

Effects of Yoga Practice During Pregnancy on Pregnancy Outcome and Child Health.

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Abstract

Introduction: Yoga is believed to be an ancient Indian science, way of life. It includes practice of specific body postures with regulated breathing, and quietness with self. Yoga during pregnancy is believed to help women have best of pregnancy experience. In last some years, Yoga during pregnancy has had breakthrough globally. It is designed to promote physical, mental health so as to take care of emotional, spiritual dimensions of health of pregnant women which can be directly linked to healthy pregnancy outcome.

Objective: To get information about practice and, effects of Yoga during pregnancy on pregnancy and its outcome.

Material and Methods: Literature search was done by various search engines to get information in relation to current status of Yoga practice during pregnancy and pregnancy outcome. There was no specific criteria of inclusion of studies, or reviews. Whatever was accessible, including opinions were looked into.

Results: Yoga is believed to decrease pregnancy complications, promote stress-free joyous pregnancy without negativity. Yoga during pregnancy seems to be affecting the baby's, life beyond birth too, with significant increase in cognitive performance of children of mothers who practiced Yoga during pregnancy. Some aspects show more benefits than others and others report no significant benefits too. Some studies do exist which, emphasize benefits of Yoga, in promoting overall positive health and wellbeing. However little prospective published research exists about practice, of Yoga and effects, and pregnancy outcome. While many studies have shown Yoga as safe feasible, non-pharmacological intervention, well designed studies seem to be scarce, but are needed.

Conclusion: Well-designed studies are required to comprehensively investigate about Yoga as means to improving pregnancy outcome.

Key words: Yoga Practice, Effects, Pregnancy Outcome, Child Health.

Introduction

Yoga is an ancient Indian science and way of life. It includes the practice of specific postures of body with regulated breathing and meditation. It is designed to promote physical and mental health, keeping balance in woman's emotional and spiritual dimensions which are directly linked to healthy pregnancy and healthy outcome of pregnancy. Beddoe [1] reported that Yoga was often depicted metaphorically as a tree with branches, Yama (Universal ethics), Niyama (Individual ethics), Asana (Physical postures), Pranayama (Breath Control), Pratyahara (Control of the sense), Dharana (Concentration), Dyana (Meditation) and Samadhi (Bliss), which on their own can help a pregnant woman to remain physically and mentally healthy. Yoga is believed to influence a woman's wellbe-

ing during pregnancy by empowering a woman for healthier and better life. It is believed to have positivity in pregnancy. In last some years, Yoga has had a breakthrough in the Western World too [2].

Objective: To get information about Yoga practice during pregnancy and effects of Yoga on pregnancy outcome.

Material and Methods

Literature search was done with available search engines to get information from studies and reviews about Yoga practice and its effects on pregnancy and its outcome. There was no specific criterion of inclusion or exclusion of studies or reviews. Whatever stud-

ies, and reviews were available, were looked into. Opinions, about current status of practice of Yoga during pregnancy and pregnancy outcome were also looked into. Self observations were also added.

Results

The word Yoga comes from the Sanskrit term “yug” and directly translates “to unite”. More broadly it means to work towards a unified experience of the self and improved health [2]. During pregnancy women undergo distinct physiological changes with a lot of pregnancy stress. Pregnancy is accompanied by unique physical and psychological demands. There is a need to manage various physical, emotional, and mental, dysfunctions that arise during pregnancy and labour. The wellbeing and quality of life of the mother are critical for optimal pregnancy outcome. Self-soothing techniques, psychoeducation, and relaxation are particularly important in the transitional and meaningful time [1]. Yoga is useful for a variety of immunological, neuromuscular, psychological, and pain conditions. Recent studies indicated that it may be effective in improving pregnancy, labour, and birth outcomes [3].

