

Prenatal Yoga and Stress- Dealing with lethal disease during pregnancy!

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Abstract

Emotions such as anger, fear, disgust, pity, joy, affection, etc, gets complicated to deal during pregnancy. These are carried out by nervous system, motor system and glandular activities. Stress is commonly defined as stimuli that is perceived which could be real or imagined threats to anybody's psychological, emotional, physical wellbeing that results in a series of psychological responses. During pregnancy, lack of communication, financial crises, unplanned and forced pregnancies, illiteracy, certain cultural practices and negative environment can be the reasons. In recent studies, stress is found to be a major factor through which women can lose the fertility and develop irregular menstruation with ovarian cyst, polycystic ovarian diseases (PCOD), infertility etc. The women's emotional states during pregnancy are able to affect the fetus as it operates not within the nervous system alone, but via nervous system in interaction with the endocrine glandular system with the fluid matrix of blood and its oxygen and carbon dioxide contents, which is called the neurohumoral system. The endocrine system of a pregnant woman and her fetus complement each other. The endocrine secretion of the mother and fetus together from a common endocrine pool and this forms the neurohumoral blend between them. Yogic exercises during pregnancy are considered not only an acceptable but also the most effective method than simple exercise for improving and maintaining physical and emotional health. Many present evidence supports the belief that yoga benefits not only physical but mental health as well via down-regulation of the hypothalamic-pituitary-adrenal (HPA) axis and sympathetic nervous system (SNS).

Keywords: Prenatal Yoga, Stress, Emotions, Pregnancy, Factors causing stress.

INTRODUCTION

Yes! Stress is lethal for pregnancy. Stress can severely affect the reproductive system of a female. Loss of fertility, irregular menstruation; endometriosis, uterine fibroids, polycystic ovary syndrome (PCOS), interstitial cystitis, etc are some of the negative outcomes of continuous stress. The production of hormones from ovary is vital to the female throughout her reproductive life. The ovary produces two hormones- oestrogen and progesterone. The production of oestrogen commences relatively early in life and is responsible for the development and maintenance of all the secondary sex characteristics and partly responsible for regulation of menstrual cycle. At the time of the menopause when the ovaries cease to produce the required amount of oestrogen, periods stop and symptoms of the menopause develop. Stress has

found to be interfering into the functions of reproductive system which further hinder in gaining pregnancy. Progesterone is produced from the corpus luteum, which is the small gland that forms in the ovary after ovulation has occurred. This hormone is essential for maintaining pregnancy and also responsible for the development of many symptoms during early pregnancy. It is also responsible for ripening the endometrium, or lining of the uterus, during the second half of the menstrual cycle, and is one of the major factor responsible for the regular menstrual period as well as normal menstrual flow. The functioning of the ovary is directly under the command and control of pituitary gland. This is a small gland situated in the base of the brain and is responsible for controlling most of the glandular secretions throughout the body. It not only controls the normal menstrual cycle but is also responsible for the onset, rhythm and eventual cessation of menstruation. The pituitary produces a small amount of and extremely powerful hormone called follicle stimulating hormone (FSH), which is released into the blood stream and circulated to the ovary, within which it provokes the formation of follicles. The developing follicles manufacture oestrogen. One of the follicles ripens and burst liberating an ovum-ovulation. This process is induced by FSH. Another pituitary hormone, called luteinizing hormone (LH), also reaches the ovary via the bloodstream to cause ovulation and form the corpus luteum which can then secrete progesterone. Any imbalance into these hormones can create a huge malfunctioning in the body which may lead to the severe problems.

STRESS AND PREGNANCY

Stress was first studied in 1896 by *Walter B. Cannon* (1871-1945). He continued his study and came up with the term homeostasis, a state of equilibrium in the body. Another Canadian scientist *Hans Selye* (1907-1982), showed that stress is mediated by cortisol, a hormone that is released from the adrenal cortex. This increase the amount of glucose in the body while under stress. Adrenaline and cortisol, releases during stress response, produce variety of physical responses for the preparation of movement and energy production. During pregnancy stress is generally caused by certain factors such as lack of proper communication, insufficient knowledge, some cultural practices, forced pregnancies (when the woman is not mentally prepared to conceive), self-imagery, financial crises etc. In Australia, *Dr. E.K Turner*, has found out that emotional stress and instability during pregnancy can lead to the birth of hyperirritable baby, characterized by excessive crying, vomiting, restlessness, frequent loose of stool etc. *Professor William R. Thompson* at psychological laboratory at Wesleyan University also proves the relation between maternal stress and hyperirritability. *Bevis, Dunbar, Kroger* and *Freed* have drawn attention to the fact emotional factor play a dominant role in abortion, habitual or occasional. *Drs. William Kroger* and *C. Freed* have pointed out that the uterus of the habitual aborter is usually hyper sensitive to emotional stimuli. That a miscarriage can take place as a result of shock, fright, dangerous episode or emotional upheaval.

