating PPD. Documentation of positive outcomes such as those listed earlier is essential.

CONCLUSION

Brucker,[62] in an appeal to improve global maternal health, refers to "global lessons for local action." This study provides data that may be helpful in taking action to reduce and manage the symptoms of PPD in specific groups of childbearing women such as Jordanian Muslim women serving in the military and mothers serving in the military globally. Postpartum depression is a public health concern requiring a collaborative and integrative approach to promote the health of childbearing women and their families. There is a need to maximize mental health status, enhance maternal and family roles, and promote well-being and quality of life in culturally diverse childbearing women.

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