**Pregnancy and Childbirth Experiences and their Relationship to Postpartum Depression among Women from Various Sects of Ultra-Orthodox Society in Israel**

Shimrit Prins-Engelsman and Julie Cwikel

# Abstract

***Background:*** As opposed to general Jewish society, ultra-orthodox society in Israel is characterized by a high birth rate. However, little is known about the implications of multiple pregnancies and childbirths on symptoms of postpartum depression.

***Study aim:*** To investigate whether experiences of pregnancy and childbirth and religious affiliation predict symptoms of postpartum depression among ultra-orthodox Jewish women.

***Method:*** A cross-sectional survey was given to a stratified sample of 256 ultra-orthodox Jewish women belonging to the Sephardic, Lithuanian, and Hasidic sects, which included women who had become ultra-orthodox in each of the sects (as opposed to women who had always been ultra-orthodox). Factors predicting depression and postpartum depression symptoms were analyzed using hierarchical regression.

***Findings:*** Postpartum depression symptoms were found in 22% of the participants, with Sephardic women being more at risk for developing postpartum depression symptoms (34%) compared to women from the Lithuanian sect (16%) and women from the Hasidic sect (14%). The rate of women who had become ultra-orthodox and were at risk for developing postpartum depression symptoms was higher (33%) compared to the women who had always been ultra-orthodox (19%). Based on a multi-variable analysis we found that the experiences of pregnancy and childbirth, affiliation to the Sephardic sect, becoming ultra-orthodox, being older, and having few children predict symptoms of general depression as well as postpartum depression.

***Conclusions and practical implications:*** We recommend that those working in the healthcare system promote medical and social solutions that are tailored to the patient’s culture, based on a knowledge of the various characteristics of ultra-orthodox society. Such knowledge will make it possible to identify and provide appropriate solutions to ultra-orthodox women who are at risk to develop symptoms of postpartum depression and general depression.

***Key words:*** Ultra-orthodox Jewish women, Becoming religious, Pregnancy, Childbirth, Postpartum depression, Depression

# Introduction

Pregnancy and childbirth are considered powerful events in all societies, from both a health and a social perspective, and they affect psychological, sexual, physical, familial, and cultural aspects of life (Aldrighi et al., 2018; Rania, 2019). The social status of women in ultra-orthodox society is based, among others things, on their fertility, which is measured by their number of pregnancies and births and the number of children they have. Generally, the high birth rates are highly valued and considered to be a source of happiness and self-fulfillment by women in ultra-orthodox Jewish society (Chelichel, 2011; Engelsman et al., 2018). However, alongside the discourse that encourages childbirth, it is apparent that the current available solutions for dealing with the repercussions of negative pregnancy and childbirth experiences in terms of postpartum and general depression symptoms are insufficient. It is prevalent in ultra-orthodox society to avoid asking for professional help in the field of mental health in general and postpartum depression in particular, due to a lack of awareness of the possibilities of available treatments and the fear of being stigmatized by the community (Bina & Glasser, 2018; Gabbay et al., 2017). Researchers emphasize the need to develop a mechanism to identify women at risk for postpartum depression and help them by providing preventive treatment (Glasser et al., 2016). Furthermore, most studies dealing with the ultra-orthodox population overlook the fact that this society consists of sub-groups, and the variance between them in regards to these issues merits investigation (Arbiv, 2015). The current study seeks to bridge these gaps in the research literature and examine the differences in the incidence of postpartum and general depression symptoms among women who belong to various sects within ultra-orthodox society and between ultra-orthodox women with a secular background and those who have always been religious.

## Various Sects in Ultra-Orthodox Society

Ultra-orthodox society in Israel is characterized by a commitment to Jewish tradition and Halacha (religious law), and separates itself from any worldview or lifestyle that contradicts its values (Bar’on, 2017). However, a gradual shift can be seen towards more openness in regards to fundamental issues, such as becoming integrated in institutes of higher education and the labor market and adopting patterns of leisure and consumer culture (Malach & Cahaner, 2020). The ultra-orthodox population is comprised mostly of three central sects: the Lithuanian sect, the Hasidic sect, and the Sephardic sect. These sects constitute 77% of the entire ultra-orthodox population in Israel, and of them about 20% were previously secular and have become ultra-orthodox (Dror Cohen, 2010; Cahaner et al., 2012; Malchi, 2016). Despite the similarities between the different sects, they each have unique characteristics.

 The Lithuanian sect, which constitutes about 29% of ultra-orthodox society, emphasizes the study of the Torah and organizing around education and yeshivas (Regev, 2017). This sect is relatively open to modern life, as is manifested in its dress code, its members participation in academic studies, their use of the internet, and more (Malach & Cahaner, 2020). The Hasidic sect, which constitutes about 30% of ultra-orthodox society, is comprised of three main dynasties: Gur, Belz, and Vizhnitz. The Hasidic movement places more emphasis on matters of the heart, developing religious-Jewish music, and creating strong and meaningful bonds within the community. At the same time, the Hasidic movement is highly meticulous in regards to customs and adds restrictions and imperatives that go beyond the regular Halachic way of life (Bar’on, 2017). The Sephardic sect constitutes about 23% of ultra-orthodox society in Israel and is characterized by a flexible approach to Halacha, focusing on social and community activities aimed at bringing traditional Jews closer to religion – “restoring the crown to its former splendor” (Cahaner et al., 2012). Each of these sects include people who were previously secular who are characterized by a willingness to accept radical closedness out of a desire to be accepted into the bosom of ultra-orthodox society (Doron, 2013). The various ultra-orthodox sects maintain their distinction also by preserving and encouraging marriages between partners belonging to the same sect, with the aim of maintaining religious family units with similar attributes (Bar’on, 2017).

