



## Effect of Acupressure on Post Natal Depression

Marina N. Salama<sup>1</sup>, Hala M. Omara<sup>2</sup>, Hossam El Din H. Kamel<sup>3</sup>, Marwa E. Hasanin<sup>2</sup>

<sup>1</sup>Department of physical therapy, El Kasr el Ainy hospital, Cairo, Egypt.

<sup>2</sup>Department of Woman's Health, Faculty of physical therapy, Cairo University, Egypt.

<sup>3</sup>Department of Obstetrics and Gynecology, Faculty of Medicine, El Azhar University, Egypt

### \*Correspondence to

Marina N. Salama,  
Department of Physical  
Therapy, El Kasr El Ainy  
hospital, Cairo, Egypt.

### Tel:

01286798257

### Email;

mernasser@yahoo.com

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### Abstract:

**Background:** Postpartum depression is a common problem, affecting many women within a year of giving birth. It's important to treat postpartum depression as it could last months or get worse and have a significant impact on mothers, and the whole family.

**Objective:** this study was conducted to investigate the effect of acupressure on post partum depression (PPD).

**Methods:** 40 females with PPD were randomly distributed into two equal groups. Their ages ranged from 20 to 30 years. They were selected during the first year after delivery from obstetrics, gynecology and psychiatry outpatient clinics at EL KASR EL Ainy Hospital, Cairo, Egypt. Group (A) Study group (n=20) received acupressure sessions on **Lu1, GV20 & GB20** acupoints three times a week plus daily home program plus routine care for four weeks while Group (B) Control group received only routine care and acted as control group. All females in both groups (A & B) were assessed by Zung self rating depression scale before and after treatment period.

**Results:** There was a statistical significant decrease in the values of Zung self-rating depression scale (SDS) in Group A (study group) ( $56.88 \pm 9.68$ ) when compared with its corresponding value in Group B (control group) ( $72.69 \pm 8.79$ ).

**Conclusion:** On the basis of this study, it could be concluded that acupressure was effective in improving postpartum depression.

**Keywords:** Acupressure, Postpartum depression, Zung self rating depression scale.

### 1.Introduction

Postpartum depression (PPD) is a common problem, affecting many women within a year of giving birth. It could last months or get worse and affects the wellbeing of mothers, and the whole family (1).

The incidence of postpartum depression during the first year postpartum range from 1.2 to 25.5% (2). Following birth, there is a three-fold increase in the risk of depression during the first three to six months compared to other times of life.

Children of mothers with postpartum depression have more common disorders in cognitive, emotional and social development (3). As PPD has negative effects on early mother-infant interaction. Furthermore, PPD mothers have an elevated risk for recurrent depression during subsequent pregnancies and at other life times (4).

The Diagnostic and Statistical Manual of Mental Disorders (DSM) categorize this postnatal depression under post-partum onset and specify it as postpartum major depressive episodes if its onset occurs within the first four weeks of childbirth (5). It is believed

that various factors may add to hormonal changes in the postnatal period of women resulting in depression. " Factors, such as socioeconomic problems, insufficient social support and marital conflicts are reported as leading causes to postpartum depression (6).

Symptoms of postpartum depression suspected when it have lasted over 2 weeks. These include anxiety attacks, insecurity, guilt, reduced life quality, tearfulness, loss of interest in life, inappropriate obsessional thoughts, irritability, fatigue and fear of harming the baby (7).

PPD Patients met established diagnostic criteria of depression, including the Diagnostic and Statistical Manual of Mental Disorders (DSM), the International Classification of Diseases (ICD) and the Chinese Classification of Mental Disorders (CCMD). Definitions of depressive disorder in these systems include depressed mood, loss of interest, decreased levels of energy or increased fatigue, sleep and appetite disturbances, recurrent thoughts of death, inability to concentrate, psychomotor agitation or retardation, and ideas of guilt and unworthiness. SDS in our study also rate the same symptoms (8).

