

## PSYCHIATRY/OBSTETRICS

# Depressive Symptoms and Risk Factors Among Perimenopausal Women

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**Background.** Several studies indicate that approximately 4.6 % of the Puerto Rican Population has been affected by depression at some time in their life. Perimenopausal women have been one of the most frequently mentioned population in scientific literature prone to develop depression. Socio-demographic factors along with medical history have been hypothesized to be associated with the development of depression. This study has the purpose to know the prevalence of depressive symptoms in a sample of women age 40 to 55 years attending a gynecological outpatient clinic in the Medical Sciences Campus of the University of Puerto Rico. We also want to identify sociodemographic risk factors that can predispose these women to develop depressive symptoms.

**Method.** A cross sectional study was done during the months of June 2000 thru December 2000. Female subjects age 40 to 55 selected by availability. The Zung

Self-Rating Depression Scale (1995 Spanish Version) and a questionnaire were administered to each subject.

**Results.** The overall prevalence of depressive symptoms in this sample of 64 women was 39.1 %. Among the variables considered as possible associated risk factors for the development of depressive symptoms, educational level, prior visit to a mental health professional or a spiritual guide, and prior diagnosis of depression and antidepressant use were of statistical significance.

**Discussion.** A high prevalence of depressive symptoms was found in this sample. As reported in other studies, higher educational level is a protective factor against depression. Contrary of other studies, no association is found between depression and other sociodemographic and medial factors.

**Key words:** Depression, Zung Self-Rating Depression Scale, Perimenopause, SDS-Index

Depression is one of the most common diagnoses in Puerto Rico as well in the United States. Studies indicate the approximately 4.6% of the Puerto Rican population has been affected by this disorder at some point in their lifetime (1). Several studies have identified particular groups in the population with a high prevalence of depressive symptoms. Among these groups, perimenopausal women have been one of the most mentioned in the scientific literature. Evidence suggests that psychological symptoms such as nervousness, irritability, headaches, depression and decreased social adaptation occur more frequently in women whose menstrual cycle has changed recently (2). Specifically, symptoms such as loss of confidence, difficulty in

concentration, difficulty in making decisions, anxiety, forgetfulness, tiredness, dizzy spells, and palpitations have been found to rise in the fifth decade, and peak in the years before age 50. Several demographic factors along with gynecological history have been hypothesized to be associated with the development of these symptoms.

Marital status has been related to depression. The Harvard Study of Mood Disorders (3) found that widowed, divorced, separated or those women who never married are twice as likely as married women to develop depressive symptoms. Similar results have been reported by other studies. According to Weissman et al. (4), separation and divorce are frequently associated with increase risk of depression. Included in this group of women, there is a subgroup that has been focus of attention of several studies: single women head of household (SWHH).

A comparative analysis using data from island wide population-based sample in Puerto Rico (5) found that SWHH have a higher risk than other women for psychiatric symptomatology particularly depressive symptoms. This study also suggests those women with many or young children are particularly vulnerable to depression. This finding contrasted with the results of a study of mental

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health utilization in Puerto Rican women with symptoms of depression (6), which found no positive association between this variable, and the development of depressive symptoms. Continuous exposition to high levels of stress was suggested as a possible explanation for this difference. However, this study confirmed the finding regarding the positive association between being head of household and depression. This group of women was found to be older, poorer, have less education than other groups, and more often live in urban areas (5). Therefore, socioeconomic factors and educational level could be involved in the development of depression.

The Harvard Study of Moods and Cycles (3) found that women currently employed and those living with a higher per capita income were less likely to report a history of depression and more likely to have a score less than 16 in the Center for Epidemiologic Study Depression Scale (CES-D). This outcome contrasts with that of the previously mentioned mental health utilization study in Puerto Rico (6). The conflicting findings might be explained the fact that most of this population considered themselves as housewives and not in search of a job. These women were also found to have low educational level, which by itself, contributes to the development of depressive symptoms. High educational achievement could slightly decrease the risk of current depressive symptoms (3).

Gynecological history also appears to be related to the development of depressive symptoms. According to Harlow et al. (3), there is a trend of decreasing risk for CES-D scores of 16 or more with increasing age of menarche. Also, a trend of women with increasing history of depression that required medical treatment was observed with increasing menstrual cycle length. However, the same association could not be established with active depressive symptoms.

Body mass index (BMI) and cigarette smoking have also been associated with depression (3). A positive association has been found between current depressive symptoms and increasing quartiles of this variable. Finally, women with history of smoking were more likely than nonsmokers to have a history of depression or current depressive symptoms.

Given the lack of studies of depression in Puerto Rican women in menopausal ages, we have the objective in our study to know the prevalence of depressive symptoms in a sample of women aged 40 to 55 years in a gynecology outpatient clinic. We also want to identify sociodemographic risk factors that can predispose these women to develop depressive symptoms. The findings in this study could result in the implementation of screening assessment for depression as part of the routine evolution for this population.