**Pregnancy and Childbirth in Ultra-Orthodox Society**

The population growth rate in ultra-orthodox society is the fastest among the developed countries, and in Israel its growth rate stands at 4% a year. The high fertility rate, young age of marriage, and modern medical and living conditions contribute to increased growth rates. At the same time, an analysis of ultra-orthodox family unit patterns over the past decade shows stabile fertility rates at a level of about 6.6 children per woman, and a slight increase in the age at which the first child is born (Malach & Cahaner, 2020). Ultra-orthodox girls are brought up to fulfil themselves by having and taking care of children (Layosh, 2014; Rieder Indursky, 2018). The number of children per family and the fact that in most cases the firstborn child is born during the first year of marriage, affect the family’s stability (Lock Shemer, 2009). Generally, when a couple is married, they plan to fulfil the imperative of procreation as soon as possible in order to uphold the values of the community to which they belong. However, this imperative may give rise to some difficult challenges (Neuman, 2013; Wizel Sankari, 2013), including among other things, the development of postpartum and general depression symptoms (Bina, 2014; Glasser et al., 2016)

**Postpartum Depression Symptoms in Ultra-Orthodox Society**

Postpartum depression is a state of emotional distress that can arise in women after they give birth. This phenomenon has significant implications for the mother, the child, and the family. Postpartum depression symptoms match the diagnosis of a depressive state according to the DSM–5 and the IDC–10 and appear between the second and ninth week after childbirth (Dennis & Dowswell, 2013; Glasser & Barel, 1999). According to the DSM–5, postpartum depression is characterized by eight signs of depression. These are: a sense of sadness; emptiness or hopelessness; markedly diminished pleasure or interest; a significant decrease or increase in bodyweight, sleep, movement, and energy levels; a sense of worthlessness or inappropriate guilt (e.g. delusions); difficulty to concentrate and think clearly; indecisiveness; and recurring thoughts about death (American Psychiatric Association, DSM–5, 2013).

 Studies conducted in the United States demonstrate that between 13% and 19% of mothers experience postpartum depression (O’Hara & McCabe, 2013). This rate is lower in Europe, where it stands at about 8%, and higher in the Middle East, where it can reach up to about 26% (Shorey et al., 2018). A study conducted in Israel in 2019 found that the rate of Israeli women suffering from postpartum depression symptoms was 10%, of which 7% were Jewish, as opposed to 21% who were Arab. The researchers assumed the difference stemmed from the fact that the Arab women belonged to a culturally distinct society with unique characteristics such as lower socioeconomic status and a lack of education and employment (Shwartz et al., 2019).

 Various studies found that the risk factors for postpartum depression symptoms among women are general depression, anxiety, previous mental disorders, lack of support, negative pregnancy or childbirth experiences, and low income (Smorti et al., 2019; Weijing et al., 2020). Other studies found that ultra-orthodox women suffering from postpartum depression symptoms avoided asking for professional help, because they were afraid of being socially stigmatized, or because they were not aware of the phenomenon and the available treatment options (Glasser et al., 2016). These women were found to deal with postpartum depression symptoms by using religious coping strategies such as rabbinical blessings, prayer, and relying on informal elements such as friends and family (Bina, 2008; Glasser et al., 2016). Others who examined the risk factors for postpartum depression symptoms among ultra-orthodox women pointed to advanced age, a low number of pregnancies, low income, and previous experiences of depression (Bina, 2014). However, previous studies did not the experiences of pregnancy and childbirth as risk factors for postpartum depression symptoms or the differences between the various sects comprising ultra-orthodox culture, nor did they compare between ultra-orthodox women who had previously been secular and those who had always been ultra-orthodox.

**The Current Study**

The purpose of the current study is to investigate whether experiences of pregnancy and childbirth and religious affiliation predict postpartum and general depression symptoms among ultra-orthodox women.

***Study Aims***

1. To examine the relationships between the experience of pregnancy, the experience of childbirth, postpartum depression symptoms, and general depression symptoms.
2. To assess the differences between women from different ultra-orthodox sects in terms of the pregnancy and childbirth experiences and the appearance of postpartum and general depression symptoms.
3. To assess the differences between ultra-orthodox women who were previously secular and those who have always been ultra-orthodox in relation to the pregnancy and childbirth experiences, postpartum depression symptoms and symptoms of general depression.
4. To examine whether the experiences of pregnancy and childbirth, religious affiliation, and demographic factors characteristic of the way of life of ultra-orthodox women predict postpartum depression symptoms and symptoms of general depression.

***Study Hypotheses***

1. There is a positive relationship between negative pregnancy experiences and negative childbirth experiences, so that the more negative the experience of pregnancy, the more negative the experience of childbirth.
2. There is a positive relationship between postpartum depression symptoms and symptoms of general depression, so that the higher the degree of postpartum depression symptoms, the higher the degree of general depression symptoms observed.
3. There is a positive relationship between negative experiences of pregnancy and negative experiences of childbirth and postpartum depression symptoms and symptoms of general depression, so that the more negative the experiences of pregnancy and childbirth, the higher the degree of postpartum depression symptoms and symptoms of general depression.
4. There are differences between women from different sects in regards to the experiences of pregnancy and childbirth and the degree of postpartum depression symptoms and general depression symptoms.
5. There are differences between women who have become ultra-orthodox and women who have always been ultra-orthodox in regards to pregnancy and childbirth experiences and the degree of postpartum depression symptoms and symptoms of general depression.
6. The experiences of pregnancy and childbirth and demographic factors characteristic of the way of life of ultra-orthodox women predict the degree of postpartum depression symptoms and the degree of general depression symptoms.

**Method**

**Study Population**

The current study is part of a large-scale mixed-method study examining behaviors in the field of health, subjective experiences of pregnancy, childbirth, postpartum depression symptoms, and symptoms of general depression among ultra-orthodox women in Israel (Prins-Engelsman, 2018). The current study population included 256 women who had given birth during the previous two years and were affiliated with one of the researched ultra-orthodox sects: the Sephardic sect, the Lithuanian sect, or the Hasidic sect, with each sect including also women who had previously been secular.

**The Participant Recruitment Process**

We conducted stratified snowball sampling in an aim to represent different groups (Beyth-Marom et al., 2009). This type of sampling is generally used in studies of minority groups, in which subjects refer researchers to others who may agree to participate in the study (Friedman, 2020). According to Peng et al. (2002), ten subjects are required for each independent variable. Therefore, in order to reach the required number of participants we recruited women by contacting professional sources in the field of education, medicine, and social services to locate ultra-orthodox women who would agree to answer our questionnaires. In addition, we recruited participants from institutes of higher education (e.g. seminaries), public conferences, and educational frameworks. We explained the purpose of the study to the participants and emphasized the importance of their involvement and contribution to its success.

**Research Tools**

The data was collected using the following questionnaires:

***A Questionnaire for Examining the Pregnancy Experience***

The questionnaire examined the participants’ emotional states during pregnancy using the question, “How was your subjective pregnancy experience from a psychological perspective?” (answers ranged from 1–3, with 1 representing mainly positive feelings, 2 representing a positive feeling with an acceptable level of anxiety, and 3 representing substantial levels of fear and anxiety). The participants were asked about up to ten of their pregnancies and gave separate answers for each pregnancy. We then created a scale grading the average pregnancy experience of each participant in her first four pregnancies. The questionnaire’s internal consistency according to Cronbach’s alpha was α = .85 for the first four pregnancies; the higher the score for this variable, the more negative the pregnancy experience (Sarid et al., 2010).

