Knowing While Growing: Occupational Therapy Interventions for Women with High-Risk Pregnancies

Rebecca Anderson  
*University of North Dakota*

Cammie Vodicka  
*University of North Dakota*

Follow this and additional works at: [https://commons.und.edu/ot-grad](https://commons.und.edu/ot-grad)

Part of the [Occupational Therapy Commons](https://commons.und.edu/ot-grad)

Recommended Citation

[https://commons.und.edu/ot-grad/164](https://commons.und.edu/ot-grad/164)

This Scholarly Project is brought to you for free and open access by the Department of Occupational Therapy at UND Scholarly Commons. It has been accepted for inclusion in Occupational Therapy Capstones by an authorized administrator of UND Scholarly Commons. For more information, please contact [zeinebyousif@library.und.edu](mailto:zeinebyousif@library.und.edu).
KNOWING WHILE GROWING:
OCCUPATIONAL THERAPY INTERVENTIONS FOR WOMEN WITH HIGH-RISK PREGNANCIES

by

Rebecca Anderson & Cammie Vodicka

Advisor: Sonia S. Zimmerman, MA, OTR/L, FAOTA

A Scholarly Project
Submitted to the Occupational Therapy Department
of the
University of North Dakota
In partial fulfillment of the requirements
for the degree of
Master’s of Occupational Therapy

Grand Forks, North Dakota

May 17, 2008
This Scholarly Project Paper, submitted by Rebecca Anderson and Cammie Vodicka in partial fulfillment of the requirement for the Degree of Master's of Occupational Therapy from the University of North Dakota, has been read by the Faculty Advisor under whom the work has been done and is hereby approved.

[Signature]
Faculty Advisor

[Date]
May 1, 2008
PERMISSION

Title: Knowing while Growing: Occupational Therapy Interventions for Women with High-Risk Pregnancy

Department: Occupational Therapy

Degree: Master's of Occupational Therapy

In presenting this Scholarly Project in partial fulfillment of the requirements for a graduate degree from the University of North Dakota, we agree that the Department of Occupational Therapy shall make it freely available for inspection. We further agree that permission for extensive copying for scholarly purposes may be granted by the professor who supervised our work or, in her absence, by the Chairperson of the Department. It is understood that any copying of publication or other use of this Scholarly Project or part thereof for financial gain shall not be allowed without our written permission. It is also understood that due recognition shall be given to us and the University of North Dakota and any scholarly use which may be made of any material in our Scholarly Project.

Signature [Signature] Date 4-23-08

Signature [Signature] Date 4-28-08
# TABLE OF CONTENTS

ABSTRACT.................................................................................................................. v

CHAPTER

I. INTRODUCTION................................................................................................. 1

II. REVIEW OF THE LITERATURE........................................................................ 3

III. METHODOLOGY............................................................................................... 17

IV. PRODUCT........................................................................................................... 19

V. SUMMARY.......................................................................................................... 91

REFERENCES.......................................................................................................... 94
ABSTRACT

High-risk pregnancy is a growing concern in the United States (McCormick, 2001), resulting in complications in both the mother and the fetus. Each year, approximately 875,000 women experience at least one complication. Approximately 460,000 women are receiving inadequate prenatal care (American Pregnancy Association, 2007). The purpose of Knowing While Growing: Occupational Therapy Interventions for Women with High-Risk Pregnancies is to promote the health and wellness of expectant mothers and to prevent disability to themselves and their developing fetus through the use of research-based therapeutic interventions. The components of this manual include definitions of high-risk pregnancies and related terms, information regarding members of the treatment team, discussion of the theoretical foundation of the manual, outcomes measures to be used to determine the effectiveness of these services, additional resources for the therapists and the expectant mother, references used in developing this manual, and the specific interventions provided.

The outcomes measures used to determine the success of the interventions in meeting the needs of these women include the Canadian Occupational Performance Measure (The Canadian Association of Occupational Therapists, 2007), satisfaction surveys, a final satisfaction survey, and an occupational therapists self-reflection journal. The Canadian Occupational Performance Measure is a standardized assessment in a semi-structured interview format that is used by occupational therapists to determine what the client feels are their needs in the areas of self-care, productivity, and leisure.
This measure will assist the therapists in selecting the interventions that will best meet the needs of these expectant mothers. This assessment will also be used as an outcomes measure at the end of therapy services to determine if those needs were met. The satisfaction surveys will be completed by the expectant mothers at the end of each intervention session to determine how satisfied they were with the information provided during the interventions. The final satisfaction survey will be given to the expectant mothers at the end of the final therapy session to determine if the overall services met their needs. The occupational therapists self-reflection journal will be completed by the therapists providing the interventions at the end of each session. The therapists will record the strengths, weaknesses, new goals, and key points of each intervention session.

These interventions are divided into the categories of stress management and coping skills, nutrition, exercise, and emotional health. These areas of need were identified based on a review of literature on high-risk pregnancies. There are three specific interventions under each category, one being preparatory, one purposeful, and one that is occupation-based. These interventions are designed for use in 45 minute sessions in either individual or group settings. With the use of this manual, occupational therapists will be prepared to meet the needs of women diagnosed with a high-risk pregnancy and will be able to provide them with successful, satisfactory therapeutic interventions.
CHAPTER I
INTRODUCTION
Approximately 22 percent of all expectant mothers in the United States experience complications during pregnancy (American Pregnancy Association, 2007). Expectant women who are at high-risk for developing complications themselves or in their developing fetus are a growing concern in the United States. Research of the current literature identified specific complications that can result from a high-risk pregnancy, including cerebral palsy, respiratory distress syndrome, fetal alcohol syndrome, and fetal death (Goldenberg & Culhane, 2007; Wyoming Department of Health, 2004). Premature birth and low birth weight are two pregnancy-related complications that are on the rise (March of Dimes, 2007; McMormick, 2001).

Several factors can lead to a diagnosis of a high-risk pregnancy. Poor nutrition, high levels of stress, obesity, and unplanned pregnancy are listed among the factors involved (Cunningham et al., 2001; Davis & Sandman, 2006; Wyoming Department of Health, 2004). Although there are diverse diagnoses seen when working with high-risk pregnant women, similar emotional experiences and service needs are often encountered, including stress management, coping skills, emotional support, and healthy lifestyle education. The occupational therapist working with women with high-risk pregnancies must be aware of the emotional and service needs and should attempt to provide therapeutic interventions as soon as the mother is diagnosed as high-risk (Britt, Eden, & Evans, 2006).
The product created through this scholarly project is a manual for the occupational therapist providing services for expectant mothers diagnosed as high-risk. *Knowing While Growing: Occupational Therapy Interventions for Women with High-Risk Pregnancies*, consists of preparatory, purposeful, and occupation-based interventions focused on the areas of stress management and coping skills, exercise, nutrition, and emotional health. The manual is designed to assist the occupational therapist in providing holistic, client-centered services to meet the individual pregnancy needs of women with high-risk pregnancies. The interventions are presented as suitable for either individual or group sessions and to be presented in conjunction with regular routine care by other healthcare professionals.

The Canadian Model of Occupational Performance was selected to guide the development of this scholarly project. This model is designed around the person, their environment, and their occupations, with spirituality being seen as the central aspect of the person. Interventions included in the project will assist the occupational therapist in focusing on the expectant mothers individual needs, their unique environments, and the occupations they need and want to perform.

Chapter II presents a review of the literature regarding the care and needs of women with high-risk pregnancies, including provision of occupational therapy services. Chapter III outlines the methodology used in designing this scholarly project. The manual is presented in Chapter IV, including key terminology and related concepts. Chapter V summarizes the project, presents limitations, and discusses application of the scholarly project to occupational therapy practice.
CHAPTER II
REVIEW OF THE LITERATURE

Introduction

An approximate 6 million pregnancies occur each year in the United States. Only 4,058,000 result in live births (American Pregnancy Association, 2007). High-risk pregnancies are a prevalent and growing concern in the United States. These high-risk pregnancies may lead to pregnancy complications (McCormick, 2001). The American Pregnancy Association (2007) reported that 875,000 expectant mothers each year have at least one complication during pregnancy. They stated that annually 458,952 expectant mothers receive inadequate prenatal care.

There are a variety of professions that are currently assisting mothers with high-risk pregnancies. Obstetrician-gynecologists provide services to both pregnant and non-pregnant women including ultrasounds, heart rate detection, pap smears, breast exams, and other exams needed by women. The obstetrician-gynecologist assists in delivering the infant in both vaginal and cesarean section births (American College of Obstetricians and Gynecologists, 2005; Stone & Eddleman, 2003). Maternal-fetal medicine specialists, or perinatologists, provide prenatal care for women who are considered as having a high-risk pregnancy. The services include diagnosing fetal disorders and diseases through ultrasounds and invasive procedures such as amniocenteses. They also care for pregnant women with heart disease, diabetes, or who have had multiple previous miscarriages (Stone & Eddleman, 2003). Family physicians can provide care for women with healthy
pregnancies and deliveries as well as routine care for the infant after birth (American College of Obstetricians and Gynecologists, 2005). Certified nurse-midwives are registered nurses who have earned a graduate degree in midwifery and provide services for women with low-risk pregnancies as well as newborn and gynecological care. Direct-entry midwives provide similar services but do not have a degree in nursing (Murkoff, Eisenberg, & Hathaway, 2002). Registered dieticians provide nutritional education to pregnant women through prenatal classes and one-on-one sessions (Monti, 2002a).

Doulas assist pregnant women and their families during the labor and delivery process and help to provide a comfortable environment for the mother and advocate for her needs and wants (Brown, 2003).

Occupational therapists are involved in prevention of disabilities and promotion of health (AOTA, 2002). However, there is limited research relating occupational therapy and the effects of pregnancy on the mother and the fetus. Wooster, Gray, & Gifford (2001) reported that occupational therapists should become involved in educating women to promote wellness in high- and low-risk pregnancies from a home-based setting.

Expectant mothers with high-risk pregnancies may benefit from education on the importance of prenatal care and healthy lifestyle choices (Frisbie, Echevarria, & Hummer, 2001). Having an occupational therapist involved in interventions for women with high-risk pregnancies will provide an occupation-based approach and will complement the services provided by the multidisciplinary team.

This chapter will review pertinent literature on high-risk pregnancy and its effect on the mother and fetus. Findings will be used to define high-risk pregnancies and to determine the role of an occupational therapist in a prenatal educational setting.
High-Risk Pregnancy in Healthcare

The definition of high-risk pregnancy varies among sources. The Merck Manual's Online Medical Library for Healthcare Professionals (2005) defines high-risk pregnancy as when “the mother, fetus, or neonate is at increased risk of morbidity or mortality before or after delivery” (¶ 1). Characteristics of a mother being diagnosed as high-risk and risk factors that can lead to complications are high blood pressure, obesity, gestational diabetes, high levels of stress, poor nutrition, prenatal diagnosis of a genetic abnormality, and unplanned pregnancy. (Cunningham et al. 2001; Davis & Sandman, 2006; Goldenberg & Culhane, 2007; Wyoming Department of Health, 2004). Being over the age of 35 and carrying multiple fetuses also increase the risk of pregnancy complications (Britt, Eden, & Evans, 2006), as do substance use, poverty, violence, and isolation (Monti, 2002a). Alcohol use while pregnant is associated with several negative outcomes in the infant, including fetal alcohol syndrome, abnormal growth, low birth weight, mental disabilities, and death (Wyoming Department of Health, 2004).

