

Voice Change of Women during Pregnancy

Dr. Eshita Chakraborty

Assistant Professor

Department of Hindustani Classical Music (Vocal)

Sangit Bhavana

Visva Bharati

Santiniketan

Introduction:

Pregnancy is a life-changing event. It is a long term procedure. Various psychological, physiological, metabolic and anatomical changes take place within a woman's body from conception to delivery. Sounding voice change during pregnancy is normal.

Would be mother may be glowing with happiness to welcome her little bundle of joy into this world. Everyone around her may have loaded her with information about the physical & emotional changes that her body may be undergoing. However, nobody would mention about the voice changing experiences during this phase. Sounds strange or weird, well, many women may actually experience a difference in their voice during pregnancy.

Actual Facts:

Our voices say a lot about us, whether we are aware of it or not. It directly reflects our personality to outer world. Relying on only the average pitch of a person's voice, one can instantly tell if they are a child or adult, a man or woman. Actually, the voice pitch is highly sexually dimorphic – it is almost twice as low in men as in women. This sex difference emerges during puberty following a flow of testosterone in males that lengthens their vocal folds in their laryngeal area, causing voice pitch to drop off sharply along with a remarkable sexual maturation in adolescent boys.

Though lesser studied and non-remarkable, women's voices too reveal clues to their fertility. The pitch of women's voice varies across their menstrual cycle and lowers after menopause. It may represent a putative signal of women's fertility and reproductive age. And hence follows dramatic changes in women's sex hormone levels and bodies during and after pregnancy. Scientists have known for decades that women's voice pitch decreases after menopause, by as much as 35 Hz (for a woman with an average voice pitch, that's more than three semitones). Among women of reproductive age, more recent research suggests that voice pitch may also increase around ovulation each month.

Pregnancy affects the voice during the third trimester by changing the quality and perturbation rates. Women's voices become lower-pitched and more monotonous after giving birth of a baby. One possible explanation is that this is caused by internal hormonal changes after childbirth. Previous research has shown that women's voice change takes places with fertility, with pitch increasing around the time of ovulation each month, and decreasing following menopause. After pregnancy, there is a sharp drop in the levels of key sex hormones, and that this could influence vocal fold dynamics and vocal control. Of course, every new mother knows that rearing an infant can be physically and mentally exhausting, so the drop in voice pitch after childbirth could likewise be related to fatigue or motivational changes for them. This effect could also

be behavioural. Research has already shown that people with low-pitched voices are typically judged to be more competent, mature, and dominant, so it could be that women are modulating their own voices to sound more authoritative, faced with the new challenges of parenting. Additionally, new mothers often experience increased mental and physical fatigue, as well as mood swing and change in self-perception. Throughout pregnancy, rises in the levels of estrogen and progesterone cause changes in many parts of a woman's body, including changes that affect the voice. This could be reflected in their voices, although given all everyone knows about the impact of hormones and social context on vocal pitch, it's unlikely that this effect is due just to tiredness alone.

Another interesting possibility that is gaining popularity in voice research is that these and other dynamic voice changes (such as the rise in pitch at ovulation) may be partly attributed to behavioural voice modulation. Humans have an extraordinary capacity to alter their voice pitch at will.

In addition to this, our voice pitch affects how others perceive us. A low-pitched voice is typically judged as dominant, competent, trustworthy and mature, whereas a relatively high-pitched voice is judged as more submissive, feminine and youthful. Taken together, all of this suggests that women might raise or lower their voice pitch depending on how they wish to be portrayed by others across social contexts, or at various life stages, such as when braving the role of a new mother. Whether this kind of voice modulation is conscious or not remains an open question.

There are several reasons of women voice changes during pregnancy:

- Swollen vocal cords
- Altered range of voice
- More fragile Blood Vessels in the Vocal Cords
- Postural changes
- Increased likelihood of Acid Reflux
- Reduced Lung Capacity
- Lowered Nasal Resonance

- **Swollen Vocal Cords and Altered Range of Voice:-**

Women experience swelling in various different parts of their body throughout pregnancy due to fluid retention as well as other metabolic alterations. During this period, the vocal cords also swell up. This increases the weight and stiffness of the vocal cords, making them less pliable. This may have an effect on the overall range of the woman when singing.

- **Increased fragility of blood vessels in the Vocal Cords:-**

Pregnancy causes blood vessels to become dilated in various parts of the body. This is the cause of many pregnancy-related problems such as hemorrhoids, varicose veins and swelling of the vagina. In the same way, the blood vessels in the vocal cords may also become dilated, which increases their susceptibility to hemorrhaging. Women singers are advised to rest their voice during pregnancy. They are to avoid attempts to increase their vocal range during this period too.

- **Postural changes:-**

Hormonal changes cause relaxation of the ligaments during pregnancy, causing shifts in the shape of the chest, back and pelvis. These postural changes may completely alter the support and singing mechanism.

- **Increased likelihood of Acid Reflux:-**

During pregnancy, acid reflux and indigestion are common problems that women report. Hormonal changes during pregnancy cause relaxation of the lower esophageal sphincter, which usually prevents stomach acids from splashing up into the esophagus. Not only that, the stomach capacity is reduced, which means acid regurgitation is more likely when the pregnant woman's stomach becomes full. Symptoms of acid reflux causing laryngeal irritation include an altered voice, frequent need to clear the throat, and heartburn.

- **Reduced Lung Capacity:-**

The diaphragm and other organs of would be mother are pushed up into the chest cavity as the baby develops and grows in the womb. Thus, as the pregnancy progresses, the pregnant woman may find it difficult to breathe deeply enough to prolong certain high notes & even a normal note. This may lead to vocal fatigue, and a reduced ability to sustain notes for a long period while singing.

- **Lowered Nasal Resonance:-**

Swelling of the nasal mucosa may also occur during pregnancy. It reduces the ability of the woman to inhale through the nose. This reduces or prevents the resonance of sound within the paranasal sinus cavities, which can cause the voice to lack vitality of pregnant lady.

Conclusion:-

Hormones may be the reason in most cases of changed voice issues during pregnancy; however, if any of the following changes is experienced by pregnant women, she should visit a laryngologist as soon as possible:

- Any loss of voice during pregnancy
- Any sort of discomfort or pain while talking or singing
- There is a sudden change in voice quality after talking or singing or when sneeze or cough

Experiencing any changes in voice during pregnancy, it is essential for the expecting women to understand that it is a very normal phenomenon. Also, she should not make efforts to strain her voice thinking that it may make it better. Sometimes straining the larynx may damage vocal chords. Women during pregnancy, should relax, drink ample amounts of water and do some breathing exercises to reduce any swelling.

References:-

1. <https://journals.sagepub.com/doi/10.1177>
2. <https://www.mediasphera.ru/issues>
3. <https://www.sciencedirect.com>
4. www.theconversation.com
5. www.sciencedaily.com
6. <https://www.edicaldaily.com>
7. <https://www.researchgate.net>
8. <https://www.independent.co.uk>
9. www.asha.org/events
10. <https://www.thebump.com/news/pregnancy-lowers-voice-pitch>
11. <https://www.parents.com>
12. <https://community.babycenter.com>
13. www.singwise.com
14. www.womenscenteroftexas.com/resources/pregnancy
15. <https://www.huffingtonpost.com/effects-of-pregnancy>
16. <https://www.nytimes.com/2017/02/23/well/family>
17. Zi-Yu He, Sex Hormones in Neurodegenerative Process & Diseases, IntechOpen (Publisher), Rijeka(Place), ISBN 978-1-78923-15-4

