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## **Weak pelvic floor muscles as one of the leading cause for recurrent miscarriage among females**

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**Abstract**---Recurrent miscarriage is the leading problem among the pregnant women's of present scenario. Though there are many causes for this such as anatomical, hormonal, genetic, clotting factors, environment and infections. But till date no research has been done to consider weak pelvic floor muscles as one of the cause for recurrent miscarriage. In this study we have explained about the effect of pelvic floor muscles on recurrent miscarriage. Along with this we have discussed the diagnostic ways to rule out recurrent miscarriage and pelvic floor muscles. If a patient has been diagnosed with weak pelvic floor muscles without going for any surgical or medical management we can simply treat this problem by strengthening exercises of pelvic floor muscles.

**Keywords**---recurrent miscarriage, pelvic floor muscles, strengthening exercises.

### **Introduction**

Recurrent Miscarriage is defined as the term in which female goes for repeated miscarriage more than two times. There are many reasons for its etiology such as genetic factors, environmental factors, infections, hormonal disorders, clotting disorders, conditions affecting uterus and many more. Mostly more than fifteen percent pregnancies end up in miscarriage due to above mentioned reasons. Generally miscarriage is taken place before 20 weeks of gestational period but in some research articles the time taken form miscarriage is first 12 weeks of gestation. If the miscarriage occurs before 12 weeks then term is known as early miscarriage and from 12 to 24 weeks term as late miscarriage. It generally occurs in one in five pregnancies. This recurrent pregnancy not only causes physiological changes in pregnant women but affect the patient psychologically also. Approximately 50 percent of womens are diagnosed with a exact diagnose but remaining fifty percent are left with unclear or do not have defined cause of this condition.

Environmental factors such as excessive smoking, consumption of alcohol, caffeine and excessive exercise are responsible to cause repeated miscarriage among western countries. As most of the females are consuming alcohol and smoking in their daily living activities. Many females generally ask the link between miscarriage and environmental factors but there are very less studies supporting the relation of the miscarriage to environmental factors. One study has found that there exists strong relation between smoking and miscarriage. They stated that miscarriage has nothing to do with chromosomal problems but there may be on reason that placenta carrying less capacity to transport oxygen and nutrient to the foetus.<sup>1</sup>

According to one of the article smoking during pregnancy causes genetic damage to the developing fetus .As chromosomal problems is one of the most common causes of miscarriage. Along with this smoking can cause difficulty to implant for fertilized egg as it may affects the lining of the uterus.<sup>2</sup>Other studies states that fathers who are chronic smoker may also be the one reason of miscarriage among females as heavy smoking may tend to increase incidence of sperm with chromosomal abnormalities.<sup>3</sup> Along with this other studies states that smoking in later pregnancy period affects the placenta. This affect the nutritional supply to foetus which may decrease.<sup>4</sup> In addition to this, it may also result in low birth weight babies as well as death in early years of life.<sup>5</sup>

Genetic Factors such as abnormal chromosomal in any partner, particularly translocation, antiphospholipid antibodies and uterine anomalies may be the cause of miscarriage. Chromosomal aberrations is the one of the main causative factor found in parents and cause of abortion if carried to the embryo .Leading to 50 percent transmission rate in the embryo. Other correlated factors with chromosomal abnormalities are abnormalities in shape and size of embryo, developmental delay rates and age of pregnant women. In addition to this translocation in either partner is one of the most important causes of recurrent miscarriage and the prognosis of subsequently pregnancy in couples with abnormal embryonic karyotype is poorer than that in couples with normal karyotype.<sup>6</sup>