A recent study found that 40% of depressed patients has successfully used alternative therapies like acupressure to treat depression (9). Acupressure is a non-invasive technique based on the meridian theory of Traditional Chinese medicine (TCM) (10). Roots of acupressure are in China and has been used there for thousands of years as an easy method of self-caring and treating diseases. Based on traditional Chinese medicine (TCM), it was believed that a life force, qi, flows through various invisible channels in the human body. Along these channels, there are special points called acupoints, which are very important in delivering qi (11).

Patients suffered from depression additionally treated by acupressure stimulating Lu1 acupoint experienced a statistically significant higher benefit than patients in the control group (12). Also, main acupoints; governor vessel (GV20) and gall bladder 20 (GB20) were frequently used for treatment of chronic fatigue syndrome and depression (13).

Though this study was conducted to add new knowledge and information about the effect of acupressure on Post Partum Depression that may add new knowledge to the field of physical therapy about the effect of acupressure on postpartum depression (PPD).

## 2. Materials and Methods

Forty volunteer, females having postnatal depression were selected randomly from Obstetrics,

Gynecology and psychiatric outpatient clinics at El kasr El Ainy university hospital, Cairo, Egypt to participate in this study. This study was approved by ethical committee faculty of physical therapy (No:P.T.REC/012/002316). Women were given a full explanation of the protocol of the study. A consent form was signed for each woman before participating to ensure their voluntary participation.

### 2.1. Evaluative procedures

Every woman in both groups answer each question regarding how they felt during the last week. Zung Self-Rating Depression Scale (SDS) is a 20-item self-report questions of the symptoms of depression. Answers are ranked from 1 to 4 with higher numbers corresponding to more frequent symptoms. A raw score is produced from the sum of the 20 items responses then converted into depression percentage measurable by the scale (termed the "SDS index") (14). These index scores are then categorized into 4 levels to offer a global clinical impression, as recommended by the instrument developers:

Absence of psychopathology, within normal range (SDS Index: below 50).

Indication of minimal to mild depression (SDS Index: 50-59).

Indication of moderate to marked depression (SDS Index: 60-69).

Indication of severe to extreme depression (SDS Index: 70 and over).

### 2.2. Treatment procedures

**Group (A) (Study group):** consisted of twenty patients with post natal depression. They received acupressure three times per week for 4 weeks, a daily home program and routine care.

**Group (B) (Control group):** consisted of twenty patients with postnatal depression they received only care routine and acted as a control group.

#### 2.2.1. Group (A) (Study group):

##### 2.2.1.1. Acupressure point Lu1:

**A: Application by therapist:** Lu1 point is on the upper lateral portion of the chest 6 cm from the midline of the chest, level in the first intercostal space

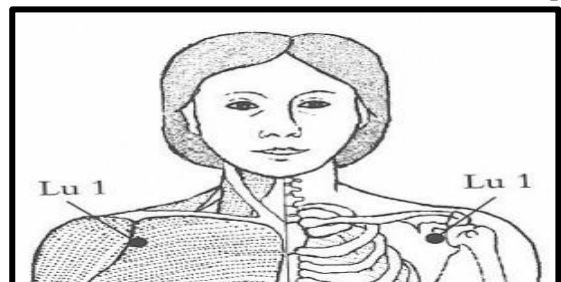


Fig (1).

Fig (1): Lu1 point location

Locating Lu1 point then tell mother to do deep breathing, pressing that point for 30 seconds then relax 30 seconds and 3 times repetitions in a session **Fig (2)**.



**Fig (2): Application of acupressure by therapist on Lu1 point.**

While holding Lung1 (**Lu1**) activates respiration, decreases depressed feelings by increase the ability of deep breathing, and thus decrease anger, emotional holding, frustration, and grief (12).

#### **B. Home routine program:**

Women trained to locate that point and press **Lu1** acupoint while relaxing in a long sitting or supine position and breathing deeply from nose and exhaling air from mouth while pressing that point by two thumbs and fingers relaxed on the chest **Fig (3)**.



