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The World’s First Cord Blood Bank
The official publication of the International Childbirth Education Association

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The International Childbirth Education Association, founded in 1960, unites individuals and groups who support family-centered maternity care (FCMC) and believes in freedom to make decisions based on knowledge of alternatives in family-centered maternity and newborn care. ICEA is a nonprofit, primarily volunteer organization that has no ties to the health care delivery system. ICEA memberships fees are $595 for individual members (IM). Information available at www.icea.org, or write ICEA, 2501 Aerial Center Parkway, Suite 103, Morrisville, NC 27560 © 2015 by ICEA. Articles may be reprinted only with written permission of ICEA.

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Benefits of Exercise

by Debra Rose Wilson, PhD MSN RN IBCLC AHN-BC CHT

Welcome to 2016 and the issue that touches on Exercise in Pregnancy. The value and possible dangers associated with pregnancy have been discussed and debated for many years. Birth is a normal process and use of toned muscles will enhance comfort, circulation, digestion, attitude, mobility, position changes in labor, and pushing. Exercising during pregnancy improves energy levels, posture, swelling, and endurance. Being physically fit is correlated with reduced injury and reduced incidence of cesarean section. Exercise directs the body to preventive health. Teach your clients to move and stretch during the childbearing year. Consider becoming certified as a ICEA Prenatal Fitness Educator (ICEA.org). A shout out to all of you who have already earned that internationally recognized prestigious certification. If you are referring one of your clients to a prenatal exercise program, make sure that instructor has an understanding of the physiological processes of pregnancy and is certified through a reputable agency such as ICEA.

And how about doing a little self-care and moving and exercising more yourself? Have you made resolutions yet? It’s never too late for self-reflection and self-care. I hope you have set goals for a healthier you in the new year. Goals can be difficult to carry out, but here are some ways to stay motivated. Write goals down on a piece of paper or on a document in your computer. Set small steps with little goals on the way to reaching a larger goal. Track your progress as you go along. Find an App on your smartphone that fits your goal. Share the goal with others, talking about plans makes them more concrete and real. Ask others to motivate you. Create the opportunities to meet your goals. Write down the pros and cons lists, it can help remind why you set those goals. Take some time to congratulate yourself on trying and reflect on the wonderful sides of yourself. Recognize your extraordinary lifework and how many lives you have touched and changed. A healthier and happier you can offer so much more to your childbearing families. Happy New Year!

Peace,

Debra

editor@icea.org

Brief Writer’s Guidelines for the ICEA Journal

Articles should express an opinion, share evidence-based practice, disseminate original research, provide a literature review, share a teaching technique, or describe an experience. Articles should be in APA format and include an abstract of less than 100 words. The cover page should list the name of the article, full name and credentials of the authors and a two to three sentence biography for each author, postal mailing addresses for each author, and 3 to 5 keywords. Accompanying photographs of people and activities involved will be considered if you have secured permission from the subjects and photographer.

In Practice Articles – These shorter articles (minimum 500 words) express an opinion, share a teaching technique, describe personal learning of readers, or describe a birth experience. Keep the content relevant to practitioners and make suggestions for best practice. Current references support evidence-based thinking or practice.

Feature Articles – Authors are asked to focus on the application of research findings to practice. Both original data-driven research and literature reviews (disseminating published research and providing suggestions for application) will be considered. Articles should be double spaced, four to twelve pages in length (not including title page, abstract, or references).

For more information for authors please see our website at www.icea.org.
Happy New Year

by Connie Livingston, RN BS FACCE LCCE ICCE

Happy New Year! And I do mean new year! With the beginning of 2016, there are so many new and exciting things to share with the membership. I hope you are as excited as the Board of Directors.

The Board of Directors of ICEA has several new members to whom I would like to introduce you. Each year, there is a call for new board members. Some stay and some depart. In this way, there can be consistency in our total effort as a board to continue to serve you.

This year, we are sad to see Barbara Crotty leave her position as Director of Education. Barbara has overseen the update of our birth doula and professional childbirth education programs. We will miss her expertise but happy she will be part of the team representing us with the United States Breastfeeding Committee (USBC). The new Director of Education is Tamela Hatcher from Iowa. Also leaving us is Amber Roman in her position as Director of Communications. Amber has provided oversight on the International Journal of Childbirth Education and is the force behind the eBirth Newsletter. The new Director of Communications is Nancy Mitchell from Arizona. Vonda Gates, the 2015 ICEA IAT of the Year, is moving from Director of International Relations to the position of Secretary. Leaving the Secretary position is Bonita Katz, who has been the lead on updating the ICEA Board Handbook and the Bylaws. Stepping into the Director of International Relations position is Bonita Boughton of California. Kathy Bradley, from Florida, will be taking over the position of Director of Conferences, a position vacated during 2015. And new committee chair, Navy Lt. Elizabeth Riffle will join the ICEA team as Chair of the Military Mothers Initiative. To my knowledge, this is the first military officer to be in a childbirth education organization leadership role!

In seeking new ways of serving the ICEA membership, the ICEA Board of Directors decided to leave FirstPoint Management Resources and partner with IMI Association Executives as the ICEA management company. We thank the staff at FirstPoint for their years of service. IMI Association Executives is the same management company that serves our “sister” organization, the International Lactation Consultants Association (ILCA). IMI’s broad range of services and dynamic dedication to growth will enable ICEA to continue the growing process and to set the standard in quality birth education. Jessica Lytle, ICEA’s new Executive Director, has written an editorial in this issue, introducing her and IMI.

And now something that everyone has been waiting for! The location of the 2016 Annual ICEA Conference! We are proud to announce that the 2016 conference will be held at the beautiful Renaissance Denver Stapleton Hotel in Denver Colorado. With a conference theme of “Reaching the Highest Peaks in Evidence-based Practice,” attendees will be able to experience new and exciting preconference workshops October 11 & 12, and then top off the week with one of the most exhilarating core conferences October 13-15 in ICEA history. So save the dates: October 13-15, 2016 and watch the ICEA website and eBirth Newsletter for more details! This is going to be a conference you cannot miss!

In your service,
Connie Livingston
president@icea.org

VBAC Education Project

ICEA is proud to announce the joint collaboration between VBAC.com and ICAN for the VBAC Education Project. The VBAC Education Project is a FREE evidence-based educational project with modules for both parents & professionals.

For more information, please visit www.icea.org.
Cheers to New Beginning

by Jessica Lytle, ICEA Executive Director

Happy New Year! For most of us, the New Year is a chance to start fresh, a time to set new goals or to make significant changes. With that in mind, I want to take a few moments to introduce the new ICEA management team and let you know about some exciting things occurring within ICEA.

- **New Management Team:** My name is Jessica Lytle, and I am honored to introduce myself to you as the new Executive Director of ICEA. I was previously with the International Lactation Consultant Association (ILCA), and am excited to continue working with an association whose members have a passion for helping bring children into this world in a nurturing and family-centered way. Additionally, I bring with me a fabulous team of association management professionals, who come to the members of ICEA with great energy, professional skills and dedication. We are excited to be a part of the ICEA community and eager to see the opportunities that 2016 brings for ICEA. There is no doubt that this is an exciting time for ICEA as we begin a new year and a new chapter in our story. You can learn more about the fabulous ICEA board and staff at our website, www.icea.org.

- **Re-invigoration to achieve ICEA goals:** With a new management team in place, the ICEA Board is eager to continue its great work on achieving ICEA’s mission and goals. As this new management partnership unfolds, the ICEA board will be able to better concentrate on a strategic focus of growing the organization, enhancing its quality educational resources, and ensuring the knowledge of its members through professional certification programs.

- **New Website:** With this fresh start, ICEA is excited to unveil a new website. We will be bringing new functionality to the site and overall awareness to the profession as the year goes on, so please check the website frequently: www.icea.org. Last and certainly not least, as the New Year begins, we want to take this opportunity to thank you for the great work you do on behalf of the families you serve. We truly appreciate having you as a member of ICEA. Please know that your involvement with ICEA helps promote family centered maternity and newborn care as well as advance this wonderful profession.

In my role as Executive Director, it will be my pleasure – to work with the ICEA Board of Directors, and our dedicated staff to achieve the mission and goals set forth for this professional organization. At the end of the day though, we can’t achieve our goals without you. I encourage your involvement and welcome your ideas. Please feel free to contact me at with your comments, suggestions, or concerns.

At ICEA, our ultimate goal is to create a professional association experience that provides frequent opportunities for you to feel invigorated and validated, and gives you full access to knowledge and networks that help you advance as a childbirth educator and community leader.

We wish you and your loved ones a terrific start to the New Year. Let’s make 2016 a great year!

Warmest regards,

Jessica Lytle

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ICEA Monthly eBirth – Subscribe Today!

Do you want to stay informed with birth and maternal care news? Do you like to stay connected with other birthing professionals? Do you enjoy reading uplifting birth stories? Would you like to discuss controversial and relevant perinatal topics? Then subscribe to the ICEA Monthly eBirth today! Simply update your email information through the ICEA website (log on to your account and click on “Update Information”) to receive this information-packed email each month produced by the ICEA Communications Committee. The ICEA eBirth is released the third week of the month and features a monthly focus that begins our monthly discussion on Facebook, Twitter, and the ICEA blog. Best of all, it’s free FOR MEMBERS!

If you have tidbits of teaching wisdom to share, an inspirational birth story, or a short article that you would like published in our eBirth, submit them for consideration to communications@icea.org.
Prenatal Exercise as Self-Care:
A Gentle Approach for Childbirth Educators

by Kimberlee Bethany Bonura, PhD RYT

The benefits of exercise during pregnancy for both mother and baby are well-established. Most obstetricians, midwives, and prenatal educators provide educational pamphlets to their patients about the benefits of exercise. And most pregnancy magazines, including the ones offered for free in OB-GYN offices, tend to include articles about exercise during pregnancy. And yet, less than one-fourth of pregnant women meet minimum recommendations for exercise during pregnancy (Evenson & Wen, 2010).

Getting information about health practices is easy. Putting it into practice in your life – that’s what’s hard. And feeling guilty that you’re not doing the healthy things you know you should be doing – well, that’s what’s really hard!

Scientists who study human motivation have discovered an interesting phenomenon. Telling people what they should do doesn’t necessarily make them more likely to do it. For instance, when smokers are told about the dangers of smoking, it doesn’t necessarily make them more likely to quit smoking. And for some smokers, learning all about how bad smoking is for them makes them more anxious – which makes them more likely to light up, since smoking is an anxiety-management strategy for many who smoke (Hansen, Winzler, & Topolinksik, 2010).

So here’s my take on exercise during pregnancy. Most pregnant women already know that they should exercise. They know the benefits of exercise to both themselves and their babies. So when their doctor or midwife hands them a pamphlet explaining that they should exercise, rather than motivating them to exercise, it makes them feel guilty that they’re not. Pregnancy is good preparation for motherhood in so many ways, but I don’t think pregnant women and new moms need additional practice feeling guilty that they’re not doing enough for their kids!

I still want you to encourage exercise in pregnancy – I’d just like us, as a group of professionals who support pregnant women, to shift our strategy for how we do it.

For instance, consider a pregnant woman in her first trimester who comes to you with severe constipation. You could try the following sympathetic approach: “Oh, yes, constipation can be particularly difficult during pregnancy! If you go for a 10-minute walk after each meal, it will help move the food through your digestive system and help you go to the bathroom more easily. Here is a list of walking shoes that are particularly comfortable for pregnant women, and here are some safe walking trails in the area that you might enjoy.”

Or consider a pregnant woman in her second trimester, with severe back and hip pain. You could offer a list of swimming pools and teach her that swimming can be a great way to relieve discomfort. I have had many clients find that going for a swim several days per week helps relieve the pain. Or consider a pregnant woman in her third trimester who is suffering from insomnia. You could respond, “It does get more difficult to sleep during the third trimester. Several studies have found that yoga can help people sleep more restfully, even during pregnancy. Here is a list of prenatal yoga classes in the area, these teachers all have experience working safely with pregnant women.”

Recommend exercise in a personalized, supportive way that focuses on helping the pregnant woman take good, kind care of herself. It’s not about what she should do or what she is supposed to do – but rather, about how she can feel better. You’re still handing out supportive materials, but instead of a generic pamphlet about the benefits of exercise during pregnancy, the materials are focused on specific supportive resources in your local area that address her particular need. It may take you a little more time and effort to do some research and make the right connections in your area (finding swimming pools, walking trails, and prenatal yoga instructors, for instance), but the extra work will support your clients in getting moving, in a way that they feel good about. Gentle exercise achieved through a gently caring approach!

References


Kimberlee Bethany Bonura, PhD, is a prenatal yoga teacher, with 20 years of experience teaching yoga and mindfulness practices. She is an Experience-Registered Yoga Teacher and a Registered Prenatal Yoga Teacher with the Yoga Alliance. She is a faculty member in the Walden University School of Psychology. You can reach her at info@drkimberleebonura.com and www.drkimberleebonura.com.
Exercise and Pregnancy

by Dana M. Dillard, PhD(c) MS HSMI

Abstract: Exercise is an inexpensive and effective intervention for many chronic health conditions. Despite the numerous known benefits of exercise, many pregnant women may be reluctant to begin or continue exercise routines. This reluctance may be due to misinformation or lack of access to timely and accurate information. Understanding of the physiological effects of exercise and its possible correlations with long-term health springing from fetal development can enhance efforts to promote incorporation of exercise education. Childbirth educators are in a unique position to provide accurate information and access to resources that would promote positive prenatal health behaviors at a time when women may be more receptive to change.

The benefits of exercise across the lifespan are well-established and well-understood. Benefits include cardiovascular health, reduced risk of obesity, diabetes, and metabolic syndrome, as well as reduced health sequelae related to these conditions, enhanced positive mood, and decreased depression and anxiety. In addition to these effects, exercise exerts its effects on a neuromolecular level, enhancing and regulating key systems in the body, including the neuroimmune system. These enhancements may have transgenerational effects, as key components of the maternal health landscape may affect genetic material and be transmitted across the placenta, affecting the health and viability of ova and fetuses. In addition to its health benefits, exercise can be inexpensive and requires little investment in terms of time, money, or equipment.

Despite growing understanding of the many benefits, pregnant women may still question the safety of exercise, especially later in the pregnancy, and may receive conflicting information from key social support figures, including health care providers, family members, and friends. Although certain restrictions are applicable when exercise is contraindicated, childbirth educators can provide information and recommendations for exercise options and modifications during pregnancy and may be able to incorporate expertise from trained and certified fitness instructors to build awareness. By increasing awareness of benefits and debunking myths related to exercise during pregnancy, childbirth educators may be able to create long-term changes to health and health behaviors in mothers, their offspring, and their families.