Infections such as bacterial, protozoa or viral infection can also be one of the reasons for miscarriage. During pregnancy many times skin, urinary tract and respiratory tract can occur but they causes no serious problems to pregnant women as well as foetus. But there are some infections that can be passed to foetus and further it can lead to miscarriage. Sexually transmitted diseases such as chlamydial infection, Gonorrhoea, Syphilis, Human Immunodeficiency virus can cause serious problems to foetus but they are not causing death among foetus.<sup>7</sup> Hormonal disorders such as the overactive or underactive thyroid issue can result in hormonal imbalance. The miscarriage can be due to the uterine lining that doesn't develop normally for implantation and nourishment of a fertilized egg. Elevated Prolactin levels can cause proper development of the uterine lining leading to miscarriage. Non-Cancerious growths such as fibroids and polyps can grow and invade the uterus leading to miscarriage.<sup>8</sup>

Clotting Factors can also result in miscarriage as there is increase in the estrogen level during pregnancy. Though it may be possible that women with clotting factor

may give birth to a healthy child but in some cases it causes serious problems leading to foetal birth. Some of the clotting factors such as factor V Leiden; Thrombophilia can be responsible to cause miscarriage among females. Factor V Leiden –A clotting disorder can cause blood clots to form in blood vessels in the placenta during pregnancy. This can result in miscarriage.<sup>9</sup>

The aim of this research paper is to make general people aware about the leading causes of recurrent miscarriage. As we discussed that there are many causes for prevalence of this condition such as genetic causes, environmental causes, clotting factors, infection and hormonal causes which has been discussed in various research paper by various researcher. Along with these causes there is one very important cause for this condition which has yet not been discussed in previous published research papers i.e. weakness of pelvic floor muscles. It is one of the very important cause to consideration as many females have recurrent miscarriage but after examination (uterus) and diagnostic testing they are not being ruled out with any abnormality and the exact cause of miscarriage is not known.

Diagnosis: - To evaluate the cause of RM patient goes to gynecologist or fertility specialist. Then patient history is taken along with medical and past pregnancy history. After this complete physical examination along with pelvic examination is done of the patient. After this for diagnosis patient may be referred to go for urine test, Transabdominal ultrasound, intravaginal sonography or HSG (Hysterosalpingogram).

Pelvic floor muscle weakness can be ruled out from history taking of patient. In many cases of weak pelvic floor muscles patient may have a history of chronic respiratory disease from childhood such as asthma or COPD. Due to prolonged coughing there can be increase in the intraabdominal pressure leading to weakness of pelvic floor muscles. The hormonal changes during pregnancy may also cause the weakness of PFM. The loosening due to hormonal changes, along with the developing baby causes compression on the bladder may cause the leakage of urine when a person is doing those activities which increases intraabdominal pressure such as coughing. Along with this we can perform intravaginal examination of pelvic floor muscles to rule out which muscle is affected and then we can grade the strength of the muscles according to HETS strength grading method of pelvic floor muscles. If the patient is diagnosed with weak pelvic floor muscle then we can first go for strengthening of the same. Strengthening will tend to hold the foetus in position avoiding the recurrent miscarriage. Along with this female may overcome with urine leakage complaints also.

Treatment of recurrent miscarriage can be medication, lifestyle changes and surgery. Many times medical and surgical management decrease the risk of miscarriage. For anatomical reasons surgery is the choice of treatment. Along with this treating the underlying pathology such as hormonal imbalance due to thyroid abnormality, abnormal sugar levels can improve the chances of healthy conception. If the underlying cause is weak pelvic floor muscle then we can go for strengthening of these muscles which ultimately are going to increase the chances of stability of foetus in the womb.

## Conclusion

Based on the review of the articles regarding the cause of recurrent miscarriage. We can conclude that recurrent miscarriage is due to number of causing factors .The cause depends upon person to person. But considering the above referred articles we can come up with the conclusion that no study has been done keeping weak pelvic floor muscles into consideration. In this study we had put consideration to involve weak pelvic floor muscle as one of the leading cause in this present scenario. As many are not considering it as a important cause Future studies can be done on weak pelvic floor muscles patients to rule out the effect of miscarriage .Along with this implementation of strengthening exercises for PFM can be done on recurrent miscarriage patient to get the significant outcome measures.

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