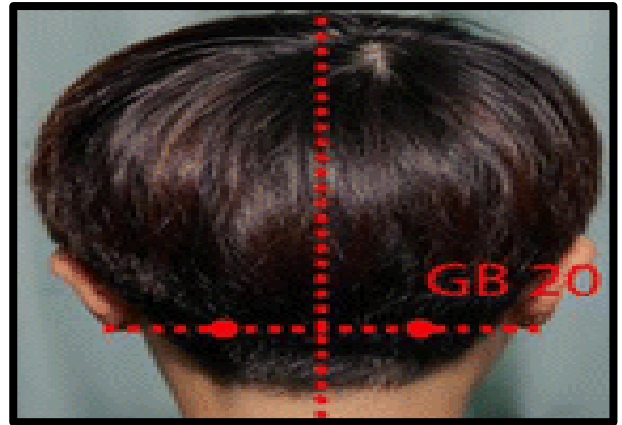
**Fig. (3) self-acupressure on Lu1 point.**

#### **2.2.1.2. Acupressure point (GB20):**

**A. Application by therapist:** (**GB20**) located in back of the head 3 cm from middle point of ear then 1.5 cm down to the groove back to where the neck muscles attaches to the skull **Fig (4)**.

Application by two hands pressing bilaterally by the thumbs on **GB20** acupoints and the other fingers holding the sagittal midline of the back of the head naturally. The application took 30 sec then 30 sec

relaxation and 3 times repetitions in a session (15) & (16) **Fig (5)**.



**Fig (4) location of GB20 point.**



**Fig (5): application of acupressure by therapist on GB20 point.**

#### **B. Home routine program:**

Patient taught to locate **GB 20** acupoint, then in a circular motion pressing that point by thumb toward the skull to enhance blood supply. Patient felt immediate relief after application. Some patients preferred to apply at home before going to sleep as that point helped them to relax and sleep more deeply. Also, some patients said that this point helped them in headache treatment, which is actually psychosomatic due to PPD **Fig (6)**.

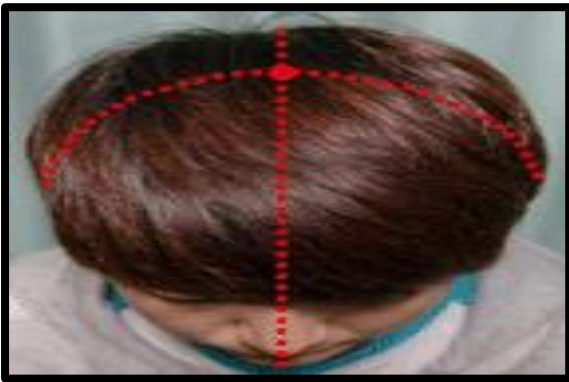
#### **2.2.1.3. Acupressure point (GV20):**

**A. Application by therapist:** **GV20** located on the vertex of the head 7 cm above the midpoint of the posterior hairline, 5 cm above midpoint of anterior hairline, midway on a line connecting the apex of both ears **Fig (7)**.



**Fig (6): self acupressure on GB20 acupoint.**

Taping the area of this acupoint gently on the scalp by the four finger pads. **GV20** used to treat various mental disorders, especially depression, anxiety, headache, insomnia and decreased memory (10) & (13).



**Fig (7) location of GV20 point.**

Locating acupoint (**GV20**) then pressing by thumb while other fingers rested on head ensure that patient head is supported then press 30 seconds then relax 30 seconds and repeat for 3 times. Patient may feel tingling sensation or pain then relieved within minutes **Fig (8)**.



**Fig (8): Application of acupressure by therapist on GV20.**

### **B. Home routine program:**

Patient also taught how to locate **GV20** acupoint, some patients while pressing that point felt tingling sensation others feel pain but relieved in minutes **Fig (9)**.