***A Questionnaire for Examining the Childbirth Experience***

This questionnaire examined the experience of childbirth on a five-point Likert scale (with 1 representing a very positive experience and 5 representing a very negative and traumatic experience). The participants were asked about up to ten births and gave separate answers for each of them. We then created a scale grading the average experience of each participant in her first four births. Cronbach’s alpha for the first four births was α = .67; the higher the score for this variable, the more negative the childbirth experience (Sarid et al., 2010).

***The Edinburgh Postnatal Depression Scale (EPDS)***

The questionnaire serves as a preliminary screening tool for identifying signs in women who are at risk to develop postpartum depression symptoms or who are suffering from the disorder based on the regulations of the Israeli Ministry of Health. The questionnaire was translated into Hebrew by Glasser and Barel (1999) and was found to be reliable and valid in many studies conducted in Israel (Bina & Harrington, 2016; Glasser et al., 2016; Shwartz et al., 2019). The questionnaire consists of ten statements that focus on the emotional layer of the birthing experience (for example: “I felt worried and anxious for no reason”). The participants were asked to grade their feelings on a four-point scale with 0 representing a non-symptomatic state and 3 representing significant symptoms. The tenth and final question on the questionnaire examines the level of risk of suicidality (with the statement: “During the past week I’ve thought about harming myself”). We summed up the results for each participant, so that a high score indicated high postpartum depression symptoms and a low score indicated an absence of postpartum depression symptoms (Cox et al., 1987). Cronbach’s alpha was α = .86. In addition, we created a dichotomous variable so that a score of ten and above indicated a risk to develop postpartum depression symptoms and a score of 0–9 did not indicate a risk to develop postpartum depression symptoms (Simhi et al., 2019).

***The Center for Epidemiological Studies Depression Scale (CES-D)***

This questionnaire measures symptoms of general depression by using the abbreviated version of the CES-D scale that was developed for epidemiological studies (Radloff, 1977) and was validated by studies (Adams et al., 2019; Sherbourne et al., 2001) as well as in Israeli samples (Segal-Engelchin & Cwikel, 2012; Segal-Engelchin et al., 2009). We used this questionnaire because while the EPDS questionnaire is adapted for the two years following childbirth, we preferred to validate the results with a questionnaire that assessed clinical depression. This questionnaire includes six statements that examine the level of general depression symptoms (for example: “I’ve had crying spells”) on an additive scale, so that a higher score indicates a higher level of general depression symptoms (Radloff, 1977; Sherbourne et al., 2001). According to Sherbourne’s protocol, which is used to assess clinical depression, severe symptoms of depression are given two points and mild symptoms are given one point. Adding these points up produces another score, so that a score of four and above constitutes the threshold for assessing clinical depression. Cronbach’s alpha was α = .76.

***A Demographic Questionnaire***

This questionnaire was used to investigate the following variables: age, country of birth, religious affiliation (Lithuanian, Hasidic, or Sephardic sect), previous secular background (yes or no), level of education (high school, vocational, or academic), number of years of study, profession, economic situation (difficult, reasonable, good), and other demographic variables.

**Study Ethics**

First, we obtained approval to conduct the study from the Ethics Committee of the Department of Social Work at Ben-Gurion University of the Negev. Before participating in the study the participants were told that the study was being conducted with the approval of the Ethics Committee, and it was made clear to them that the information collected would remain confidential and serve solely for the purpose of the study and that their privacy would be maintained. The participants signed an informed consent form to participate in the study. In addition, we made it clear that they were not obligated to fill in the entire questionnaire and that they could stop participating at any stage, without any repercussions.

**Description of the Study Population**

All the study participants were married (*n*=256), their average age was 31.62 (SD=5.91) and the average number of children they had was 4.61 (SD=0.16). As Table 1 demonstrates, most of the women worked in the field of education and teaching, had a high school or vocational education, reported that their economic situation was reasonably good, and almost all of them were born in Israel. Most of the participants were ultra-orthodox women who had never been secular, and most of the women who had been secular in the past were affiliated with the Sephardic sect (53%).

 No statistically significant differences were found between the sects in terms of the demographic variables, aside from the number of years of education, where compared to Hasidic women (average=13.78, SD=2.20) Lithuanian women (average=15.01, SD=1.97) had more years of education. On the other hand, statistically significant differences were found in regards to having a secular background. We found that among ultra-orthodox women who had previously been secular, the age of the women and the age of the husbands was higher, they got married at older ages, had children at older ages, had more children, and had less years of education, compared to ultra-orthodox women who had always been religious.

**Table 1.** Socioeconomic characteristics of the study’s participants (*n*=256)

|  |  |
| --- | --- |
| Variables | N (%) |
| **Religious affiliation** |  |
| Lithuanian | 153 (53.1) |
| Hasidic | 89 (11.8) |
| Sephardic | 30 (35.0) |
| Previously secular | 52 (20.4) |
| Lithuanian | 20 (38.5) |
| Hasidic | 4 (7.7) |
| Sephardic | 28 (53.8) |
| **Level of Education** |  |
| High school / vocational | 151 (60.4) |
| Academic | 99 (39.6) |
| **Profession** |  |
| Education and teaching | 143 (62.0) |
| Secretarial/administration/computers | 46 (20.0) |
| Housewife | 20 (8.6) |
| Caregiving/para-medical/self-employed | 11 (4.7) |
| **Country of birth** |  |
| Israel | 229 (90.5) |
| Other | 24 (9.5) |
| **Number of children** |  |
| 1–3 | 99 (39.0) |
| 4–6 | 95 (37.4) |
| 7­–9 | 49 (19.3) |
| 11–21 | 11 (4.3) |
| **Economic situation** |  |
| Difficult | 14 (5.5) |
| Reasonably good | 163 (63.7) |
| Good | 72 (28.1) |

 \* Note: Due to missing answers, the numbers do not amount to 256 for all the variables.

**Data Analysis**

The statistical processing was conducted using the SPSS 21 statistical analysis software. The participants referred to each pregnancy and birth separately. We performed descriptive statistical tests and examined the relationships between the variables by using the Pearson correlation coefficient and chi-squared test. In addition, we tested the study hypotheses and questions using one-way variance tests and t tests for independent samples. Multi-variable analyses for checking which factors predicted postpartum depression symptoms and general depression symptoms were done using hierarchical regression models.