Developmental Origins of Health and Disease

Originally studied from the context of cardiovascular disease and risk, the Developmental Origins of Health and Disease (DOHaD) hypothesis states that risk for chronic disease is intimately linked with preconception and prenatal health and behaviors (Cota & Jackson Allen, 2010). Developed by Barker and initially named the fetal-origins hypothesis, the hypothesis “…describes an adaptive phenomenon whereby the physiology and metabolism of a human fetus may change as it adapts to decreased or limited nutrients and oxygen by slowing its rate of cell division” (Thompson, 2006, p. 235). An example of this phenomenon is believed to be exhibited in the relationship between low birth weight and increased risk of cardiovascular disease in adulthood, although the mechanisms of the relationship are not well understood (Cota & Jackson Allen, 2010; Thompson, 2006). An expanded view of DOHaD suggests that intrauterine stress, which includes nutrient deficiencies, results in permanently altered endocrine and metabolic processes (Cota & Jackson Allen, 2010; Kajantie, 2006). Despite the many unknowns of the relationship, fetal changes as a result of poor nutrition and reduced oxygen in cell distribution and cellular activity and resultant changes in cellular metabolism and hormonal activity have been observed in animal studies (Thompson, 2006). Human fetuses complete most organ formation, with the exception of the brain, early in fetal development – at around eight weeks (Hall, 2007). Fol-
Exercise and Pregnancy  
continued from previous page

lowing organ formation, “...the conceptus/fetus grows and ‘tries out’ its organs as they begin to function” (Hall, 2007, p. 67). In the fetal period, organ maturation is affected by fetal movement and environmental feedback – the organ will respond to environmental challenges through alteration of its genetic landscape (Hall, 2007). One particular change includes alterations in glucose processing that may be related to obesity, metabolic syndrome, and diabetes (Cota & Jackson Allen, 2010), and finding a way to intervene in those changes may result in long-term benefits to fetal health. Although the DOHaD remains controversial, the interplay between genetic and environmental factors in health and development cannot be ignored. Changes in the genetic landscape due to environmental factors are referred to as epigenetic mechanisms (Thompson, 2006), and knowledge of these epigenetic mechanisms may provide opportunities for early intervention to inhibit, reverse, or alter otherwise pathological changes in development.

Effects of Exercise

Exercise exerts effects on multiple body systems. Some of the effects can be witnessed visibly, such as weight loss, while other effects may only be examined clinically. Effects of exercise on diseases such as cardiovascular disease and diabetes exist on multiple levels, such as enhanced cardiovascular efficiency, increased motivation, self-esteem, and self-efficacy, and interaction with endocrine and hormonal processes. Exercise increases maximal oxygen consumption, decreases insulin resistance, improves glucose utilization, and reduces markers of inflammation (Ryan et al., 2014). Although the study population in Ryan et al.’s (2014) work included postmenopausal overweight and obese women, the results have been replicated in other populations, suggesting that exercise reduces markers associated with chronic diseases (Kraemer et al., 2013) through a complex pathway that may, counterintuitively, initially increase inflammation to enhance glucose disposal and optimize immune responses to challenge (Pal, Febbraio, & Whitham, 2014).

Although exercise is known to affect expression and resolution of products that may cross the placenta (i.e., cortisol, glucose, and maternal cytokines), very little is known about the relationship between some of these products and long-term effect of exposure on fetal and newborn tissue (Hall, 2007). Even less is known about hormonal and endocrine responses to exercise in pregnancy. However, excess maternal cytokine exposure as a function of prenatal stress appears to exert negative effects on fetal development (Hall, 2007). Increased glucose, as seen in uncontrolled gestational diabetes and non-gestational diabetes, and nutritional status may lead to macrosomia and increased risk for obesity, diabetes, and metabolic syndrome in adulthood (de Gusmão Correia, Volpato, Águila, & Mandarim-de-Lacerda, 2012; Kemp, Kallapur, Jobe, & Newnham, 2011; Wroblewska-Seniuk, Wender-Ozegowska, & Szczapa, 2009). In addition to its relationship with diabetes, obesity, cardiovascular disease, and metabolic syndrome, maternal glucose intolerance also appears to correspond with offspring development of schizophrenia (Bone, 2015). Exercise may reduce some of these effects, possibly due to the effects of exercise on glucose tolerance (Tomic et al., 2013). Research largely indicates that exercise does not exert a significant effect on birth weight (Duncombe et al., 2006; Haakstad & Be, 2011; Tomic et al., 2013), although there is some disagreement in the literature (Dwarkanath et al., 2007; Leiferman & Evenson, 2003; McCowan et al., 2010).

Exercise in Pregnancy: Myths, Recommendations, Contraindications, and Restrictions

Despite a seeming possibility for increased awareness and access to information because of availability of resources, many women are still at risk of receiving inaccurate information or believing popular myths related to pregnancy and exercise. For example, in a recent study of rural American pregnant women, a majority of participants believed that increased activity in pregnancy would lead to decreased energy, and many did not know that exercise could reduce risk of gestational diabetes or that overweight mothers were likely to have overweight children (Melton, Marshall, Bland, Schmidt, & Guion, 2013). Women were also unaware of safety precautions or had inaccurate information on risk. For example, a majority of women felt weight-lifting was not safe and that exercise levels should be decreased during the last two trimesters, while only approximately one-half of women were aware of the recommendation to avoid exercises while lying on the back in the second and third trimesters (Melton et al., 2013). This suggests disconnect between current recommendations and relay of information to expecting women. Those in a position to inform and educate pregnant women should become familiar with current guidelines, such as those printed by the American College of Obstetricians and Gynecologists (ACOG, 2011, 2015) and the American College of Sports Medicine (Artal, Clapp, & Vigil, n.d.), which include recommendations, contraindications, and safety precautions.

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Exercise and the Childbirth Educator

The childbirth educator is in a unique position to provide not only accurate information about safety and benefits of exercise but also access to community resources for those interested in starting or continuing exercise during pregnancy. Pregnant women may be more receptive to positive health behaviors during pregnancy (ACOG, 2015), and childbirth educators can promote and support healthy changes by providing a supportive environment. While exercise education can occur at any time, physician clearance to begin exercise should be conducted prior to recommending physical activity (ACOG, 2015). In the presence of physician clearance, childbirth educators could consider bringing in certified fitness instructors familiar with exercise during pregnancy who can demonstrate different types of exercise that may be appealing to many different audiences, such as yoga, Pilates, dance, weightlifting, or other aerobic or resistance training programs. Fitness instructors can act as community resources who understand the particular exercise needs of pregnant women. Promoting pregnancy-specific programs may also help develop exercise self-efficacy and motivation, particularly if the pregnant woman feels affiliation with others in the program. Because of the numerous benefits of exercise on maternal health and its potential implications for development of healthy behaviors across the lifespan, childbirth educators should become familiar with current exercise guidelines and incorporate exercise education into core curriculum.

References


Dana serves as adjunct faculty with Ashford University while pursuing a PhD in Health Psychology through Walden University. Dana’s passions lie with uncovering new ways to promote health and wellness that honor the body, mind, and spirit.
The Road to Becoming a Certified Prenatal/Postnatal Fitness Instructor: 
**Combining Passion & Profession**

by Courtney Hines, DNP MSN RN

Abstract: Obesity is an ongoing problem in the United States. Obesity during pregnancy is common and increases obstetrical and neonatal risks. Roughly 60% of women in the U.S. enter pregnancy above a normal weight and less than 30% of women maintain their recommended gestational weight gain. Exercise during pregnancy has the potential to decrease the risk for excess weight gain and postpartum weight retention, gestational diabetes, preeclampsia, and preterm delivery. There are numerous routes to becoming a certified prenatal/postnatal fitness instructor. Choose a program that fits your needs and is accredited and approved. Choose a program that will allow you to combine your passion and your profession.

**Keywords:** Prenatal Fitness Instructor Certification, Postnatal Fitness Instructor Certification, exercise during pregnancy, obesity during pregnancy

Obesity is an ongoing problem in the United States (U.S), and although much has been done to combat this problem, it still greatly exists. Between 2011-2014, the prevalence of obesity was 36.5% among U.S. adults aged 20 and over. Overall, the prevalence of obesity among women (38.3%) was higher than among men (34.3%). During this same time frame, the prevalence of obesity among U.S. youth aged 2-19 years was 17.0% (NCHS, 2015). The aforementioned statistics are very alarming, especially regarding women, as the risk for women entering into pregnancy in an obese state increases.

Obesity during pregnancy is common and it increases obstetrical and neonatal risks. Roughly 60% of women in the U.S. enter pregnancy above a normal weight and less than 30% of women maintain their gestational weight gain within the recommendations provided by the Institute of Medicine (CDC, 2015). Maternal obesity is a leading cause of maternal and neonatal morbidity during and after pregnancy. Maternal obesity increases the risk of gestational diabetes, gestational hypertension, preeclampsia, antepartum stillbirth, cesarean section and increased birth weight and fetal growth (Cedergreen, 2004; Kabiru & Raynor, 2004; Seiga-Riz, 2004; Weiss et al., 2004). Additionally, women with body mass indexes >24kg/m2 have an increased risk for preterm delivery (Guedelman et al. 2013).

Exercise during pregnancy has the potential to decrease the risk for excess gestational weight gain and postpartum weight retention, gestational diabetes, preeclampsia, and preterm delivery (Choi, Fukuoka, & Lee, 2013; Clasesson et al., 2008; Guedelman et al., 2013; Haakstad, & Bo, 2011; Shirazian, Monteith, Friedman, & Rebarber, 2010; Tobias, Zhang, van Dam, Bowers, & Hu, 2011). These benefits of exercise during pregnancy have led to specific recommendations concerning exercise during pregnancy. The American College of Obstetricians and Gynecologists (ACOG) recommends that women with uncomplicated pregnancies be encouraged to engage in aerobic and strength training exercises before, during, and after pregnancy. ACOG further recommends that pregnant women with uncomplicated pregnancies take part in moderate-intensity exercise for at least 20-30 minutes per day on most or all days of the week (ACOG, 2015).
Where I Fit In

As someone who has devoted herself to a healthy lifestyle that includes healthy eating and exercising, the aforementioned data piqued my interest, particularly the data related to preterm delivery, as my background is neonatal nursing. I’ve always wanted to combine my love for exercise with my love for caring and providing nursing care and for years I’ve searched for the right thing that will allow me to do this. When I came across the prenatal/postnatal fitness instructor certification, I knew it was a good fit for me. I enjoy working in the neonatal intensive care unit; however, I’ve seen first-hand the effect that preterm birth has on families and infants and if preterm birth can be prevented, I’m willing to do whatever I can to help prevent it. Given the fact that exercise has been associated with a decreased risk in preterm delivery (Guendelman, 2013), what better way for me to help combat this issue than to serve as a prenatal/postnatal fitness instructor? Additionally, one day I hope to become a mother and I would like to do everything that I can to ensure that my future children and myself are as healthy as possible.

ICEA offers a Prenatal Fitness Educator certification correspondence course aimed towards health professionals.

Becoming Certified

For anyone else who has a love for nursing and fitness, becoming a certified prenatal/postnatal fitness instructor is fairly simple and there are several routes that can be taken to do so. Prepared Childbirth Educators, Inc. (PCE) offers an independent study Prenatal/Postnatal Fitness Instructor course (targeted towards nurses). The course consists of readings, videos, and the completion of study modules concerning prenatal/postnatal fitness. After completion of the modules, the study guide is sent in and the participant receives a continuing education (CE) certificate. After completion of the course, the participant can take the certification exam one of two ways: with a proctor in your area of residence, or the exam can be taken at one of the on-site locations (Prepared Childbirth Educators, 2015).

The International Childbirth Education Association (ICEA, 2015) offers a Prenatal Fitness Educator certification correspondence course (aimed towards health professionals). After enrolling in the program and becoming a ICEA member, candidates will receive the study materials, which include study manuals, DVDs, and the exam packet. After successfully completing the reading materials, candidates can take their exam and receive their certificate. Candidates also receive contact hours for completing the program.

American Fitness Professionals and Associates (AFPA, 2015) offers a Pre and Post Natal Fitness Specialist Certification. This certification course, like the aforementioned two, is also an independent study course (aimed towards personal trainers and fitness specialists). The course is inclusive of manuals, video lessons, and a written exam. Upon successful completion of the course and the exam, the candidate will earn the title of Certified Pre and Post Natal Fitness Specialist. Candidates also receive continuing education credit for completion of the course (AFPA, 2015).

Oh Baby! Fitness (2015) offers an online, interactive Pre/Postnatal Fitness Training course. The independent study online course comes complete with an online manual, illustrations and pictures, and instructional demonstration videos. Candidates who successfully pass the exam will receive an official certificate. Continuing education credits are also provided upon successful completion of the course and exam. This training course is aimed towards current fitness instructors.

There are numerous routes to becoming a certified prenatal/postnatal fitness instructor and I’ve highlighted a few of the available options. What’s important is for you to choose which program is right for you and which program fits your needs. It’s also important for you to make sure that the program you choose is an accredited and approved program. Choose a program that will allow you to combine your passion and your profession.

References


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Dr. Courtney Hines is a neonatal intensive care unit (NICU) nurse and received her BSN from Fisk University, her MSN from Vanderbilt University School of Nursing, and her DNP from the University of Minnesota School of Nursing. Dr. Hines has taught at various institutions both nationally and internationally, and she currently serves as a full-time Associate Professor at Tennessee State University in the School of Nursing. Dr. Hines is passionate about maternal/child health and is committed to making changes in this area of healthcare.

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Mindful Fitness:
Guidelines for Prenatal Practice

by Kimberlee Bethany Bonura, PhD RYT, Nina Ida Marie Spadaro, EdD, and Rives Whittle Thornton, MS LMHCA

Abstract: Mindfulness exercise practices offer a form of physical activity which is uniquely suited to support both psychological and physical health during pregnancy. Mindfulness exercise practices, which include yoga, qi gong, tai chi, and martial art forms such as kung fu, karate, and tae kwon do, combine physical activity with deliberate breathing exercises and focused attentional strategies. The purpose of this article is to review the various forms of mindfulness exercise and outline basic guidelines for mindfulness exercise training during pregnancy.

Keywords: pregnancy, exercise, mindfulness, Yoga, Tai Chi

Both the American College of Sports Medicine (ACSM, No date) and the American Congress of Obstetricians and Gynecologists (ACOG, 2011) recommend exercise during pregnancy to support health outcomes, including improved psychological health such as improved mood and energy, and improved physical health, for instance, reduced pain and constipation, improved posture, and reduced risk of gestational diabetes. However, research from the University of North Carolina indicates that only 23% of pregnant women achieve the minimum recommendation for physical activity during pregnancy (Evenson, 2010). Providing pregnant women with a variety of exercise practices may increase access to activity and therefore encourage women to engage in physical activity during pregnancy. Mindfulness exercise practices offer a form of physical activity which is uniquely suited to support both psychological and physical health during pregnancy.