Individuals in specific cultural, ethnic, and socioeconomic settings, including “poor, young, undereducated minority women without a spouse or adequate support system”, are at a higher risk for pregnancy complications (Millard, Beerman, Massey, Shulz, & Heiss, 1999, p. 64). Specific complications that may occur are preterm delivery, low birth weight, restricted growth of the fetus, cerebral palsy, blindness, deafness, respiratory distress syndrome, fetal alcohol syndrome, and fetal death (Goldenberg & Culhane, 2007; Wyoming Department of Health, 2004). An infant is considered preterm if it is born before 37 weeks gestational age, which begins on the first day of the mother’s last menstrual period (Goldenberg & Culhane, 2007). An infant is considered to have a
low birth weight when they are less than 2500 g. at delivery, where normal birth weight is between 2500 g. and 4500 g. (Cunningham et al., 2001).

Various professionals work as part of the treatment team when assisting mothers with high-risk pregnancies. Obstetricians-gynecologists and maternal-fetal medicine specialists provide healthcare services individually to women with high-risk pregnancies from their own facilities to routinely assess the well-being of the mother and fetus. Family practitioners, certified nurse-midwives, and doulas provide services for women with low-risk pregnancies, but are typically not part of the treatment team with a high-risk pregnancy as they have less specialized training in this area (American College of Obstetricians and Gynecologists, 2005; Murkoff et al., 2002). Registered dieticians provide individual or group prenatal nutrition programs to educate mothers on the importance of a healthy diet, but do not provide information on other healthcare topics (Monti, 2002a).

Identified Needs of Mothers with High-Risk Pregnancies

The needs of women with high-risk pregnancies have been discussed by various health professionals. The following narrative presents factors that impact pregnancy as identified in the literature for expectant mothers with high-risk pregnancies are stress management and coping skills, nutrition, exercise, and emotional support.

**Stress Management & Coping Skills**

Several factors were shown to increase the mother’s level of stress. These included insecurities about providing food, having at least one child with a chronic medical condition in the home, crowded living conditions, unemployment, not utilizing adequate coping skills, lack of an effective social support system, being diagnosed with
depression, a perception of future financial difficulties, and uncertainties during pregnancy about the birth outcome (Borders et al., 2007; Giurgescu, Pemckofer, Maurer, & Bryant, 2006).

Borders et al. (2007) discuss how high levels of stress during pregnancy have been shown to correlate with low birth weight and pre-term birth. Davis & Sandman (2006) state that stress may also impact the nervous system in a developing fetus. This along with pre-term birth may lead to physical, emotional, and cognitive deficits. In the mother, physical changes occur through increased levels of stress hormones that have been shown to have negative effects on the fetus.

Giergescu et al. (2006) illustrated strategies identified by mothers that may be used to decrease stress levels, including being adequately prepared for parenthood, using positive thinking, and prayer. Using avoidance as a coping strategy was shown to increase the stress level of pregnant women with high levels of uncertainty in their lives.

Drinking alcohol while pregnant may be considered an unhealthy coping skill. McNamara, Orav, Wilkins-Haug, & Chang (2006) attempted to determine a correlation between social support and prenatal alcohol use. It was hypothesized that a greater level of social support for an expectant mother will result in a higher birth weight of the infant. Participants were considered at risk for drinking based on past habits. Results showed that there was not a significant correlation between social support and prenatal alcohol use. The main predictors of prenatal alcohol use were past drinking habits and the use of alcohol in early pregnancy. Offering social support alone to women during pregnancy will not eliminate alcohol use.
Nutrition

The dietary intake of pregnant women can impact the development of the fetus. Northstone et al. (2007) utilized a questionnaire provided to women during their third trimester of pregnancy to determine the relationship between nutritional intake, aspects of daily life, and socio-demographic factors. Responses were separated into healthy diets of nutritious foods, traditional diets of vegetables and red meat, diets with large amounts of processed foods, diets high in sugars, and vegetarian diets. Correlations between these diets and reported daily life and socio-demographic information were assessed. The primary correlations seen were that women with healthy diets had more education, owned their own homes, had fewer monetary problems, and were older, while those who consumed more processed foods had the opposite.

Knudsen et al. (2007) assessed if pregnant women at 25 weeks gestation consumed a typical western diet, a healthy diet, or foods from both groups relatively equally. These results were then compared to birth outcomes of their infants. Women who consumed a typical western diet had significantly higher odds of having an infant born small for gestational age and had the highest caloric intake and smoking during pregnancy while women who had a healthy diet showed lower odds of having an infant of low birth weight, lower caloric intake, and fewer reports of smoking. This information shows a correlation between a primarily unhealthy diet and low birth weight.

Based on a review of the literature, Monti (2002b), presents common elements discussed in childbirth education classes that are frequently not discussed which could be beneficial to pregnant woman diagnosed as high-risk. Suggested topics include: adding folic acid supplements and prenatal vitamins to their diets, taking antacids, avoiding
food-borne illnesses, drinking greater amounts of water, and limiting the consumption of fish, sweeteners, caffeine, and herbal teas. Many times nutrition classes only focus on the food pyramid, whereas the topics listed above could also be beneficial for the woman diagnosed with a high-risk pregnancy.

Henriksen (2006), ascertained that the weight of the pregnant mother can potentially negatively affect the fetus during pregnancy as well as the mother’s own health. Currently, in the United States, women are more overweight prior to pregnancy and ingest high amounts of sucrose during pregnancy. The affects of a poor diet and being overweight have both short-term and long-term consequences. Short-term effects may include fetal death, gestational diabetes, preeclampsia, preterm birth, delivery complications and the need for neonatal intensive care. Long-term effects may include long-term diabetes of the mother and child, increased risk for malformations of the fetus, including brachial plexus injuries resulting from the delivery of large babies, cancer, and generalized poor health throughout life. Diabetes, obesity, and metabolic disorders may lead to pregnancy complications.

The literature on nutrition and pregnancy shows that there are abundant amounts of information on healthy diets (Monti, 2002a); however, the information is not being relayed or utilized by many pregnant women. Monti discussed how a Canadian Prenatal Nutrition Program (Public Health Agency of Canada, 2007) has been successful in educating women who are considered as having a high-risk pregnancy on their dietary needs while pregnant. The breastfeeding rate among the participants increased and there were fewer low birth weight babies. The women also tried healthier and a wider variety of foods.
Exercise

Exercise should be a regular and routine part of a healthy pregnancy. Stone & Eddleman (2003) identified complications to be aware of during exercise while pregnant. Women who are experiencing regular contractions, decreased fetal movement, high blood pressure, respiratory and heart disorders, anemia, light bleeding, carrying more than one fetus, small fetus for gestational age, placenta previa, and pre-opening of the cervix should avoid exercising before consulting their healthcare provider. Exercise during pregnancy should be moderate and overheating should be avoided. Some modifications that should be used include safe stretching before and after exercise, avoiding high-impact activities, not lying supine, and maintaining good posture.

In a study of pregnant women from diverse ethnic and economic backgrounds, Schmidt et al. (2006) reported that physical activity may decrease the incidence of gestational diabetes, high blood pressure, and extreme weight gain. The research analyzed total energy expended by pregnant women during all daily activities. These women expended approximately one-third of their energy during caregiving and household activities.

Chasan-Taber et al. (2007) attempted to determine prenatal and postnatal patterns and factors influencing the amount of physical activity among women of Latin ethnicity. Latina women with low-risk pregnancies and at less than 24 weeks gestation completed the Kaiser Physical Activity Survey to measure physical activity, which was then compared with sociodemographic, acculturation, and health factors. All of these women had higher levels of physical activity before pregnancy. Levels of physical activity significantly decreased during routine activities such as sitting, standing, and lifting.
heavy items, and participation in regular exercise or sports. Women with higher activity levels before pregnancy had higher levels in all areas during pregnancy. Women with higher levels of routine activity tended to be older with higher levels of education and income.

Literature on how psychological health is impacted by the amount of exercise performed during pregnancy (Poudevigne & O’Conner, 2006) showed that there are several barriers that prevent women from being physically active while pregnant. These barriers include depression, anxiety, fatigue, and increased body weight. A positive correlation between mood and physical activity was demonstrated. One of the benefits seen is that these women may experience an increase in self-esteem, which helps to prevent post-partum depression. When an expectant mother decreases her exercise regime, the risk of acquiring illnesses is increased. Poudevigne & O’Conner (2006) concluded that exercise is safe and beneficial for the majority of pregnant women.

**Emotional Health**

The process of pregnancy and motherhood is viewed as consisting of both positive and negative emotional experiences. Johnson et al. (2007) conducted a qualitative study with expectant mothers in the Netherlands to understand the experience of childbirth. In describing what giving birth and motherhood meant to them, these women reported birth as a positive, self-actualizing experience and motherhood as central transition in their lives that resulted in both joy and frustration. Birth was seen as a significant and cherished life event and provided an affirmation of inner strength. These feelings of inner strength can be increased by providing prenatal and postnatal education, offering emotional encouragement, and actively listening to the woman’s point of view.
Expectant mothers could potentially benefit from an increased focus on emotional support and a decreased focus on medical technologies.

In comparison, Leichtentritt, Blumenthal, Elyassi, & Rotmensch (2005) conducted a phenomenological analysis on women in Israel being hospitalized due to a high-risk pregnancy to better understand their experiences. It was determined that these women experienced similar emotions following their diagnoses and resulting hospitalizations. The primary emotions experienced were “anger, frustration, loss, and loneliness” (p. 41). The uncertainty of their pregnancy outcome led to feelings of fear and anxiety. Along with these emotions, the women also felt hope for a positive outcome and confidence in their healthcare providers. All of these women felt ambivalence about the multiple dimensions of the experience. The results of this study were intended to provide increased quality of care for high-risk pregnant women and to meet their emotional needs.

To summarize, based upon the literature findings, key factors impacting pregnancy were identified and include stress management and coping skills, nutrition, exercise, and emotional support. These services have the potential to increase health and wellness in both the mother and the developing fetus. Women who are diagnosed as having a high-risk pregnancy can benefit from receiving additional information in these areas.

The Role of the Occupational Therapist

The American Occupational Therapy Association (AOTA) (2002) published the Occupational Therapy Practice Framework: Domain and Process, which outlines the multiple roles of occupational therapists and the therapeutic methods. This framework
identifies two approaches to intervention that would appropriately meet the needs of women with high-risk pregnancy, which are the promotion of health and the prevention of disability. The promotion of health is used to provide beneficial activities to any individual, with or without a disability, to increase their satisfaction with life. Prevention of disability is an intervention focus used to prevent the development of or further detriment from an existing disability.

Brownson and Scaffa (2001), in an AOTA position statement, state that occupational therapists are trained to promote healthy lifestyles in individuals and within communities. Occupational therapists fill three primary roles in the areas of health promotion and prevention of disability: 1) educating their clients and caregivers on the importance of a healthy lifestyle to prevent disability, 2) providing occupation-based activities to be done in conjunction with existing health programs, and 3) offering a holistic approach to prevention by moving beyond the individual to address larger groups and organizations within the environment. Occupational therapists complement the services being provided by other disciplines to offer effective and comprehensive prevention and promotion strategies.

