Guidance for Screening and Referring Women with or At Risk for Depression

Purpose

This guidance is intended to increase WIC staff awareness and knowledge in assisting participants diagnosed with or who are at risk for depression. (For additional information about women diagnosed with depression, please see nutrition risk criterion #361 *Depression*). It clarifies the WIC practitioner's role in maternal depression and provides training resources. In addition, this guidance identifies focus areas of breastfeeding promotion and support, and nutrition education related to maternal depression. Working within the scope of the Program, State and local WIC agencies, in coordination with mental health services, can screen and refer participants to maximize participant benefit from WIC nutrition services to achieve positive health outcomes.

Background

Support for WIC involvement in assisting women with depression was outlined in the Institute of Medicine's (IOM's) 1996 Report: WIC Nutrition Risk Criteria: A Scientific Assessment. The IOM reported that appetite changes were a distinguishing feature of depression and that the combination of nutrition education and access to nutritious foods may lessen the effects of these changes. Additionally, the report noted that WIC's focus on medical referrals and social support could benefit WIC mothers with diagnosed depression by minimizing the isolation many experience. (1)

According to the World Health Organization (WHO), mental, neurological and substance abuse disorders are major contributors to morbidity and mortality (2). Both globally and in the United States, psychological disorders are chronically under-diagnosed and undertreated. Gender disparities in psychological disorders have been found to be significant with women suffering from certain disorders, namely depression, disproportionately to men (3). In addition, poverty increases the risk of depression. WIC eligible women may be more vulnerable to the onset of depression or have an increase in the severity of their mental illness (4, 5). The incidence of postpartum depression in new mothers can range from approximately 12 to 25 percent, to up to 35 percent or more in some high-risk groups (6). There have been reported rates of subclinical and clinical depression for women in WIC at twice the prevalence for U.S. women overall (7). An analysis of the Pregnancy Risk Assessment Monitoring System (PRAMS) data found that 20% of women enrolled in WIC reported high postpartum depressive symptoms; and subgroups of women with other risk factors had rates as high as 40% (8). Available data suggest that these mothers suffer from a high burden of untreated mental health disorders (8-10).

The Academy of Nutrition and Dietetics, Women's Health Dietetic Practice Group Fall 2009 publication (11), identified the dietitian as the mental health "gatekeeper" and outlined ways nutrition professionals and mental health care specialists can collaborate for the participant's well-being. Nutritionists routinely consider and research participant *medical* comorbidities, i.e., chronic diseases such as diabetes, heart disease and obesity, in order to provide comprehensive care (11). It is equally important for WIC nutrition staff (including paraprofessionals trained as WIC *Competent Professional Authorities*) to consider a participant's mental health in order to provide quality nutrition services, especially since chronic diseases often coexist with depression (12, 13).

Evidence suggests that depression can interfere with parenting, potentially leading to problems in physical health and well-being, psychomotor and cognitive development, and increased risk for developing depression or other mental health disorders in children of depressed parents (3, 14). Chronic maternal depression, related to the timing and duration of depression (i.e., third trimester through first postpartum year) may amplify these negative impacts. Premature infants may be even more susceptible to effects of maternal depression. Existing nutrition assistance programs such as WIC and SNAP which serve large numbers of low-income women and families are logical points of contact to link women to mental health services (4). While the diagnosis and treatment of

depression are outside the scope of the WIC Program, WIC staff (with appropriate training) are well positioned to identify pregnant and postpartum women who may benefit from initial screening for maternal depression and subsequent referral to mental health services (15,11).

WIC's nutrition assessment process and referral services lend themselves well to identifying and linking women with or at risk of depression to appropriate services. Listed below are necessary components of a State and/or local agency process to enhance WIC screening and referral services for maternal depression.