Mindfulness is the practice of complete present-moment awareness (Lasater, 2000). Mindfulness exercise practices, which include yoga, Qi Gong, Tai Chi, and martial art forms such as Kung Fu, karate, and Tae Kwon Do, combine physical activity with deliberate breathing exercises and focused attentional strategies. This combination of activity, breathing, and focus helps the individual practitioner to develop an increased capacity for self-control. Self-control is correlated with improved psychological health in mindfulness practitioners (Bonura & Tenenbaum, 2014). Research demonstrates the wide-reaching benefits of mindfulness practices, including improved psychological health (through reduced stress, anxiety, and depression, and increased satisfaction with life) and improved physical health (reduced blood pressure and cholesterol, improved hormonal profiles). Research with mindfulness exercise practices indicate that the combination of exercise and mindfulness strategies may offer unique psychological and physical benefits above and beyond either meditation training or exercise training alone.

For pregnant women, mindfulness exercise practice may be particularly useful, as it prepares the pregnant woman for both the physical and psychological demands of pregnancy, labor and delivery, and postnatal recovery. The purpose of this article is to briefly review the various forms of mindfulness exercise, and outline basic guidelines for mindfulness exercise training during pregnancy.

Yoga

Yoga practice can be a good adjunct to birthing education, providing an opportunity for gentle physical exercise, mental focus training, and breathing exercises, which can be helpful during labor and delivery. Regular yoga practice during pregnancy can improve both quality of life and interpersonal relationships (Rakhshani, Maharana, Raghuram, Nagendra, and Venkatram, 2010). Yoga also reduces both stress and anxiety in pregnant women (Beddoe, Yang, Kennedy, Weiss, & Lee, 2009; Satyapriya, Nagendra, Nagarathna, & Padmalatha, 2009). Further, yoga is an effective strategy for pain management both during pregnancy (Beddo, Yang, Kennedy, Weiss, & Lee, 2009) and during labor (Chuntharapat, Petpichetchian, & Hatthakit, 2008). A well-rounded prenatal yoga program should include several core components, including meditation training, breathing...
practice, standing poses, and squats. Yoga Alliance, the national registry of yoga teachers, offers a Registered Prenatal Yoga Teacher designation, which indicates a yoga teacher with both training and experience in working with pregnant women. For a more detailed review of prenatal yoga recommendations, including exercises which can be incorporated in childbirth education classes, see Bonura (2014).

Qi Gong

A growing number of people in the west are becoming interested in the practice of Qi Gong. This mindfulness practice, developed in China for maintaining health, consists of gentle flowing low impact exercises which are well suited for even a pregnant beginner. Some of the benefits of engaging in Qi Gong prenatally include a reduction in anxiety among first time mothers (Jeong & Lee, 2006), a reduction in prenatal depression (Lee, Kim & Ahn, 2006; Ji & Han, 2010), decreased physical discomfort during pregnancy as well as a stronger postpartum maternal-infant interaction (Ji & Han, 2010).

As some Qi Gong practices are held in parks or out of doors it is important for the prenatal practitioner to avoid overheating when the weather is warm. The National Qi Gong Association provides training and certification to teachers and can be a good source for classes in your area.

Tai Chi

Tai Chi is a Chinese martial art without the swift high-impact movements typical of most martial arts. It is practiced as series of upright, slow, graceful, and fluid movements carefully focused upon posture and joint alignment. Tai Chi is very gentle and can be safely started at any stage of pregnancy. As Tai Chi requires neither special clothing nor a mat, and the practice of a series of movements can take as little as five minutes, the practice can be maintained throughout pregnancy and continued by a new parent with limited time for exercise.

Due to hormonal changes during pregnancy, postural stability declines and does not return until as much as two months post-partum (Butler, Colón, Druzin, & Rose 2006). The main focus of Tai Chi is to develop stability while moving, and there is much evidence that the practice of Tai Chi reduces falls (Voukelatos, Cumming, Lord, & Rissel, 2007). Tai Chi can be a helpful exercise modality to improve balance and reduce the incidence of falls during pregnancy.

Considered a form of moving meditation, Tai Chi has been shown to significantly decrease depressive symptoms, including low-mood and sleep disturbance in pregnant women who had a diagnosis of depression (Field, Diego, Delgado, & Medina, 2013). During the physical and emotional challenges of pregnancy, post-partum and lactation, when medications can only be used to a limited extent, the practice of Tai Chi can be a natural mood stabilizer.

Martial Arts

The martial arts include a variety of practices from the East, most commonly Karate (from Okinawa), Tae Kwon Do (from Korea), and Kung Fu (from China). Generally speaking, the martial arts are training programs designed to train the individual in self-defense, and may include a variety of strategies such as kicking, striking (with hands or feet), grappling, redirection of the opponent’s energy, and use of weapons. Technically, Tai Chi is a martial art form practiced as part of combat training; in many current practices, Tai Chi is primarily practiced as an exercise program focused on meditation and individual training, and extensive research has documented the positive effects of Tai Chi on health outcomes.

To our collective knowledge, there are no published articles which investigate the use of other martial arts modalities during pregnancy. Based on the guidelines from the ACSM and ACOG, we offer the following suggestions for prenatal exercise. Martial arts training in its more strenuous forms (such as Karate, Tae Kwon Do, and Kung Fu) is not appropriate during pregnancy for women who do not have prior experience in these activities. However, both the ACSM and ACOG indicate that women who are already fit and regularly engage in activity should be able to continue their current level of physical fitness and exertion during pregnancy, as long as they have a low-risk pregnancy and no contraindications to physical activity. Women who have experience with the martial arts should consult with their obstetrician or midwife to determine whether continued practice is appropriate during pregnancy, and work individually with their instructor to modify and adapt their practice throughout pregnancy and during postnatal recovery. These adaptations would involve being more careful to stretch before and after exercise, possibly wearing a light weight maternity girdle to reduce back strain due to stretching of the round pelvic ligaments, and avoidance of becoming overheated. As well, pregnant women should not spar with other individuals during pregnancy, to avoid risk of trauma to the belly. These recommendations are aligned with ACOG guidance that pregnant women should avoid sports such as ball-sports, horseback riding, and cycling, which may lead to trauma of the belly due to impact or falling. Pregnant women who wish to continue martial arts training during pregnancy should focus on low-impact, individually practiced exercises, such

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Mindful Exercise during Pregnancy: Appropriateness Based on the Individual Woman

The appropriateness of an exercise modality during pregnancy must be determined based on the current health and fitness of the individual woman, as well as prior experience with the exercise modality and any potential contraindications. Experienced practitioners may continue a higher level of activity throughout their pregnancy. New practitioners and women who have not previously engaged in regular exercise should focus on gentle, instructor-guided, low-strain forms of exercise to avoid risk of injury. Mindfulness and meditation training is always appropriate, but breath-holding forms of meditative practice should be avoided during pregnancy. For safety, consider any contraindications to exercise during pregnancy.

Ask your clients to follow the following safety guidelines:

- Review the ACOG patient recommendations at: http://www.acog.org/Patients/FAQs/Exercise-During-Pregnancy
- Follow standard practice for exercise during pregnancy, such as avoiding any postures where you lie flat on the back in the second and third trimester.
- Hot forms of exercise (for instance, yoga in a heated room, or martial arts training outside during the summer) are contraindicated due to potential risk of overheating, stress on cardiovascular function, etc.
- Avoid undue strain on the joints caused by jumping into positions or placing excessive pressure on joints through extreme range-of-motion or weight bearing.
- Allow time for rest between stretching activities. The hormone relaxin increases flexibility during pregnancy, which may increase the risk for straining or tearing muscles.
- Avoid contact with others and do not engage in activities which may lead to trauma to the belly. For instance, in the martial arts, do not practice sparring during pregnancy.
- Pain and strain are not appropriate. If discomfort continues, the individual should stop and consult with her doctor or midwife prior to further exercise activity.

Gentle practice forms such as tai chi, qi gong, and some forms of yoga are appropriate for pregnant women of all fitness levels.

Summary and Recommendations

Exercise during pregnancy is a key component of supporting both physical and psychological health for the pregnant woman. Less than one-fourth of pregnant women meet minimum exercise recommendations from the ACOG and the ACSM. Offering additional options for pregnant women to engage in regular exercise through mindfulness fitness practices may support more women in remaining active during pregnancy. Childbirth educators can work with mindfulness fitness instructors in their area who have both training and experience with pregnant clients. Future research is needed to better understand the unique benefits of mindfulness fitness during pregnancy and better support childbirth educators in effectively recommending mindful fitness modalities to their students.

References


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Mindful Fitness: Guidelines for Prenatal Practice
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Nina Spadaro, EdD is a licensed psychologist with a black belt in QiLin Kung fu, who specializes in children and parent's kung-fu classes using mindfulness activities to foster self-esteem, attention development, anxiety reduction, anger management, increased social interest, and parenting skill development. She is a faculty member in the Walden University School of Mental Health Counseling.

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International Childbirth Education Association
Overview of Pelvic Floor Dysfunction Associated with Pregnancy

by Samantha J. Bartling, BS and Patrick M. Zito, DO PharmD RPh FASCP FRSPH

Abstract: The pelvic floor consists of several muscles that span the area underneath the pelvis. These muscles have several important functions, including maintenance of urinary and fecal continence, providing support to pelvic organs (such as the bladder, intestines, and the uterus), and facilitating childbirth. During pregnancy and childbirth, changes in the pelvic floor musculature and innervation can lead to dysfunction, causing urinary incontinence, pelvic organ prolapse, and fecal incontinence. Pelvic floor muscle training is a method that can be used during pregnancy and after childbirth to help prevent and treat these changes.

Keywords: pregnancy, childbirth, pelvic floor

Introduction

The pelvic floor consists of several muscles that span the area underneath the pelvis. These muscles have several important functions, including maintenance of urinary and fecal continence, providing support to pelvic organs (such as the bladder, intestines, and the uterus), and facilitating childbirth. This article seeks to gain a better understanding of the anatomy of the pelvic floor, the changes in the pelvic floor during pregnancy and childbirth, the factors that play into these changes, and techniques that can help treat and prevent pelvic floor dysfunction.

Anatomy

The pelvic floor consists of several muscles, primarily the levator ani and coccygeus muscles. The levator ani is further made up of the pubococcygeus, puborectalis, and iliococcygeus muscles. The urethral and anal sphincter muscles are also part of the pelvic floor. Together, these muscles are responsible for a variety of functions, including maintenance of urinary and fecal continence, providing support to pelvic organs (such as the bladder, intestines, and the uterus), and facilitating childbirth. These muscles and their associated nerves undergo increased stress during childbirth and may be damaged during the process, leading to a decreased ability to perform their basic functions.

Pelvic Floor Changes and Dysfunction in Pregnancy

There is a broad range of pelvic floor changes that can take place during pregnancy and childbirth, leading to dysfunction of the floor. These dysfunctions include urinary incontinence, fecal incontinence, increased flatus, pelvic organ prolapse, overactive bladder, and sexual disorders. Two-thirds of primiparous women within one year post-delivery suffer pelvic floor dysfunction resulting in some degree of bother (Lipschuetz, 2015). Urinary incontinence is one of the most common issues experienced during and after pregnancy. It is reported that new urinary incontinence after a first vaginal birth can be as high as 21% with spontaneous birth (without the use of forceps) (Rorteveit et al., 2003).

Pathophysiology of Pelvic Floor Changes in Pregnancy and Childbirth

During pregnancy, anatomic and physiologic changes occur that may affect the pelvic floor, bladder, and ability to maintain urinary continence. One of these anatomic changes is the growth of the uterus. The progressive increase in

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Factors Affecting Development of Urinary Incontinence

Post-partum and peri-partum urinary incontinence causes are multifactorial (Fonti et al., 2009). Risk factors include increased maternal age, increased fetal head circumference, fetal position, traumatic birth, use of forceps, length of second stage of labor, sphincter damage, obesity, and smoking. In a study by Casey and associates (Casey et al. 2005), it was found that the amount of perineal trauma at delivery played a key role in the improvement of pelvic floor strength and endurance following childbirth (Casey et al. 2005). The study controlled for factors such as parity, maternal age, birth-weight, smoking status, and antepartum scores and found that those that took longer to recover from urinary incontinence and other pelvic floor dysfunctions postpartum were those with 2nd-3rd degree perineal injury and episiotomy. Patients who underwent C-section had the best and fastest recovery of pelvic floor strength and endurance. However, it is important to note that there is currently not enough scientific evidence to recommend elective C-section in the prevention of pelvic floor dysfunction (Thorp et al., 1999). While episiotomy was once used routinely to help prevent pelvic floor dysfunction, it is now only recommended for use in select cases, in which case a mediolateral approach should be taken.

How to Prevent and Treat Pelvic Floor Dysfunction/Urinary Incontinence

Pelvic floor muscle training has been found to be an effective method in the prevention and reduction of urinary incontinence during pregnancy as well as post-partum (Hay-Smith et al. 2001). One review found that women who underwent pelvic floor muscle training during pregnancy were 56% less likely to develop urinary incontinence in late pregnancy, and about 30% less likely to have urinary incontinence post partum as compared with their counterparts who did not undergo pelvic floor muscle training (Hay-Smith et al., 2008).

This type of training should be recommended to all women in their first trimester. (Koc & Duran, 2012). To perform these exercises, it is important to find the correct muscles to contract. The mother can isolate these muscles by starting to urinate then stopping. The muscles used to stop the urination are the pelvic floor muscles and the mother should feel the muscles tighten and move upward. If she is unsure, she can try to insert a finger into her vagina then tighten her muscles as if she were holding in her urine. She should feel her muscles contract around her finger and move up. Have the client to keep the muscles of her abdomen, gluteus, and hip adductors relaxed when performing these exercises, as a common error is the contraction of these muscles instead of the pelvic floor muscles (Medline Plus 2014).

If the mother is still unsure still whether she is performing these contractions correctly, she may consider seeing a healthcare professional. Proper pelvic floor muscle training should include assessment of correct contraction, as more than 30% of women are unable to contract their pelvic floor muscles properly at their first consultation. A physiotherapist can use biofeedback and electrical stimulation to help guide her in finding the correct muscles to contract (Ibrahim et al. 2014). Most people notice some improvement after 4-6 weeks, but it may take as long as 3 months to see major change (Dumoulin & Hay-Smith 2010).

Childbirth educators are an available resource for pelvic floor muscle education and encouragement. While exact pa-
Pelvic Floor Dysfunction Associated with Pregnancy

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rameters regarding the frequency or number of reps needed for PFMT to be effective has yet to be established, it remains known that training the pelvic floor muscles has beneficial effects. These exercises are non-invasive and fairly simple to carry out at home, and so they remain the first-line management for postpartum urinary incontinence. Other treatments may be considered if dysfunction persists. Additionally, patients can consider lifestyle modifications such as obesity prevention and smoking cessation may also prevent the development of pelvic floor dysfunction.