**Findings**

**Pregnancy Experiences, Childbirth Experiences, and Postpartum and Clinical Depression Symptoms**

The participants experienced pregnancy with an acceptable level of anxiety (average=1.44, SD=0.53), and childbirth as a reasonably good experience (average=2.42, SD=1.02). 78% of the participants were found not to be at risk for postpartum depression symptoms (scored 0–9), while about 22% were found to be at risk for postpartum depression symptoms (scored 10+). The results among the participants found to be at risk for postpartum depression symptoms showed that about 7% reported mild symptoms (scored 11–12) and about 14% reported medium to severe symptoms (scored 13+). The rate of participants who gave answers that indicated a risk for suicidality was 5% and these were found to be at very high risk for postpartum depression symptoms. The prevalence of clinical depression in the general sample was 11.3%.

**Examining the Study Hypotheses**

1. In regards to the hypothesis pertaining to the existence of a positive relationship between the experience of pregnancy and the experience of childbirth, a positive and statistically significant relationship was found between the variables (*r*=.29*, p<*.001*)*. Therefore, the hypothesis was confirmed.
2. In regards to the hypothesis pertaining to the existence of a positive relationship between postpartum depression symptoms and symptoms of general depression, a positive and statistically significant relationship was found between the variables (*r*=.72*, p*<.001*)*. Therefore, the hypothesis was confirmed.
3. In regards to the hypotheses pertaining to the existence of positive relationships between the experience of pregnancy, the experience of childbirth, postpartum depression symptoms, and symptoms of general depression, positive and statistically significant relationships were found between the variables. We found that the more negative the experiences of pregnancy and childbirth, the higher the levels of postpartum depression symptoms and symptoms of general depression the woman presented. Therefore, the hypotheses were confirmed (see Table 2).
4. The one-way variance test we conducted demonstrated statistically significant differences between the women from the various ultra-orthodox sects in postpartum depression symptoms [*F(*2,246)=5.61, *p*<.01] and symptoms of clinical depression [*F(*2,251)=5.41, *p*<.01]. The Scheffé test we conducted demonstrated that compared to the Lithuanian sect (average=5.06, SD=4.69), women from the Sephardic sect (average=7.40, SD=5.83) showed higher postpartum depression symptoms. Likewise, compared to the Lithuanian sect (average=0.67, SD=0.25) women from the Sephardic sect (average=2.02, SD=0.40) showed higher symptoms of clinical depression (see Table 3). In addition, we conducted a chi-squared test in order to investigate the relationship between the ultra-orthodox sects and the dichotomous variable of postpartum depression symptoms (the clinical score). We found that about 34% of women from the Sephardic sect suffered from postpartum depression symptoms, as opposed to 16% of women from the Lithuanian sect, and 14% of women from the Hasidic sect [*χ*²(2)=10.9, *p*<.004]. Therefore, a statistically significant relationship was found between the variables.
5. We conducted a t test for independent samples to investigate the differences between ultra-orthodox women who had previously been secular and those who had always been ultra-orthodox, in regards to the experience of pregnancy, the experience of childbirth, postpartum depression symptoms, and symptoms of clinical depression. Compared to the women who had always been ultra-orthodox (average=5.55, SD=4.93), women who had previously been secular showed more postpartum depression symptoms (average=7.70. SD=5.64) [*t(*51)=4.34, *p*<.01]. The hypothesis was partially confirmed, as no statistically significant differences were found in the other variables (see Table 4). We also conducted a chi-squared test to examine the relationship between having become ultra-orthodox and the dichotomous variable of postpartum depression symptoms and found that about 33% of the women who had previously been secular demonstrated postpartum depression symptoms, as opposed to 19% of the women who had always been ultra-orthodox [*χ*²(1)=5.03, *p*<.025]. Therefore, a statistically significant relationship was found between the variables. Furthermore, differences were found in the prevalence of clinical depression between women who had previously been secular (17%) and those who had always been ultra-orthodox (10%).

**Table 2.** Pearson correlation coefficients between the experiences of pregnancy and childbirth and symptoms of postpartum and general depression (*n=*256)

|  |  |  |
| --- | --- | --- |
| Variable | Postpartum depression symptoms | General depression symptoms |
| Pregnancy experience  | .36\* | .35\* |
| Childbirth experience | .32\* | .40\* |
| Postpartum depression symptoms  | – | .72\* |

*P<*.001\*

**Table 3.**Averages, standard deviations and variance analysis of pregnancy and childbirth variables between women of different religious sects

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Lithuanian (*n*=132) | Hasidic (*n*=29) | Sephardic (*n*=86) |  |
| Variable | Average | SD | Average | SD | Average | SD | *F* |
| Pregnancy experience  | 1.40 | 0.46 | 1.42 | 0.47 | 1.52 | 0.63 | 1.37 |
| Childbirth experience | 2.36 | 1.00 | 2.40 | 0.83 | 2.54 | 1.10 | 0.87 |
| Postpartum depression symptoms  | 5.06 | 4.69 | 6.10 | 4.03 | 7.40 | 5.83 | 5.61\*\* |
| Clinical depression | 0.67 | 0.25 | 0.66 | 0.25 | 2.02 | 0.40 | 5.42\*\* |

\**p*<.05, \*\* *p*<.01

**Table 4.** Averages, standard deviations and variance analysis of pregnancy and childbirth variables between women who became ultra-orthodox and women who have always been ultra-orthodox

|  |  |  |  |
| --- | --- | --- | --- |
|  | Women who became ultra-orthodox (*n*=51) | Women who have always been ultra-orthodox (*n*=201) |  |
| Variable | Average | SD | Average | SD | *T* |
| Pregnancy experience  | 1.52 | 0.65 | 1.42 | 0.49 | 7.01 |
| Childbirth experience | 2.51 | 1.02 | 2.41 | 1.02 | 0.21 |
| Postpartum depression symptoms  | 7.70 | 5.64 | 5.55 | 4.93 | \*\*4.34 |
| Clinical depression | 0.17 | 0.38 | 0.10 | 0.29 | -1.31 |

\*\* *p*<.01

We conducted a hierarchical regression analysis to investigate the contribution of each variable to predicting postpartum depression symptoms and general depression symptoms. In the early stages of the hierarchical regression, we examined demographical factors characteristic of ultra-orthodox women’s way of life, and after analyzing the data, reported only the factors that were found to be significant in the regression.

**Findings from the hierarchical regression analysis of variables predicting postpartum depression symptoms:** In the first stage (step 1), we examined the contribution of the variables of age and having relatively few children towards explaining the variance in the dependent variable (postpartum depression symptoms). Then (step 2) we examined the additional contribution of religious affiliation: Sephardic women and women who had become ultra-orthodox, and in the final stage (step 3) we examined the contribution of having a negative pregnancy experience and negative childbirth experience towards predicting postpartum depression symptoms. The hierarchical regression stages are presented in Table 5. The analyses demonstrate that the variables we examined can explain 24% of the variance in postpartum depression symptoms. We found that being older and having few children explain 4% of the variance, while affiliation with the Sephardic sect and having a secular background explain another 6% of the variance. In addition, having a negative pregnancy experience and negative childbirth experience account for another 14% of the explained variance. Evidently, the experiences of pregnancy and childbirth had a much greater effect on the appearance of postpartum depression symptoms.