**Fig (9): self acupressure on GV20 acupoint.**

**2.2.2. Group (B) (Control group):** consisted of 20 females suffering from PPD. They only received care routine which include (listening to the mother, developing knowledge about PPD, exploring her PPD risk factors, behavior modification and advice) and acted as a control group (28).

### **Statistical analysis**

Descriptive statistics (mean, standard deviation and t-test) was conducted for comparison between both groups (unpaired t test) and within groups (paired t test) determine the effect of acupressure on treatment of post natal depression. The level of significance for all statistical tests was set at  $p < 0.05$ . All statistical measures were performed through the statistical package for social studies (SPSS) version 19 for windows.

## **3.Results**

### **3.1.subject characteristics:**

**Table (1)** showed the subject characteristics of the study and control groups. There was no significant difference between both groups in the mean age ( $p > 0.05$ ).

### **3.2.1. Within group comparison:**

There was a significant decrease in values of SDS post treatment in group (A) (study group) compared with that pre treatment values ( $p < 0.001$ ), also there were a significant decrease in SDS values in group (B) control group ( $p < 0.001$ ).

**Table (1):** Comparison of subject characteristics between study and control groups:

| Variable      | Group (A)<br>(n = 20)<br>(study<br>group) | Group (B)<br>(n = 20)<br>(control<br>group) | T<br>value | P<br>value    |
|---------------|---|---|------------|---------------|
| Age<br>(yrs.) | 26.65<br>± 3.31                           | 24.85<br>± 3.90                             | 1.574      | 0.124<br>(NS) |

Data are expressed as mean ± SD or number (%).

$\chi^2$ = Chi square test.

NS=  $p > 0.05$ = not significant

**Table (2)** Comparison between values of Zung self-rating depression scale (SDS) in both groups (A & B) measured before and after the treatment period:

| Variables          | Group (A)<br>(Study<br>group)<br>(n = 20) | Group (B)<br>(Control<br>group)<br>(n = 20) | Z<br>value | P<br>value    |
|--------------------|---|---|------------|---------------|
| Pre-<br>treatment  | 77.56<br>± 9.23                           | 81.44<br>± 6.47                             | -1.207     | 0.228<br>(NS) |
| Post-<br>treatment | 56.88<br>± 9.68                           | 72.69<br>± 8.79                             | -4.064     | 0.001*        |

Data are expressed as mean ± SD.

Z value= Mann-Whitney U test.

NS=  $p > 0.05$ = not significant; \* $p < 0.01$ = significant

### 3.2.2. Between groups comparison:

There was a statistical significant decrease in group A (Study group) in the values of Zung self-rating depression scale (SDS) measured at post-treatment ( $56.88 \pm 9.68$ ) when compared with its corresponding value at pre-treatment ( $77.56 \pm 9.23$ ) with Z value= -3.923 and p value= 0.001. There was also a statistically significant decrease in group B (Control group) in the values of Zung self-rating depression scale (SDS) measured at post-treatment ( $72.69 \pm 8.79$ ) when compared with its corresponding value at pre-treatment ( $55.73 \pm 3.99$ ) with Z value= -2.880 and p value= 0.001. The percentage of decrease in Zung self-rating depression scale (SDS) was higher in group A (26.66%) than in group B (10.74%).

## 4. Discussion

Acupressure lately used as anxiety-reducing therapy. It is type of TCM that uses points map on the surface of the skin to produce the natural healing process of the body. In TCM, acupressure is believed as specific points in the body are individually related to vital

organs. Also, it is believed that the power of life (qi) spreads in the body through 12 canals or meridians. Within acupressure field, all diseases and problems are happened as a result of a disturbance in the energy balance. So acupoints stimulation rearranges energy balance and diminishes the defaults (17).

