



Nutrition Guide for Low-income Women at Risk of Developing Symptoms of Anxiety and Depression

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Introduction

Anxiety and depression are prevalent conditions that have increased in recent years.¹⁰ Research has shown that low-income women are at greater risk of experiencing symptoms of these conditions.^{2,3} Low-income women have a lower intake of nutrient-rich foods, elevating their risk for chronic diseases.⁴ The inability to meet recommended nutrient needs increases the risk of developing chronic conditions.⁶ Key nutrients such as **omega-3 fatty acids, folate, vitamin B12, vitamin D,** and foods containing **probiotics, prebiotics, and fiber,** may play a role in reducing and preventing symptoms of anxiety and depression.^{1,6,7,9} Prior evidence has shown improvements in mental health conditions through dietary interventions.^{5,8} A guidebook providing nutrition education and resources may aid in managing and preventing symptoms of anxiety and depression.

Purpose

To improve mental health outcomes by developing nutrition recommendations that promote higher intakes of nutrients associated with reduced symptoms of anxiety and depression. To increase accessibility to healthy foods by addressing barriers of cost, time, and motivation. To provide resources for programs that offer affordable and nutritious food.

Methods

- Conduct a literature review evaluating current evidence on nutrients and their effects on mental health of low-income women.
- Develop a nutrition guidebook with tools that promote increased intake of key nutrients beneficial to mental health.
- Provide recipes, meal plans, and food waste prevention tips to address barriers to nutritious food experienced by low-income women.
- Provide information on mindfulness, physical activity, and therapy to help reduce stress and prevent symptoms of anxiety and depression.
- Develop evidence-based action tools to promote lifelong health behavior changes.
- Create and administer a formative evaluation assessment for an expert panel experienced with the target audience to review and provide feedback for the guidebook.

Results

The guidebook was developed using evidence-based nutrition information relevant to the target audience. The polytheoretical framework was used to address varying stages in mental health. The guidebook was reviewed by a panel of two registered dietitians and two social workers in the mental health field. Panels member's feedback to survey questions was synthesized to evaluate the guidebook components from the perspective of those working with the target population.

Question	Descriptive	
	\bar{x}	SD
The principal message and purpose of the guidebook are clear.	5	0
The guidebook is an efficient tool to increase knowledge and intake of relevant nutrients among at-risk low-income women.	5	0
The content is appropriate and relevant to at-risk low-income women.	4.8	0.4
The guidebook includes practical, inclusive, and culturally appropriate content.	4.8	0.4
The content is structured, organized, and visually appealing.	5	0
The guidebook provides realistic food options, recipes, and meal planning ideas.	4.8	0.4
The guidebook promotes taking action and provides skills to increase intake of nutrients important to at-risk low-income women.	5	0
Overall, I was satisfied with the guidebook.	5	0
I am confident at-risk low-income women will understand and learn from the guidebook.	5	0
Would you recommend the use of this curriculum?	1	0

Table 1. Expert Panel Review Averages and Standard Deviations (n = 4)

Comments and Feedback	
Panelist A	Commented she liked the structure, organization and found it visually appealing.
Panelist B	Was thankful for the opportunity to participate.
Panelist C	Commented they'd like to share this guidebook with female clients. Noted reoccurring concerns of female clients include body dysmorphia and low self-esteem. Said guidebook is helpful for clients to know what is healthy to eat, how to make better choices, and what nutrients may affect mental health. Noticed ingredients were affordable and accessible, things kept in mind while reviewing the guidebook due to limited income of client population. Noted recipes fit needs of target population because they are easy to make in a home, motel, shelter, or other situations.
Panelist D	Commented this guidebook opened their eyes to the importance of proper nutrition for at-risk women. They said the education in the guidebook was invaluable and found it to be an amazing read. This panelist stated the guidebook should be presented and given out to social service agencies in LA County and stated it is "an incredible guidebook."