Wooster, Gray, & Gifford (2001) identified the roles to be filled by the occupational therapist during the prenatal phase of pregnancy. These include offering exercise programs that can be safely done at home; home and job evaluations; identification of possible risks; treatment of related diagnoses such as carpal tunnel syndrome, pain in the lower back, and depression; and disease prevention. Occupational therapists should also adapt treatments to meet the needs of women placed on bed-rest. Assistance in adapting to body changes and role changes during home-based
responsibilities is another intervention area. Attention should also be given to preparing the mother for the experience of giving birth and the role of parenthood. These roles can be implemented by an occupational therapist with both the expectant mother and her family in a home health setting. These can be modified to meet the special needs of a high-risk pregnancy.

Wooster, Gray, & Gifford (2001) discussed interventions that have the potential to be utilized by an occupational therapist in a prenatal intervention plan. These include providing exercise programs prior to becoming pregnant, education on discontinuing substance abuse, and offering information on pregnancy concerns. Nutritional information should be given in conjunction with a registered dietician. Other intervention topics are decreasing stress and assisting in family planning.

Literature findings showed areas of need in services provided that can potentially be filled by an occupational therapist. Stress management and coping skills are taught in the field of occupational therapy to combat the adverse affects of distressing life events. Examples of occupational therapy interventions offered are relaxation techniques, self-expression, energy conservation, compensatory strategies (Bruce & Borg, 2002; Cole, 2005), and modifying behaviors (Croghan, 2005).

Northstone, Emmett, & Rogers (2007) demonstrated that there is a need for women to be educated on consuming a healthy diet during pregnancy. It is particularly important for women who are younger and have lower levels of education to receive this information. Wooster, Gray, & Gifford (2001) discussed the importance of consuming a healthy diet during pregnancy and its potential to have a positive effect on the growing
fetus. An occupational therapist in collaboration with a registered dietician can facilitate nutritional programs for women with high-risk pregnancies.

When analyzing physical activity during pregnancy, it is important to consider all activities done, beyond only routine or leisure exercise. During a high-risk pregnancy, exercises need to be modified and women need to be educated on signs and symptoms to be aware of while participating in physical activities. This will assist in preventing negative impacts on the fetus while enabling the mother to maintain a healthier lifestyle.

The emotional experience during a high-risk pregnancy differs from a healthy pregnancy experience. There are both negative and positive emotions involved that potentially impact the mother and fetus. An occupational therapist can help to improve emotional health by facilitating interventions that help the expectant mother identify and assess her current emotional state.

Addressing stress management, coping skills, nutrition, parenting skills, and emotional health when providing prenatal services are topics that may increase the health of both the mother and developing fetus during a high-risk pregnancy. A plethora of pregnancy topics have been shown to benefit pregnant women and their infants. However, due to limited time and resources, the above areas will be to focus topics of the following project on providing occupational therapy services to women diagnosed with high-risk pregnancies.

The Canadian Model of Occupational Performance

The Canadian Model of Occupational Performance (Canadian Association of Occupational Therapists, 1997) is the theoretical model selected to guide occupational therapy service delivery for women diagnosed with a high-risk pregnancy. This model is
appropriate because it centers on the individual and demonstrates how participation in occupation is impacted by both the individual and the environment. Spirituality is seen as central to the individual and is defined as, “a pervasive life force, manifestation of higher self, source of will and self determination, and a sense of meaning, purpose and connectedness that people experience in the context of their environment” (Canadian Association of Occupational Therapists, 1997, p. 182).

The various contexts for a woman diagnosed with a high-risk pregnancy impact her ability to perform occupations. In the area of stress management and coping skills, mothers diagnosed as having a high-risk pregnancy often experience high levels of stress impacting them as a person and in their occupational roles. Healthy eating and exercise during pregnancy are beneficial occupations for the mother but may be impacted by barriers in her environment. High-risk pregnancies often result in emotional deregulations that may impact the emotional health and spirituality of the pregnant woman. Recognizing and understanding the spiritual dimensions of her pregnancy can help her in this life changing event.

Overview of Chapter III

Chapter III will discuss the methodology used to design the scholarly project. The chapter illustrates the authors’ wish to provide preventative services to women with high-risk pregnancies and the meaning of pregnancy in their own lives. This chapter will also describe the process of reviewing the literature, the intent of creating the scholarly project, and an overview of the final product.
CHAPTER III

METHODOLOGY

A search of the literature was completed to gain an understanding of the needs of women with high-risk pregnancy. Sources that were used included CINAHL, PubMed, professional websites, and related published works. This review supplied a definition of high-risk pregnancy, acknowledged current services being provided to these women, identified areas where further services are needed, and described how occupational therapy has the potential to provide these services. The research determined that women with high-risk pregnancies require additional education in living a healthy lifestyle to promote health and wellness and to prevent disability in the fetus. Further services needed were in the areas of stress management and coping skills, nutrition, exercise, and emotional health. To assist occupational therapists providing services to these women, a manual was designed to provide treatment approaches and intervention strategies.

The Canadian Model of Occupational Performance was used to design the *Knowing While Growing: Occupational Therapy Interventions for Women with High-Risk Pregnancies*. The model directed the formation of treatment sessions to be provided in either an individual or group setting by a registered occupational therapist. The application of the model to the person, spirituality, environment, and occupational aspects of the expectant mothers are discussed in Chapter II.

The goals of the manual are to promote healthy lifestyle behaviors and to prevent disabilities and complications affecting both the mother and the fetus. Intervention
sessions address needs identified in the literature review and are organized into sections
designed around the areas of stress management and coping skills, nutrition, exercise, and
emotional health. These sections include the objectives of each intervention, activity
ideas, and hand-outs. The interventions selected were chosen based on their applicability
to the practices of occupational therapy thus enabling an occupational therapist to
successfully facilitate 45 minute to one hour sessions. Interventions focus on various
areas of occupation and performance skills for the expectant mothers. Each section is
further divided into preparatory, purposeful, and occupation-based interventions.
Preparatory interventions are designed to prepare participants for performance in
purposeful and occupation-based activities. Purposeful activities assist the expectant
mothers in practicing goal-directed occupations and help in promoting health and
preventing disability. Occupation-based interventions allow the expectant mother to
integrate activities into her normal patterns of daily living (AOTA, 2002).

A glossary of significant terms and a list of possible healthcare professionals
involved in the treatment team and the services they provide are also included in the
manual to assist the occupational therapist in becoming familiar with their roles and what
services each profession provides. Resources and references used in the development of
the manual are included at the end of each section and at the conclusion of Chapter IV.
CHAPTER IV

PRODUCT

The development of *Knowing While Growing: Occupational Therapy Interventions for Women with High-Risk Pregnancies* was based on the literature findings addressing the identified needs of high-risk expectant mothers. Four areas of need were identified: stress management and coping skills, nutrition, exercise, and emotional health. These areas are the focus of the interventions presented within this manual.

*Knowing While Growing: Occupational Therapy Interventions for Women with High-Risk Pregnancies* provides intervention strategies for the occupational therapist offering individual or group interventions to high-risk expectant mothers. The interventions are focused around the four identified areas of need. Each area contains purposeful, preparatory, and occupation-based therapeutic sessions along with additional hand-outs to assist in promoting health and wellness and preventing disabilities. These interventions are designed to accommodate 45 minute to one hour sessions. It is recommended that the therapist offer six to twelve of the provided therapy sessions and begin working with these women within the first trimester of their pregnancy or as soon after the high-risk diagnosis as possible. Also included in the manual are definitions of related terminology, a list of potential healthcare team members, outcome measures, and additional resources.
Knowing While Growing

Occupational Therapy Interventions for Women with High-Risk Pregnancies

Rebecca Anderson, MOTS
Cammie Vodicka, MOTS
Advisor: Sonia S. Zimmerman, MA, OTR/L, FAOTA

Occupational Therapy Program
University of North Dakota
# Table of Contents

Introduction ........................................................................................................ 23  
High-Risk Pregnancy and Related Terminology .................................... 25  
The Treatment Team ...................................................................................... 29  
The Canadian Model of Occupational Performance ........................... 32  
Outcome Measures .......................................................................................... 33  
  - Canadian Occupational Performance Measure ............... 34  
  - Satisfaction Survey ................................................................. 35  
  - Final Satisfaction Survey .......................................................... 36  
  - Occupational Therapist Self-Reflection ................................. 37  
Therapeutic Interventions ........................................................................... 38  
  - Stress Management & Coping Skills ....................................... 39  
    - Preparatory: Determining Your Stress Level ................. 40  
    - Purposeful: Organizing Your Time ...................................... 44  
    - Occupational-Based: Relaxation Techniques ................ 48
• Nutrition.................................................................................53
  o Preparatory: Nutritional Needs........................................54
  o Purposeful: Healthy Cooking..........................................60
  o Occupational-Based: Shopping for Nutritious Meals......63
• Exercise...................................................................................66
  o Preparatory: Exercise Education......................................67
  o Purposeful: Therapy Ball Exercises...............................72
  o Occupational-Based: Community Exercise......................75
• Emotional Health.....................................................................78
  o Preparatory: Identifying Emotions..................................79
  o Purposeful: Pregnancy Memoir.......................................83
  o Occupational-Based: Creating a Journal.........................85

Additional Resources.....................................................................88

References........................................................................................90
INTRODUCTION

Knowing While Growing: Occupational Therapy Interventions for Women with High-Risk Pregnancies is a manual designed using the Canadian Model of Occupational Performance to assist you in providing the highest quality of services to expectant mothers diagnosed with a high-risk pregnancy. The interventions are based on identified needs from research of current literature. The manual provides interventions in the areas of stress management and coping skills, nutrition, exercise, and emotional health, with a preparatory, purposeful, and occupation-based intervention for each area. A total of twelve interventions are included, each designed to last 45 minutes to one hour in either individual or groups sessions. It is recommended that you select six to twelve interventions that best fit the individual needs of the expectant mother(s) receiving services.

Although it is not necessary in the state of Wyoming to require a referral from a physician before seeing a client, this is likely the most effective way of identifying women in need of these services. Cooperative agreements can be made with local obstetrician-gynecologists and other medical professionals to establish a referral base.

Outcome measures are included in this manual to evaluate the benefit of the therapy session for the expectant mother and to monitor the effectiveness of the interventions offered. The outcome measures included within the manual are satisfaction surveys and self-reflection strategies for
the occupational therapist. It is recommended that the Canadian Occupational Performance Measure be used before and after the provision of services to assess the needs of the client(s) and determine if those needs were met.

The goal is that women will receive early intervention following a diagnosis of a high-risk pregnancy to promote health and wellness and prevent disabilities from occurring.
HIGH-RISK PREGNANCY & RELATED TERMINOLOGY

The following definitions were adapted from multiple sources (American College of Obstetricians and Gynecologists, 2005; Merck Manual's Online Medical Library for Healthcare Professionals, 2005; Stone & Eddleman, 2003). References are located at the end of this manual.

**High-Risk Pregnancy:** An increased risk of illness, disability, or death to the mother or infant before or after delivery.

**Pregnancy Trimesters:** Pregnancy is divided into three trimesters. The first trimester consists of weeks 1 through 13; the second trimester is weeks 14 through 27; the third trimester is weeks 28 through delivery.