**Table 5.**  Hierarchical regression analysis of variables predicting postpartum depression symptoms (*n*=241)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Variable | ***B*** | ***SE.B*** | ***β*** | ***R2*** | ***ΔR2*** | ***F*** |
| **Step 1** |  |  |  | .04\*\* | .04\*\* | 5.77\*\* |
| Age | 0.31 | 0.09 | .35\*\*\* |  |  |  |
| No. of children | -0.64 | 0.21 | -.31\*\* |  |  |  |
| **Step 2** |  |  |  | .10\*\*\* | .05\*\* | 6.56\*\* |
| Age | 0.25 | 0.09 | .29\*\* |  |  |  |
| No. of children | -0.57 | 0.21 | .28\*\* |  |  |  |
| Sephardic women | 1.95 | 0.67 | .18\*\* |  |  |  |
| Having a secular background | 1.50 | 0.82 | .11 |  |  |  |
| **Step 3** |  |  |  | .24\*\*\* | .14\*\* | 12.4\*\* |
| Age | 0.23 | 0.08 | .27\*\* |  |  |  |
| No. of children | -0.39 | 0.20 | .05\* |  |  |  |
| Sephardic women | 1.45 | 0.62 | .13\* |  |  |  |
| Having a secular background | 1.22 | 0.75 | .09 |  |  |  |
| Pregnancy experience  | 0.87 | 0.30 | .17\*\* |  |  |  |
| Childbirth experience | 2.85 | 0.57 | .29\*\*\* |  |  |  |

Note: Due to missing values, the number does not amount to the total number of participants.
\**p*<.05, \*\* *p*<.01, \*\*\* *p*<.001

**Findings from the hierarchical regression analysis of variables predicting depression symptoms:** In the first stage (step 1), we examined the contribution of the variables of age and having few children to explaining the variance in the dependent variable (general depression symptoms). Then (step 2) we examined the additional contribution of affiliation with the Sephardic sect and being in a difficult economic situation. In the final stage (step 3), we examined the additional contribution of having a negative pregnancy experience and negative childbirth experience. The hierarchical regression stages are presented in Table 6. The analyses demonstrate that 27% of the variance in general depression symptoms can be explained by the variables examined. We found that being older and having few children explain 3% of the variance, affiliation with the Sephardic sect and being in a difficult economic situation explain another 6% of the variance, and having negative pregnancy and childbirth experiences explain another 18% of the variance. Evidently, the experiences of pregnancy and childbirth were the factors that had the greatest effect on the appearance of general depression symptoms.

**Table 6.**  Hierarchical regression analysis of variables predicting general depression symptoms (*n*=241)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Variable | ***B*** | ***SE.B*** | ***β*** | ***R2*** | ***ΔR2*** | ***F*** |
| **Step 1** |  |  |  | .03\* | .03\* | 3.6\* |
| Age | 0.11 | 0.04 | .32\*\* |  |  |  |
| No. of children | -0.24 | 0.09 | -.31\*\* |  |  |  |
| **Step 2** |  |  |  | .09\*\* | .06\*\* | 5.0\*\*\* |
| Age | 0.10 | 0.04 | .30\*\* |  |  |  |
| No. of children | -0.24 | 0.09 | -.31\*\* |  |  |  |
| Sephardic women | 0.72 | 0.28 | .17\*\* |  |  |  |
| Difficult economic situation | -0.55 | 0.25 | -.15\* |  |  |  |
| **Step 3** |  |  |  | .27\*\*\* | .18\*\*\* | 11.8\*\*\* |
| Age | 0.08 | 0.03 | .24\* |  |  |  |
| No. of children | -0.13 | 0.08 | -.17 |  |  |  |
| Sephardic women | 0.57 | 0.25 | .14\* |  |  |  |
| Difficult economic situation | -0.43 | 0.22 | -.11\* |  |  |  |
| Pregnancy experience  | 0.50 | 0.12 | .26\*\*\* |  |  |  |
| Childbirth experience | 0.99 | 0.23 | .27\*\*\* |  |  |  |

Note: Due to missing values, the number does not amount to the total number of participants.
\**p*<.05, \*\* *p*<.01, \*\*\* *p*<.001

**Discussion**

The aim of this study was to investigate whether the experiences of pregnancy and childbirth predict postpartum and general depression symptoms among ultra-orthodox women, while controlling for demographic variables, including affiliation with various sects within this population.

In the current study, we found that having a negative pregnancy experience was related to having a negative childbirth experience, similarly to findings from previous studies that reported that experiencing fear and negative emotions during pregnancy could increase the risk of having a traumatic birth (Englesman et al., 2018; Rania, 2019; Sarid et al., 2012). In addition, we found that the more negative the experiences of pregnancy and childbirth were, the higher the levels of postpartum depression and general depression symptoms presented by the women were. Previous studies demonstrated a relationship between general depression symptoms (anxiety and difficult and stressful life events) during pregnancy and the appearance of postpartum depression symptoms (Dennis & Dowswelll, 2013; Kahveci et al., 2021) and the current study supports these findings.

Studies show that the rate of the appearance of postpartum depression symptoms among Jewish mothers in Israel ranges between 7% and 8% (Shwartz et al., 2019, Simhi et al., 2019). The current study demonstrates that the rate of ultra-orthodox women in Israel at risk to develop postpartum depression symptoms is higher and stands at 22%, similar to the rate of the appearance of postpartum depression symptoms among Arab-Israeli women, which stands at 21% (Shwartz et al., 2019).

Studies conducted in Israel found that many mothers are ashamed of being depressed and worry about being socially labelled, and that this can cause them to avoid sharing their troubles with others and seeking help. It was further found that many women see low mood symptoms as stemming from hormonal and physiological changes, and therefore assume that these will pass in time (Glasser et al., 2016; Halbreich & Karkum, 2006). These studies give rise to the concern that many postpartum depression symptoms are unreported and that the incidence may be higher than the number of cases recorded (Glasser et al., 2016). It is possible that the high rate of postpartum depression symptoms found in the current study stems from the fact that this concern is even greater among ultra-orthodox women, who tend not to share their feelings and difficulties for fear of damaging their good name and their family’s reputation. Moreover, their failure to meet the expectations and social norms of ultra-orthodox society could act as an additional source of stress and affect their decision not to share their difficulties surrounding the issue of birthing (Gabbay et al., 2017; Grinstein-Cohen et al., 2017).