References


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Abstract: Assuming a healthy, low-risk pregnancy, massage has benefits for mother and baby. Mothers who experience massage during pregnancy report less pain, edema, stress, are less likely to have an episiotomy, and are more relaxed than mothers who do not experience massage. Babies born from women who had massage during pregnancy are less likely to be born prematurely and less likely to have a low birth weight. A low-cost, effective way to practice massage throughout pregnancy may be to perform a technique of self-massage called self-myofascial release (SMR).

Keywords: massage, pregnancy, self-myofascial release, SMR

During pregnancy a woman's body goes through a substantial amount of physical changes to accommodate a growing baby. Mothers commonly experience pain related to soft tissue and general discomfort during pregnancy. Massage has become a welcome remedy to the challenges the human body faces while growing a baby (Cassar, 2001; Kimber, 2002). Mothers who practice massage during pregnancy report fewer aches and pains, experience less edema, are less likely to have an episiotomy, and have a notable release in myofascial trigger points (Coban & Sirin, 2010; Kuehn; Osborne, 2008). Massage has also shown to decrease stress and depression, as well as improve overall relaxation in pregnant women (Agren & Berg, 2006; Field, Diego, Hernandez-Reif, Schanberg, & Kuhn, 2004; Osborne, 2008). Babies born from women who had massage during pregnancy are less likely to be born prematurely and to be at a low birth weight (Field, Diego, & Hernandez-Reif, 2008; Field, Diego, Hernandez-Reif, Deeds, & Figueiredo, 2009; Field et al., 2012; Field, et al., 1999). Assuming a healthy, low-risk pregnancy, massage may help the pregnant mother relieve common discomforts experienced during pregnancy. A low-cost, effective way to practice massage throughout pregnancy is to perform a technique of self-massage called self-myofascial release (SMR).

Exercise including strength, cardiovascular, and flexibility training offer many benefits for the pregnant mom. Improved core strength, stress relief, weight control, and preparing the muscles and body for labor are a few of these benefits (Clinic, 2015; Cochrum, 2015). A supplemental component to add to the current pregnant exerciser’s routine is performing SMR. SMR first became popular with world class athletes who used SMR to aid in their athletic performances through increased range of motion, increased flexibility, and quicker recovery (Okamoto, Masuhara, & Ikuta, 2014; Trigger Point Performance, 2015). As athletes continue
Self-Myofascial Release Has Benefits for Pregnant Women

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to perform SMR, it has also gained popularity with other populations such as those with chronic disease, older adults, and the general public (Ajimsha, Daniel, & Chithra, 2014; Castro-Sanchez et al., 2011; Okamoto, et al., 2014).

Like massage, SMR in particular has also shown to decrease stress, increase flexibility, and provide relief from back pain in the non-pregnant population (Ajimsha, et al., 2014; Okamoto, et al., 2014). The technique of SMR helps to loosen up fascial adhesions found in the connective tissue throughout the body (myofascia is the specific fascia connected to muscle fibers (Trigger Point Performance, 2015)). The fascia adheres due to overuse or trauma. SMR done correctly may loosen up the fascial adhesions and in turn, can lessen perceived pain and soreness, increase mobility, increase flexibility, and increase range of motion (Ajimsha, et al., 2014; Okamoto, et al., 2014; Trigger Point Performance, 2015). The exerciser can choose to do SMR techniques before, after, or without exercise. The purpose of performing SMR prior to exercise is to warm up and prepare soft tissues for movement to come during the exercise session. Benefits of performing SMR after exercise allow the body to cool down after physical activity and administer self-care. Some mothers-to-be may also enjoy doing SMR outside of organized exercise to relieve soreness found in the soft tissues. Mothers may try incorporating SMR techniques before, after, and without exercise and to continue doing these practices when and where it feels best.

SMR may be performed with many different tools including foam rollers, massage sticks, massage balls, and hands. These tools range from $2 to $65+ depending on which tools the user prefers, making SMR an inexpensive alternative to visiting a massage therapist (Burgan, 2013; Trigger Point Performance, 2015). SMR may also be used in addition to regular massage by a massage therapist to aid in the gains made during a prenatal massage session.

As with all exercise during pregnancy, it is recommended moms speak with their provider about risks and benefits of any physical activity. It is cautioned to avoid directly rolling over bones or joints while performing SMR (Trigger Point Performance, 2015). Other conditions which require a discussion with the pregnant woman’s provider include: open wounds, infection of the skin or soft tissue, muscle and tendon ruptures, bursitis, tumors, broken bones, rheumatoid arthritis and gout, artificial blood vessels, hemophilia and other blood disorders, and pregnancy (Trigger Point Performance, 2015). To perform SMR, practice the following suggestions:

1. As with all things exercise related, you should ease yourself in gradually.
2. Start with a softer roller. It is better to apply too little pressure than too much, especially in the beginning.
3. Always roll on soft tissue.
4. Never roll over joints or directly on bone.
5. Use short, slow rolling motions to go over the entire muscle.
6. Once you feel a comfortable level of control, administer pressure to the most sensitive areas for roughly 20 to 30 seconds. As you get to know your body and how it responds to foam rolling, you may go shorter or longer as needed.
7. Do not hold over areas with PAIN. If pain occurs, then back off from the area and work the surrounding tissues.
8. Consult an exercise professional to assist with the movements for more instruction on SMR techniques. A list of exercise professionals certified as an International Childbirth Prenatal Fitness Educator can be found on the International Childbirth Education Association’s website at http://icea.org/content/member-directory.

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Self-Myofascial Release Has Benefits for Pregnant Women
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2015). While research in the field is scarce regarding the risks or benefits of rolling on the lower back, applying general exercise recommendations during pregnancy is advised. Specifically, this includes not rolling on the lower back, side of the belly, and the front of the belly.

Massage has shown to benefit mother and baby throughout pregnancy. The positive associations of massage and mothers’ overall wellbeing may give providers a better understanding of massage’s effects when speaking about massage with pregnant mothers. By breaking up myofascial adhesions, or sore areas, SMR in particular can alleviate discomfort and pain felt in the soft tissues of the human body during pregnancy. SMR is a technique all mothers can learn and is relatively inexpensive. Providers can feel confident in encouraging SMR to mothers with a low-risk healthy pregnancy.

References


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Prebirth Education and Childbirth Decision Making

by Bessie M. McCants, PhD and Jay R. Greiner, PhD

Abstract: This article explores women’s attitudes and preferences toward childbirth decision making after reading a prebirth educational brochure. A phenomenological inquiry into the meaning ascribed to women’s preferences and attitudes toward C-sections and natural childbirth before and after reading a prebirth educational brochure revealed three main themes for women, including attitude formation, childbirth decision making, and prebirth education. Preferences and attitudes toward decisions about childbirth changed after reading prebirth educational information. These findings suggest that informing women of the risks and benefits of C-sections and natural childbirth may improve childbirth health care and increase women’s understanding about the childbirth experience.

Keywords: prebirth education, childbirth, childbirth decision making, Cesarean, C-section, natural childbirth

Motivations for requesting medically unnecessary cesarean sections (C-sections) are unclear, and information on the risks and benefits of elective C-section may not be made available to all women. Women’s fear of childbirth is considered an important contributor to their request for C-section in the absence of medical indication; and no studies have systematically examined childbirth decision making information provided to women (Gamble, Creedy, McCourt, Weaver, & Beake, 2007). There is also a gap in the literature regarding whether patients are being informed about the short- and long-term psychological risks of C-sections, which may include anxiety, stress, lack of sleep, fear of death, nightmares, Post Traumatic Stress Disorder (PTSD) and medical consequences. A C-section can be a lifesaving operation when medically indicated, but women have a legal right to know the risks associated with treatment options, as well as the right to accept or refuse it. Childbearing women should be encouraged to take advantage of their rights to find out more about the risks of C-sections so they can make informed decisions about how they want to give birth.

Historical and Contemporary Use of C-Section

The motives for use of cesarean sections have changed since ancient times. C-section procedures had their origin in early beliefs that when the mother died with the child, they had to be buried separately from each other; therefore, the infant was removed from the womb (Lurie, 2005; Todman, 2007). Ancient cultures, such as those of the Mesopotamians, Indians, Egyptians, Hebrews, and Romans, primarily used C-section for postmortem delivery of a deceased or living child (Lurie, 2005). During the Renaissance, focus shifted from postmortem delivery to viewing C-section as a possible life-saving operation (Lurie, 2005). As hospital environments became increasingly safe and sterile, the C-section became an increasingly important surgery to save the lives of women and children, substantially reducing childbirth-related morbidity and mortality (Lurie, 2005). Although cesarean deliveries date as far back as 1750 B.C.E., the reasons for use of cesarean deliveries have changed from ancient times, beginning as a post-mortem procedure, progressing to a medical necessity, to current procedures that are both medically necessary and those that are elective (Lurie, 2005). Elective birth is requested by a mother when there is no medical indication. According to Huang, Sheu, Tai, Chiang, and Chien (2012), cesarean delivery has gradually evolved from a life saving operation to a common mode of childbirth delivery.

Over the last 30 years, the rates for C-sections have increased, especially for older women. Todman (2007) reported that the most common indications for C-section continued on next page
were dystocia, repeat cesarean, breech presentation, and fetal distress. In Western countries, cesarean birth was the most commonly performed operation in hospitals (Todman, 2007). During the beginning of the 21st century, a new focus for C-sections emerged, that is, maternal choice by women for childbirth delivery with no medical indications; however, there was much controversy about cesarean births for reasons other than medical necessity. The controversy was in western countries, such as the United States, Canada, Australia, and Latin America (Liu, Mazzoni, Zamberlin, Colomar, Chang, Arnuad, Althabe, & Belizan, 2013). According to Todman (2007), the controversy surrounded the increased rate of medically unnecessary cesarean deliveries, commonly called elective C-sections. Medically necessary cesarean deliveries are performed for the safety of the mother and baby. Williams and Chen (1983) reported that the controversy of increased elective cesarean births is a growing public health concern, and Lavender and Kingdon (2009) confirmed the controversy. Bogg, Huang, Long, Shen and Hemminki (2010) reported that the World Health Organization (WHO) advocated a goal to decrease cesarean births to 10.15% in developing countries in 1985, but C-sections worldwide have far exceeded this percentage.

Between 1996 and 2007, Menacker and Hamilton (2010) reported a 53% increase in C-sections in the United States, resulting in 1.4 million births, or approximately 32% occurring by cesarean delivery. According to WHO (2010), 673,047 unnecessary cesarean sections (30.3% of total births) were performed in the United States in 2008. In six states, (Colorado, Connecticut, Florida, Nevada, West Virginia, and Rhode Island), the C-section rates rose to over 70% (Menacker & Hamilton, 2010).

### Health Risks of a C-section

Whether elective or medically indicated, major health risks to the mothers and their babies are associated with C-section surgery (Menacker & Hamilton, 2010). Some of the health risks are infections, blood clots, organ damage, surgical injuries, anesthesia problems, and maternal death (American College of Obstetricians and Gynecologists, 2013). More medical complications and anesthetic complications accompany C-section surgery when compared to vaginal delivery, and C-sections carry psychological and economic consequences as well (Menacker & Hamilton, 2010).

### Psychological Impact of a C-section

Carter, Frampton, and Mulder (2006) reported that psychological issues appeared to be a significant risk factor for cesarean delivery. The International Childbirth Education Association (ICEA) Cesarean Opinion Committee (2010), reported in their Cesarean Fact Sheet that C-sections pose psychological complications. Psychological consequences of C-section surgery include depression, anxiety attacks, sleep disorders, and flashbacks to the childbirth experience (Carter et al., 2006). Cesarean sections are at-risk surgeries associated with anesthesia complications, which can cause psychological problems (Daunderer and Schwender, 2010; Forman, 2006).

### Economic Impact of C-section and Vaginal Births

Before 2013, the average hospital charge for an uncomplicated C-section was $14,894, while the hospital charge for an uncomplicated vaginal birth was $8,919.00 (Johnson & Norsigian, 2010). However, Ornitz and Andress (2015) reported that the cost for a vaginal birth has increased to about $30,000, and the cost for a C-section has increased to approximately $50,000. The WHO (2010b) emphasized that cost is a major concern. According to WHO (2010), public services spent approximately $687,167,996.00 on medically unnecessary C-sections in 2008.

### Serious C-section Complications

Although C-section rates are increasing, there is a lack of understanding on the part of women regarding potentially dangerous complications (WHO, 2010a). Health care professionals need to ensure that women from all population groups understand the relative risks and benefits of their choices. Reinberg (2011) indicated that women need to have a better understanding of C-sections and not go into the childbirth procedure blindly.
Making Informed Childbirth Decisions

Limited information is available on how women make informed decisions on birthing options (Gamble et al., 2007). It is important to examine whether women are being thoroughly informed in advance of making childbirth delivery decisions. It is a social responsibility to raise the awareness of all childbearing women about the risks and the benefits of childbirth options. Attitude formation can be influenced by providing more prebirth educational information. McCants (2015) conducted a qualitative study, using in-depth interviews on the preferences of 16 women (age 19-50) before and after reading a prebirth education brochure to understand their experiences in childbirth decision making. The brochure contained information about the risks and benefits of childbirth options, including C-section versus spontaneous vaginal delivery.

Following exposure to the material, McCants (2015) conducted interviews to find out if reading prebirth educational information influences childbirth decision making. A Prebirth Educational Brochure, which informed women of the risks, benefits, and consequences of birth methods was given to the participants to read before the interview regarding childbirth preferences.

Results of Analysis

All participants agreed that the Prebirth Educational Brochure did raise their awareness about the risks and benefits of childbirth options and women should be thoroughly informed (McCants, 2015). Overall the participants agreed that the brochure confirmed why they preferred natural childbirth over a C-section birth (McCants, 2015). Participants believed that prebirth educational information can change women’s decision making (McCants, 2015). An example of this is from a study participant who commented that she did not realize that there were so many C-sections being performed, and believed it should be the last birthing option a woman decides to take (McCants, 2015). Only a few participants indicated that they previously read prebirth information prior to childbirth (McCants, 2015). All the participants agreed that the Prebirth Educational Brochure was informative, and prior to reading the brochure thought that cesarean delivery was an easier process than vaginal delivery (McCants, 2015). In addition, the participants believed that doctors and healthcare providers should provide information and advice on birthing choices (McCants, 2015). One participant asserted that women should be provided with magazines on the risks and benefits of C-sections and should be thoroughly informed before making a decision (McCants, 2015). All participants agreed that women should be thoroughly informed before making childbirth decisions (McCants, 2015).

The purpose of the Prebirth Educational Brochure in the McCants (2015) study was to provide facts about the risks and benefits of vaginal and cesarean childbirth methods. This intervention was introduced to find out if it influenced childbirth decisions. All participants in this study agreed that the Prebirth Educational Brochure did raise their awareness about the risks and benefits of childbirth options as well as helped them to reduce their uncertainty (McCants, 2015). The Prebirth Educational Brochure did have an impact on all participants. The Childbirth Connection (2015) indicated that it is crucial for women to have full and accurate information, and childbirth educators are in a unique position to provide this information.