At Fel's institute, *Dr. Sontag* and his collaboration observed an increase of several 100% in the body movement of fetus whose mother was undergoing emotional distress. They found out that such fetal hyperactivity lasted for several hours, even when the mother's emotional upset was of short duration. In mother in whom the emotional disturbances lasted for weeks, the hourly average of fetal activity increases by four to five folds. In this instance, she has not had to wait until childhood for bad home situations or the other cause to make him neurotic. It has been done for him before he has even seen the light of the day. In certain instances of severely disturbed maternal emotions, the infant's bodily functions were so disturbed that severe feeding problem resulted. The child was unable to retain food and become markedly emaciated and dehydrated.

These emotional imbalances are formed by genuine stress factors, which create malfunctioning of metabolism, hormones and physiology. Continuous state of stress, inner fear is outwardly expressed as anxiety or depression during long term. A distinction is borne in mind between long term emotional status which on one hand are profound and disturbing and on other hand are of comparatively superficial and not seriously disturbing type. Prolonged emotional disturbances can hype the intensity and profound disturbance. In psychological term profound disturbance can be defined as abnormal activity of nervous system and glandular system of the body. *Tompkins and Wiehl* reports that their studies have borne out the observation that "in every patient, no matter how 'Normal' there is some degree of unconscious conflict concerning pregnancy." The majority of patients they found, also have conscious problems which affect their stability. "in every patient, no matter how 'normal' there is some degree of unconscious conflict concerning pregnancy". In a group they studied, in Philadelphia, approximately 75% completely rejected their pregnancies during their 1st trimester and only one-third of the cases did they become reconciled to the idea by the end of the pregnancy. One of the many complications they write, "which may occur during the early prenatal period nausea, with or without vomiting was most frequent and most transparently psychogenic.

OBJECTIVES

1. To study the impact of stress related to reproductive system and pregnancy.
2. To study the factors causing stress during pregnancy.
3. To study the relevance of prenatal yoga during different trimesters.
4. To study the effective ways of performing prenatal yoga.

REVIEW OF LITERATURE

Satyapriya, et al. (2009) performed a study on pregnant women, who participated in a weekly yoga classes for a month and then continued practicing yoga at home reported 31.57% less perceived stress at 36 weeks of gestation compared to the baseline stress levels. In addition, this study found that prenatal yoga can help to balance the body's autonomic responses to stress there by reducing the like hood of experiencing negative effects of increased prenatal stress.

Curtis, et al. (2012) designed a study to evaluate the existing literature on yoga for pregnancy. Six data base were searched using the term “yoga AND pregnancy” and “yoga AND (post-natal or postpartum)”. All studies were evaluated for methodological quality according to the Jadad scale and Delphi list. Six trails were identified-three were randomized controlled trails (RCTs) and three were controlled trails (CTs). The methodological qualities and reporting ranging from 0-5 on the Jadad scale and from 3-6 on the Delphi lists were found. Findings of the study indicated that yoga may bring in the improvements in stress level, quality of life, aspects of interpersonal relations, automatics nervous system functioning and labor parameters such as comfort, pain and duration.

Lee, et al. (2012) studied to identify the effects of a Yoga-focused prenatal program on the stress, anxiety, self-confidence and labor pain of pregnant women who had in vitro fertilization (IVF) treatment. A quasi experimental study with a non-equivalent control group pretest-posttest design was used. The data collection period and meditation program were between January 9 and August 31, 2009. Forty-six women who were pregnant following IVF, and were between 12-20week gestation, participated in the study (23 experimental group, 23 control group). Data were analyzed using Chi-square test, Mann-Whitney U Test, ANCOVA, and Cronbach's alpha coefficients with the SPSS 12.0 for Windows Program. Although the sample size was limited, women who participated in the program showed statistically significant improvements in stress, anxiety, labor pain, and labor confidence for women pregnant after IVF. The result indicate that this 12-week Yoga-focused educational program can be utilized for women pregnant following IVF to reduce their stress, anxiety, and labor pain, and to increase delivery confidence. It is suggested that the Yoga-focused educational program be offered to every pregnant woman.

WHY PRENATAL YOGA?