Raising Staff Awareness

It is important for staff to be aware of the prevalence and impact on health outcomes of maternal depression among the WIC target population (see Justification Section). As such, mental health status is an important component of a complete nutrition assessment. According to the Value Enhanced Nutrition Assessment (VENA) Guidance many variables such as an individual's knowledge, lifestyle practices, environment and health status impact food consumption and ultimately his/her health outcomes (15). Addressing depression as part of a complete nutrition assessment for prenatal and postpartum women will lead to a more participant-centered nutrition intervention. WIC nutrition risk criterion #361 *Depression* should only be assigned if a health care provider has provided documentation or if the participant self-reports that she has been diagnosed with depression. However, through the nutrition assessment process, WIC also has the opportunity to identify women at risk for depression who may benefit from additional screening and referral for mental health services. Therefore, in keeping with the intent of the VENA Guidance, the role of WIC staff is not to diagnose or treat depression, but to screen and offer referrals, as appropriate, to assist participants in achieving positive health outcomes.

Establishing Partnerships with Mental Health Providers

Prior to development and implementation of a State and/or local agency screening and referral process to address maternal depression, partnerships with mental health providers and social service agencies at the State and/or local level must be established. A solid network of community partners to collaborate with on screening and referral protocols provides WIC staff with both the knowledge of community resources services available and the confidence in implementing policies to connect participants to needed assistance. Examples of successful collaborations and mental health resources are included in the Staff Training, Screening and Referral sections below.

Staff Training

Once a network of community partners are identified and engaged, comprehensive staff training must be developed. Training at a minimum should include a basic overview of maternal depression and its potential health effects for mother and child, description and use of selected screening tools, and specific procedures for referral and follow up. Below is a list of available free staff training resources on depression currently used by State WIC Programs or other sister programs, i.e., Head Start:

- The Contra Costa Health Services have developed extensive resources and staff training materials as part of its Perinatal Depression Screening, Education and Referral Project.
- A 2009 depression training module developed by the New Hampshire Breastfeeding Task Force is supportive of breastfeeding. Several State and local WIC programs have used this module to train staff: http://www.nhbreastfeedingtaskforce.org/pdf/breastfeeding_depression.pdf
- Two webinars, specifically designed for WIC staff in 2012, were developed by Oregon WIC in collaboration with its Maternal Child Health Program. The webinars are considered to be an effective

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way to utilize the skills of both programs. After final evaluation, materials will be available on-line at: http://public.health.oregon.gov/HealthyPeopleFamilies/wic/Pages/training.aspx.

- A self-study training course is available at http://lampod.org. Originally developed for use by Head Start, it is also available to the general public.
- Additional materials relevant to WIC staff, developed for Head Start, can be found at: http://www.ecmhc.org/maternal_depression/index.html.

Screening

There are simple and effective screening tools that can be incorporated into the WIC nutrition assessment process. Examples of highly sensitive screening tools include the Edinburgh Postnatal Depression Scale (permission required to copy), Postpartum Depression Screening Scale, and Patient Health Questionnaires (PHQ). These tools and their corresponding instructions can be found at http://brightfutures.aap.org/tool_and_resource_kit.html (16).

Results from recent research suggest that a preliminary screen during the WIC nutrition assessment, with a targeted referral to the health care provider or local mental health services for further evaluation and interventions, if necessary, is a critical step in early identification and treatment of depression (17). In a recent community-based research study conducted in a WIC program in Washington DC, nutritionists used the PHQ-2 questionnaire to screen clients for depression (17). Women who screened positive were referred for a more in-depth screen (using the PHQ-9) conducted by staff at the Federally Qualified Health Center—which was co-located with the WIC program. WIC State agencies can use strategies and lessons learned from this and similar projects to develop their own screening and referral protocols.

Referral

Depression screening and subsequent referral are linked. One cannot occur without the other. Effective and timely referral to local health and mental health resources is the last component of a comprehensive process to address maternal depression. For the participant, it may also be the component with the greatest impact. Local staff responsible for identification and provision of referrals should not only be aware of the available community resources, but also be well-versed in what participants can expect from that service when referred. This requires ongoing local maintenance of relationships between WIC and local health and mental health resources. Referral to the health care provider for further evaluation and treatment (if necessary), is also an important referral resource for WIC staff. As outlined in the VENA Guidance (15) the effective use of the referral benefit, i.e., linkages to referred services, the identification and provision of referrals, and timely follow-up to "close the loop" allows for the continuity of care.