**Full Term Pregnancy:** Delivery between 38 and 42 weeks gestation.

**Preterm Pregnancy:** Delivery before 37 weeks gestation.

**Anemia:** An insufficient number of blood cells within the mother's blood due to an increased amount of blood within the body to support the fetus. This results in an iron deficiency in the mother. Symptoms include fatigue, decreased immunity, dizziness, and shortness of breath. It is easily treated with an iron supplement.
**Gestational Diabetes:** A pregnancy-related form of diabetes where the body does not create a sufficient amount of insulin to counteract an increase in blood sugar. The main complication this causes is an excessive increase in birth weight of the fetus. Symptoms include fatigue, excessive urination and thirst, and sugar in the urine. It is treated using a sugar-free diet and insulin injections if needed.

**Pregnancy-Induced Hypertension (Pre-eclampsia):** High blood pressure during pregnancy that commonly develops after 20 weeks gestation. It generally resolves itself following delivery. Symptoms include swelling in the lower legs, extreme weight gain, headaches, blurred vision, and abdominal pain. Treatments include relaxation, a healthy diet, and medications prescribed by a physician. If untreated, this can develop into eclampsia, resulting in seizures and a possible coma and requires immediate delivery.

**Braxton Hicks Contractions:** False contractions that help the body prepare for contractions at delivery. This is experienced as a tightening of the abdomen. Lying down in a reclined position can help to alleviate discomfort.
**Carpal Tunnel Syndrome:** Swelling in the upper extremities during pregnancy can lead to increased pressure within the carpal tunnel. Symptoms include wrist pain and stiffness of the fingers and other hand joints. This may be treated using elevation to decrease swelling and splinting to immobilize the joint.

**Low Birth Weight:** A weight of less than 2500 g., or 5 pounds 8 ounces, at delivery, where normal birth weight is between 2500 g. and 4500 g. This can be caused by maternal substance use, an unhealthy diet, stress, insufficient prenatal services, and other biological factors.

**Cerebral Palsy:** A group of disorders that affect posture and movement. It can be caused by abnormal brain development, lack of oxygen, illness in utero, brain bleeds, and physical injury during birth. Treatment varies based on the diagnosis.

**Fetal Alcohol Syndrome:** A syndrome which develops when a fetus is exposed to high amounts of alcohol. Characteristics may include decreased body size, cognitive deficits, learning difficulties, behavioral issues, and physical deformities of the face, limbs, and heart.
Respiratory Distress Syndrome: A syndrome that occurs when the infant’s lungs are not fully developed, which can lead to breathing difficulties.
THE TREATMENT TEAM

The treatment team consists of multiple healthcare professionals and the family of the expectant mother and her growing child. The treatment team seeks to provide the highest quality of care in a collaborative approach to meet the multiple needs of the mother diagnosed with a high-risk pregnancy. Here is a listing of possible team members and their roles in the care of the mother and her developing infant. This information was adapted from: American College of Obstetricians and Gynecologists, 2005; Murkoff, Eisenberg, and Hathaway, 2002; and Monti, 2002a.

Mother Diagnosed with a High-Risk Pregnancy: The expectant mother is central to the treatment team and plays a critical role in all treatment decisions. She needs to be informed of all decisions and treatment changes regarding her own care and that of her developing infant.

Family Members: The family of a mother diagnosed with a high-risk pregnancy needs to be involved in the interactions with her healthcare providers. This diagnosis does not only affect the mother; every member of the family is impacted. Interventions are directed towards assisting the family in adjusting to the stressors and life changes associated with this difficult pregnancy experience.
**Occupational Therapist (OT):** The OT will be working with the expectant mother diagnosed with a high-risk pregnancy to facilitate a positive pregnancy outcome through occupation-based, client-centered interventions. The OT provides exercise programs that can be safely done at home, home and job evaluations, identification of possible risks, disease prevention, and treatment of related diagnoses such as carpal tunnel syndrome, pain in the lower back, and depression. OT’s also educate women on discontinuing substance use, stress management, family planning, and other pregnancy concerns. Nutritional information should be given in conjunction with a registered dietician.

**Obstetrician-Gynecologist:** Obstetrician-gynecologists provide services to both pregnant and non-pregnant women including ultrasounds, heart rate detection, pap smears, breast exams, and other exams needed by women. The obstetrician-gynecologist assists in delivering the infant in both vaginal and cesarean section births.

**Maternal-Fetal Medicine Specialist:** Maternal-fetal medicine specialists, or perinatologists, provide prenatal care for women who are considered as having a high-risk pregnancy. The services include diagnosing fetal disorders and diseases through ultrasounds and invasive procedures such
as amniocenteses. They also care for pregnant women with heart disease, diabetes, or who have had multiple previous miscarriages.

**Family Physician:** Family physicians can provide care for women with healthy pregnancies and deliveries as well as routine care for the infant after birth. They may refer a pregnant mother to a specialist when a high-risk pregnancy is expected.

**Certified Nurse-Midwife:** Certified nurse-midwives are registered nurses who have earned a graduate degree in midwifery and provide services for women with low-risk pregnancies as well as newborn and gynecological care. Direct-entry midwives provide similar services but do not have a degree in nursing.

**Registered Dietician:** Registered dieticians provide nutritional education to pregnant women through prenatal classes and one-on-one sessions. They may work in conjunction with an OT to help plan nutritious diets that fit their individual needs, roles, and occupations.

**Doula:** Doulas assist pregnant women and their families during the labor and delivery process and help to provide a comfortable environment for the mother and advocated for her needs and wants.
THE CANADIAN MODEL OF OCCUPATIONAL PERFORMANCE

The Canadian Model of Occupational Performance (Canadian Association of Occupational Therapists, 1997) was selected as the theoretical model for the Knowing While Growing: Occupational Therapy Interventions for Women with High-Risk Pregnancies manual. This model is appropriate because it is centered on the individual and demonstrates how participation in occupation is impacted by both the individual and the environment. Spirituality is seen as central to the individual and is defined as, “a pervasive life force, manifestation of higher self, source of will and self determination, and a sense of meaning, purpose and connectedness that people experience in the context of their environment” (Canadian Association of Occupational Therapists, 1997, p. 182). Services provided to high-risk expectant mothers focus on their individual needs, their unique environments, and the occupations they need and want to perform.
OUTCOME MEASURES

Outcome measures will assist the occupational therapist in determining the success of the therapeutic interventions provided to women with high-risk pregnancies. The outcome measures to be used in the Knowing While Growing: Occupational Therapy Interventions for Women with High-Risk Pregnancies are:

- **Canadian Occupational Performance Measure**: A standardized and individualized assessment tool to measure client’s perceived areas of therapeutic needs to be administered before and following occupational therapy services.

- **Satisfaction Survey**: A survey to be given to the women at the end of each intervention session.

- **Final Satisfaction Survey**: A survey to be given at the conclusion on therapy services.

- **Occupational Therapist Self-Reflection**: A self-reflection journal to identify the strengths, weaknesses, and key points following each intervention session.
CANADIAN OCCUPATIONAL PERFORMANCE MEASURE

The Canadian Occupational Performance Measure (COPM) is a standardized and individualized assessment consisting of a semi-structured interview and rating scales. The areas addressed are self-care, productivity, and leisure. The client identifies areas of need during the interview. Rating scales are used to determine the perceived level of functioning for specific tasks, how important the tasks are to the individual, and how satisfied they are with their current level of performance. It is suggested to administer the COPM before providing therapy interventions and then again when the interventions are completed in order to measure growth and the success of meeting the women’s identified needs. The COPM can be purchased online at the Canadian Association of Occupational Therapists website, http://www.caot.ca, via the online store.
Satisfaction Survey

Directions: Please complete this form by checking the boxes beside the best answer to each question. This form will be used to provide feedback to the occupational therapist to increase the success of the interventions in meeting the needs of expectant mothers with high-risk pregnancies.

Date: ________________

Session Name: ______________________________________________________

Occupational Therapist: _____________________________________________

1. How satisfied were you with the way the session was planned and presented?
   - Not at all satisfied
   - Somewhat satisfied
   - Satisfied
   - Very satisfied
   - Extremely satisfied

2. Was the information presented adequate to your needs?
   - Yes
   - No

3. Was the occupational therapist knowledgeable on the information?
   - Yes
   - No

4. Was the information/activity meaningful to you?
   - Yes
   - No

5. Was the session length appropriate?
   - Yes
   - No

6. Were your concerns and opinions validated?
   - Yes
   - No

7. Would you recommend this session to others?
   - Yes
   - No
Final Satisfaction Survey

Directions: Please complete this survey at the end of your occupational therapy services for your high-risk pregnancy. Please provide as much information as you can. This survey will be used to improve the quality of services provided in the future.

Date: ______________________

Occupational Therapist: ____________________________________________

1. How satisfied were you with the 12 week occupational therapy services provided? (Please check one of the following.)
   - Not at all satisfied
   - Somewhat satisfied
   - Satisfied
   - Very satisfied
   - Extremely satisfied

2. What were the strengths of these occupational therapy services?

3. What were the weaknesses of these services?

4. What additional activities/information should have been included to meet your needs?

5. Would you recommend these services to other women with high-risk pregnancies?
   - Yes
   - No
Occupational Therapist Self-Reflection

Recording in a journal following each intervention session is a beneficial way to analyze the information presented, the strengths of the session, and what ideas you have to improve the session in the future.

Some suggested questions to reflect on in your journal are:

★ Were you adequately prepared for the session?
★ Were you able to keep the mother(s) engaged?
★ Did you use the entire time allotted for the session?
★ What were the strengths of the session?
★ What specific challenges did you face during this session?
★ What changes should be made for this session in the future?
★ Record any highlights during this session.
Therapeutic Interventions
Stress Management & Coping Skills
Determining Your Stress Level

Type of Activity: Preparatory
Setting: Individual or group
Length: 45 minutes - 1 hour

Purpose: The purpose of this group is to assist women diagnosed with high-risk pregnancies in identifying the stressors in their lives and their impact.

Description of Activity: The occupational therapist will have the expectant mother(s) fill out two handouts to identify stressors. The therapist will then facilitate a discussion on these stressors and the impact they have. Possible ways to eliminate these stressors may also be discussed.

Materials:
• How Stressed Out Are You? handout
• Top 10 Stressors handout
• Pens or pencils

Objectives:
✓ Client(s) will be educated on things that might cause stress.
✓ Client(s) will identify ten primary stressors.

Session:
1. Introduction:
   • The purpose of this session is to identify stressors in your life
   • Steps of Activity:
     1. Complete the How Stressed Out Are You? handout
     2. Discuss responses
     3. Identify what you see as the top 10 stressors in your life
     4. Discuss methods of decreasing stress

2. Activity:
   ➢ How Stressed Out Are You? handout: have the client(s) fill them out as completely as possible. Discuss responses; ask the mother(s) to share those answers they are comfortable sharing.
   ➢ Top 10 Stressors handout: have the client(s) identify up to 10 stressors they feel impact their ability to participate in daily occupations
   ➢ Briefly discuss some methods of decreasing the identified stressors as time allows. (Note: additional information will be provided in the following two sessions.)

3. Sharing: Ask the mother(s) to share what they learned about themselves and the stressors they have in their life.
4. Processing:
   ➢ What stressors did you identify that you weren’t aware of before?
   ➢ Did you see all of these things as stressors?
   ➢ Do you feel more stressed with this pregnancy than you were before becoming pregnant?

5. Generalizing:
   ➢ What have you done in the past to decrease your stress? Are you still doing some of these things?
   ➢ What other stressors do you see in the future?

6. Application:
   ➢ Do you feel better prepared to identify future stressors?
   ➢ What are three things you could start doing today to lower your stress level?