Table 2. Expert Panel Review Comments

Nutrition Guide for Women at Risk of Developing Symptoms of Anxiety and Depression



Figure 1. Guidebook cover page

2. The Healthy Plate

Eating a variety of fruits and vegetables, whole grains, lean proteins, and dairy or dairy alternatives, is crucial to maintaining physical and emotional health. The U.S. Department of Agriculture's (USDA) Food and Nutrition Service program created MyPlate, a visual tool designed to help individuals make every bite count by incorporating these food groups into their everyday eating habits. [36] These are small steps, but they can help take the guesswork out of what goes into a healthy plate. According to MyPlate, a healthy plate consists of half fruit and vegetables with the second half of the plate consisting of grains and proteins. [36] For a visual guide, take a look at the image below. After some time, creating a well-balanced meal will come easy and your confidence in preparing and eating nutritious food will grow. The following tips provide more details on the healthy plate.

For fruits, focus on whole fruits including fresh, canned, frozen, or dried. [36]

Vegetables: choose a variety of vegetables preparing them as side or main dish such as soups, casseroles, and dress. [36]

Grains: make half your grains whole grains and include options such as brown rice, whole grain pasta, and bread. [36]

Protein: choose a variety of protein sources including lean meats such as chicken, pork, beef, as well as beans, eggs, and fish. Select fish on your protein choice 2-3 times/week. [36]

Dairy: choose low-fat or fat-free dairy such as milk, cheese, yogurt or use lactose-free options. Fortified milk alternatives are also a healthy option when milk is not tolerated well. [36]

Learning objectives for this section: Gain confidence in making healthy food choices using food portion basics and lists of daily food group targets.

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Figure 3. Introduction to Section 2

4. Meal Planning



Challenges to self-care may arise when our mental health is affected, and eating a well-balanced meal is not at the top of the priority list during these times. When faced with these barriers, it may be more convenient to opt for foods that are highly processed, higher in saturated fats, or with a high sugar content. [34]

One way to address this obstacle is by planning and preparing nutrient dense meals ahead of time to have handy on days when motivation is low. There are numerous benefits to meal planning including saving money, less food waste, and reducing stress. This meal plan was retrieved from: California Health Living's webpage, EatHealthier. [3]

It's an amazing resource to find nutritional information, low-cost recipes, meal plans, and much more.

Learning objectives for this section: Build motivation to plan weekly nutritious meals that help save time and reduce stress.

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Figure 5. Introduction to Section 4

7. Stress Management



Stress is a part of everyday life and understanding ways to manage it can be helpful in improving your health and eating habits. There ways to manage stress include mindfulness-based interventions, physical activity, and seeking professional help or therapy. Mindfulness-based interventions aim to reduce stress through mindfulness skills and have been shown to result in reduced anxiety and depression. [46] Physical activity helps reduce anxiety, depression, and improve sleep. [50] Counseling or therapy with a professional is another effective way to manage stress as it may help cope with and acknowledge past traumas or other stressful events that may be affecting day to day life. [50]

Consists of reaching a mental state of nonjudgmental awareness and being present in the moment in order to manage negative thoughts and achieve higher well-being. [46]

Reduces the risk of heart disease, diabetes, anxiety, and depression. [45] The Physical Activity Guidelines for Americans recommends 150-300 minutes of moderate physical activity per week for optimal benefits. [45]

Therapy is a very beneficial tool that is often underused. [35] If you feel you need to talk to someone don't be afraid to seek help. Contact your doctor for referrals or resources.

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Figure 7. Introduction to Section 7

4. Nutrients of Interest

Addressing the nutrition needs of women at risk of developing anxiety and depression is critical because lack of access to nutritious foods may limit the intake of several essential nutrients that have been associated with the symptoms of these conditions. [7, 8, 10, 22] Research has shown promising results in the role of some nutrients on mental health. Intake of foods containing these nutrients is highly beneficial as they also aid in prevention of certain diseases such as diabetes and heart disease, two of the leading health problems for women. [7, 8, 13, 33]

Learning objectives for this section: Enhance knowledge of key nutrients relevant to women's physical and emotional health.

FIBER VITAMIN D
PROBIOTICS VITAMIN B12
PREBIOTICS FOLATE
OMEGA-3



PAGE 1

Figure 2. Introduction to Section 1

3. Budget-Friendly Recipes

The health risk and concerns of low-income women can place a significant burden on mental and physical well-being. According to research, low-income women have a lower intake of nutrient-rich foods, increasing their risk of deficiency for key nutrients known to affect mental health. [4, 22]

The following recipes are from the USDA's MyPlate Kitchen website, a nutrition resource with helpful cooking tips, videos, nutrition education, and recipes for all occasions. [30] These delicious recipes take into consideration your time and use ingredients that are easy on your wallet. These recipes will help incorporate nutrients of interest into your daily eating habits that help combat symptoms of psychological distress at different stages in your journey. Using a selection of healthy "stress foods," healthy snacks such as canned goods, soups, and grains, you'll find that eating healthy on a budget can be easy and doesn't have to cost a fortune.