This study’s findings show that the appearance of postpartum depression symptoms are more common among ultra-orthodox women from the Sephardic sect and women with a secular background who became ultra-orthodox. It may be possible to explain these findings based on the characteristics of each group. In relation to the other sects, the Sephardic sect is characterized by a lower sense of community coherence, a situation influenced by the Zionist establishment’s demand that Mizrahi Jews be assimilated into the Ashkenazi public, a demand that was accompanied by discrimination, oppression, and rejection (Arbiv, 2015; Leon, 2013). Some are of the opinion that this is still happening today (Doron, 2012). Ethnic tension between Sephardic ultra-orthodox Jews and Ashkenazi-Lithuanian ultra-orthodox Jews has created social and Halachic gaps (Zivzener & Valhamen, 2012), as well as an economic gap, as the Sephardic community is one of the most underprivileged communities in Israel (Arbiv, 2015). While no economic gaps between the various sects were observed in this study, we did find that being in a difficult economic situation was one of the factors that predicted postpartum depression symptoms. Apparently, discrimination, oppression, and a difficult economic situation contribute to a lack of pride and a lack of social cohesion, and this could potentially explain why the appearance of postpartum depression symptoms was more prevalent among Sephardic women compared to women from the other sects.

Similarly to the Sephardic sect, women with a secular background often experience social exclusion, for example in regards to matchmaking, having their children accepted into educational institutions, finding a place to live, and how they are treated by society (Doron, 2013). These women experience highs and lows as they undertake the emotionally complex process of forming their religious identity. They become aware of the social status pyramid, in which the highest status is bestowed upon those who are born ultra-orthodox. This status is connected to two fundamental values of the Ashkenazi-Torah scholar society: studying the Torah and having a family with many children. Those at the middle of the pyramid are Ashkenazis with secular backgrounds, while the lowest status is reserved for Sephardic Jews with secular backgrounds (Doron, 2013).

In the current study about half of the women with secular backgrounds belonged to the Sephardic sect. Studies show that a low socioeconomic status increases the probability of exposure to stress, which can lead to negative emotional experiences and responses such as depression and anxiety (Adler & Stewart, 2010). Likewise, women whose income is below average express low openness to receiving treatment for postpartum depression symptoms (Bina & Glasser, 2018). In addition, ultra-orthodox society’s treatment of those with a secular background is ambivalent – on the one hand, there are community and family support systems that provide these people with a sense of closeness, security, and recognition of the righteousness of their path. On the other hand, they are not truly accepted as equal members of ultra-orthodox society. They seek to be accepted by a society that builds walls to separate itself and places barriers in their way, with which they have to cope on a daily basis (Doron, 2013). Secular women who become ultra-orthodox deal with the emotional difficulty of radically changing their way of life and having no social support. These experiences can lead to a lack of self-confidence, loneliness, and perhaps even catalyse the appearance of postpartum depression and general depression symptoms at a higher rate compared to women who have always been ultra-orthodox, as demonstrated in the current study.

Previous studies conducted in Israel showed that depression, anxiety, and low income during pregnancy affect negative pregnancy and childbirth experiences and postpartum depression symptoms (Segal-Engelchin et al., 2009; Sarid et al., 2012). Another study conducted among ultra-orthodox women in Israel pointed to advanced age, few pregnancies, low income, and past experiences of depression as risk factors for the appearance of postpartum depression symptoms (Bina, 2014). The current study supports these findings with similar findings regarding the risk factors predicting postpartum depression symptoms among ultra-orthodox women. We found that in addition to advanced age and few children, having a secular background, affiliation with the Sephardic sect, and negative pregnancy and childbirth experiences also predict postpartum depression symptoms among ultra-orthodox women. Moreover, we found that these factors, as well as being in a difficult economic situation, also predict symptoms of general depression.

A possible explanation for advanced age and few children being risk factors for postpartum depression symptoms is that ultra-orthodox women with these characteristics need to cope with stigma and loneliness, as they do not live up to the expectations of their community, which encourages high birth rates. Familiarity with the risk factors for postpartum depression symptoms, early identification of these symptoms, and treatment of them are important for preventing long-term negative outcomes for mothers and children (Letourneau, 2017). Therefore, it is important to identify women who are at risk to experience postpartum depression symptoms during the pregnancy period (Kahveci et al., 2021).

**Conclusions and Practical Implications**

The study findings point to the importance of identifying women who are in distress during the pregnancy period in order to prevent negative childbirth experiences and promote preventative treatment for the development of postpartum depression symptoms. Early identification should be done by collecting psychosocial information and using the EPDS screening tool, which is recommended by the Ministry of Health, as part of the identification and monitoring process during pregnancy as well as after childbirth. The process should focus on identifying characteristics that are risk factors for the appearance of postpartum depression symptoms among ultra-orthodox women: being Sephardic, having a secular background, being older, and having few children.

 Once these women are identified, we recommend that professionals contact them to provide support and have a normalizing conversation with them, to explain that postpartum depression symptoms can be treated with psychotherapeutic conversations as well as medication when needed. It should be made clear that appropriate treatment will result in less symptoms, which will benefit the health of the mother, the child, and the entire family.

 Women identified as being at risk for postpartum depression symptoms should be monitored to ensure that they arrive for therapy sessions, and it is important to create a support system to accompany them and encourage them to receive treatment, in order to prevent them from not showing up. Achieving the proposed goals requires that the professionals providing the treatment be appropriately trained, as well as the development of an accessible database of appropriate treatment agencies and professionals in various areas of residence. These services should offer a comprehensive health solution (social, psychological, and medical) and be culturally sensitive to the needs of the ultra-orthodox community, its characteristics, and the various sects it comprises.

**Limitations and Future Directions for Research**

The study is methodologically solely anchored in the women’s subjective experience. This method is liable to affect the reliability of the measurement, as it is based on self-reporting questionnaires that may be biased due to social desirability or the use of defense mechanisms. Furthermore, the Sephardic sect is characterized by flexibility and social interaction (Cahaner et al., 2012), while ultra-orthodox people with secular backgrounds are people who have changed their personal identity and are therefore perhaps more open to discussing personal processes they have undergone (Doron, 2013). This may explain why ultra-orthodox Sephardic women and ultra-orthodox women with secular backgrounds were more willing to report negative experiences, as opposed to women from the Lithuanian and Hasidic sects. It is possible that women from the Lithuanian sect suffer from postpartum depression symptoms just as much or even more, but are not in the habit of speaking of these things freely, as the Lithuanian sect is strict, conservative, and places an emphasis on toeing the line (Bar’on, 2017).