Discussion

Women need more information on the risks and benefits of C-section and vaginal births. There is a need for prebirth educational information to raise women’s awareness regarding childbirth decision making. Atan, Duran, Kavlak, Donmez, and Sevil (2013) believe that if women receive the correct information about the risks and benefits of childbirth methods, vaginal births would increase. According to Weaver, Statham, and Richards (2007), research universally failed to explore the information given to women before making birth choices. Many research articles confirmed that there is a lack of information on whether women are fully informed of the risks and benefits of childbirth information. Results from the McCants (2015) research indicated that women are in need of more information about childbirth safety and consequences, and that women are not being adequately informed. Most participants thought that C-sections were safe and easy before reading about the risks and benefits in the Prebirth Educational Brochure (McCants, 2015). These responses could be evidence that pregnant women do not receive information about childbirth options and potential risks, and women may be making childbirth decisions without being thoroughly informed.

According to Welbourne (2010), the literature does not provide any evidence that women are being informed about the consequences of childbirth decisions, and there are significant risks to consider when making these birthing decisions. Women who request C-sections, particularly in the absence of any medical indication, may require counseling on the potential risks associated with childbirth methods. Childbirth educators can give women what they need.
Prebirth Education and Childbirth Decision Making
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to make informed decisions, such as prebirth educational information on the risks and benefits of vaginal delivery and cesarean delivery. Furthermore, childbirth educators can ensure that women from all population groups understand the relative risks and benefits of their choices, empowering women to make informed decisions regarding birthing options.

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Targeting Unintended Teen Pregnancy in the U.S.

by Hadi Danawi, PhD MPH, Zenobia Bryant, MPH, and Tala Hasbini, MS

Abstract: Teen pregnancy in the United States has become a pressing public health concern with increasing rates surpassing other developed countries such as Canada, Japan, and Switzerland. Policies must be developed in the U.S. to lower these rates and related health issues. Factors influencing teenage pregnancy include income, education, social support networks, and environment. These factors are significant and should be considered when developing a successful policy. Addressing these issues among expectant mothers and in prenatal classes should include discussions of societal inequities and available resources.

Keywords: teenage pregnancies, inequities, social determinants.

Introduction

Sexual behavior and the reproductive health of adolescents have become major public health concerns globally and in the United States (U.S.). Female teens living in the U.S. are more likely to end up pregnant compared to teens in other developed countries. For example, U.S. teens are twice as likely to give birth compared to teens in Canada and ten times as likely as teens in Switzerland (Kearney & Levine, 2012). Teenage pregnancy rates vary greatly between different states. More specifically, an adolescent female living in Mississippi is at a greater risk for pregnancy than one living in New Hampshire (Kearney & Levine, 2012). Racial and ethnic minority groups experience higher rates of teenage pregnancy and birth rates than their counterparts in the U.S. (Shoff & Yang, 2012). In 2010, the teenage pregnancy rate for African American teens was almost twice that of white teens. The specific pregnancy rate for African American teen girls ages 15 to 19 was 99.5 per 1,000 teens. In addition, out of every 10 African American teens, four will end up pregnant by their 20th birthday (The National Campaign, 2014). Some of the highest teen pregnancies and birth rates in the U.S. can be found in its capital city, the District of Columbia (DC). While the teen birth rate in DC dropped from 103 per 1,000 females in 1996 (Aarons & Jenkins, 2002) to 90 per 1,000 in 2014, major racial disparities remain (Lewis, T., 2014).

Childbirth educators benefit from an awareness of these rates to educate affected specific groups on related health issues and discuss available resources to them and are offered on both the federal and local levels. While most teen pregnancies by state have declined in recent years, racial disparities remain. When examined on a deeper level, these rates are still much higher than other countries. The best way to create successful policies that will aid in the reduction of teenage pregnancies is to target the inequalities in society as opposed to targeting teenage pregnancy directly.

U.S. teens are twice as likely to give birth as Canada and ten times as likely as teens in Switzerland

As of 2013, the teen birth rate, across all races, was 32.1 births per 1,000 females (U.S. Department of Health and Human Services, 2015). Although there has been a decrease in the teen pregnancy rate in DC as mentioned earlier and the U.S. in general, the rates are still much higher than other developed countries. Births to teen parents cost about $9.4 billion a year. In addition, teenage pregnancies and births have a negative effect on the physical, psychological, and social wellbeing of all teen mothers and their offspring (Martinez & Abma, 2015).

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Social Determinants in the United States and Unintended Pregnancies

Social determinants of health are considered the conditions where people are born, where they grow up, and where they live and work. Social determinants are shaped by communities and the distribution of money and resources (Viner et al., 2012). Four social determinants of health that may influence teenage pregnancy rates are: 1) income; 2) education; 3) social support networks; and 4) living environment. Income inequalities have an impact on various areas of adolescent health as well as levels of poverty. More specifically, the teenage pregnancy rates in the U.S. are related to poverty and income inequality (Viner et al., 2012). Education is another important social determinant for unintended pregnancies as the completion of higher education improves the health of adolescents as well as their health literacy. For example, adolescents that complete their secondary education tend to have better health and a higher motivation to prevent pregnancy (Viner et al., 2012). The third social determinant, social connections, seems to have a major impact on adolescent health as teenagers who are more connected to their family and community tend to delay sexual initiation and are less likely to end up pregnant (Viner et al., 2012). Lastly, living environment is a social determinant that is oftentimes overlooked. Adolescents who live in dilapidated neighborhoods are more likely to experience “poor educational attainment, teenage pregnancy, poor mental health, and youth violence” (Viner et al., 2012).

Education and Unintended Teenage Pregnancy in the U.S.

Another social determinant of health is education. Those with low levels of formal education are more likely to experience teenage pregnancies. Teens who live in a poor environment may feel that due to limited educational opportunities, there is no use in delaying child birth (Shoff & Yang, 2012). In addition, the educational level of the parents is inversely associated with the risk of teenage pregnancy among adolescents (Penman-Aguilar, Carter, Snead, & Kourtis, 2013). On the other hand, those who are more committed to attending college and university may be more committed to delaying pregnancy (Kearney & Levine, 2012). It is reported that the educational life span of a teen mother is about two years shorter than that of teens who decide to delay childbirth. In addition, teen mothers are less likely to attend college (Basch, 2011).

Social Support Networks and Unintended Teenage Pregnancy in the U.S.

Social support networks are important for the health of adolescents. One important part of social networks for adolescents is parental involvement. Adolescents whose parents are more involved tend to choose to delay sexual initiation and are at a lower risk for unintended pregnancy (Hoskins & Simons, 2015; Viner et al., 2012). In addition to parental involvement, the peers that teens spend time with also have an impact on pregnancy rates. Females who have friends that engage in risky sexual behavior are more likely to engage in the same behaviors and are more likely to experience unintended pregnancy (Hoskins & Simons, 2015).

Living Environment and Unintended Teenage Pregnancy in the U.S.

The last important social determinant of teenage pregnancy is the living environment. Teenagers who live in overcrowded areas with poor public infrastructure and high levels of violence are at a greater risk for experiencing severe outcomes such as unintended pregnancies (Viner et al., 2012). The presence of graffiti, litter, and physical disorder in the neighborhood is associated with higher rates of teen pregnancies. In addition, lower neighborhood socioeconomic status is also associated with higher rates of teen pregnancies (Penman-Aguilar, Carter, Snead, & Kourtis, 2013). The daughter of a teen mother is at a higher risk for experiencing unintended pregnancy as a teen (Penman-Aguilar, Carter, Snead, & Kourtis, 2013).

Cultural Awareness and Unintended Teenage Pregnancy

Cultural awareness affects a person’s views on the world and is based on learned behavior that is passed from generation to generation (Ingram, 2011). Among different ethnic and racial groups, teenage pregnancy can be common and many adolescents may be exposed to teenage motherhood through their families and environments (Akella & Jordan, 2011). In addition, some cultures believe that early motherhood will secure their relationships with their boyfriends (Akella & Jordan, 2011). The rate of acculturation and language used at home were positively associated with teenage childbearing. Latinas who have emigrated to the U.S. from their native countries tend to have much higher rates of unintended teenage pregnancies (Dehlendorf, Marchi, Vittinghoff, & Braveman, 2010).
Life Expectancy and Unintended Teenage Pregnancy

As of 2014, the life expectancy at birth for the U.S. was 79.56 years and ranked number 42 worldwide, which is much lower than other developed nations (Central Intelligence Agency, n.d.). There are many factors that contribute to the life expectancy ranking of the U.S. such as high levels of tobacco use, obesity, and physical inactivity. In addition, sexual practice and high levels of violence also contribute to the life expectancy ranking (Avendano & Kawachi, 2014). One major contribution to the life expectancy ranking could be the rate of teenage mothers as they seem to have poorer health status and higher mortality. In addition, teenage mothers are at increased risk for heart disease and cervical cancer, which are among the top ten causes of death (Olausson, Högglund, Weitoft, & Cnattingius, 2004). Lastly, teenage pregnancies place these adolescent mothers at a greater risk for living in poverty and in a lower socioeconomic level (Meade & Ickovics, 2005). When there is a large gap between socioeconomic status and poverty gradients, the nation as a whole tends to have a lower life expectancy at birth (Wilkinson & Pickett, 2010).

Current Effort in the U.S. to Reduce Unintended Teenage Pregnancies

The unintended pregnancy rate in DC is much higher than the rate nationwide. In addition, the adolescents in DC are more likely to have their sexual debut prior to 13 years old (Koo et al., 2011). In order to reduce the high pregnancy rate in DC and reduce health inequities interventions must begin early. One such intervention, Building Futures for Youth (BFY), was created for the fifth and sixth grade classroom (Koo et al., 2011). The curriculum consisted of 10 sessions for fifth graders and 13 sessions for sixth graders. The content of the sessions consisted of information on abstaining from sexual intercourse, information on effective communication and decision making skills, and strategies to avoid early sexual behavior (Koo et al., 2011). The sixth grade classes also contained information on the influences of the media, sexually transmitted diseases, and contraceptive methods. This intervention resulted in a reduction of sexual initiation among intervention attendees. No reduction of sexual initiation was seen for the control group (Koo et al., 2011).

Development of Health Policy in the U.S.

When developing health policies, it may not be beneficial to target unintended teenage pregnancy prevention directly. For example, policies that directly target sex education, access to contraception, and abstinence are not likely to improve teen pregnancy rates and teen births among disadvantaged populations (Kearney & Levine, 2012). The way to cause or affect a positive social change relating to a decline in teen pregnancy rates is to create policies that reduce poverty and that create a more equal society. In order to create a more equal society, inequalities such as income difference and the gap between various socioeconomic levels must be targeted (Kearney & Levine, 2012). In addition, to decrease teenage pregnancies, policies should be culturally sensitive so as not to alienate different racial and ethnic groups as well as target upstream issues. For example, since adolescents who live in high poverty areas are more likely to experience unexpected teenage pregnancies, policies should be created that will assist different cultural and racial groups with integrating nutritious food into their diet without having to change their intake of their specific cultural foods (Battle, 2012). Childbirth educators armed with an understanding of the nation’s teen pregnancy problem and observing the demographics of their clients to assess and identify vulnerable groups in order to convey additional resources which may be available at the state level will make a difference. Creating positive social change and engaging affected communities in intervention programs aimed at reducing teen pregnancies in the U.S. must constitute a priority action item. Being proactive is a social responsibility in which every citizen should partake.

References


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The Importance of Infant Nutrition

by Virginia Coleman Smith, DNP FNP-C ICCE

Abstract: With lifetime health consequences to the individual and society, infant nutrition is recognized by healthcare, government, and humanitarian agencies as a global health issue. Infant malnutrition has been linked to long-term poor health, specifically the inability to perform physical work, as well as chronic adulthood diseases, representing loss of human talent and resources and a prohibitive healthcare price tag. Ensuring adequate nourishment in the sensitive window of infancy, the first 12 months of life when brain growth, organ maturation, and bone density are increasing at a rapid pace, is a humanitarian, as well as a financial resource imperative. Primary stakeholders who influence a pregnant woman and new mother’s feeding choices include childbirth educators, obstetrical and health department personnel, as well as advertising campaigns through public service announcements, media and print.

Keywords: infant nutrition, malnutrition, brain development, parent teaching

Evidence is mounting on the causal role infant nutrition plays in long term quality of life related to brain growth, immune function, morbidity and mortality. The infant brain, doubling in size in the first year of life and 80% of adult size by the age of three, is dependent on adequate nutrition for optimum development (Urban Child Institute, 2015). And addressing the importance of adequate infant nutrition supporting lifetime mental and physical health is proving to be a global education for governmental and humanitarian leaders. For the first time in the history of the Human Rights Council, child right to health was at the center of the debate in Geneva, Switzerland with infant nutrition a primary topic (Office of the High Commissioner for Human Rights, 2012).

...infancy is a critical period for rapid brain growth that requires adequate nutrition

Defined as the first year of life, infancy is a critical period for rapid brain growth that requires adequate nutrition. Malnourishment contributes to inadequate brain growth with lasting behavioral and cognitive deficits, including slower language and fine motor development, lower IQ, and poorer school performance (National Center for Infants, Toddlers, & Families, 2013). To combat the problem of malnutrition, the World Health Organization [WHO] advocates initiation of breastfeeding within the first hour of birth and exclusive breastfeeding for the first six months. The American Academy of Pediatrics (2013) recommends exclusive breastfeeding with vitamin D supplementation to prevent rickets, a softening and weakening of the bones due to a vitamin D deficiency, for the first six months of life and continuing through the first year of life, or if infant formula feeding, one with iron supplementation. But for the first full year, only breastfeeding or infant formula should be offered to the infant to ensure adequate nutrients for vital organ and brain growth (American Academy of Pediatrics [AAP], 2015; Center for Disease Control [CDC]; WHO, 2015).

Research shows that malnutrition is the single biggest contributor to infant mortality under the age of five with irreversible effects on brain, height, weight, and organ growth (Mother and Child Health and Education Trust, 2015). With key brain structures continuing to develop during the first three years of life, lack of essential nutrients limits maturity that should occur within this window of time. The cerebel-

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lum, responsible for motor skills and balance, begins to mature around the 24th week of gestation, tripling in size during the infant’s first year of life. Inadequate nutrition can have irreversible effects on the developing cerebellum, as well as reducing the threshold for seizures and permanently altering the brain (Cabral, Prieto, Silva Araujo, Torres, de Lima, & de Vale, 2011).

Breastmilk has been called the Superfood for babies, and breastfeeding immediately after giving birth has been attributed to saving the lives of 95 babies every hour or 830,000 infants annually (National Center for Infants, Toddlers, & Families, 2013). Yet, only 39% of children less than six months of age in the developing world are exclusively breastfed (Unicef.org, 2015). Efforts to increase the number of mothers who breastfeed and extend the length of time of breastfeeding can be addressed while providing guidance to pregnant women.