Prenatal yoga is a technique itself consists of a system of training in various degree. At the top degree, the training is purely spiritual, at the bottom, purely physical, both mental and physical at the intermediate level. Applied to the study of yoga, we need to have a thorough understanding of the relationship between the

physiology of body and the various exercises and poses the practice yoga calls for. Once this is clear, we will exactly know why we are being asked to do them and will put our pure efforts into the doing. Body is made up of complex mechanism in which the skeleton is the marvelously flexible frame work. There are over 400 pairs of muscles articulating this framework. There are parallel system of nerves and blood vessels controlling its movements, sensation, responses, etc. Some of the processes that comprises living are conscious where as others automatic. We cannot control the activities of heart, digestive system or our rate of metabolism. In addition to bones, sinews and nerves, there are still other components which medical sciences only recently begun to know- the endocrine or the ductless gland system. Since these systems only makes our body work. There are eight sets of gland in our body. They control the growth, weight, size, metabolism energy, health, sexual power, and even disposition. There are many different types of yoga, some of them are more strenuous than others. During pregnancy, Bikram yoga, commonly called hot yoga, which generally involves doing very much vigorous poses in a room heated to 100 to 110 F. By this, the body temperature will increase which may affect the child and even cause hyperthermia. Other than Bikram yoga, Ashtang and other types of power yoga should be avoided during pregnancy. Whenever any exercise is performed, the blood flow shifts from your internal organs (including uterus) to give the muscles, lungs and heart the excess required oxygen. If a woman is going through a yoga program and finds that specific pose is painful or too difficult, she should either seek a modification of that pose which is more comfortable or move on to another pose (Erik, 2009). Prenatal yoga and Hatha yoga are considered best during pregnancy. If too much strenuously exercises are performed it will restrict oxygen to the uterus. Therefore, it is recommended to stick within a restricted heart rate level to ensure that the baby is getting enough amount of oxygen and also a skeptical check should be given on keeping the body properly hydrated during exercise. Glory to those women who treated the path of yoga! “Sivananda”. Sun, et al. (2010) yoga does involves physical efforts and can gradually increase an individual’s heart rate, it is much more than just an exercise. A typical prenatal yoga exercises should involve breathing, gentle stretching, postures, cool down and relaxing. Practicing yoga encourages to focus on breathing in and out slowly and deeply through the nose. Babbar, et al. (2016) yoga is a mind body practice that encompasses a system of postures, deep breathing and meditation. There are different breathing techniques and making deep sounds, such as humming or grunting. Prenatal yoga techniques may help to reduce or manage shortness of breath during pregnancy and work through contractions during labor. It encourages to gently move different areas of the body, such as legs, neck, arms, etc, through their full range of motion. Postures such as sitting, standing or lying on the ground involves different positions aimed at developing the strength, flexibility and balance. Props such as blankets, cushions and belts may be used to provide comfort and support. At the end of each

prenatal yoga classes relaxation of muscles, restoring of heart rate and rhythm breathing is involved. Improved mood, relaxation, less stress, and appropriate weight gain are some of the outcomes. Studies has shown lessening of mood swings, improvement in self- image and feeling of sense of control. According to *Alderman et al.* (1998). Yogic exercises are considered an acceptable method for improving and maintaining physical and emotional health. A growing body of evidence supports the belief that yoga benefits physical and mental health via down-regulation of the hypothalamic-pituitary-adrenal (HPA) axis and sympathetic nervous system (SNS). *Melzer, et al.* (2010) concluded that regular physical exercise has maternal and fetal advantages that outweigh risks and recommend at least 30 minutes of exercise, most days of the week for the prevention and treatment of conditions associated with inactivity, such as gestational diabetes and hypertension.

RECOMMENDATION

1. There should be proper communication between the pregnant women, family members and concerned doctor or mid-wife. Negative environment should be avoided. Keen check should be given on forced pregnancies.
2. Prenatal yoga should be practiced on regular basis at least for 30 minutes under skeptical supervision of practitioner. During session, proper motivational thoughts should also be inculcated for the development of positive self-imagery of pregnant woman.
3. Intensity of yogic exercises should depend upon the capacity of the pregnant women. Difficult or painful poses must be avoided. Yoga program should be designed and modified individually.
4. Proper equipment, cushions and yoga mats should be used while performing.
5. Hot and humid environment should be avoided for practice. There should be proper ventilation in the room.

CONCLUSION

Prenatal yoga can be beneficial if performed properly. Yoga poses not only strengthen the pelvic, back, legs and arms muscles which are very much useful but also helps psychologically overcome stress during pregnancy and while delivery. It balances the body physically and emotionally. Much like other types of child birth preparation classes, prenatal yoga is a multifaceted approach to exercise that encourages stretching, mental centering and focused breathing. Research suggested that prenatal yoga is safe and can have benefits for pregnant women and their babies. Studies have suggested that prenatal yoga can decrease

the risk of preterm labor, pregnancy- induced hypertension and intrauterine growth restriction- a condition that slows a baby's growth.

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