**Table (3)** Comparison between values of Zung self-rating depression scale (SDS) measured before and after the treatment period in both groups (A&B):

| Variables                                | Group A<br>(Study group)<br>(n =20) | Group B<br>(Control group)<br>(n= 20) |
|--|-------------------------------------|---------------------------------------|
| Pre-<br>treatment                        | 77.56<br>± 9.23                     | 81<br>±6.47                           |
| Post-<br>treatment                       | 56.88<br>± 9.68                     | 72.69<br>±8.79                        |
| Difference                               | 20.69                               | 8.75                                  |
| Improve<br>ment<br>percentage<br>Z value | 26.66↓↓<br>-3.923                   | 10.74↓↓<br>-2.880                     |
| P value                                  | 0.001*                              | 0.004*                                |

Data are expressed as mean ± SD.

Z value = Wilcoxon Signed Ranks Test

\* $P < 0.0\%$ = significance.

The current study is in agreement with the study conducted by Wang and Che 2012 who founded that postpartum depression treatment better use acupressure, physical activity and cognitive behavioral therapy (18).

The results showed by Lane 2009 which coincided with the results of the current study in such that acupressure positive effect on PPD. It was determined that acupoints stimulation affect and enhance the energy flow (Qi), activating blood flow, decreasing blood congestion and enriching organs by oxygen thereby improving general health as manual stimulation of acupoints increases endorphin and serotonin production and improve serum cortisol regulation. These hormones changes may increase relaxation, decrease anxiety, and reflect directly on the pathologic factors resulted in depression. So, acupressure has been successfully having a role as a depression treatment beside other methods of psychotherapy (19).

In recent studies, acupressure has been reported to be significantly effective treatment for depression and anxiety (20).

In a study by Zick in 2018 stimulated GV20 in an intervention to treat depression, fatigue, poor sleep, chronic pain, and anxiety. Acupoints stimulation include GV20. After treatment, acupressure was

effective as the results statistically improved and there was reductions in depressive symptoms than usual care also anxiety improved (21).

**Wolfgang** explained the effect of acupressure on treating depression due to two main factors. The first factor is to decrease depression physical symptoms. The second factor is adjustment of organ functions which reflect on the mental health as every point stimulate specific organ (22).

Moreover, by examining the effects of acupressure on depression symptoms caused by dyspnea, it was found that acupressure improves depression caused by several different causes for both men and women. As the cause of depression here is usually associated with deficiency of breathing in patients with chronic obstructive pulmonary disease (COPD). Acupressure sessions has been involved to gain relaxation and reduce depression symptoms compared to those of the sham acupressure group (23).

**Valiee 2012** reported that the cases who use methods to decrease anxiety preoperatively experience less fear and after their operation they feel less pain. So acupressure tested against sedative medications as founded that anxious patients usually feel difficulties during the postoperative time immediately. Vital signs and anxiety were measured before and after the acupressure and confirmed the effect of acupressure in psychological status of the patients to be more relaxed and less depressed after acupressure sessions. The study results indicate using acupressure to treat and decrease patients' anxiety before they go to operation. On the other hand, some studies have not found improvements from acupressure on Depression. Acupoint (Baihui) **GV20** and acupoint (Fengchi) **GB20** were selected for fatigue and depression in the study. The study group had less fatigue than the control group but on depression the two groups results were nearly the same. Acupressure can improve fatigue but did not alleviate depression. But in this study the cause of depression is hepatocellular carcinoma and not all patients are females (24).

Another study concluded that psychosocial support is the most effective intervention to reduce depressive symptoms. This study confirmed that postnatal depression may reflect socialization in children and mother, and it may result in deeper depression and failure thoughts so frequent assessment for postpartum depression is very important (25).

**Howard 2005** has found that most of postpartum depression episodes resolve spontaneously within three to six months but about one out of four mothers is still depressed on the child's first birthday. In developed countries, Postnatal depression also is related to impairments in secure attachment, poor maternal-infant interactions and deficits in emotional

and cognitive development of the child, which may be improved by time, that explains the percentage of improvement in Group (B) Control Group, but Group (A) Study Group had more improvement both clinically and statistically as plus the high statistical difference for the benefit of group (A) study group also the percentage of decrease in Zung self-rating depression scale (SDS) was higher in group A (26.66%) than in group B (10.74% and that proves that acupressure stimulation on **Lu 1, GB 20 & GV 20** was effective in improving post partum depression.