Antenatal anxiety with depression which co- occur during pregnancy have been found to have negative implications for both mother and the child, independent of the mother’s other psychological problems. Studies have revealed that Yoga helped in decreasing pregnancy related complications and promoted a joyful stress-free pregnancy [4]. Bodecs et al reported that depression and anxiety during pregnancy represented major public health problems, specially in women with abortions or other pregnancy complications as many as 20% women were reported to have clinically significant depressive symptoms which did not meet the criteria for major depressive disorders (MMD) [5]. This affected their therapy for the disorders. A growing body of research has documented increased risk of adverse correlates and consequences of anxiety and depression for pregnant women and their offsprings [6]. Yoga is known to reduce depression and anxiety. Podvornik et al did a study about depression and anxiety in women during pregnancy and reported that around 1 in 10 pregnant women experienced mental health problems [7]. Researchers also reported that women who experienced complications in the previous pregnancy (pregnancies) reported significantly higher levels of anxiety, but not depression, compared to women without previous complications. The results drew attention to the need for early detection and treatment of depression and anxiety during pregnancy as they could become serious problems. This is not difficult to understand. Recent research provided evidence revealing the adverse impact of such disorders on the course of the pregnancy, the development of the foetus and maternal well-being. Yoga may be specially well suited for such women and may be given preference over pharmacological treatment. They sometimes had elevated mood and at other times low mood, a determinant of cognitive decline [8]. Bridges reported that studies have proved Yoga as a safe and feasible, non-pharmacological intervention in pregnancy [9].

Heckman reported cognitive performance of children with decreased negative birth outcomes, some exercises show more benefits than the others or no significant observable benefits [10]. Researchers suggested that well-designed studies were required to comprehensively investigate into practice of Yoga as a means to improve or sustain cognitive abilities of children when Yoga was practiced during pregnancy. A controlled study in Alliant Inter-

national University [11]. found difference in the attention scores after Yoga intervention but not statistically significantly different from prior to the intervention. However this was attributed to the probable small sample size. Hollenbach also reported that Yoga was a safe and feasible intervention in pregnancy and could be used as non-pharmacological intervention [12]. Further in a UK based study, Yoga was found to reduce the need for pain relief, medication during labour and caesarean births [1]. Fink reported that negative implications of antenatal anxiety included pre-eclampsia, preterm labor, preterm birth, low birth weight, lower APGAR scores and postnatal complications [13]. Yoga was likely to help such women in behavioral/ emotional problems at four years of age and symptoms of Attention Deficit Hyperactivity Disorder (ADHD) externalizing problems and anxiety at nine years of age. Yoga may be well suited for depressed and anxious pregnant women, given reported benefits of meditation and physical activity and pregnant women’s preference for no pharmacological treatments. Femina reported that, when pregnant women were battling mood swings at varying levels of fatigue and sickness, painful leg and breathing problems, Yoga could ease them from such conditions, ensuring smooth pregnancy with an easier labour and smooth delivery [14]. Hortwiz et al reported that most women suffered silently during pregnancy and never got help for their emotions. Yoga may help such women [15]. Yoga is thought to alter nervous system regulation and physiological system functioning (e.g., immune, endocrine, neurotransmitter, and cardiovascular) and improve psychological wellbeing like frequency of positive mood states and optimism and physical fitness like strength, flexibility, and endurance. Wren et.al studied the efficacy of Yoga on pregnancy outcomes and reported new finding and directions for an ancient practice [16]. Narendran et al reported that the number of babies with birth weight > or = 2500 grams was significantly higher in women who practiced Yoga [17]. Preterm labor was significantly lower in the Yoga group. Complications such as isolated intrauterine growth retardation (IUGR) and pregnancy-induced hypertension (PIH) with associated IUGR were also significantly lower in the Yoga group. There were no significant adverse effects noted in the Yoga group. An integrated approach to Yoga during pregnancy was safe. It improved birth weight, decreased preterm labor, and decreased IUGR either in isolation or associated with PIH, with no increased complications. A recent review of Yoga for pregnancy related outcomes revealed that Yoga was positively indicated for use in pregnancy but the findings were not definitive since some of the trials included in the review were uncontrolled and others demonstrated poor methodological quality for different reasons [18]. Chuntharapat et al did a study to look into Yoga during pregnancy and effects on maternal comfort, labor pains and birth outcomes and reported that the experimental group was found to have higher levels of maternal comfort during labor and 2 hrs post-labor, and less subjects experienced pain than the control group [19]. In each group, pain increased and maternal comfort decreased as labor progressed. However no differences were found, between the groups, regarding pethidine usage, labor augmentation or newborn Apgar scores at 1 and 5 minutes. The experimental group was found to have a shorter duration of the first stage of labor, as well as the total duration of labor. Jahdi et al did a study about Yoga during pregnancy and the effects on labor pains and delivery outcomes and reported that participants in control group reported higher pain intensity compared to experimental group at 3-4 cms of dilation [20]. And at 2 hrs. after the first and the sec-