7. Summary: Ask the mother(s) to summarize this activity and how it made them feel. Ask if this helped them to identify stressors they were unaware of or if they feel they already knew these things were there. Have them identify any other stressors they see currently or coming up in their lives.
How Stressed Out Are You?

1. Are you a single mother? Yes___ No___
2. Do you have family support? Yes___ No___
3. Do you have support from friends? Yes___ No___
4. Do you have any major medical concerns? Yes___ No___
5. Does your baby have a medical diagnosis? Yes___ No___
6. Do you have other children at home? Yes___ No___
   a. If yes, are any of them chronically ill? Yes___ No___
7. Are you sleeping through the night? Yes___ No___
8. Do you feel rested in the morning? Yes___ No___
9. Do you work at a stressful job? Yes___ No___
10. Do you have at least one hobby? Yes___ No___
11. Do you regularly enjoy leisure activities? Yes___ No___
12. Do you organize your time? Yes___ No___
13. Do you have “me” time each day? Yes___ No___
   (This is time spent only on you)
14. Right now, do you feel stressed out? Yes___ No___

42
Top 10 Stressors

1. 
2. 
3. 
4. 
5. 
6. 
7. 
8. 
9. 
10.
Organizing Your Time

Type of Activity: Purposeful
Setting: Individual or group
Length: 45 minutes - 1 hour

Purpose: The purpose of this activity is to assist the expectant mother(s) in organizing and scheduling daily activities to decrease the stressors of pregnancy. Note: extra handouts can be sent home to assist in the continued use of this scheduling method at home.

Description of Activity: The occupational therapist will help the expectant mother(s) complete one of the provided handouts (select the one that best fits her organization style) and then facilitate a discussion on how a schedule can decrease daily stressors.

Materials:
- Scheduling Your Day handout or Organizing Your Day handout (5 to 7 copies)
- Pens or pencils
- Colored markers or colored pencils

Objectives:
✓ Client(s) will be provided with a method for organizing their daily occupations.
✓ Client(s) will organize their daily activities for 5 to 7 days.
✓ Client(s) will be aware of ways to improve on their daily schedule.

Session:
1. Introduction:
   o The purpose of this session is to help you organize your day to help lessen the stressors you face during this pregnancy
   o Steps of Activity:
     1. Select hand-out to use (based on the expectant mother’s preference)
     2. Select one day of the week and fill out the hand-out accord to that day
     3. Discuss daily tasks
     4. Discuss improvements to daily schedule
     5. Fill out remaining days

2. Activity:
   o Select a handout: the two handouts are designed to provide a format that fits the preferred organization style of the expectant mother(s).
   o Select one day to begin with. Allow the mother(s) enough time to fill out that first day.
     • Discuss what needs to get done on that day of the week
     • Find time for stress-relieving activities
     • Discuss alternate ways to fit all tasks into the day
Have the expectant mother(s) fill out the remaining days. Discuss the results.

3. Sharing:
   - Did it help you to have a visual of your daily schedule? Why or why not?
   - Were you able to fit everything into your day?
   - Did you have a lot of open time?

4. Processing:
   - What did you have in your schedule that was unnecessary?
   - What things do you need to add into your daily routines?

5. Generalizing:
   - What other strategies can help you organize your day?
   - How can you begin to implement this schedule?

6. Application:
   - How will having a written schedule lower your stress?
   - Have you used a schedule in the past? If so, was it helpful to you? Why or why not?

7. Summary: Ask the expectant mother(s) to summarize the activity and its benefits. Ask what was not helpful to them and what changes they would make to increase its benefit.
Instructions: Fill out the two clocks like a pie chart (separate the time into blocks by drawing lines from the center to the time that the activity starts/stops). Label each section. Do this for the morning hours (AM) and evening hours (PM).

Example:
# Organizing Your Day

Day of the Week: ________________

<table>
<thead>
<tr>
<th>Time</th>
<th>1:00 am</th>
<th>1:00 pm</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:00 am</td>
<td>2:00 pm</td>
<td></td>
</tr>
<tr>
<td>3:00 am</td>
<td>3:00 pm</td>
<td></td>
</tr>
<tr>
<td>4:00 am</td>
<td>4:00 pm</td>
<td></td>
</tr>
<tr>
<td>5:00 am</td>
<td>5:00 pm</td>
<td></td>
</tr>
<tr>
<td>6:00 am</td>
<td>6:00 pm</td>
<td></td>
</tr>
<tr>
<td>7:00 am</td>
<td>7:00 pm</td>
<td></td>
</tr>
<tr>
<td>8:00 am</td>
<td>8:00 pm</td>
<td></td>
</tr>
<tr>
<td>9:00 am</td>
<td>9:00 pm</td>
<td></td>
</tr>
<tr>
<td>10:00 am</td>
<td>10:00 pm</td>
<td></td>
</tr>
<tr>
<td>11:00 am</td>
<td>11:00 pm</td>
<td></td>
</tr>
<tr>
<td>12:00 pm</td>
<td>12:00 pm</td>
<td></td>
</tr>
</tbody>
</table>
Relaxation Techniques & Mindfulness

Type of Activity: Occupation-Based
Setting: Individual or group
Length: 45 minutes - 1 hour

Purpose: The purpose of this activity is to educate women with high-risk pregnancies on relaxation methods and to facilitate the use of two relaxation techniques and Mindfulness to decrease their stress levels.

Description of Activity: The occupational therapist will discuss the use of one, two, or three of the provided techniques, followed by proper facilitation of these techniques.

Materials:
- *Deep Breathing* handout
- *Progressive Muscle Relaxation* handout
- *Mindfulness* handout
- Quiet, comfortable environment

Objectives:
- ✓ Client(s) will be educated on the use of deep breathing as a relaxation technique.
- ✓ Client(s) will be educated on the use of progressive muscle relaxation.
- ✓ Client(s) will be educated on the use of Mindfulness.
- ✓ Client(s) will demonstrate appropriate use of all three techniques provided.

Session:
1. Introduction:
   - The purpose of this session is to teach strategies to decrease stress
   - Steps of Activity:
     - Preparing to relax
     - Deep breathing
     - Progressive muscle relaxation
     - Mindfulness

2. Activity:
   - Preparing to relax:
     - Begin in a quiet, comfortable area.
     - Set aside 20 to 30 minutes.
     - If desired, the following ideas can be used:
       - Light fragrant candles
       - Turn up the thermostat
       - Play soothing instrumental music (no words)
       - Dim the lights
   - Deep breathing: follow directions in the handout.
   - Progressive muscle relaxation: follow directions in the handout.
   - Mindfulness: follow directions in the handout.
3. Sharing: Ask the mother(s) to share how these techniques affected them and which were most beneficial.

4. Processing:
   ➢ Were these techniques helpful?
   ➢ What was the most relaxing for you personally?
   ➢ What other daily activities could you practice Mindfulness with?

5. Generalizing:
   ➢ What have you done in the past to help you relax?
   ➢ What other relaxation techniques could you use?

6. Application:
   ➢ Are these ideas that you could do at home? Would they fit into your daily routine?
   ➢ Do you feel that these are beneficial to you? Why or why not?

7. Summary: Ask the mother(s) to summarize the experience and the way these techniques made them feel. Encourage them to share the benefits and the limitations of the experience and the usefulness of these techniques in their own lives.
**Deep Breathing**

- Breathe deeply and slowly in and out.
- Place your hands on your stomach.
- Feel your hands push out as you breathe in, and back in as you breathe out.
- Your shoulders should not move. The breath should be from deep down in your abdomen, not from your chest.
- Breathe all the way in, as long as it is comfortable.
- Breathe out until all of the air is out of your lungs.
- Continue to breathe deeply for 5 to 10 minutes, until you begin to feel your body relax to the rhythm.
**Progressive Muscle Relaxation**

Begin sitting or lying in a comfortable, relaxed position.

Take several deep breathes to become focused. Close your eyes if you would like.

Begin with your feet. Slowly contract the muscles, feeling the tension. Now, slowly relax them. Feel them grow warm and heavy.

Move up to the ankles. Feel the tenseness while you contract the muscles, and then feel it disappear when you relax.

Move to your calves, then up into your thighs. Contract those muscles and feel the tightness, and feel it slowly melt away as you relax.

Move slowly into your pelvis and buttocks, then into your abdomen and low back, contracting and relaxing each muscle. When your muscles are relaxed, feel the heaviness and the warmth.

Now move to your chest, and then down your arms into the tips of your fingers. Feel them as they contract and then slowly relax.

Now move up to your shoulders and neck, and then to your jaw and face. Contract each of these muscles, and then feel the warmth and heaviness as they relax.

Finish with the forehead, contracting and relaxing the muscles there. Use this feeling to help relax your mind.

Lie still for a moment and enjoy the feeling of complete relaxation.

Mindfulness is the experience of being in the moment. It is focusing on the here and now instead of living in the past or focusing on the future. This takes time and patience to develop. Start by practicing this technique 5 to 10 minutes at a time. The key is to focus on the moment. Do not judge the experience, just be there. As thoughts come into your mind, acknowledge them and then allow them to dissolve away.

One technique is to focus on your breathing. Do not judge the breath, as with deep breathing, just experience it. Focus on the air coming in; focus on the air going out. Pay attention to how your body moves with each breath.

Another technique is to focus on an activity. Here are some ideas:

- **Blow bubbles**: Experience blowing bubbles. Do not judge the experience, but be present in the moment. Do not think about the past or the future, just focus on the bubbles forming, floating away, and bursting into nothingness.

- **Take a walk**: Walk through a park, a store, or even around your home. Focus on the items around you. Acknowledge the thoughts that enter your mind, and then let them dissolve away.

- **Read a poem**: While reading a poem, focus on the words, the sound, the flow. See each individual word and letter and appreciate them for what they are. Do not judge the work, simply enjoy it.

- **Other Ideas**: Drawing, writing, listening with your eyes closed, eating ice cream, playing with a child.

Nutrition
Nutritional Needs

Type of Activity: Preparatory
Setting: Individual or group
Time: 45 minutes – 1 hour

Purpose: The purpose of this activity is to educate women diagnosed with a high-risk pregnancy on general nutritional requirements and the nutritional needs of their bodies and that of their developing infants during pregnancy.

Description of Activity: The occupational therapist will facilitate a discussion using the provided handouts and any additional information found on general and pregnancy nutritional needs.

Materials:
- Handouts:
  - Food Guide
  - Pregnancy Food Recommendations
  - Food Record
  - Online Resources
- Food items with Nutritional Facts labels (i.e. cereal boxes, milk cartons, frozen dinners)
- Pens or pencils

Objectives:
✓ Client(s) will be educated on the key aspects of a healthy diet.
✓ Client(s) will be educated on items to eat and to avoid during pregnancy.
✓ Client(s) will be educated on identifying nutritional contents on food item labels.
✓ Client(s) will be educated on how to record nutritional intake.

Session:
1. Introduction:
   - The purpose of this session is to become aware of nutritional needs during pregnancy
   - Steps of Activity:
     1. General nutritional needs
     2. Nutritional needs during pregnancy
     3. Special needs and precautions while pregnant

2. Activity:
   - General Nutritional Needs (see Food Guide handout)
     - General nutritional needs by food groups
   - Special Needs During Pregnancy (see Pregnancy Food Recommendations handout)
• Finding and Recording Nutritional Intake (see Food Record handout)
  o Discuss Nutritional Facts on food items
  o Online Resources (see Online Resources handout)

3. Sharing and Processing: Summarize discussion on nutritional information and answer questions.
   ➢ What information had you heard before?
   ➢ What information was new to you?
   ➢ What nutritional concerns do you have?