 In light of the study findings, we recommend conducting a follow-up qualitative study to investigate whether providing systemic treatment through healthcare services (social, psychological, and medical) during pregnancy and after childbirth, to women who report negative pregnancy and childbirth experiences, can help prevent the development of postpartum depression symptoms. We further believe that a qualitative study of women from the various sects coping with postpartum depression symptoms should be conducted to understand how they perceive their situation and coping mechanisms on the personal, family, and community levels. These studies will be able to provide more in-depth knowledge regarding the appropriate ways of treating ultra-orthodox women and help decrease the risk of the appearance of postpartum depression symptoms.

**Key Points**

* Negative pregnancy and childbirth experiences are related to postpartum depression symptoms and general depression symptoms.
* Postpartum depression symptoms and general depression symptoms are more prevalent among ultra-orthodox Sephardic women compared to ultra-orthodox women from the Lithuanian and Hasidic sects, and among ultra-orthodox women with secular backgrounds compared to those who have always been ultra-orthodox.
* Ultra-orthodox women at high risk for postpartum depression symptoms and general depression symptoms should be identified based on the predictive factors emerging from this study.

**Reference List**

**Hebrew References**

Arbiv, R. (2015). *Sense of community coherence and openness to the other: A comparison between three circles in ultra-orthodox society in Israel* [Master’s thesis, Ben-Gurion University of the Negev].

Bar’on, B. (2017). *A guide to ultra-orthodox society: Beliefs and sects.* Am Oved Publishing and the Israel Democracy Institute.

Beyth-Marom, R., Gordoni, G., & Zemach, M. (2009). *Research methods in social sciences: Research principles and styles* (2nd edition, Unit 5). The Open University of Israel.

Cahaner, L., Yozgof-Orbach, N., & Sofer, A. (2012). *Ultra-orthodox Jews in Israel: Space, society, community.* University of Haifa.

Chelichel, A. (2011). *Working paper series no. 60: The fertility of Jewish and Muslim women in Israel by degree of religiosity during 1979–2009.* Jerusalem: Central Bureau of Statistics.

Doron, S. (2012). Identity and exclusion barriers in the process of Sephardi-Mizrahis becoming religious. In K. Kaplan & N. Shtedler (Eds.), *From survival to becoming established: Changes in ultra-orthodox society and how it is researched* (pp. 195–214). Hakibbutz Hameuchad Publishing and the Van Leer Institute.

Doron, S. (2013). *Walking between worlds: Becoming religious and becoming secular in Israeli society.* Hakibbutz Hameuchad Publishing.

Dror Cohen, S. (2010). *Data set from the 2009 social survey: Preserving Jewish tradition and changes in the degree of religiosity throughout life among the Jewish population in Israel.* Jerusalem: Central Bureau of Statistics.

Friedman, Y. (2020). *Sampling in education and social studies: Principles, strategies, and execution processes.* The Henrietta Szold Institute; The National Institute for Research in Behavioral Sciences.

Glasser, S., & Barel, V. (1999). An applicable tool for researching and identifying postpartum depression. *Harefuah, 136*(10). 764–768.

Layosh, B. (2014). *Women of the threshold: Ultra-orthodox women confronting modern change.* Resling Publishing.

Leon, N. (2013). Ultra-orthodox Sephardic women: Rigid ideology, soft identity. *The Study of Ultra-Orthodox Society, 1*, 1–20.

Lock Shemer, N. (2009). *The experience of motherhood and the relationship between the parents after the birth of the first child among secular and ultra-orthodox women* [Master’s thesis, Hebrew University of Jerusalem].

Malach, G., & Cahaner, L. (2020). *The yearbook of ultra-orthodox society in Israel in 2020.* Jerusalem: The Israel Democracy Institute.

Malchi, A. (2016). *Becoming religious and making a living. Employment characteristics among Jews who have become ultra-orthodox.* The Jerusalem Institute for the Research of Israel; The Center for the Research of Ultra-Orthodox Society.

Neuman, H. (2013). *How national religious women and ultra-orthodox women cope with fertility difficulties: The relationship between the perception of the fertility problem, the perception of pressure from the community, religious coping, and partner support, and psychological adaptation to the situation* [Doctoral essay, Tel Aviv University].

Prins-Engelsman, S. (2018). *Health-promoting behaviors and subjective experiences of pregnancy and childbirth and their effect on postpartum depression among ultra-orthodox women in Israel: A mixed-method study* [Doctoral essay, Ben-Gurion University of the Negev].

Regev, E. (2017). *Assimilation patterns of ultra-orthodox Jews in the labor market: An intra-Haredi analysis and multi-sectorial comparison* (Report on the State of the Country in 2017). Jerusalem: The Taub Center for Social Policy Studies in Israel.

Rieder Indursky, E. (2018). *Invisible women: Ultra-orthodox feminism – the case of the “No Voice, No Vote” campaign.* Pardes Publishing.

Sarid, O., Segal-Engelchin, D., & Cwikel, J. (2010). Risk factors for traumatic birth and its significance from the women’s perspective. In O. Sarid, D. Segal-Engelchin, & J. Cwikel (Eds.), *Mind-body mosaic: Women’s health in Israel.* (pp. 67­–87). Ben-Gurion University of the Negev.

Wizel Sankari, R. (2013). *The relationship between optimistic bias and coping pattern and guidance towards performing obstetric ultra-sonographies among ultra-orthodox women* [Master’s thesis, Tel Aviv University].

Zivzener, B., & Valhamen, D. (2012). Recruitment and conversion in ultra-orthodox society in Israel: The Shas party’s project of bringing Jews back to religion. In K. Kaplan & N. Shtedler (Eds.), *From survival to becoming established: Changes in ultra-orthodox society and how it is researched* (pp. 215–232). Hakibbutz Hameuchad Publishing and the Van Leer Institute.

**English References**

Adams, L. B., Gottfredson, N., Lightfoot, A. F., Corbie-Smith, G., Golin, C., & Powell, W. (2019). Factor analysis of the CES-D 12 among a community sample of Black men. *American Journal of Men's Health, 13*(2),1–9. doi: 10.1177/1557988319834105

Adler, N. E., & Stewart, J. (2010). Preface to the biology of disadvantage: Socioeconomic status and health. *Annals of the New York Academy of Sciences, 1186,* 1-4. doi: 10.1111/j.1749-6632.2009.05385.x

Aldrighi, J. D., Wall, M. L., & Souza, S. R. R. K. (2018). Experience of pregnant women at an advanced age. *Revista Gaucha de Enfermagem, 39*. doi: 10.1590/1983-1447.2018.2017-0112

American Psychiatric Association (2013). *Diagnostic and statistical manual of mental disorders (DSM-5®)*. Washington, D.C.: American Psychiatric Association.