## Method

A cross sectional study was done to examine a sample of Puerto Rican women aged among 40 to 55 years. During the months of June 2000 thru December 2000, all women between 40 to 55 years of age, attending a Gynecologic outpatient clinic at the Medical Sciences Campus of the University of Puerto Rico, were asked to participate in the study.

Informed consent was obtained from each subject who where interested in participating in the study. The Zung Self-Rating Depression Scale (1995 Spanish version) and a questionnaire were administered to each subject. The Zung Self-Rating Depression Scale is a 20-item questionnaire designed to assess depressive symptoms in the past two weeks. This scale can estimate the degree from none to extreme severity of depressive state, although it cannot differentiate between types of depressive disorders. Although this scale is designed to screen but not diagnose major depression, a SDS (self-rating depression scale) index over 50 is highly suggestive of depression. The women received a general orientation on how to fill it out. Responders were oriented regarding the results and implications for the need of a more detailed evaluation and need of mental health services depending upon their SDS score.

A 45-item, self-administered questionnaire was also used to collect demographic factors such as age, educational level, and number of children, marital status and income. Also medical, reproductive and past depressive history were collected though this questionnaire.

The statistical analysis was done using SPSS-PC. The chi square test and crossed tabs were used to make inferences between the variables. The chi square test and the Fisher Exact test were used in order to determine the correlation between the dependent and independent variables. The dependent variable was the SDS index. The independent variables form the demographic data, gynecological history, past depressive history and other risk factors.

## Results

Sixty-four women participated in our study. They attended to the gynecology outpatient clinic during the period of June to December 2000. The results of this study are based on SDS index and answers given in the 45-items questionnaire. Thirty-nine women had no depressive symptom and twenty-five women had depressive symptoms. The overall prevalence of depressive symptoms in this sample was 39.1%. (23.4% mild symptoms, 14.1% moderate symptoms, and 1.6% severe

symptoms). Among the sociodemographic factors (Table 1) considered as possible associated risk factors for the development of depressive symptoms, educational level was the only one with statistical significance. Higher educational level was associated with a lower SDS index. Only three percent of this group has a SDS index higher

**Table 1.** Sociodemographic Factors

| Marital Status    | n  | Symptoms | No Symptoms | p value |
|-------------------|----|----------|-------------|---------|
| Married           | 43 | 18       | 25          | 0.512   |
| Non-married       | 21 | 7        | 14          |         |
| Employed          |    |          |             | 0.813   |
| Yes               | 45 | 18       | 27          |         |
| No                | 19 | 7        | 12          |         |
| Education         |    |          |             | 0.009   |
| HS and College    | 28 | 16       | 9           |         |
| Bachelor          | 36 | 12       | 27          |         |
| Head of Household |    |          |             | 0.779   |
| Yes               | 22 | 8        | 14          |         |
| No                | 40 | 16       | 24          |         |
| Income            |    |          |             | 0.099   |
| 0-7499            | 15 | 6        | 9           |         |
| 7500-24999        | 22 | 12       | 10          |         |
| 25000 or more     | 25 | 6        | 19          |         |
| Children          |    |          |             | 0.524   |
| 0                 | 15 | 4        | 11          |         |
| 1-2               | 24 | 10       | 14          |         |
| 3 or more         | 25 | 11       | 14          |         |

**Table 2.** Mental Health History

| Family history of depression                | n  | Symptoms | No Symptoms | p value |
|---|----|----------|-------------|---------|
| Yes   | 37 | 18       | 19          | 0.066   |
| No  | 27 | 7        | 20          |         |
| Prior diagnosis of depression               |    |          |             | 0.007*  |
| Yes   | 12 | 9        | 3           |         |
| No  | 51 | 15       | 36          |         |
| Use of Antidepressants                      |    |          |             | 0.002*  |
| Yes   | 13 | 10       | 3           |         |
| No  | 51 | 15       | 36          |         |
| Help from MHP                               |    |          |             | 0.001   |
| Yes   | 19 | 13       | 6           |         |
| No  | 44 | 11       | 33          |         |
| Spiritual help                              |    |          |             | 0.006   |
| Yes   | 18 | 12       | 6           |         |
| No  | 45 | 6        | 32          |         |
| Significant life event                      |    |          |             | 0.185   |
| Yes   | 20 | 10       | 10          |         |
| No  | 43 | 14       | 29          |         |
| Separation from parents before 16 years old |    |          |             | 0.231*  |
| Yes   | 7  | 1        | 6           |         |
| No  | 57 | 24       | 33          |         |

\* Fisher Exact Test

than 50. However, it should be mentioned that 72 % of these women had seek psychiatric help in the past. In terms of mental health history (Table 2), it was found that prior visits to a mental health professional or a spiritual guide was associated with a higher SDS index. History of prior diagnosis of depression and antidepressant use were associated to a higher SDS index. In terms of medical history (Table 3), no correlation was found between