4. Generalizing:
   ➢ How does your current diet compare with the information that has been discussed?
   ➢ What other changes should you make to your diet besides the nutritional values of the foods you eat?
   ➢ How can you help other members of your family select nutritious foods?

5. Application:
   ➢ How can you begin applying these nutritional changes to your food choices?
   ➢ How will this information help you after the baby is born?

6. Summary: Ask the mother(s) to summarize the information shared in the discussion. Give feedback to what you feel they have learned. Encourage the mothers to find further information on consuming a healthy diet during pregnancy and providing nutritious meals to their growing child and their family after delivery. Explain that the next session will consist of identifying healthy, simple recipes.
## Food Guide

### Grains
- 3 ounces of whole grains daily
- Examples: bread, cereal, rice, pasta
- Refined grains remove many healthy nutrients

### Dairy
- 3 cups daily
- Choose low-fat or fat-free items
- Primary source of calcium, which makes up bones and teeth
- High-fat items may increase cholesterol

### Vegetables
- 2 to 2 1/2 cups daily
- Eat a wide variety of veggies
- Eat more dark greens & orange colors

### Meat & Beans
- 5 to 5 1/2 ounces daily
- Choose low-fat meats
- Baking, broiling, and grilling are the best ways to prepare meat
- Eat a variety of meats & beans
- Minimize red meats in your diet (beef, pork, lamb)

Folic Acid (a.k.a. folate):
- Should be consumed at conception
- Found in prenatal vitamins
- Found in some foods:
  - Fortified cereals
  - Fortified breads
  - Dark green, leafy veggies
  - Legumes, nuts, and seeds
  - Oranges & bananas

Antacids:
- Although these will help with heartburn, not all are safe
- Avoid antacids with sodium bicarbonate
- Take at the opposite time of day as your prenatal vitamin

Fish:
- Fish should be part of your diet, but some types should be avoided, including:
  - Fresh/frozen tuna
  - Shark
  - Swordfish
  - Raw fish or shellfish

Water:
- Drink at least 48 oz. daily (more than two 20 oz. bottled waters)
- Drink clean water
- Not enough water can lessen energy levels and increase mood swings
- Drinks containing water are harder for the body to use than plain water.

Artificial Sweeteners:
- Avoid sweeteners made from saccharin and cyclamates
- Aspartame, acesulfame-potassium, and sucralose are generally safe.
- Avoid all artificial sweeteners if diagnosed with phenylketonuria
- Excess sweeteners may take away from eating healthy nutrients

Caffeine:
- Consume moderate amounts (less than 400-450 mg daily)
- Too much may decrease the amount of water you drink

Herbal Teas:
- Although some teas are beneficial, other can cause problems
- Chamomile tea can lead to early contractions

Avoid Alcohol, Smoking, and Illegal Substances

### Food Record

**Date:** ________________

<table>
<thead>
<tr>
<th>Food Item Eaten</th>
<th>Amount</th>
<th>Food Item Eaten</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

58
Online Resources

- MyPyramid.gov: general nutrition information
  - http://www.mypyramid.gov

- MyPyramidMoms: nutrition information while pregnant or breastfeeding

- American Pregnancy Association: Pregnancy Wellness: nutrition and other wellness concerns during pregnancy
  - http://americanpregnancy.org/pregnancyhealth/index.htm

- Womenshealth.gov: information on eating while pregnant

- MayoClinic.com: Pregnancy Nutrition: Foods to Avoid
Online Resources

- MyPyramid.gov: general nutrition information
  - http://www.mypyramid.gov

- MyPyramidMoms: nutrition information while pregnant or breastfeeding

- American Pregnancy Association: Pregnancy Wellness: nutrition and other wellness concerns during pregnancy
  - http://americanpregnancy.org/pregnancyhealth/index.htm

- Womenshealth.gov: information on eating while pregnant

- MayoClinic.com: Pregnancy Nutrition: Foods to Avoid
Shopping for Nutritious Meals

Type of Activity: Occupation-Based
Setting: Individual or group
Length: 45 minutes - 1 hour

Purpose: The purpose of this activity is to assist the expectant mother(s) in finding and purchasing healthy food products at the grocery store from three selected recipes (chosen during the Healthy Cooking session).

Description: The occupational therapist will accompany the expectant mother(s) to the grocery store to assist in selecting healthy items to use in preparing three recipes obtained during the Healthy Cooking session.

Materials:
- 3 recipes OR a shopping list based on items needed from those recipes
- Money (provided by the expectant mother)
- Shopping List handout

Objectives:
✓ Client(s) will plan and purchase items to prepare three healthy recipes
✓ Client(s) will prepare a shopping list of items needed to prepare a healthy meal
✓ Client(s) will identify and select healthy food items at the grocery store

Session:
1. Introduction:
   - The purpose of this session is to find items from selected recipes that are healthy and easy to prepare.
   - Steps of activity:
     1. Review selected recipes
     2. Identify items needed (do not purchase items already at home)
     3. Travel to grocery store; select and purchase items
     4. Discuss the experience

2. Activity:
   - Create a shopping list from the recipes selected (the Shopping List handout provides an easy-to-use format)
   - Locate and purchase the needed items, looking at nutrition labels to make the best selections

3. Sharing: Ask the mother(s) to share what they liked/disliked about the activity.
4. Processing:
   ➢ How did you feel about this experience?
   ➢ What surprised you? What did you already know?
   ➢ Are the recipes you chose going to be easy to prepare?

5. Generalizing:
   ➢ Can you make selecting healthy foods part of your regular grocery store trips?
   ➢ Did this help you know why some foods are healthier than others?

6. Application:
   ➢ Do you understand how this relates to having a healthier pregnancy?
   ➢ Are you prepared to change your shopping habits to make healthier selections?
   ➢ What is going to make this difficult to continue to do?

7. Summary: Ask the mother(s) to summarize the benefits and the weaknesses of this activity and how they can apply this to their own shopping and eating experiences. Invite them to relate this information to having a healthier pregnancy experience.
# Shopping List

**Date:** ________________

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Exercise
Exercise Education

Type of Activity: Preparatory
Setting: Individual or group
Time: 45 minutes - 1 hour

Purpose: The purpose of this activity is to educate women diagnosed with high-risk pregnancies on the importance of staying active during pregnancy. Topics include signs and symptoms of when to stop exercising, safe exercises to participate in while pregnant, and the benefits of exercising.

Description of Activity: The occupational therapist will facilitate a discussion using the provided handouts to educate on and discuss exercising while pregnant.

Materials:
♦ Whiteboard & dry erase markers/chalkboard & chalk
♦ Exercise handouts:
  ◆ Benefits of Exercising While Pregnant
  ◆ Signs to Stop Exercising
  ◆ Methods of Exercising for Women With High-Risk Pregnancies

Objectives:
✓ To identify risk factors that warrant permission from physician before starting an exercise regime
✓ To learn signs and symptoms of when exercise should be discontinued
✓ To learn the benefits of exercising while pregnant
✓ To learn various types of exercise that can be completed by the expectant mother

Session:
1. Introduction:
   Allow the group/individual to warm-up by discussing current exercises the expectant mothers are completing. Ask what concerns and questions the women have about exercising and write them on the board (be sure to address all the concerns as best as possible throughout this session).

2. Activity:
   Pass out one exercise handout (included in this manual) at a time and read and discuss.

3. Sharing and Processing:
   ➢ How do you feel about exercising while pregnant?
   ➢ Which exercises are you most interested in learning?
   ➢ What concerns do you still have about exercising?
How might the exercises you participate in change during your pregnancy?

4. Generalizing:
   - What did you learn from today’s session?
   - What other physical activities do you participate in during a normal day?

5. Application:
   - What, if any, exercises do you hope to participate in at home?
   - How will exercising help you and your baby?
   - How often do you plan to exercise?

6. Summary:
   Ask for a volunteer to summarize the group session (if in a group; if one-on-one then ask the mother to summarize). Give feedback on how well they accomplished the task. Ask each mother to consult their physician to find out if they should participate in exercises if they meet any of the risk factors from the Signs to Stop Exercising handout. If the mothers are permitted to exercise, encourage them to research exercises they want to learn more about and to start incorporating them into their lives if they have not already done so. Explain to the mothers that in the next session, they will learn how to use an exercise ball and to come dressed in comfortable clothing.
**Signs to STOP Exercising**

**When participating in any physical activity, be aware of the following signs and symptoms. If you are experiencing any of the following, discontinue the activity and consult your physician. Women who are diagnosed as having a high-risk pregnancy need to be especially aware of these signs and symptoms as they may lead to complications.**

- Stomach pain
- Faintness
- Dizziness
- Sudden swelling in hands, feet, or face
- Heart palpitations
- Extreme fatigue
- Bleeding
- Changes in vision
- Headache
- Chest pain
- Contractions
- Decreased fetal movement

Benefits of Exercising While Pregnant

- Increases muscle strength
- Increases endurance
- Improves posture
- Relaxation
- Decreases stress
- Manages excessive weight gain
- Increases heart strength
- Prepares body for delivery
- Decreases cramps and stiffness
- Increases immunity to diseases
- Increases emotional health

Methods of Exercising
for Women with High-Risk Pregnancies

- Therapy ball exercises
- Yoga
- Yoga in a chair
- Stretching
- Walking
- Swimming
- Jogging
- Weight lifting
- Low impact aerobics
- Pilates
- Dancing
- Stationary bicycling

*Participation in activities that require excessive balance and a risk of falling are not recommended, such as horseback riding, skiing, or riding a bike.
Therapy Ball Exercises

Type of Activity: Purposeful
Setting: Individual or group
Time: 45 minutes - 1 hour

Purpose: The purpose of this activity is to practice therapy ball exercises that are safe to participate in while pregnant. Using a therapy ball for exercise helps increase core strength and prepares the body for labor and delivery.

Description of Activity: The occupational therapist will demonstrate exercises. Then the mother(s) will perform each exercise with assistance from the occupational therapist. Suggested exercises are included in the handout titled Therapy Ball Exercise Routine.

Materials:
- Therapy exercise ball for each mother (must allow for 90 degrees of flexion in knees when sitting on the ball)
- Music and music player (preferably with an upbeat tempo or music of expectant mothers’ choice)
- Two free weights for each mother (1 pound, 2 pound, or 3 pound)
- Handout titled Therapy Ball Exercise Routine

Objectives:
✓ To practice safe therapy ball exercises to participate in while pregnant.

Session:
1. Introduction:
   Introduce the exercise ball workout by showing the mothers’ the therapy ball and explaining to them the benefits of exercising on a ball.

   Benefits of exercising on therapy ball:
   - Increases core strength
   - Low impact
   - Increases heart strength
   - Improves endurance
   - Increases flexibility
   - Improves posture
   - Can be completed at home
   - Increases pelvic floor strength and flexibility
   - Prepares body for delivery by opening up pelvic area

   Demonstrate correct body posture and breathing techniques.
   - Knees bent at 90 degrees flexion
   - Back straight
   - Breathe from abdomen
Inhale when resting, exhale when moving during exercises

2. Activity:
   It is important that each mother be correctly assigned to a therapy ball that fits her size and weight. Sit in a way that everyone can see each other. Turn on the music and follow *Therapy Ball Exercise Routine*.