Bina, R. (2008). The impact of cultural factors upon postpartum depression: A literature review. *Health Care for Women International, 29*(6), 568–592. doi: 10.1080/07399330802089149

Bina, R. (2014). Seeking help for postpartum depression in the Israeli Jewish orthodox community:

Bina, R., & Glasser, S. (2018). Factors associated with attitudes toward seeking mental health treatment postpartum. *Women & Health,* 1–12. doi: 10.1080/03630242.2017.1421286

Bina, R., & Harrington, D. (2016). The Edinburgh postnatal depression scale: Screening tool for postpartum anxiety as well? Findings from a confirmatory factor analysis of the Hebrew version. *Maternal and Child Health Journal, 20*(4), 904–914. doi: 10.1007/s10995-015-1879-7

Cox, J. L., Holden, J. M., & Sagovsky, R. (1987). Detection of postnatal depression: Development of the 10-item Edinburgh postnatal depression scale. *The British Journal of Psychiatry, 150,* 782–786.

Dennis, C. L., & Dowswell, T. (2013). Psychosocial and psychological interventions for preventing postpartum depression. *The Cochrane Database of Systematic Reviews, 2*. doi: 10.1002/14651858.CD001134.pub3

Engelsman, S. P., Huss, E., & Cwikel, J. (2018). How ultra-orthodox (Haredi) Israeli women cope with normative and difficult pregnancy and childbirth experiences. *Nashim: A Journal of Jewish Women's Studies & Gender Issues, 33,* 136–157. doi: 10.2979/nashim.33.1.07

Factors associated with use of professional and informal help. *Women & Health, 54*(5), 455–473. doi: 10.1080/03630242.2014.897675

Gabbay, E., McCarthy, M. W., & Fins, J. J. (2017). The care of the ultra-orthodox Jewish patient. *Journal of Religion and Health, 56,* 545–560. doi: 10.1007/s10943-017-0356-6

Glasser, S., Hadad, L., Bina, R., Boyko, V., & Magnezi, R. (2016). Rate, risk, factors and assessment of a counselling intervention for antenatal depression by public health nurses in an Israeli ultra-orthodox community. *Journal of Advanced Nursing, 72,* 1602–1615. doi: 10.1111/jan.12938

Grinstein-Cohen, O., Katz, A., & Sarid, O. (2017). Religiosity: Its impact on coping styles among women undergoing fertility treatment. *Journal of Religion and Health, 56,* 1032­­–1041.

Halbreich, U., & Karkun, S. (2006). Cross-cultural and social diversity of prevalence of postpartum depression and depressive symptoms. *Journal of Affective Disorders, 91*(2­–3), 97-111. doi: 10.1016/j.jad.2005.12.051

Kahveci, G., Kahveci, B., Aslanhan, H., & Bucaktepe, P. G. E. (2021). Evaluation of prevalence and risk factors for postpartum depression using the Edinburgh Postpartum Depression Scale: A cross-sectional analytic study. *Gynecology Obstetrics & Reproductive Medicine,* 1–7. doi: 10.21613/GORM.2020.1109

Letourneau, N. L., Dennis, C. L., Cosic, N., & Linder, J. (2017). The effect of perinatal depression treatment for mothers on parenting and child development: A systematic review. *Depression and Anxiety, 34,* 928–966. doi: 10.1002/da.22687.

O’Hara, M. W., & McCabe, J. E. (2013). Postpartum depression: Current status and future directions. *Annual Review of Clinical Psychology, 9,* 379–407. doi: 10.1146/annurev-clinpsy-050212-185612

Peng, C. Y. J., Lee, K. L., & Ingersoll, G. M. (2002). An introduction to logistic regression analysis and reporting. *The Journal of Educational Research, 96,* 3–14. doi: 10.1080/00220670209598786

Radloff, L. S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement, 1*(3), 385–401.

Rania, N. (2019). Giving voice to my childbirth experiences and making peace with the birth event: The effects of the first childbirth on the second pregnancy and childbirth. *Health Psychology Open, 6.* doi: 10.1177/2055102919844492

Sarid, O., Segal-Engelchin, D., & Cwikel, J. (2012). The contribution of negative reproductive experiences and chronic medical conditions to depression and pain among Israeli women. *Psychology, Health & Medicine, 17,* 82–94. doi: 10.1080/13548506.2011.579987

Segal-Engelchin, D., Sarid, O., & Cwikel, J. (2009). Pregnancy, childbirth and postpartum experiences of Israeli women in the Negev. *Journal of Prenatal & Perinatal Psychology & Health, 24,* 3–25.

Sherbourne, C. D., Dwight-Johnson, M., & Klap, R. (2001). Psychological distress, unmet need, and barriers to mental health care for women. *Women's Health Issues, 11*(3), 231-243. doi: 10.1016/S1049-3867(01)00086-X

Shorey, S., Chee, C. Y. I., Ng, E. D., Chan, Y. H., San Tam, W. W., & Chong, Y. S. (2018). Prevalence and incidence of postpartum depression among healthy mothers: A systematic review and meta-analysis. *Journal of Psychiatric Research, 104,* 235-248. doi: 10.1016/j.jpsychires.2018.08.001.

Shwartz, N., Shoahm-Vardi, I., & Daoud, N. (2019). Postpartum depression among Arab and Jewish women in Israel: Ethnic inequalities and risk factors. *Midwifery, 70,* 54–63. doi: 10.1016/j.midw.2018.12.011.

Simhi, M., Sarid, O., & Cwikel, J. (2019). Preferences for mental health treatment for post-partum depression among new mothers. *Israel Journal of Health Policy Research, 8,* 1–8.

Smorti, M., Ponti, L., & Pancetti, F. (2019). A comprehensive analysis of post-partum depression risk factors: The role of socio-demographic, individual, relational, and delivery characteristics. *Frontiers in Public Health, 7,* 295. doi: 10.3389/fpubh.2019.00295

Teman, E., Ivry, T., & Goren, H. (2016). Obligatory effort [Hishtadlut] as an explanatory model: A critique of reproductive choice and control. *Culture, Medicine, and Psychiatry, 40*(2), 268–288. doi: 10.1007/s11013-016-9488-5

Weijing, Q., Fuqing, Z., Yutong, L., Qing, L. I., & Jie, H. (2020). Psychosocial risk factors for postpartum depression in Chinese women: A meta-analysis. *BMC Pregnancy and Childbirth, 21,* 1–15. doi: 10.1186/s12884-021-03657-0