States and localities have a variety of programs that address perinatal depression and/or mental health. There are home-based programs, public health department sponsored services, and private providers available through self- or third-party referral. The following are web-based resources for State and local agencies to locate reliable services:

- The *Substance Abuse and Mental Health Services Administration* (SAMHSA) Mental Health Treatment Locator is found at http://www.samhsa.gov/ and provides comprehensive information on mental health resources and/or facilities. This website provides informational materials about different mental health conditions. The SAMHSA's National Helpline is also available 24-hour-a-day, 365-day-a-year to provide referrals to local support networks and resources for individuals dealing with mental health issues or substance abuse problems at 1-800-662-HELP (4357).

- MentalHealth.gov provides one-stop access to U.S. government mental health information and resources from the Centers for Disease Control and Prevention, FindYouthInfo.gov, MedlinePlus and National Institutes of Health, National Institute of Mental Health (NIMH) and SAMHSA. Resources are available for the general public, health and emergency preparedness professionals, policy makers, government and business leaders, school systems and local communities.
- Mental Health America's website can be used to help individuals locate mental health treatment services, including affordable treatment for those without insurance, in their community. This website also includes links to other sites that provide specialized treatment referrals for specific illnesses and information about the specific illness.

Core WIC Nutrition Services That Support Women with or At Risk for Depression

The following is provided for informational or awareness purposes only and does not suggest that WIC staff prescribe treatment for depression.

Breastfeeding Education and Support

WIC promotes breastfeeding as the optimal infant feeding method. The collective impact of prenatal and postpartum breastfeeding promotion and support from WIC nutrition professionals and peer counselors can assist the breastfeeding mother in avoiding breastfeeding complications which may lead to early cessation. Successful breastfeeding can potentially provide some protection from the development of depression (6, 18). Breastfeeding difficulties, especially nipple pain, are a risk factor for depression and need to be addressed promptly. A systematic review in 2009 found depression (or depressive symptoms) may play a role in increased breastfeeding difficulties and decreased duration with depressed mothers being more likely to stop breastfeeding earlier than their non-depressed counterparts (18). This same review found breastfeeding mothers' rates of depression are lower than their non-breastfeeding counterparts.

Breastfeeding may impact maternal mental health and influence infant outcomes in several ways:

- **Breastfeeding is protective of maternal mood.** Breastfeeding reduces the stress responses commonly found in the post-partum period (6). The hormones associated with lactation, oxytocyin and prolactin have both antidepressant and anxiolytic (anti-anxiety) effects.
- **Breastfeeding mothers may experience more restful sleep.** It is well documented that new mothers experience sleep disturbances, independent of their feeding choices. This lack of sleep can lead directly to an increase in inflammation and increase in maternal stress, which can lead to depression in the early post-partum period. Several small studies showed that breastfeeding mothers actually get more sleep than their bottle/formula-feeding counterparts (6). One population-based study found that exclusively breastfeeding mothers experienced less disrupted sleep than those who supplemented with formula (19). A discussion about infant sleep patterns and expectations for parental sleep in the early post-partum period can assist mothers in setting goals for duration of breastfeeding and management of stress that accompanies new motherhood.
- **Breastfeeding benefits for infants are well documented.** A 2010 Urban Institute brief found that WIC mothers make use of well-baby visits with their health care providers but rarely adhere to AAP recommendations for breastfeeding (4). The authors suggest important messages are not being received or that these mothers face obstacles to breastfeeding, which may be even more likely if the mother is depressed (4). Awareness of a mother's mental health status can assist the WIC nutrition professional in providing individualized breastfeeding support. Depressed mothers should be encouraged to continue breastfeeding as it can protect infants from the harmful effects of maternal depression. Additionally, if breastfeeding is going well, it may assist in a mother's recovery from depression. (6)

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Nutrition Education

The following are focus areas for WIC nutrition education that may be beneficial to women diagnosed with or at risk for depression:

- **A diet rich in Omega-3 fatty acids.** Research shows high rates of fish consumption correlate with low rates of mental illness (20). Rich sources of Omega-3 fatty acids are found in cold water fatty fish, and some plant sources. The imbalance between Omega-6 and Omega-3 fatty acids in today's western diets may be impacting the general health of the population. A recommended ratio of Omega -6 to Omega- 3 fatty acids is 2:1. In the typical American diet the ratio is approximately 15:1. These two types of fatty acids assist the body in making hormones. Hormones constructed with Omega-3 fatty acids may be beneficial in mitigating depression as they are anti-inflammatory. Conversely, Omega-6 fatty acids are pro-inflammatory. (20) (See Risk Criterion #361 *Depression* for more information on inflammation and the link to maternal depression.) Common sources of Omega-6 fatty acids include palm and soybean oils. The two Omega-3 essential fatty acids of interest in depression research are eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA). DHA can prevent depression in new mothers while EPA is a useful treatment by itself or with medications and/or DHA (6).

  Seafood in limited amounts can be part of a healthy diet for women who are pregnant or breastfeeding. Women should be encouraged to consume fish as recommended in the *Dietary Guidelines for Americans*, available from: http://www.choosemyplate.gov/pregnancy-breastfeeding/eating-fish.html (21). Although fish may contain contaminants (e.g., mercury) the benefits of limited fish consumption outweigh the concerns associated with the contaminants (22, 23). Women may also want to consult with their health care provider about dietary supplements of Omega-3 fatty acids. Dietary supplements should only be consumed if the health care provider agrees that the supplements would be beneficial to the mother.

- **Physical activity.** Various studies have demonstrated that exercise is anti-inflammatory and boosts mood. Routine exercise helps individuals with depression lower inflammation over time and is a positive coping strategy for stress. Exercise can help boost mood in the short term, but it is the cumulative impact of regular exercise that can stave off depression significantly (6). More information about physical activity during pregnancy and the postpartum period can be obtained at: http://www.health.gov/paguidelines/guidelines/chapter7.aspx.

- **Consumption of adequate nutrients.** Research has identified likely links between nutrient deficiency and mood for folate, vitamin B-12, vitamin D, calcium, iron, selenium, zinc, and Omega-3 fatty acids (23-29). A recent review article investigating the link between diet adequacy and perinatal depression found that nutrient inadequacies of pregnant women who consume a typical western diet might be much more common than researchers and clinicians realize (23). Several studies reported inadequate intakes of Omega-3 fatty acids, folate, B vitamins, iron and calcium in pregnant women. The authors conclude that depletion of nutrient reserves throughout pregnancy can increase a woman's risk for maternal depression and recommend future research targeting the effect of nutrient status on maternal mental health. (24-26)

  Promoting adequate consumption of nutrients through foods as well as adequate water intake may be a low risk and cost effective way to prevent or mitigate maternal depression (30). It would be prudent for the WIC nutritionist to highlight the link between nutritional factors and mental health when counseling women who are or are at risk of depression.

Given the prevalence of depression among low-income mothers, there is an opportunity for WIC to play an important role in addressing maternal depression. With increased staff awareness and collaboration with mental health providers, WIC staff can assist mothers diagnosed with depression or at risk of depression. Therefore, it is appropriate for State and/or local WIC agencies to explore and/or create collaborative efforts with social/mental health services. A healthy mother who is not experiencing depression is likely to utilize her WIC benefits to their maximum potential, initiate and continue to breastfeed her infant (and do so exclusively), and in turn achieve positive health outcomes. (18)