3. Sharing:
   Allow each mother to demonstrate their favorite therapy ball exercise learned or a new one they think would be fun.

4. Processing:
   - How did you feel while exercising?
   - What was difficult?
   - What was fun?
   - How is exercising on a ball different from other exercises you have participated in before?

5. Generalizing:
   - What other exercises could be completed using a therapy ball?
   - What other daily activities could be completed using a therapy ball?
   - What did you learn about yourself today?

6. Application:
   - Do you think using a therapy ball for exercises is a method that you want to continue?
   - Is there a time where the therapy ball might be helpful during labor?
   - Where can you purchase a therapy ball?
   - How often do you think you might use a therapy ball for exercise?

7. Summary:
   Ask for a volunteer to summarize the group session *(if in a group; if one-on-one then ask the mother to summarize)*. Give feedback to how well they accomplished the task. Encourage each mother to purchase a therapy ball and continue to use the ball as a method of exercising during pregnancy.
The following routine is designed for women with high-risk pregnancies. It is important that the ball fit the woman according to her size and weight. Doctor's permission to participate in an exercise program is needed for the mother to do this activity. If she is not able to participate, this activity should be demonstrated only. The exercises can be modified to fit each mothers' needs. The following list contains suggested numbers of sets and repetitions, but these may vary depending on the mothers' diagnoses, physical condition, and stage of pregnancy. If any signs or symptoms discussed in a prior handout occur, stop the routine.

1. Stretch all muscle groups.
2. Warm-up by marching in place while sitting on ball for one minute, then complete jumping jacks. Do three sets for 30-45 seconds with 30 second breaks in between sets. **March in place between each exercise and during rests in order to keep blood moving throughout the body.
3. crunches while supine on ball (3 sets of 15 repetitions).
4. Bridges while supine on ball (3 sets of 15 repetitions).
5. Sit on ball and move hips forward (3 sets of 15 repetitions), backward (3 sets of 15 repetitions), and then in circles (3 sets of 15 repetitions).
6. Write the alphabet with each foot while sitting on ball.
7. Bicep and triceps' curls while sitting on ball (3 sets of 15 repetitions each).
8. Put ball on wall and stand with back against the ball. Complete calf raises (3 sets of 15 repetitions).
9. Squats with ball on wall and back against the ball. (3 sets of 10 repetitions). Bend legs to 90 degrees.
10. Rainbows: Make a rainbow by moving ball side to side above head and back to the ground. If in a group, stand in a circle. Have each mother set a ball on their left side. Pick the ball up, make a rainbow, and then set ball on right side. Pick up the ball that the mother to your left set down. Continue passing the ball this way for three minutes, rest, and then switch directions. Continue for five minutes, and take breaks when needed.
11. Cool down by slowly marching in place for three minutes and then stretching all muscle groups while sitting or lying supine on ball.
Community-Based Exercise

Type of Activity: Occupation-Based
Setting: Individual
Time: 1 hour
Location: Local YMCA, recreation center, or public exercise facility

Purpose: Through this occupation-based activity, women with high-risk pregnancies will participate in exercise in a community-based setting. The exercises she will participate in will be determined by her current exercise habits and routines.

Description of Activity: The occupational therapist and the expectant mother will attend a local athletic club or recreation center and participate in safe exercise. Lists of suggested methods of exercising and specific exercises are included in the handout titled Community-Based Exercises.

Materials:
Community-Based Exercises handout

Objectives:
✓ To participate in safe exercises while pregnant.
✓ To learn proper body mechanics while exercising.
✓ To create a safe exercise routine to perform while pregnant.

Session:

1. Introduction:
Meet the expectant mother at a local exercise facility. If she is already attends one, then meet her at that location. Explain that you are there to help her locate and learn safe exercises to perform while she is pregnant. Today’s activity is meant to be meaningful to the mother and to help her in the exercise routine she is already participating in or to help her create a new exercise routine using the equipment in a community-based facility. It is important to remember that this is not the time to implement a full blown workout routine. The exercises performed during pregnancy are meant to maintain strength and endurance. The heart rate must be monitored to keep below target heart zone as well as mother’s body temperature to ensure the safety of the baby.

2. Activity:
If the mother is currently using the facility, then observe the exercises she participates in and analyze them for safety. If she does not exercise at the facility, then demonstrate safe exercises and then have her participate in them. If the activity level of the mother is low, then it is advised to start
with walking as the main form of exercise. Refer to *Community-Based Exercises* for exercise suggestions and recommendations.

3. Sharing:
   During each exercise, the mother and the occupational therapist can verbalize or demonstrate other possible positions or ways to complete the same motion.

4. Processing:
   - How do you feel about exercising?
   - Was it challenging?
   - Which exercise was your favorite?

5. Generalizing:
   - What did you learn from today’s session?
   - What exercises are not safe to do while pregnant?
   - What are some other exercises you could do?

6. Application:
   - Will you continue to or start to participate in exercises while you are pregnant?
   - What are some other locations in which you could exercise?
   - Could any of the exercises you did today be performed at your house?

7. Summary:
   Give feedback to the mother on the way she participated in the activity. Encourage her to take what she has learned today and incorporate the exercises into her life. Ask the mother if she has any further questions.
The amount of exercise the expectant mother should perform is directly related to her activity level before pregnancy. Pregnancy is not the time to implement a full-blown workout routine. The American Academy of Obstetricians and Gynecologists suggest pregnant women exercise 30 minutes on most days of the week if there are no other medical problems; in the case of high-risk pregnant women, exercises should be less than the recommended amount. Start with a 15 minute exercise routine and gradually increase over time. Remember to check heart rate (not to exceed 140 beats per minute) and body temperature (not to exceed 100 degrees). Pregnant women should not perform exercises while lying on their backs due to the restriction of blood flow to the baby. Women should also avoid lifting heavy weights while pregnant and activities that require balance should be avoided. The following list contains suggested exercises that can be implemented in a community-based exercise facility.

### Types of Exercise/Media

- Recumbent bike
- Elliptical machine
- Swimming
- Walking
- Resistance bands
- Lifting machines
- Free weights
- Exercise balls
- Aerobics
- Dance
- Yoga

### Specific Exercises

- Chest-Seated Chest Press Machine
- Chest-Peck Deck Machine
- Biceps-Seated Dumbbell Curls
- Biceps-Seated Incline Curls
- Triceps-Triceps Pushdowns
- Triceps-One Arm Cable Triceps Extensions
- Shoulders (front/side)-Overhead
- Shoulder Press Machine
- Shoulders (Rear)-Rear Deltoid Machine
- Thighs-One Legged Leg Extensions
- Thighs-Leg Extensions
- Hamstrings-Seated Leg Curls
- Hamstrings-Standing Leg Curls
- Calves (Lower/Upper)-Standing Calf Raise Machine

Emotional Health
Identifying Emotions

Type of Activity: Preparatory
Setting: Individual or group
Time: 45 minutes - 1 hour

Purpose: This activity will help women diagnosed with a high-risk pregnancy to identify the emotions related to their pregnancy. A discussion of possible emotions is followed by an interactive game addressing those emotions.

Activity Description: The expectant mothers will discuss the emotions they are experiencing. The handout, *Emotions A to W*, will be used to address possible emotions. A modified game of *Jenga* will allow the women to express emotions while playing a game.

Materials:
- Whiteboard & dry erase markers/chalkboard & chalk
- *Jenga* game
- Writing utensils
- Handouts
  - *Emotions A to W*
  - *Emotional Health Questions*

Objectives:
- To identify emotions related to having a high-risk pregnancy.
- To develop a greater self-awareness.

Session:

1. Introduction:
   Write emotions on the board. Explain that emotions are the way we feel about certain situations. Ask the individual/group to brainstorm different emotions. Write their answers on the left-hand side of the board. When the individual/group is done brainstorming, pass out the *Emotions A to W* handout. Ask the individual/group to verbally express the emotions they are currently feeling or have felt during their pregnancy. Encourage them to elaborate on why they are feeling these emotions. Write these emotions on the right-hand side of the board while having the women circle or write the words on the *Emotional A to W* handout. Discuss how the mothers are not alone in the emotions they are facing.

2. Activity:
   Sit in a circle with the game, *Jenga*, set up on a table in the middle of the circle. Put the cut out *Emotional Health Questions* face down on the table. Play the game according to the rules on the box except that each mother takes a question and answers it after each turn. Complete this activity until
all the questions are answered (this may require the game be played more than once).

4. Processing:
   - Why was the game *Jenga* chosen for this activity?
     *To provide a fun and sometimes tense method to help identify emotions.*
   - How did you feel about expressing your emotions out loud?
   - Which questions were hardest to answer?
   - How did you feel about the other mothers’ answers?

7. Generalizing:
   - What did you learn from today’s session?
   - How are the experiences of a high-risk pregnancy similar/different from other pregnancies?
   - What common emotions did we see?
   - What did you learn about yourself?
   - What did you learn about others?

8. Application:
   - Why might understanding the emotions you have be helpful in your pregnancy?
   - What can we learn about the emotions women with high-risk pregnancies experience?
   - What can we do now that we have identified these emotions?
   - Will your emotions change throughout your pregnancy?

9. Summary:
   Ask for a volunteer to summarize the group session (*if in a group; if one-on-one then ask the mother to summarize*). Give feedback to how well they accomplished the task. Ask the women to go home tonight and be more aware of the emotions they are having and how they may be affecting those around them. Explain to them that in the next session they will practice different methods of expressing their emotions.
<table>
<thead>
<tr>
<th>Emotion</th>
<th>Emotion</th>
<th>Emotion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angry</td>
<td>Faithful</td>
<td>Proud</td>
</tr>
<tr>
<td>Anxious</td>
<td>Furious</td>
<td>Pensive</td>
</tr>
<tr>
<td>Aware</td>
<td>Foolish</td>
<td>Puzzled</td>
</tr>
<tr>
<td>Ashamed</td>
<td>Fascinating</td>
<td>Relieved</td>
</tr>
<tr>
<td>Amused</td>
<td>Frustrated</td>
<td>Relaxed</td>
</tr>
<tr>
<td>Apathetic</td>
<td>Guilty</td>
<td>Respected</td>
</tr>
<tr>
<td>Aggressive</td>
<td>Helpless</td>
<td>Rejected</td>
</tr>
<tr>
<td>Alienated</td>
<td>Hurt</td>
<td>Sad</td>
</tr>
<tr>
<td>Annoyed</td>
<td>Hostile</td>
<td>Scared</td>
</tr>
<tr>
<td>Apathetic</td>
<td>Humiliated</td>
<td>Submissive</td>
</tr>
<tr>
<td>Bashful</td>
<td>Hysterical</td>
<td>Sleepy</td>
</tr>
<tr>
<td>Bewildered</td>
<td>Hateful</td>
<td>Stimulating</td>
</tr>
<tr>
<td>Bored</td>
<td>Insecure</td>
<td>Stubborn</td>
</tr>
<tr>
<td>Critical</td>
<td>Innocent</td>
<td>Satisfied</td>
</tr>
<tr>
<td>Confused</td>
<td>Intimate</td>
<td>Sure</td>
</tr>
<tr>
<td>Creative</td>
<td>Insignificant</td>
<td>Sentimental</td>
</tr>
<tr>
<td>Content</td>
<td>Intelligent</td>
<td>Sorry</td>
</tr>
<tr>
<td>Cheerful</td>
<td>Inferior</td>
<td>Shocked</td>
</tr>
<tr>
<td>Confident</td>
<td>Inadequate</td>
<td>Serene</td>
</tr>
<tr>
<td>Determined</td>
<td>Joyful</td>
<td>Stupid</td>
</tr>
<tr>
<td>Depressed</td>
<td>Jealous</td>
<td>Selfish</td>
</tr>
<tr>
<td>Discouraged</td>
<td>Loving</td>
<td>Skeptical</td>
</tr>
<tr>
<td>Disgusted</td>
<td>Lonely</td>
<td>Sexy</td>
</tr>
<tr>
<td>Disappointed</td>
<td>Mad</td>
<td>Trusting</td>
</tr>
<tr>
<td>Daring</td>
<td>Miserable</td>
<td>Thoughtful</td>
</tr>
<tr>
<td>Delightful</td>
<td>Negative</td>
<td>Thankful</td>
</tr>
<tr>
<td>Ecstatic</td>
<td>Nurturing</td>
<td>Valuable</td>
</tr>
<tr>
<td>Excited</td>
<td>Optimistic</td>
<td>Weak</td>
</tr>
<tr>
<td>Embarrassed</td>
<td>Paranoid</td>
<td>Withdrawn</td>
</tr>
<tr>
<td>Envious</td>
<td>Peaceful</td>
<td>Worthwhile</td>
</tr>
<tr>
<td>Extravagant</td>
<td>Powerful</td>
<td></td>
</tr>
<tr>
<td>Exhausted</td>
<td>Playful</td>
<td></td>
</tr>
</tbody>
</table>
**Cut out each sentence.**

I feel happiest when
______________________.