In fact, studies show that the pregnant woman’s questions regarding breastfeeding are left unanswered by healthcare personnel, and that only 25% of pregnant women have their concerns regarding breastfeeding addressed with instruction targeted at limited demographics despite evidence that breastfeeding teaching is needed across the age, ethnic, and economic strata (Archabald, Lundsberg, Triche, Norwitz, & Illuzzi, 2011). With limited health dollars, breastfeeding is not only optimal food for infants, but also readily available and cost effective, and the Surgeon General’s Call to Action to Support Breastfeeding focuses attention on the necessity of breastfeeding support (WHO.org, 2015b).

Despite the well documented maternal and infant breastfeeding benefits, support must be provided to mothers who are feeding with infant formula. With more than half of the world’s newborns fed breastmilk substitutes, or infant formula, the necessity of teaching proper technique for safe preparation, storage, and feeding is a major health concern (Unicef.org, 2015). But, mothers do not always understand how to prepare formula, over diluting to stretch limited funds or over concentrating to ensure weight gain, with the infant suffering through weight loss or possible kidney damage through too much protein. Respecting choice and equipping mothers with the information needed to successfully feed her infant promotes healthy feeding practices that lead to adequate calories that contribute to weight gain and organ growth.

Yet, numerous studies have indicated that mothers are not taught how to prepare, store, and feed with infant formula, and in one study 88% of those surveyed reported never having a discussion regarding bottle and formula preparation (Battersby, 2010; Hancock & Brown, 2010; Labiner-Wolfe, Fein, Shealy, 2008). Not only is the formula fed infant at risk, but also the infant fed pumped breastmilk stored and prepared unsafely is at risk (Murray, 2013). Thus, safety issues regarding length of time bottled breast or formula can be given at a feeding, hand washing before bottle preparation, and proper warming can prevent feeding-associated infections (Murray).

An important nutritional consideration is iron deficiency, a condition clearly linked to cognitive deficits in young children. Iron is critical for maintaining an adequate number of oxygen-carrying red blood cells, which in turn are necessary to fuel brain growth (National Center for Infants, Toddlers, & Families, 2013). Exclusively breastfed infants are at risk of developing iron deficiency anemia (IDA) at 4 months and are, therefore, supplemented with 1mg/kg/day until sufficient iron-containing foods are introduced into their diet (U.S. Department of Health and Human Services, 2011). In addition to iron supplementation for breast and formula fed infants, early foods, beginning at six months, should include a source of iron, either fortified infant cereal or meat, but foods high in fat or sugar (sugar-sweetened beverages, French fries, and candy) should not be given to infants (AAP.org, 2013). Universal screening for IDA at 12 months of age with electronic documentation that anemia has been adequately treated, once diagnosed, is recommended (U.S. Department of Health and Human Services).

Nurses and childbirth educators are key stakeholders in shaping a pregnant woman’s choice of infant feeding (Chastain & Lipke, 2014), as well as midwives, obstetricians and other health professionals who have routine prenatal contact. Engaging women prenatally and postpartum in meaningful conversations regarding feeding choices and practices reveals questions, concerns, and misunderstandings easily clarified 

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with effective teaching, as well as promoting women’s confidence in personal choices and decision making. Anytime a mother is empowered in her decision making, her infant benefits in improved care.

Drawing attention to the critical needs of the most vulnerable members of society is a hallmark of human compassion. Identifying evidence-based practice and supporting mothers’ intention to breastfeed, respecting the choice to formula feed, as well as being informed on the specifics of infant nutrition undergird efforts to improve infant nutrition globally. Deliberate open-ended conversations between obstetrician, midwife, clinic nurses and childbirth educators and pregnant women regarding practical infant feeding instruction is needed. Conversations empower women to believe they can successfully provide adequate nourishment for their infant. Additional research into ways to educate and encourage parents on the importance of prenatal as well as infant nutrition is needed. Innovative teaching methods shared among childbirth educators regarding infant nutrition presented to mothers in a variety of settings would promote a collaborative community beneficial to women and their infants.

References


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Health Inequalities and Breastfeeding in the United States of America

by Hadi Danawi, PhD MPH, Lindsay Estrada, MPH, Tala Hasbini, MS, and Debra Rose Wilson, PhD MSN RN IBCLC AHN-BC CHT

Abstract: The United States of America is the fourth most populous country in the world and spends more on health care than any other nation in the world, yet health outcomes remain poor. Increasing breastfeeding rates would help reduce negative health outcomes because breastfeeding is shown to reduce the risk of many chronic and infectious diseases while improving quality of life and familial bonds. This paper describes some of the barriers related to increasing breastfeeding rates and provides information useful to support breastfeeding choices for those attending prenatal classes.

Keywords: breastfeeding, the United States, health inequality, health outcomes, policy

With a population of over 350 million people, the U.S. is the fourth most populous country in the world, (Central Intelligence Agency, 2014). Around 17% of the gross domestic product is spent on health expenditures, and the average life expectancy is 79 years (World Health Organization [WHO], 2015a). However, the U.S. suffers from a chronic disease epidemic, which is largely attributed to health care access inequalities and lifestyle choices.

Many chronic diseases affecting Americans could be reduced by breastfeeding. Breastfeeding can reduce the risk of obesity, cardiovascular diseases, diabetes, and certain types of cancers, which, combined, account for up to 88% of deaths in the United States (U.S. Department of Health and Human Services, Office of Women’s Health, 2003; WHOb, 2015). Breastfeeding also enhances the immune system and increases resistance to infectious diseases (U.S. Department of Health and Human Services, Office of Women’s Health, 2003).

Many chronic diseases affecting Americans could be reduced by breastfeeding.

Breastfeeding is the best nutritional option for an infant and provides health benefits to both mother and child. Increasing breastfeeding rates is a fundamental strategy for reducing health conditions such as infant mortality, sudden infant death syndrome, asthma, and childhood obesity, especially for disadvantaged populations (Berry & Gribble, 2008; WHO, 2015c). Breastfeeding lays a healthy foundation for infants which lasts a lifetime. Breastfeeding strengthens the emotional bond between a mother and her infant playing a significant role in the child’s long-term health and development (Berry & Gribble, 2008). Mothers who choose to breastfeed reduce their risk of developing breast and ovarian cancer and reduce the risk of post-partum depression and post-partum weight gain (Wilson, 2010). Breastfeeding education is offered in prenatal classes to support related parenting choices of breastfeeding.

Despite the United States being a leader amongst developed countries, the U.S. is ranked 30th in life expectancy and has some of the most substantial health inequities (Herbes-Sommers & Smith, 2008). Many of the diseases that shorten life expectancy are chronic illnesses, which, with proper education, may be avoided, leading to improved quality of life and prolonged life expectancy. Despite known benefits of breastfeeding, the U.S. breastfeeding rate for infants having ever been breastfed is low at 76.5%, and

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the rate for infants having been breastfed exclusively for 6 months 16.5 percent (Centers for Disease Control and Prevention [CDC], 2013).

Breastfeeding should be a social norm; however, health norms are hindered by many factors. One contributing factor includes access to health care. Low-income populations tend to have less access to quality healthcare than higher income populations, and low-income populations are often those of a racial minority. Thus, race and socioeconomic status are significant key social determinants of health. Social support is also a key determinant because social support helps people live healthier lives through supporting each other through sickness and promoting health. Support also affects social norms. Addressing raising breastfeeding rates in these vulnerable populations requires extending health literacy and cultural awareness and developing supportive public policy.

Access to Health Care and Breastfeeding in the U.S.

Access to health care can have a significant impact on the health of populations and the ability for those populations to carry out healthy lifestyles and health practices. In the case of breastfeeding, access to health care is crucial to the initiation and success of breastfeeding practices among mothers. Breastfeeding is not addressed in public schools. Many women lack breastfeeding education due to lack of healthcare and lack of exposure to breastfeeding. Access to maternity care is crucial to a woman’s and the infant’s health during pregnancy and also has an impact on breastfeeding initiation and duration (Child Health USA, 2012). Mothers who tend to have delayed access to prenatal care are American Indian/Alaska Native mothers, mothers of multiple race, Hispanic, and Black mothers. Prenatal care is effective in increasing breastfeeding rates. Breastfeeding rates improve when physicians and nurses are educated and encouraged to promote breastfeeding (CDC, 2015).

Racial Disparities and Socioeconomic Conditions and Breastfeeding in the U.S.

There is a great variation in breastfeeding success rates between races and ethnicities. The CDC (2006) reported racial and socioeconomic disparities in breastfeeding, showing “… that 71.5% of non-Hispanic White children were ever breastfed compared with 50.1% of non-Hispanic Black children. Among those ever breastfed, 53.9% of non-Hispanic White and 43.2% of non-Hispanic Black children continued breastfeeding until at least age 6 months. Disparities between Black and White children existed within most socioeconomic subgroups studied” (para. 1).

There is a need to promote breastfeeding as a preventative measure to reduce the disease burden and health disparities for identified at risk populations.

Ahlulwalia, Morrow, D’Angelo, and Li (2012) used data from the Pregnancy Risk Assessment and Monitoring System (PRAMS), to examine the association between maternity care practices and breast-feeding duration between racial and ethnic groups. PRAMS included data from 11 states and New York City and showed that 22.1% of women did not breastfeed, 27.7% breastfed for less than 10 weeks, and 50.2% breastfed for more than 10 weeks (Ahlulwalia et al., 2012). White and Hispanic populations had the highest initiation and duration rates for breastfeeding (Ahlulwalia et al., 2012). Hospital support for breastfeeding, which included allowing breastfeeding within the first hour of birth, not introducing a pacifier, and hospital staff assistance with breastfeeding, increased breastfeeding initiation and duration rates between Black and White women, but not Hispanic women (Ahlulwalia et al., 2012).

Breastfeeding rates vary significantly by race; Black and Hispanic mothers have lower rates than White mothers, regardless of geographic location within the United States (Belanoff, McManus, Carle, McCormick, & Subramanian, 2012). Ma and Magnus found that Black mothers were less likely to initiate breastfeeding than White mothers (2012). There is a link between poverty and race. Black non-Hispanic and Hispanic populations report national poverty rates of 27% and 25.6%, respectively, whereas only 10% of White population lives in poverty (Kaiser Family Foundation, 2013; Stanford Center on Poverty and Inequality, 2014). Initiation of prenatal breastfeeding promotion and classes, especially in low income communities with minorities, should become a priority.

Social Support and Breastfeeding in the U.S.

Social support is a crucial factor to health status in individuals and populations. Studies have shown associations between increased levels of social support and reduced risk for physical disease, mental illness, and mortality (CDC, 2005). Support from family, friends, and communities is continued on next page
linked to better health (WHO, 2015b). Social support allows a person to “feel cared for, valued, and part of a network of communication and mutual obligation” (CDC, 2005, p. 433).

In the case of breastfeeding, social support is crucial to a mother’s breastfeeding success. Regardless of ethnicity, breastfeeding success is significantly greater among women who have social support. Ma and Magnus (2012) demonstrated “…that Black and White first time mothers enrolled in WIC are significantly more likely to try to breastfeed when supported by hospital staff and provided the opportunity to breastfeed in the hospital” (p. 1587). Social support must come from family, friends, health providers, and the community to increase success rates. Health care professionals need to be encouraged and supported prior to delivery and the weeks and months following delivery. Health care professionals need to be culturally competent and accurately trained on proper latch and lactation support (Purdy, 2010).

Increasing social support outside of the hospital is also crucial to breastfeeding success. Because many women must return to work prior to a child’s first birthday, increasing employer, and worksite, support for breastfeeding mothers is a Healthy People 2020 objective (CDC, 2011). In 2009, 25% of employers reported having a lactation room for mothers; the objective is to reach 38% by 2020. Several states have created laws protecting a mother’s right to breastfeed/pump while at work, requiring women to be permitted pump breaks and a clean, safe environment to pump and store milk (National Conference of State Legislatures [NCSL], 2015).

Social Norms and Breastfeeding in the U.S.

Social barriers associated with breastfeeding, especially in public, affect breastfeeding rates. Many women do not feel comfortable exposing any part of their breast while breastfeeding in public. Cultural norms have sexualized breasts. Many women fear that breastfeeding in public can be interpreted as indecent exposure, which discourages women from wanting to breastfeed in public (Purdy, 2010). Some women struggle with the fear of breast changes resulting from breastfeeding that would potentially affect their sexual appeal to their mates (Purdy, 2010). It is essential to normalize breastfeeding in the American culture so that women feel less of a negative stigma attached to feeding their infant the way their body was physiologically designed to do. Attitudes toward breastfeeding, cultural and societal norms, and education about breastfeeding all contribute significantly to a woman’s breastfeeding success (Kloeblen-Tarver, Thompson, & Miner, 2002).

The Association between Health Literacy and Breastfeeding in the U.S.

Health literacy refers to the understanding of medical terminology and the importance of conducting preventative tests and/or treatments. Literacy level may be a more reliable risk indicator than education level when examining health outcomes (Green et al., 2009), and low health literacy decreases breastfeeding success rates. In New Mexico, Kaufman, Skipper, Small, Terry, and McGrew (2001) found an association between functional health literacy and breastfeeding, with 23% of women in the lower literacy group exclusively breastfeeding during the first two months compared with 54% of women in the higher literacy group.

The Association between Cultural Awareness and Breastfeeding in the U.S.

Health literacy and cultural competence are separate concepts, yet they are highly interconnected. Health literacy can easily be affected by cultural competency and awareness; thus, it is essential to view health literacy in a cultural context (U.S. Department of Health and Human Services, n.d.). The Patient Protection and Affordable Care Act of 2010, Title V, stated that the ability to obtain, communicate, and understand basic health information and services is essential to a patient’s ability to make appropriate health decisions, and this applies to health decisions such as breastfeeding as well (CDC, 2015). Cultural competence affects the success of health literacy, and health literacy affects the success of cultural awareness. In order to increase breastfeeding success and improve the health of the nation, education efforts must be culturally sensitive and culturally informed.

The United States is a multi-ethnic society. Although many people try to hold on to cultural roots and beliefs,
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many still strive to fit into American society and culture. This negatively affects breastfeeding rates because American culture subtly advertises infant formula as being as good as breast milk; thus, steering women to choose infant formula over breastfeeding (Purdy, 2010). American culture has endorsed the belief that infant formula feeding is the modern and culturally appropriate feeding choice because breastfeeding is associated with third world countries with no access to such options (Purdy, 2010). Needless to say, cultural pressure may impede the way mothers perceive breastfeeding practices and may interrupt the natural cycle of breastfeeding in the American culture (Purdy, 2010). The UNICEF and WHO Ten Essential steps to breastfeeding have been shown to increase successful breastfeeding as well as increased woman’s satisfaction with her care while in the hospital. However, as of 2006, less than 2% of U.S. births occurred in “Baby-Friendly” hospitals; thus, it is essential to implement the Ten Essential steps to Successful Breastfeeding on a wider scale (Grummer-Strawn et al., 2013).