References

1. Institute of Medicine. WIC nutrition risk criteria a scientific assessment. Washington, DC: National Academy Press; 1996.
2. World Health Organization, Mental Health Gap Action Programme. Intervention guide for mental, neurological and substance use disorders in non-specialized health settings. Geneva: WHO Press; 2010. [cited 2015 Mar 3]. Available from: http://whqlibdoc.who.int/publications/2010/9789241548069_eng.pdf.
3. National Institute of Mental Illness. Major depressive disorders among adults. [cited 2015 Mar 3]. Available from: http://www.nimh.nih.gov/statistics/1MDD_ADULT.shtml.
4. Vericker T, Macomber J, Golden O. Infants of depressed mothers living in poverty: opportunities to identify and serve. Urban Institute, Brief 1, August 2010. [cited 2015 Mar 3]. Available from: http://www.urban.org/uploadedpdf/412199-infants_of-depressed.pdf.
5. Mayberry, LJ, Horowitz JA, Declercq E. Depression symptoms, prevalence and demographic risk factors among U.S. women during the first 2 years postpartum. J Obst Gyn & Neo Nurs. 2007; 36: 542–549. DOI:10.1111/j.1552-6909.2007.00191.x.
6. Kendall-Tackett K. Depression in new mothers: causes, consequences and treatment alternatives. 2nd ed. New York: Routledge, Taylor and Francis Group; 2010.
7. Kurz, B. Depression and mental health service utilization among women in WIC. J Ethn Cult Div in Social Work. 2005; 14:81-102.
8. Pooler J, Perry D, Ghandour R. Prevalence and risk factors for postpartum depressive symptoms among women enrolled in WIC. Mat Child Hlth J. (2013, online). DOI:10.1007/s10995-013-1224-y.
9. Cordero A, Kurz B. Acculturation and the mental health of Latina women in the Women, Infant, and Children program. Affilia: J Women and Social Work. 2006; 21: 46-58.
10. Kurz B, Hesselbrock M. Ethnic differences in mental health symptomatology and mental health care utilization among WIC mothers. Social Work in Mental Health. 2006; 4: 1-20.
11. Wagner, D, Rotkovitz, M. Understanding mental health issues in nutrition counseling: a client centered approach. Women's Health Report: Quarterly Publication of the Women's Health Dietetic Practice Group of the Academy of Nutrition and Dietetics. 2009.
12. Katon, WJ, The comorbidity of diabetes mellitus and depression. Am J of Med. 2008 Nov; 121, (11): Supplement 2; S8-S15. DOI:10.1016/j.amjmed.2008.09.008.

13. Luppino FS, Leonore M, de Wit LM, Bouvy PF, Stijnen T, Cuijpers P, Penninx BWJH, Zitman FG. Overweight, obesity, and depression: a systematic review and meta-analysis of longitudinal studies. Arch Gen Psychiatry. 2010 Mar; 67(3): 220–229. DOI: 10.1001/archgenpsychiatry.2010.2.

14. National Research Council and Institute of Medicine Committee on Depression, Parenting Practices, and the Healthy Development of Children. Depression in parents, parenting, and children: opportunities to improve identification, treatment and prevention. Washington, DC: National Academy Press; 2009.

15. USDA, FNS, Special Supplemental Nutrition Program for Women, Infant and Children. Value enhanced nutrition assessment (VENA) in WIC: the first step in quality nutrition services. 2006. [cited 2015 Mar 3]. Available from: http://www.nal.usda.gov/wicworks/Learning_Center/VENA/VENA_Guidance.pdf.

16. Bright Futures Tool and Resource Kit. [cited 2015 Mar 3]. Available from: http://brightfutures.aap.org/tool_and_resource_kit.html.

17. Perry DF, Le HN, Villamil CA, et al. Lessons learned from integrating perinatal depression screening into WIC. 2013. Manuscript under development.

18. Dennis CL, McQueen K. The relationship between infant-feeding outcomes and postpartum depression: a qualitative systematic review. Pediatrics. 2009; 123;e736. DOI:10.1542/peds.2008-1629.

19. Dorheim, SK, Bondevik, GT, Eberhard-Gran M, Bjorvatn B. Sleep and depression in postpartum women: a population-based study. Sleep. 2009; 32(7): 847-855. [cited 2015 Mar 3]. Available from: http://journalsleep.org/ViewAbstract.aspx?pid=27505.

20. Logan, AC. Omega-3 fatty acids and major depression: a primer for the mental health professional. Lipids Health Dis. 2004; 3: 25. Published online 2004 November 9. [cited 2015 Mar 3]. Available from: 10.1186/1476-511X-3-25.