FEATURED MENU

- ✓ Fiber, Probiotics, & Prebiotics: Love Your Gut Smoothie
- ✓ Fiber & Probiotics: Spinach Black Bean Salad
- ✓ Omega-3 Fatty Acids: Tuna Sliders with a Kick
- ✓ Vitamin D: Tasty Fish Tacos
- ✓ Vitamin B12 & Folate: Hearty Comfort Skillet

Learning objectives for this section: Build self-efficacy with easy to make budget-friendly recipes that bust the myth that eating healthy has to be expensive.

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Figure 4. Introduction to Section 3

5. Food Waste Prevention

Selfishness in mental health may affect eating habits, which can result in wasted food during moments when cooking is not a priority in the U.S. a family of four is said to lose on average of \$168 on wasted food per year. [44] Food waste is a big problem, but it may be reduced with a few simple steps such as making a grocery list when shopping for food, to prevent over-purchasing. [44]

Consider these additional strategies to reduce food waste and help you save money. [2]

- Make a shopping list and stick to it. [2]
- Take note of what you have on hand by checking the freezer, pantry, and refrigerator to create menus around the foods you already have. [37]
- The can help decrease overeating.

- Careful not to buy too much of foods that will go bad before their expiration date, such as produce or dairy products. [2]
- Take note of foods with longer shelf life such as grains, oats, beans, rice, canned goods, and frozen fruits, and frozen vegetables with no added sugar or sodium. [37]
- Some money by buying these items in bulk.

- When purchasing items in bulk, remember that some can be prepared or cut to be stored in the freezer for longer periods of time. [39]

Learning objectives for sections 5 & 6: Discontinue attitudes and beliefs about eating healthy on a budget by learning food prevention skills, as well as helpful food safety and storage tips that help save money.

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Figure 6. Introduction to Section 5

8. Action Plan

We've covered key nutrients important to women's health and ways to incorporate them into your daily eating routine, however, changing health behaviors is one of the biggest obstacles. Health experts say there are 5 stages of change we move through when making health behavior changes, these include pre-contemplation, contemplation, preparation, action, and maintenance. [24] We are in the pre-contemplation stage when we're not aware change is needed, when feeling discouraged, disengaged, or hopeless. [24] It is in the contemplation stage we may recognize change is needed and begin to think about making changes. [24] A preparation stage is when we are planning behavior changes with intent to execute our plans soon. [24] In an action stage, behaviors have changed, and we are aware of the benefits. [24] At the maintenance stage, health behaviors have been altered and we are taking steps to maintain our new habits. [24]

On the self-assessment table in the next page, find the stage you are in and identify steps from the example table you can take to move to the next stage. It's easiest, mostly, the examples to fit your needs or create new ones. Keep in mind that movement through the stages is not always in a forward direction. Return to a previous stage on you see fit.



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Figure 8. Introduction to Section 8

Conclusion

Low-income women have higher levels of stress, higher prevalence of chronic disease, and lower quality diet.² A nutrition guidebook may help address the gaps in preventative care for this at-risk of population. This guidebook was designed to help prevent and treat symptoms of anxiety and depression in low-income women with evidence-based tools and resources. It aims to provide nutrition education, promote self-efficacy, self-confidence, and tools to promote life-long behavior changes.

A limitation to this project was the small sample size ($n = 4$) of the expert panel. Expanding the sample size may provide additional feedback to make improvements to the guidebook. No changes were made to the guidebook at this time. This project was also limited in addressing anxiety and depression, excluding other mental health conditions.

This guidebook may be helpful in addressing the needs of at-risk low-income women to professionals in the field of mental health and nutrition.

Future work could include distributing the guidebook to professionals for trial studies as well as to involve the target audience in the evaluation process.

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Acknowledgements

I would like to thank my committee members Dr. Barrack, Dr. Gray, and Dr. Wiss for their guidance and knowledge during this project, my family and friends for their invaluable support and encouragement.

For more information

Please contact marisela.maldonado@student.csulb.edu for more information on this directed project.