Acupressure is convenient, inexpensive and safe; with easy training, it can be used by medical care workers, family, research personnel and patients themselves. (26).

PPD if not treated properly mothers would be susceptible to psychiatric disorders and they often go undetected because of the care of the newborn, financial issues and also due to low awareness of PPD. Which further affect newborn infants, the psychology of mothers, and whole family members. The worst complication is the risk of maternal suicide which recognized in governments documents from the UK and Australia. PPD mothers experienced negative and disengaged behavior towards children of varying ages compared to non-depressed mothers. So that it is important to treat PPD (27).

## 5. Conclusion

On the basis of this study, it could be concluded that acupressure was effective in improving postpartum depression

## Conflict of Interests

The authors state no conflict of interest or any financial interest or benefit from this research.

## References

1. Solantaus, T., and Salo, S. (2005). "Paternal postnatal depression: fathers emerge from the wings". *The Lancet.*; 365(9478), 2158–2159.
2. Goodman, J., Prager, J., Goldstein, R., & Freeman, M. (2014). "Perinatal Dyadic Psychotherapy for postpartum depression: a randomized controlled pilot trial". *Archives of Women's Mental Health.*; 18(3), 493–506.
3. Abdollahi, F., Zarghami, M., Azhar, M., Sazlina, S., & Lye, M. (2014). "Predictors and incidence of post-partum depression: A longitudinal cohort study". *Journal of Obstetrics and Gynaecology Research.*; 40(12), 2191–2200.
4. Abbott, M., & Williams, M. (2006). "Postnatal Depressive Symptoms among Pacific Mothers in Auckland: Prevalence and Risk Factors".