21. United States Department of Agriculture and the United States Department of Health and Human Services. Dietary Guidelines for Americans: Food and nutrients to increase. 7th Edition, 2010. [cited 2015 Mar 3]. Available from: http://www.cnpp.usda.gov/Publications/DietaryGuidelines/2010/PolicyDoc/Chapter4.pdf.

22. United States Department of Agriculture, Center for Nutrition Policy and Promotion. Maternal intake of seafood Omega-3 fatty acids and infant health: a review of the evidence. 2012 Feb. [cited 2015 Mar 3]. Available from: http://www.cnpp.usda.gov/Publications/NutritionInsights/Insight46.pdf.

23. Leung BM, Kaplan BJ. Perinatal Depression: prevalence, risks, and the nutrition link- a review of the literature. J Am Diet Assoc. 2009;109(9):1566-1575. DOI:10.1016/jada2009.06.383.

24. Corwin EJ, Murray-Kolb LE, Beard JL. Low hemoglobin level is a risk factor for postpartum depression. J Nutr. 2003 Dec; 133:4139–4142.

25. Beard JL, Hendricks MK, Perez EM, Murray-Kolb LE, Berg A, Vernon-Feagans L, Irlam J, Isaacs W, Sive A, Tomlinson M. Maternal iron deficiency anemia affects postpartum emotions and cognition. J Nutr. 2005 Feb; 135:267-272.

26. Murray-Kolb LE. Iron status and neuropsychological consequences in women of reproductive age: what do we know and where are we headed? J Nutr. 2011 Apr; 141:7475-7555.DOI:10.3945/jn.110.130658.

27. Murphy PK, Mueller M, Hulsey TC, Ebeling MD, Wagner CL. An exploratory study of postpartum depression and vitamin D. J Am Psych Assoc. 2010 May/June; 16(3):170-177.

28. Berk M, Sanders KM, Pasco JA, Jacka FN, Williams LJ, Hayles AL, Dodd S. Vitamin D deficiency may play a role in depression. Medical Hypotheses. 2007 May; 69(6):1316-1319.

29. Bertone-Johnson ER. Vitamin D and the occurrence of depression: causal association or circumstantial evidence? Nutr Rev. 2009 Aug; 67(8):481-92. DOI: 10.1111/j.1753-4887.2009.00220.x.

30. C Juve, D Schadewald, EQ Youngkin, MS Davis, editors. Women's health: a primary care clinical guide. 4th ed. Upper Saddle River (NJ): Pearson Education, Inc.; 2013.

Additional References

- Kozhimannil KB, Pereira MA, Harlow BL. Association between diabetes and perinatal depression among low-income mothers. J Am Med Assoc. 2009: 301(8): 842-847. DOI:10.1001/jama.2009.201. Available from: http://jama.ama-assn.org/cgi/content/full/301/8/842.

- Marcus SM, Heringhausen JE. Depression in childbearing women: when depression complicates pregnancy. Prim Care. 2009 Mar;36(1):151-65, ix. DOI:10.1016/j.pop.2008.10.011.

- Appelhans BM, Whited MC, Schneider KL, Ma Y, Oleski JL, Merriam PA, Waring ME, Olendzki BC, Mann DM, Ockene IS, Pagoto SL. Depression severity, diet quality, and physical activity in women with obesity and depression. J Acad Nutr Diet. 2012 May; 112(5):693-8. DOI:10.1016/j.jand.2012.02.006. Epub 2012 Apr 25. [cited 2015 Mar 3]. Available from: Depression severity, diet quality, and physical activity in women with obesity and depression

- Centers for Disease Control and Prevention. Mental illness surveillance among adults in the United States. Morbidity and Mortality Weekly (*MMWR*). 2011 Sep; 60(03)1-32 (Suppl). [cited 2015 Mar 3]. Available from: http://www.cdc.gov/mmwr/preview/mmwrhtml/su6003a1.htm?s_cid=su6003a1_w.

- World Health Organization, Mental Health Gap Action Programme. Scaling up care for mental, neurological and substance use disorder. Geneva: WHO Press; 2008. [cited 2015 Mar 3]. Available from: http://whqlibdoc.who.int/publications/2008/9789241596206_eng.pdf.

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