**Table 3.** Medical History

| Menarche           | n  | Symptoms | No Symptoms | p value |
|--------------------|----|----------|-------------|---------|
| <10-13 years old   | 52 | 18       | 34          | 0.190*  |
| 14> years old      | 12 | 7        | 5           |         |
| Menopause          |    |          |             | 0.463   |
| Yes                | 24 | 10       | 14          |         |
| No                 | 37 | 12       | 25          |         |
| Menstrual Cycle    |    |          |             | 0.185*  |
| Regular            | 52 | 18       | 34          |         |
| Irregular          | 11 | 6        | 5           |         |
| Duration of Menses |    |          |             | 0.327   |
| 2-5 days           | 43 | 15       | 28          |         |
| 6 or more days     | 21 | 10       | 11          |         |
| Smoking            |    |          |             | 0.137*  |
| No, almost never   | 55 | 19       | 36          |         |
| Sometimes          | 9  | 6        | 3           |         |
| Body Mass Index    |    |          |             | 0.712   |
| Less than 26.4     | 30 | 11       | 19          |         |
| 26. or more        | 34 | 14       | 20          |         |

\*Fisher Exact Test

gynecological history and depressive symptomatology. Smoking history and body mass index did not correlate with depressive symptoms.

## Discussion

A high prevalence of depressive symptoms was found in this sample. This finding corroborates the prevalence of depression reported by other community-based studies on perimenopausal woman. The only sociodemographic factor that was found to correlate with depressive symptoms was educational level. Our finding confirms the results of the Harvard Study of Moods and Cycles (3). While more educated women, less likely our sample reported depressive symptoms. One possibility could be that those of this group who has prior history of depression were more able to identify depressive symptoms and sought treatment.

On the other hand, our data suggest that those women who sought spiritual and mental health professional help have more depressive symptoms. This fact may indicate merely that only those women who feel depressed tend to seek help in order to improve their symptoms. Our study

also found that women who had prior diagnosis of depression and use of antidepressants have more depressive symptoms in last two weeks. We did not have the opportunity in this data to determine whether these women were currently under any kind of treatment or were compliant with previous treatment.

The data presented in this analysis do not allow us to make an association between marital status and depressive symptoms. Our results did not support findings of previous studies (3,4) that suggest that separation and divorce are frequently associated with increased risk of depression. The majority of women in our sample were married. An early study in Puerto Rico (5) established a strong association between depressive symptoms and being SWHH, but we found no positive association between these variable and depressive symptoms, In contrast to Harvard Study of Moods and Cycles (3), no correlation was found between income and depressive symptoms. This finding could be explained by the fact that the majority of the women in our study had a high education and income level.

Contrary to previous studies (2,3), menarche, menopausal status, duration of menses and cycle regularity were not of statistical significance. Likewise, no association was found in cigarette smoking, BMI, and current depressive symptoms. This difference could be attributed to the characteristics of our sample. The majority of the women were nonsmokers, had regular menstrual cycles and short duration of menses.

We recognize limitations in our study. First of all, we should mention that the it was a small sample and the selected group of patients may not be representative of the general population. The fact that the collection of data was based on self-reporting could be another limitation. We strongly recommend further studies with a larger sample and the use of other sources like medical records and direct clinical observation. Given the fact that we found a high prevalence of depressive symptoms in this group of perimenopausal women, the establishment of preventive measures would be of great benefit in order to improve their quality of life. Zung Self-Rating Depression Scale could be part of the initial evaluation of women in these ages seen by the primary care physicians.

## Resumen

Varios estudios indican que aproximadamente el 4.6% de la población puertorriqueña ha sido afectada por la depresión en algún punto de sus vidas. Se ha señalado el grupo de las mujeres perimenopáusicas como uno de los más sensitivos. Se ha postulado que factores

sociodemográficos, además del historial médico podrían estar asociados con el desarrollo de depresión. Este estudio pretende determinar la prevalencia de síntomas depresivos en una muestra de mujeres entre las edades de 40 a 55 años que reciben servicios en una clínica ambulatoria de obstetricia y ginecología e identificar factores de riesgo que puedan predisponer a estas mujeres a desarrollar síntomas depresivos.

Un estudio transversal fue realizado entre los meses de junio y diciembre del año 2000. Los sujetos fueron seleccionados por disponibilidad. Cada sujeto recibió la escala Zung de auto-evaluación de la depresión y un cuestionario.

En esta muestra se encontró una prevalencia de síntomas depresivos de 39.1%. El nivel de escolaridad, el historial de visitas a un profesional de la salud mental o guía espiritual y el historial previo de depresión o uso de antidepressivos fueron los únicos factores estadísticamente significativos.

Se encontró una alta prevalencia de síntomas depresivos en esta muestra. Al igual que lo encontrado en estudios anteriores, un alto nivel de escolaridad es un factor protector contra la depresión. A diferencia de otros estudios, no se encontró correlación entre depresión y otros factores sociodemográficos o médicos.

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