Development of Health Policy in the U.S.

Creating a policy in the U.S. to promote breastfeeding would require the normalization of breastfeeding and protection of a woman’s right to breastfeed. Although 49 states, the District of Columbia, and the Virgin Islands have specific laws allowing women to breastfeed anywhere in which she is permitted to be, not all states protect a mother’s right to breastfeed (NCSL, 2015). Another issue with current policy in the U.S. is that even though most states allow for a woman to breastfeed in public, they do not all protect a breastfeeding woman from being charged under a public indecency law (NCSL, 2015). Policy needs to be created that protects a woman’s right to breastfeed in public and breastfeed or pump during work hours. Public places should offer safe and clean environments for women to breastfeed and pump. Such policies should include cultural, legal, ethical, and social considerations.

It is important to ensure that the policy created takes into account cultural factors. Breasts are highly sexualized in U.S. culture, and many people may see increasing breastfeeding rates and the occurrence of breastfeeding in public as inappropriate. However, normalizing breastfeeding is essential to the health of the nation. Policy should protect women from being punished for breastfeeding in public and at the workplace. An ethical issue with promoting breastfeeding and encouraging women to breastfeed in public is that many women feel pressured to breastfeed; however, this may be ethically questionable for women suffering from physical or emotional barriers to breastfeeding (Nihlen Fahlquist & Roeser, 2011). A solution to this is to ensure that policy is aimed at educating and protecting women’s rights about breastfeeding and supporting their informed decisions. Gaining support for breastfeeding policy may be impeded by economic issues. Companies profit from the sale of formula. Therefore, promoting breastfeeding at the governmental level would be to the detriment of many of these large corporations.

Conclusion

Breastfeeding rates in the United States, though increasing over the past several decades, are still not as high as they should be. Breastfeeding is still seen as a taboo topic due to the sexualization of breasts in American culture. However, increasing breastfeeding rates would improve the health of the nation. It is essential to create policies that promote, encourage, and protect a woman’s choice, and right, to breastfeed. Taking cultural, legal, ethical, and social factors into consideration and addressing health inequalities within the nation will increase policy support and effectiveness. Prenatal classes preparing parents for the new experience should highlight these issues and promote not only the act of breastfeeding but also policy action within communities to protect and empower women in their right to choose.

References


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Dr. Danawi is trained in Public Health with a PhD in Epidemiology from the University of Texas at Houston. He has an international exposure to various Public Health issues in the U.S., Middle East and Africa and is passionate about creating positive social change and advocate for maternal and child’s health. Dr. Danawi currently serves as a full time faculty at Walden University, College of Health Sciences teaching and mentoring doctoral dissertations.

Ms. Estrada obtained her Bachelor’s degree in Health Science from California Baptist University and her Master’s in Public Health from Walden University. She enjoys working with the low income populations participating in WIC in her community providing nutrition education and breastfeeding support.

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Dr. Wilson is a lactation consultant, educator, and researcher out of Tennessee State University and Walden University. Dr. Wilson has been an IBCLC for over 20 years and is in her fifth year as editor of the International Journal of Childbirth Education.
Paternal Age and Birth Issues

by Barbara F. Turnage, PhD, Andre P. Stevenson, PhD, and Tina L. Jordan, PhD

Abstract: When conceiving a child, the age of the paternal contributor is as important as the age of the maternal contributor. Fathers age 40 and older must be informed that they have a higher risk of contributing mutated sperm. It is important for childbirth educators to know about birth defects associated with paternal age prior to conception. Fathers over forty need to be prepared for the possibility of producing a child whose physical appearance at birth, medical needs, and family’s emotional adjustments are a result of mutated sperm.

Keywords: paternal genes, paternal age, older parents

According to Edwards and Roff (2010), in 1970, the average maternal age in the United States for the birth of their first child was 21 years old. By the year 2010, the average maternal age in the United States was 25 years old (Edwards & Roff, 2010). Edwards and Roff examined the relationship between paternal age and sperm mutation. Along with Edwards and Roff’s study, a number of other studies addressed issues of later life childbearing (i.e., Callaway, 2012; Kaveh, Ghajarzadeh, Tanhas, Savaheli, & Rezayof, 2012), in particular paternal age at conception (Grewal, Carmichael, Yang, & Shaw, 2012). The purpose of this article is to provide information to childbirth educators to better discuss understand the impact of fathering after the age of 40.

Literature Review

Unlike the maternal contributor who is born with her eggs, the paternal contributor sperm is created at the point of use. Each production of sperm requires the division of precursor cells. Like the maternal contributor who is born with her contribution, the paternal contributor is born with his precursor cells. As these precursor cells age, the number of divisions also increase. Therefore older paternal contributors have experienced more divisions of the precursor sperm cells. In relation to sperm production, several authors (Grewal, et al., 2012; Kaveh, et al., 2012) consider the age of 40 as when most mutations begin to occur.

Since 1970, women have become increasingly more educated and have entered into the workforce at higher rates (Edwards & Roff, 2010). As a result of this pattern, later life childbearing has increased, while the number of viable live births has decreased. As heterosexual women tend to marry and procreate with similarly aged males, the paternal age at the time of conception has also increased (average age given by Edwards & Roff (2010) was 25 years). An increase in paternal age may result in an increase in congenital malformations in their offspring (Svensson, Abel, Dalman, Magnusson, 2011). Whitley, Deary, Der, Batty, and Benzeval (2012) suggested that paternal age may affect offspring, specifically as it relates to schizophrenia and autism, as well as various cognitive abilities.

An increase in paternal age may result in an increase in congenital malformations

Svensson, et al. (2011, p. 5) reported a link between neurodevelopmental and congenital disorders and the age of fathers. Svensson et al. (2011) also looked at the relationship between a father’s age and scholastic achievement during adolescent years and noted that intelligence quotients and paternal age are receiving increased attention in the media. Svensson et al.’s findings suggested a correlation between diminishing grades and fathers younger than 30. According to Svensson et al. (2011), teenage father’s offspring had an average of 53.8 point lower grades than older fathers (p. 5). The authors concluded there was no association with poorer continued on next page
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school performance and advanced paternal age, but rather a relationship between younger fathers and poorer school performance.

Paternal age has also been associated with schizophrenia spectrum disorders. According to Sorensen et al. (2014), children born to a paternal contributor who was age 40 or older “had a higher proportion of schizophrenia spectrum disorders” (p. 2). The siblings of these children were suggested to experience frequent psychiatric admissions (Sorensen et al., 2014, p. 2).

Kaveh et al. (2012) examined the effect of paternal age on preterm births in Tehran, Iran. Kaveh et al. explained that infections, social factors, and stress have traditionally been identified as some of the reasons for preterm births. Other factors such as types of parental employment, smoking, and various underlying diseases in mothers may also be some of the causes (Kaveh et al., 2012). In Kaveh et al.’s study of 274 neonates, the age of the father was not indicated as a factor for any birth outcomes in neonates; however, the combination of father’s age, employment, and family history did contribute to birth outcomes.

Grewal et al. (2012) looked at the relationship between paternal age and various forms of birth defects. According to Grewal et al., there is a correlation between both paternal age and certain forms of birth defects. Specifically, paternal age was correlated with certain birth defects occurring between 1989 and 2002 in California (Grewal et al., 2012). When the paternal age was age 29 and younger, the offspring were at an increased risk of anomalies of the great veins and higher risks of amniotic bands (Grewal et al., 2012). On the other hand, when the paternal age was age 42 and older, birth defects were associated with anomalies of limbs and the nervous system (Grewal et al., 2012). Grewal et al. reported that “the risk of malformations of the nervous system increases with advancing paternal age” (p. 389).

While the cause of autism is still being explored, Hultman, Sandin, Levin, Lichtenstein, and Reichenberg (2011) examined the relationship between father’s age and autism. Hultman et al. sought to provide a better understanding of biological explanations for the increase of autism. According to Hultman et al.’s findings, there was a significant increase in the risk of autism for fathers who were 50 years old. These fathers were 2.7 times more likely to have children with autism than younger aged fathers, and fathers who were 55 years old had a 4.4 times increased rate of offspring having autism (Hultman et al., 2011).

Implication for Childbirth Educators

Most parents expect a healthy child. They expect their child to have “normally” formed limbs, for the child’s head to be normally shaped, and for the child to be born during or shortly after the 40-week gestation period. Although these fathers may have been informed that their child may or will be born with some issues, the arrival of the child removes the dream that a test was misread. In these situations, allow time to listen to the father’s concerns and provide immediate opportunities for voicing disappointment while learning how to care for the newborn child. It is helpful if the childbirth educator has time to talk with the father shortly before and during delivery. The focus of the conversation is to show support. This conversation can provide an outlet for the father to discuss concerns and thereby freeing his emotions to be in a position to help his partner with her concerns. Additionally, this conversation can be used to ascertain if you are available after the birth of the baby to provide needed information and/or support.

It is important that before, during, and after the child is born that the childbirth educator helps make sure the male ego is displayed and supported. The father may feel that there is something wrong with him in that he produced mutated sperm. Allow space for these feelings of inadequacy to be voiced. The father will often find emotional release via voicing his feelings and then discussing unexpected positive aspects of the child’s birth. It is important to have a list of mental continued on next page
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health practitioners who can meet with individuals, couples, and groups if a referral is needed. This list of practitioners ensures the availability of continued mental health assistance.

As fathers age 40 and older have a higher risk of contributing mutated sperm, their child’s physical appearance at birth, medical needs, and family’s emotional adjustments are all impacted by the decision to conceive a child. The birth of a child with birth defects impacts the family financially. Whitley et al. (2012) study suggests that along with paternal age, the health care professional will consider paternal education, social economic status, health, and health related behaviors when discussing parental preparation for possible birth defects. We allow parents to grieve the loss of the child the parents had expected. In grieving the loss of the expected child, there may also be a reduction in any guilt feelings the parents may be experiencing. Resolving this loss allows emotional room for the parents to be able to accept the child to whom they gave birth. It is important for the parents to understand and accept the uniqueness of their child in order for their child to begin bonding/attaching. This would be a good time enrich the child’s environment. Discussing how to stimulate and enhance the child’s environment provides tangible actions that parents can do to expose their child to learning opportunities while increasing interactions between the parents and the child. These increased interactions reinforce bonding/attachments.

As both maternal and paternal age can contribute to birth defects, it is important to discuss early screenings when working with parents age 40 and older. Along with paternal age, paternal education, social economic status, health, and health related behaviors must be considered in a holistic approach.

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Fit for Birth and Beyond: The Guide for Women Over 35
by Clarkson, S.

reviewed by Kristina M. Plunk, MSN RN

The New Zealand author, Suzy Clarkson, has been ensconced in physical fitness for greater than 25 years. She became a physiotherapist in 1988, later became a certified personal trainer, and practiced as a group fitness instructor. She is also a mother of two boys and producer of four different aerobic videos. Suzy Clarkson began her journey to motherhood later in life at the age of 39 then, after the birth of her first child, suffered through a tumultuous, three-year infertility journey. Her journey included multiple rounds of in vitro fertilization as well as multiple miscarriages before finally conceiving her second child. The author utilizes this book to provide information to mothers starting their families later in life who have a strong desire to have healthy pregnancy outcomes and a desire to include physical fitness as an avenue to increase the likelihood of positive outcomes. She also utilizes the book as a platform to reach and support women who have suffered or are suffering from infertility and/or pregnancy loss.

When I was approached to review “Fit for Birth and Beyond The Guide for Women Over 35”, I felt compelled to complete the review especially since I was greater than 35 years old, had suffered through a three year infertility journey, and had utilized in vitro fertilization to achieve my first and current pregnancy. I immediately felt a connection with the author after reading the description of her book. The book was easy to read because it was very well organized. Chapter One, “Getting Started” compares dated research to more current research regarding physical fitness and pregnancy. This chapter also addresses advantages of exercise during pregnancy such as shorter labor, decreased delivery complications, decreased rates of postpartum depression, and reduced chance of being diagnosed with gestational diabetes to name a few. By the end of chapter two, I was certain the author wasn’t from the United States as she discussed “pregnancy niggles” or common bothers of pregnancy such as constipation, nausea, morning sickness, heartburn, etc. Although I giggled at the use of the word “niggle,” I was appreciative of her suggestions to remedy many of the common pregnancy woes. Chapters three and four go in to detail about maintaining pelvic floor muscle and abdominal/core muscle strength during pregnancy. The remaining chapters are organized by first, second, third trimesters, and the postpartum period. Each of these chapters provides a detailed exercise regimen appropriate for the changing pregnant body complete with photos and written directions as well as appropriate modifications for different types of exercise. I wanted to submerge myself in this book review so I was insistent on completing the workouts described in the book, therefore I can honestly say the exercises listed in the book are realistic, achievable, and easy to understand. I will say that some of the exercises were more difficult to perform than the pictures and descriptions led me to believe but that may be due to the pregnancy “niggle” of easily tiring. Since I am still pregnant at the time of writing this review, I have not performed the postpartum exercise regimen but it is also easy to read and interpret. The final chapter of this book really packed an emotional punch as Suzy Clarkson describes her infertility journey as a continuous cycle of hope, expectation, optimism, disappointment, and despair. She also describes her emotions as a mixture of shock, anger, feeling like her body let her down, feeling angry at science for failing her, frustration, and the injustice of infertility. For me, this chapter really humanized the author and made her extremely relatable to women who have suffered with infertility and/or pregnancy loss.

I enjoyed reading “Fit for Birth and Beyond” and feel I am better equipped to exercise safely during my pregnancy. One of the elements of the book that I enjoyed the most was the author’s use of personal pregnancy journal entries scattered sporadically throughout the chapters to provide insight and humor. One weakness I found when reading the book was that it will likely appeal to a very narrow audience simply because the title specifies “guide for women over 35.” However, after reading the book I think anyone able bodied, willing pregnant woman could utilize the book to stay fit and eat healthy during her pregnancy. Healthcare providers, especially those caring for women in the above 35 age category, should consider reading this book and suggesting to their clients in an effort to decrease pregnancy complications and improve pregnancy outcomes. The author includes a section near the end of the book that contains helpful websites. I would suggest expanding the list of helpful resources to include pertinent information to the readers where the book is being marketed. For example, the author’s helpful websites are inclusive of Australia, New Zealand, and United Kingdom, which are not necessarily helpful to the reader in Tennessee. Overall, I enjoyed the book and would recommend it to other pregnant women who desire to initiate or maintain physical fitness during pregnancy.