I am sad when
______________________.

I am scared about
______________________.

At the birth I will feel
______________________.

I feel my baby is
______________________.

Pregnancy feels like
______________________.

I hope to feel
______________________.

Sometimes I try to be
______________________.

Sometimes I am
______________________.

I wonder if I
______________________.

I trust
______________________.

Sometimes I like to
______________________.

Sometimes I remind myself of
______________________.

It hurts me when
______________________.

I get angry when
______________________.

I feel satisfied when
______________________.

I feel most loved when
______________________.
Pregnancy Memoir

Type of Activity: Purposeful
Setting: Individual or group
Time: 45 minutes - 1 hour

Purpose: This purposeful activity will allow mothers with high-risk pregnancies to express their emotions and pregnancy experiences by creating a memoir for their baby.

Activity Description: Mother(s) will create a pregnancy memoir through a letter, poem, or book using a variety of materials.

Materials:
- Paper (variety of sizes and colors)
- Heavy duty paper for covers
- Writing utensils (pencils, colored pencils, markers, crayons, pens)
- Hole punch
- String for binding
- Scrapbooking materials for decorations

Objectives:
- To express positive emotions by writing a letter, poem, or book
- To create a memoir of pregnancy for baby

Session:
1. Introduction:
   Review emotions related to pregnancy by reviewing last session. Explain to the mothers(s) that the pregnancy experience is often forgotten once the baby is born. Creating a memoir of the pregnancy through letters, poems, or a book is one way to bond with the unborn baby and a way to remember the experience for years to come. Discuss possible poem and book titles.

   Possible Titles:
   1. When You Were Inside Me
   2. The Day I Found Out About You
   3. My Baby
   4. My Pregnancy
   5. You & Me
   6. My Pregnancy Experience

2. Activity:
   Hand out materials for creating a memoir of pregnancy. Encourage the mother(s) to be creative and use the “emotion” words they learned last session. Explain to them that this is a gift for their baby. Allow sufficient time to complete the writing activity.
3. Sharing:
When each mother has completed the activity, allow them to share what they have created.

4. Processing:
- How does it feel to express your emotions to your baby?
- What feelings do you have about sharing what you have written?
- What made this activity hard?

5. Generalizing:
- What did you learn from today’s session?
- What do you think about the memoir you created?
- What common themes/emotions did you see?
- What did you learn about yourself?
- What did you learn about others? (If in a group)
- What might be some reasons for creating a pregnancy memoir?

6. Application:
- What does your memoir reveal about yourself and your pregnancy?
- How has this activity raised awareness of the emotions you have while pregnant?
- What did you avoid writing?
- What other things can you do to express your feelings?

7. Summary:
Ask for a volunteer to summarize the group session (if in a group; if one-on-one then ask the mother to summarize). Give feedback on how well they accomplished the task. Congratulate the mother(s) on creating a special keepsake for their baby. Explain to them that in the next session they will learn another way to express both positive and negative emotions.
Creative Journaling

Type of Activity: Occupation-Based
Setting: Individual or group
Time: 45 minutes - 1 hour

Purpose: Through this occupation-based activity, women will learn how journaling can be used to express emotions related to their pregnancy.

Activity Description: The mother(s) will create a journal and learn how journaling can be used to express emotions. Discussions on how to use a journal, how often to journal, and what to write in the journal will be facilitated by the occupational therapist.

Materials:
- Whiteboard & dry erase markers/chalkboard & chalk
- Memo notebooks (variety of sizes)
- Heavy duty paper (pre-cut to fit covers of memo notebooks)
- Pencils, pens, markers and colored pencils
- Glue
- Stencils
- Stickers or other decorations

Objectives:
✓ To create a safe and convenient outlet to express emotions
✓ To learn the purpose of journaling
✓ To learn how and when to use journaling

Session:
1. Introduction:
   Write the word “Journaling” in the board large enough for everyone to see. Ask the individual/group what they think of when they read this word. Ask who currently uses a journal or who has used one in the past. Hand out the memo notebooks (undecorated) to each person along with a writing utensil. Discuss and record (on the large board and in each individual notebook) the following questions (words in italics are possible answers):
   - What is a journal?
     * A private place to express thoughts and emotions.
   - What can be written or drawn in a journal?
     * Emotions, thoughts, pictures to express feelings, worries, etc. (specifically discuss the emotions previously mentioned in the preparatory session of emotion health and how journaling has the potential to help the mothers identify and cope with those emotions).
   - How often should one journal?
     * Daily, weekly, monthly, or when needed.
Where can one keep a journal?
*Night stand, dresser, pocket, glove box, etc.*

What are the benefits of journaling?
*Able to express feelings without worrying about other people's reactions, convenient, individualistic, etc.*

What are the disadvantages of journaling?
*Possibility of keeping emotions secret when there is a need for support and help from others; has the potential to only be an outlet to express negative emotions.*

2. Activity:
Hand out heavy duty paper and supplies. Glue paper on the front and back of journal and decorate both sides using the various materials. Encourage each mother to decorate the journal in a way that personalizes the journal for them. Allow a sufficient amount of time to complete the journals.

3. Sharing:
If in a group setting, have each mother show their decorated journal to each other and explain why they chose the decorations they used. If completed in a one-on-one setting have the mother show and explain her decorations to the occupational therapist.

4. Processing:
➢ How do you feel about journaling?
➢ What feelings do you have about sharing your decorated journals?

5. Generalizing:
   o What did you learn from today's session?
   o What are some other ways in which you can use your journal?
   o What are some similarities/differences among journals (*if in a group*)?
   o What did you learn about each other (*if in a group*)?

6. Application:
   • What types of emotion are you going to express in your journal?
   • Do you think using a journal is a method you are going to use to express your feelings? *If no, then ask what other methods they plan to use.*
   • Where are you going to keep your journal?
   • How often do you plan to use your journal?
7. Summary:
Ask for a volunteer to summarize the group session (if in a group; if one-on-one then ask the mother to summarize). Give feedback to how well they accomplished the task. Encourage each mother to use their journals.
ADDITIONAL RESOURCES

Additional resources are provided to add to your knowledge and treatment approaches to provide current information that meets the needs of each individual client. This material will also assist the women you see in finding additional information on their pregnancies. The following is a list of these resources.

- American Pregnancy Association: this site offers resources on health and wellness education, advocacy, research, and community involvement for reproduction and pregnancy.
  http://www.americanpregnancyassociation.org

- Lippincott Williams & Wilkins: this site offers resources to be purchased by healthcare professionals.
  http://www.lww.com

- Sidelines National Support Network: a support network for women with high-risk pregnancies and their families.
  http://www.sidelines.org

  http://www.highrisk.org

  http://www.aap.org
- March of Dimes: information and research dedicated to decreasing premature birth and assisting families with preterm infants.
  http://www.marchofdimes.com

- The American College of Obstetricians and Gynecologists: information on pregnancy, birth, women’s health, locating an OB/GYN, and other medical information.
  http://acog.org

- American Association of Occupational Therapy: national OT site with information on current therapeutic interventions and best-practice strategies and other resources.
  http://www.aota.org

- Doulas of North America (DONA): national association of doulas including their roles and training.
  http://www.dona.org

- The Society for Maternal-Fetal Medicine: association of maternal-fetal specialists including locating a physician and current research.
  http://www.smfm.org

- American Dietetic Association: association of food and nutrition specialists including consumer resources and current research.
  http://www.eatright.org
REFERENCES


A high-risk pregnancy has the potential to impact the expectant mother and affect her participation in occupations in her environment. A review of the literature revealed four areas in which high-risk expectant women are not receiving sufficient services: stress management and coping skills, nutrition, exercise, and emotional health. These needs could be met by an occupational therapist providing therapeutic interventions to promote health and wellness and prevent disability in both the mother and the developing fetus.

Knowing While Growing: Occupational Therapy Interventions for Women with High-Risk Pregnancies was developed with the intent of assisting occupational therapists providing services to high-risk expectant women. Therapeutic interventions were developed in the areas of stress management and coping skills, nutrition, exercise, and emotional health. Preparatory, purposeful, and occupation-based interventions enable occupational therapists to facilitate individual or group sessions for the benefit of expectant women with high-risk pregnancies.

To determine the effectiveness of this manual, it is recommended that it be reviewed by occupational therapists currently providing services in related areas such as pediatrics and preventative care. These therapists would be asked to identify the strengths and weaknesses of the manual and provide feedback regarding the manual’s effectiveness.
in provision of services to women with high-risk pregnancies. Information gathered could be used to refine the manual and promote its use in practice by occupational therapists.

Limitations of this scholarly project include having a limited number of treatment emphases to accommodate the time available to complete the project. Also, the manual was designed specifically to serve women with high-risk pregnancies. Occupational therapy interventions could be expanded to meet the needs of all expectant mothers. This product has not yet been implemented into an occupational therapy practice to determine its efficacy and impact on women diagnosed with high-risk pregnancies. Pilot testing is recommended.

Recommendations to meet the addressed limitations of this scholarly project include continuing to add to and refine this manual as new interventions are developed to meet the future identified needs of women with high-risk pregnancies. Other areas of need could also be identified that were not covered due to the time constraints in the development of this product. Specific interventions could then be expanded upon to meet those needs. It is also recommended that continuing educational experiences be provided for occupational therapists serving women with high-risk pregnancies to increase their knowledge and skill levels to enable them to successfully meet their needs. Pilot testing the product into an occupational therapy practice to determine its efficacy and impact on women diagnosed with high-risk pregnancies is recommended.

In conclusion, this product has been developed using current literature to provide occupational therapists with a means of developing and implementing therapeutic interventions for the benefit of women diagnosed with a high-risk pregnancy. This product will assist these women in acquiring and maintaining healthier lifestyles during
pregnancy in the hope that some of the disabilities their developing infants are at risk for may be prevented.
REFERENCES


96