- Australian & New Zealand Journal of Psychiatry.; 40(3), 230–238.
5. American Psychiatric Association. (2000). "Diagnostic and statistical manual of mental disorders". 4th edition.; 422(423).
  6. Chan, Y., Lo, W., Yang, S., Chen, Y., & Lin, J. (2015) "The benefit of combined acupuncture and antidepressant medication for depression: A systematic review and meta-analysis". *Journal of Affective Disorders.*; 176, 106–117.
  7. Quinlivan, J., & Condon, J. (2005). "Anxiety and depression in fathers in teenage pregnancy". *Australian and New Zealand Journal of Psychiatry.*; 39(10), 915–920.
  8. Nahas R and Sheikh O. (2011). "Complementary and alternative medicine for the treatment of major depressive disorder". *National Center for Biotechnology Information.*; 57(6): 659–663.
  9. Poyatos-León, R., García-Hermoso, A., Sanabria-Martínez, G., Álvarez-Bueno, C., Cavero-Redondo, I., & Martínez-Vizcaíno, V. (2017). "Effects of exercise-based interventions on postpartum depression: A meta-analysis of randomized controlled trials". *Birth.*; 44(3): 200–208.
  10. Tiwari, A., Lao, L., Wang, A., Cheung, D., So, M., Yu, D. and Zhang, Z. (2016). "Self-administered acupressure for symptom management among Chinese family caregivers with caregiver stress: a randomized, wait-list controlled trial". *BMC Complementary and Alternative Medicine.*; 16(1), 1-12.
  11. Chan, H., Chui, Y., Chan, C., Cheng, K., Chui, A., So, W., & Chan, M. (2014). "Exploring the influence of traditional Chinese medicine on self-care among Chinese cancer patients". *European Journal of Oncology Nursing.*; 18(5): 445–451.
  12. Röschke, J., Wolf, C., Müller, M., Wagner, P., Mann, K., Grözinger, M., & Bech, S. (2000). "The benefit from whole body acupuncture in major depression". *Journal of Affective Disorders.*; 57(1-3), 73– 81.
  13. Wang, T., Zhang, Q., Xue, X., & Yeung, A. (2008). "A Systematic Review of Acupuncture and Moxibustion Treatment for Chronic Fatigue Syndrome in China". *The American Journal of Chinese Medicine.*; 36(01), 1–24.
  14. Thurber, S., Snow, M., & Honts, C. (2002). "The Zung Self-Rating Depression Scale". *Assessment.*; 9(4), 401–405.
  15. Hsieh, L., Liou, H., Lee, L., Chen, T., & Yen, A. (2010). "Effect of Acupressure and Trigger Points in Treating Headache: A Randomized Controlled Trial". *The American Journal of Chinese Medicine.*; 38(01), 1–14.
  16. Shin, M., Kim, J., Lee, M., Kim, K., Choi, J., Kang, K. Kim, T. (2010). "Acupuncture for treating dry eye: a randomized placebo-controlled trial". *Acta Ophthalmologica.*; 88(8), 328–333.
  17. Valiee, S., Bassampour, S., Nasrabadi, A., Pouresmaeil, Z., & Mehran, A. (2012). "Effect of Acupressure on Preoperative Anxiety: A Clinical Trial". *Journal of PeriAnesthesia Nursing.*; 27(4): 259–266.
  18. Wang, L., & Che, C. (2012). "The Psychological Impact of Hemodialysis on Patients with Chronic Renal Failure". *Renal Failure-The Facts.*; 13(220).
  19. Lane, J., (2009). "The neurochemistry of counterconditioning: acupressure desensitization in psychotherapy". *Energy Psychology.*; 1 (1), 31–44.
  20. Mora, B., Iannuzzi, M., Lang, T., Steinlechner, B., Barker, R., Dobrovits, M., Kober, A. (2007). "Auricular Acupressure as a Treatment for Anxiety before Extracorporeal Shock Wave Lithotripsy in the Elderly". *The Journal of Urology.*; 178(1): 160–164.
  21. Zick, S., Sen, A., Hassett, A., Schrepf, A., Wyatt, G., Murphy, S., & Harris, R. (2018). "Impact of Self-Acupressure on Co-Occurring Symptoms in Cancer Survivors". *JNCI Cancer Spectrum.*; 2(4): 52–64.
  22. Wolfgang, L. (2014). "Treating chronic depression with acupressure". *Acupuncture today.*; 15(12).1-3.
  23. Wu, H., Lin, L., Wu, S., & Lin, J. (2007). "The Psychologic Consequences of Chronic Dyspnea in Chronic Pulmonary Obstruction Disease: The Effects of Acupressure on Depression". *The Journal of Alternative and Complementary Medicine.*; 13(2): 253–262.
  24. Lan, S., Lin, Y., Chen, S., Lin, Y., & Wang, Y. (2015). "Effects of Acupressure on Fatigue and Depression in Hepatocellular Carcinoma Patients Treated with Transcatheter Arterial Chemoembolization: A Quasi-Experimental Study". *Evidence-Based Complementary and Alternative Medicine.*; 1(10), 485–496.
  25. Anokye, R., Acheampong, E., Budu-Ainooson, A., Obeng, E., & Akwasi, A. (2018). "Prevalence of postpartum depression and interventions utilized for its management". *Annals of General Psychiatry.*; 17(1), 1–8.
  26. Tang, W., Chen, W., Yu, C., Chang, Y., Chen, C., Wang, C., & Yang, S. (2014). "Effects of acupressure on fatigue of lung cancer patients undergoing chemotherapy: An experimental pilot study". *Complementary Therapies in Medicine.*; 22(4), 581–591.

27. Shorey, S., Chee, C., Ng, E., Chan, Y., Tam, W., & Chong, Y. (2018). "Prevalence and incidence of postpartum depression among healthy mothers: A systematic review and meta-analysis". *Journal of Psychiatric Research.*; 104: 235–248.
28. Murray, L., Woolgar, M., Murray, J., & Cooper, P. (2003). "Self-exclusion from health care in women at high risk for postpartum depression". *Journal of Public Health*, 25(2), 131–137.