Kristi Plunk is a graduate of Lowenberg School of Nursing at the University of Memphis in Memphis, TN. She earned her BSN and MSN from University of Memphis. Kristi has 14 years experience as a Labor & Delivery nurse and is currently a clinical professor for Middle Tennessee State University in Murfreesboro, TN.
On Becoming a Teen Mom

by Erdmans, M. P. and Black, T.

reviewed by Debbie Anderson, BSN, RN

If you look at a teen mother and think “why,” “how,” or “what can we as a nation do to change this reality?” this book will enlighten and empower you. It delves into the reality facing these women. The authors highlight the nation’s misguided or poorly planned programs which make it ever more challenging for these young women to find true social equality and financial independence. While walking the reader through the study and findings they offer first-hand accounts in the ladies’ own voices. The reader is allowed behind the veil of privacy into these girls’ lives, struggles, pain, and, most importantly, hope for the future. The authors get past the generalities and social pre-conceived notions and give not only understanding; but also a roadmap of what has been done, and what must be done to help these women and help other young girls from falling into the same struggles along the path to adulthood and independence.

Deborah Anderson is a nurse and mother who is committed to improving the lives and futures of people in need. She tries to live her life by the “see a need - fill a need” and “keep moving forward” philosophies of Walt Disney. This book epitomizes both of these mantras, as it both highlights needs and introduce ways to help those in need be able to keep moving forward.

Fathers in Cultural Context

by Shwalb, D. W., Shwalb, B. J. and Lamb, M. E.

reviewed by Patrick M. Zito, DO PharmD RPh FASCP FRSPH

In the field of childbirth education, this book can offer information for educators that look to further examine fatherhood, cultural influences, and historical impact on fathering figures. This book will be helpful for those in advanced level and graduate level courses of study that are looking to conduct research on family studies and fatherhood. An educator looking for more information on comparison of contemporary socioeconomic conditions and cross-cultural comparison of fatherhood with relation to social policy will find this text as a valuable start, especially if looking to conduct future research. A unique strongpoint of this text is the final chapter that integrates and compares the other chapters highlighting points and new areas for future research. This is certainly a great book that is relevant to practitioners, educators, students, researchers, or anyone else with an interest in psychology and sociology. The utility of this book is as a starting reference but should be supplemented with other texts and new emerging studies.

Dr. Patrick M. Zito is a physician and pharmacist with advanced clinical pharmacology training currently serving as contributing faculty at Walden University School of Nursing. He serves as an executive advisory board member of the Center for Applied Health Sciences with research interests in dermatology, plastic and reconstructive surgery, otolaryngology, applied sports nutrition, hormone modulation to injury repair, and preventative pharmacological and nonpharmacological approaches to tissue damage and aging.
The Child’s Discovery of Death

by Anthony, S.

reviewed by Emma J. Brooks, MS

The Child’s Discovery of Death, first published in 1940, was reissued in paperback in 2013. This book has stood the test of time. Anthony explores the human development of the child’s discovery and understanding of death, during a time when many of the children’s father’s or loved ones were in the midst of war.

The eleven chapters navigate you through Anthony’s exploration of the perceptions of death from children of various ages. The first chapter addresses the current issues surrounding death and children followed by how the problem is analyzed. Chapters 3, 4, and 5 discuss death from a developmental and theoretical perspective by taking a scholarly view into the perceptions of death in children’s fantasies and in adults driven by the experiences of the child, psychological affects, and the role of religion. Death from the child’s worldview is then defined. It is here that the child’s aspects of death emerge through the understanding of terms and concepts associated with death. In Chapter 6 are the interviews and snippets of the transcriptions of the children’s home discussions on the topic of death. Chapter 7, 8, and 9 then begin to explore the child’s dialogue’s through the discourse of the theories addressed in the previous chapter as well as the nature and development of death from a psychological perspective. Chapter 10 then takes a deeper look into the concept of death through the child’s awareness of self – the realization of immortality. Anthony concludes the book with a well-written summation of the previous chapters by readdressing the problem, discussing her findings, and summarizing her interpretations with supporting research and theoretical perspectives.

Anthony’s exploration of the home dialogue between the children and household members with poetry, parables, tables, charts, and psychological theorists such as Piaget and Freud was beautifully done. I found the use of psychological and psychoanalytical theories of this era elicited the thoughts of pioneering theorists in the area of consciousness, transpersonal psychology, and play therapy of present day. The Child’s Discovery of Death is not a light read; it is scientifically based using technical and psychological terms. However, the style of writing is very poetic. I found the unedited dialogue of the discussion of death from the child’s perspective to be a priceless inclusion. For example, the stories or discussions from the children are heartfelt, endearing, and comical when the child becomes aware and concerned with “the endearing endlessness of numbers” within the concept of gaining understanding of the association between death and age. The Child’s Discovery of Death provides a wonderful description of how the child’s aspects of death emerge from the child’s environment, psyche, and understanding of terms and concepts associated with death.

The Child’s Discovery of Death is an important contribution to the field of childbirth education because Anthony’s research was a major literary contribution to child psychology of death. A theoretical understanding of the research findings, using theorist perceptions of the concept of self-as-agent in relationship to death, is wonderfully done. Anthony’s exploration of a child’s discovery of death from the view of the unconscious mind, pre-natal, birth, and adulthood provides a strong foundation on how children and adults formulate their perception of death. Anthony provides examples of how cultural teachings, nursery rhymes, children fables, and biblical stories or prayers are interwoven into the conceptual framework of death, which affects the child’s understanding of death. For example, the exploration of the relationship between the cultural attitude towards death and animals as well as children stories (e.g., Little Red Riding Hood; Hansel and Gretel; Peter Pan; Snow White) have psychological implications associated with cannibalism, death and age, aggression, and guilt associated with human life and not animals.

The book provides insight into the inner workings of the child’s mind on the understanding of death. It provided a strong theoretical foundation to go deeper into the thought processes of the child’s perception of death at various stages. It emphasizes the normalcy with death in the child’s fantasy-thinking as well as the importance of avoiding nightmarish or fear arousing fables and belief systems. The Child’s Discovery of Death is an academic book that would make a wonderful addition to the library of graduate students and professionals interested in an in-depth account of the child’s perception of death from a psychological nature and development. The bibliography provides valuable seminal resources related to the concept of death. The Child’s Discovery of Death provides a detailed account of innovative research during a time when this topic was considered taboo.

Emma is working toward a PhD in Health Psychology through Walden University, is an Instructor of Cognitively-Based Compassion Meditation (CBCT) with Emory-Tibet Partnership of Emory University, and is an advocate of treating the whole person. Emma’s interest revolve around emotional and psychological wellness, mind-body practices, marriage and family therapy, doctor-patient relationships, and spirituality.
Book Review

Prenatal and Childhood Nutrition: Evaluating the Neurocognitive Connections

by Croft, C.

reviewed by Brian S. Paramore, MA MSN RN

In this work, Croft provides an in-depth study of nutrition specifically related to the prenatal and childhood period of development. The editor seeks to achieve this goal by selecting fifteen journal articles ranging in content from general overviews to specific randomized controlled trials. This format provides the reader with a variety of relevant information produced by a wide range of researchers.

Aesthetically, the book looks and reads much like an academic resource. This scholastic feel also extends into the layout of the information. Structurally, the work is divided into three parts: I. Nutrition and Neurocognitive Development; II. Nutrition and Children with Special Needs; and III. Nutritional Interventions for Improved Cognitive Function. Journal articles are divided up within the three parts with the following breakdown: Part I. seven articles/studies; Part II. four articles/studies; and Part III. four articles/studies.

The first part examines principles associated with how nutrition affects brain development. This section provides particular value to the novice or the active learner seeking to cultivate an understanding of prenatal and childhood nutrition. The second part examines the relationship between different aspects of nutrition and children with various special needs such as autism or Attention Deficit/Hyperactivity Disorder. In addition to attempting to identify potential relationships, this section provides questions for future research. The third part examines the effects of nutrition on cognitive function. This last section provides future research questions and suggested treatment interventions. Overall, the structure and organization of the information is a strength because of the organic progression the reader experiences as the information builds from examining concepts of prenatal nutrition to special needs and cognitive issues related to nutrition.

Another strength is the range of varied research and perspective provided by utilizing journal articles. As the title implies, there is thorough discussion related to prenatal nutrition which is important to the experience of childbirth. Topics such dietary patterns during pregnancy and how nutrition during pregnancy affects neurocognitive development also receive significant attention in the text. However, the book is not just limited to this early time period as much of the research spreads further into childhood and even early adulthood. For this reason the editor’s assertion of the potential audience being clinicians, families, educators, and policymakers seems relevant on the surface, but in reality the student may in fact be the most appropriate audience of all.

As previously stated, the book definitely has the feel of an academic resource primarily due to the how the subject matter builds throughout, but another reason would be the quality of the research itself. Many of the studies within the text are targeted at narrow populations or provide mere corollary research at best. For this reason, this book would probably not be a strong resource for the clinician or policymaker because the findings are difficult to generalize. The lack of generalization is not a constraint for the academic or researcher, because these studies can be an opportunity for the development of future research or possibly replication with other groups to see if findings remain consistent. Furthermore, the clinician or policymaker would most likely want to perform his/her own literature review and keyword search before undertaking a study. He/she would not need a compilation of journal articles within a physical book because he/she can perform a topical search through a search engine.

Conversely, a professor teaching an undergraduate or graduate course may find this book as a useful complementary tool within a course due to immediate access to several scholarly articles in one place. Unfortunately, this does bring up another major weakness. The price of the book makes it a rather expensive acquisition for a student as complementary reading material, especially when fourteen of the fifteen articles can be found for free on the internet using only a basic search engine.

Ultimately, if the individual is seeking an array of information on the subject of the relationship between nutrition and neuroscience within the prenatal and childhood period, then this is a good option. Despite the price, this also has definite potential as an academic resource and should be given consideration.

Mr. Paramore is currently a mental health professional located in Nashville, TN. He has experience working in academia, various mental health settings with pediatric populations, and end-of-life care with geriatric clients.
Teen Pregnancy and Parenting: Rethinking the Myths and Misperception

by Weed, K., Nicholson, J. S., and Farris, J. R.

reviewed by Tricia Goodwin, MSN RN AHN-BC

Authors Keri Weed, Jody S. Nicholson and Jaelyn R. Farris have committed almost fifty years to studying the complexities of teenage pregnancy and parenting. Weed, Nicholson, and Farris spent over twenty years researching the “teen mom” phenomenon and working on the Notre Dame Adolescent Parenting Project (NDAPP). There are two previous books that chronicle the results of that study, Interwoven Lives: Adolescent mothers and their children (Whitman, Borkowski, Keogh, & Weed, 2001) and Risk and Resilience: Adolescent mothers and their children growing up (Borkowski, Farris, Carothers, Witman, Weed, & Keogh, 2007). The authors strive to explain common myths and misperceptions surrounding teenage pregnancy and parenting using results from large-scale, longitudinal and qualitative studies from the United States (U.S.) and other Western countries. The authors are developmental psychologists who earned their doctoral degrees at the University of Notre Dame. In addition to their devotion to this project, they are involved in clinical work, independent research, and are currently teaching at the collegiate level in various universities along the east coast.

I have to admit I was a little intimidated when I was contacted to review Teen Pregnancy and Parenting: Rethinking the myths and misperceptions since I do not have any experience in maternal/child nursing. I didn’t feel an immediate connection to the book beyond a general interest in the topic. Having a background in psychiatric nursing, my curiosity was piqued when the authors began addressing the depictions of teenage pregnancy and parenting are reflected in contemporary American popular culture. The book was well organized and fairly easy to read as a doctoral student, but speaking as an undergraduate nursing instructor, I think it is better suited for those with a graduate education. The authors identified and evaluated the validity of ten cultural myths surrounding teenage pregnancy and parenting.

Chapter one, “A systems perspective on myths and misperceptions” addresses the book’s theoretical underpinning by describing basic assumptions of systems theory and then applying Bronfenbrenner’s biocological systems theory to a hypothetical example of two teenage parents. I really enjoyed the authors noting the importance of viewing teenage pregnancy and parenting from a holistic perspective and then used the hypothetical case to demonstrate how a multitude of factors contribute to teen pregnancy. Their conclusion is one that strongly reinforces the need for the holistic approach by suggesting that a singular focus on one factor separately ultimately results in our missing the boat.

The second chapter, “Myths and misperceptions from research,” focuses on years of research, comparing analyses and highlighting methodological issues in research on teenage parenting. The authors write about using a person-centered approach to illustrate how pregnant teenagers and parents are not all alike. I believe this should be the philosophy for anyone who is working in a helping profession.

Chapter three examines the cultural myth that providing media visibility of teenage pregnancy and parenting will encourage others to become pregnant. This is similar to the belief that assessing suicidality will give someone the idea to commit suicide. The authors discuss myths from popular culture, in particular MTV’s “16 and Pregnant” and “Teen Mom.” I found myself very intrigued by this chapter. I had never seen either one of these shows, and will admit when I heard their titles I rolled my eyes, instantly envisioning a crazy, Jersey Shore type exploitation of a vulnerable group centered on a stigmatized topic. I wanted to see for myself if this show was serving its intended purpose, which is to bring to light the realities and challenges associated with teen pregnancy and parenting. After watching only two episodes and reading this chapter, I agree wholeheartedly with the authors that this show did not portray the struggles and challenges most teenage mother’s face to support themselves and their babies. And that is putting it nicely. Two “teen moms” were carrying Louis Vuitton handbags, one “teen mom” was driving a BMW, and another drove what appeared to be a Hummer. All of them were living in relatively new homes.

The final chapters evaluate the remaining cultural myths derived from the author’s extensive body of research. As developmental psychologists, the authors are very clear that they are not promoting or advocating for teenage pregnancy. Their hope is that adolescents will delay parenting while fully realizing the potential and experience that adolescence has to offer free of the immense responsibility associated with parenting. The authors advocate for programs and policies that use empirical evidence to prevent teenage pregnancy and provide appropriate supports for teenage parents that are not grounded in cultural myths.

I enjoyed reading this book and I am grateful for the self-reflection that came with this review. Even though I am a daughter of a “teen mom” I am ashamed to admit how many of these stereotyped perceptions existed in my belief system. Healthcare providers, especially those caring for pregnant and parenting adolescents, should consider reading this book to ensure that they are providing holistic care, free from any negative stereotypes and misperceptions.

Tricia Goodwin is currently earning her Doctor of Nursing Practice with a concentration in Nursing Education at Regis College in Weston, Massachusetts. She is a graduate of the MSN Holistic Nursing program at Tennessee State University and earned her ADN and BSN from Aquinas College both in Nashville, TN. She has sixteen years experience as an RN and has worked in specialty areas such as Trauma/Burn ICU, Critical Care and Addictions Nursing. Tricia is currently an adjunct nursing instructor for Mount Wachusett Community College and Massachusetts College of Pharmacy and Health Sciences University; and teaches psychopharmacology in the Addiction Counselor Education Program for AdCare Educational Institute.