ond measurement, mothers in the antenatal intervention group that completed the Yoga class required a decrease in frequency of labor induction in comparison with control group. In addition mode of delivery of the intervention group resulted in a lower percentage of cesarean section than control group. The intervention group experienced a shorter duration of the second and third stages of labor. Sun et al did a study about effects of a prenatal Yoga on the discomforts of pregnancy and maternal childbirth and reported that the provision of booklets and videos on Yoga during pregnancy was likely to contribute to a reduction in pregnancy discomforts and improved childbirths self-efficacy [21]. This Yoga programme provided health-care professionals with an evidence-based intervention. The findings of systematic review of Yoga for pregnant women about current status and future directions suggested that Yoga was well indicated for pregnant women and lead to improvements on a variety of pregnancy, labour, and birth outcomes [22].

Discussion

The experience of bringing a child into the world is, strenuous process for the woman's body and mind. Studies showed that women who practiced prenatal Yoga had considerably fewer problems during pregnancy and childbirth. It has been scientifically proved that the practice of Yoga has immense benefits for the body and the mind. Through Yogasans, physical deep relaxation and mental calmness are achieved. Yoga recognizes the link between breathing and calmness of the mind. So tools can be utilized to calm down the mind. Lower income, which leads to less of material resources of a woman or her family, can be a source of distress as pregnancy and birth of a child brings additional financial burden, So Yoga could be a cost effective modality of therapy. It is essential to do more research to create evidence-base, examining the effectiveness of Yoga in improving cognitive performance in such cases. It also becomes important to perform Yoga as per recommendations. Maternal stress and anxiety during pregnancy is associated with a host of negative consequences for the fetus and subsequent development. Fetal exposure to maternal stress and stress-related peptides is a risk factor for adverse outcomes on the programming of the nervous system and brain morphology of fetuse, infant, and child. Early gestational stress exposure is associated with negative outcomes at different developmental stages. It slowed maturation and behavioral response patterns in fetuse, alterations in neonatal stress regulation and behavioral reactions to stress, blunted cognitive functions and emotional and behavioral problems in infants and toddlers, and reduced brain volume in areas associated with cognitive function in children [22]. Mind-body practices that cultivate general health, diminish distress, and increase self awareness, such as Yoga, may be particularly effective in addressing both the physical and psychoemotional aspects of pregnancy and labour. Other related practices, including biofeedback, meditation, and imagery, have been found to reduce anxiety and endocrine measures, such as cortisol, in women during labour [23, 24]. As such labour pain is a subjective and multidimensional experience that varies according to each woman's individual perceptions and reactions and is influenced by psychosocial, cognitive, and physiological factors [25]. Yoga may be effective in the reduction of negativity. Given that 35% of women aged 28–33 years already practice Yoga, it is important to evaluate its effects on the maternal experience of stress, anxiety, pain, discomfort, and other variables as well as on labour and birth outcome [26].

Prenatal Yoga can improve sleep, reduce stress and anxiety, increase the strength, flexibility and endurance of muscles needed for childbirth, decrease lower back pain, nausea, headaches and shortness of breath. Prenatal Yoga can also help in meeting bond with other pregnant women and prepare for the stress of pregnancy. Some styles of Yoga are more strenuous than others. Prenatal Yoga, hatha yoga and restorative yoga are the best choices for pregnant women. While studies do emphasize the benefits of Yoga in promoting overall positive health and well-being, little information exists about prospective studies, in relation to practice of Yoga, its effects and the direct as well as indirect benefits it may have on pregnancy and its outcome and on the child whose mother practiced Yoga during pregnancy. Researchers reported that trials were needed to provide more information regarding the utility of Yoga during pregnancy.

Conclusion:

Prenatal yoga is a multifaceted approach to exercise that encourages stretching, mental centering and focused breathing. Research suggests that prenatal Yoga is safe and can have many benefits for pregnant women and their babies. However well designed studies are needed.

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