

# Hypnofertility-Based Nursing Care in Relieving Stress for Women with Need for Fertility Support

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## ABSTRACT

Fertility problem is a major source of stress for couples. Stress is also known to play an important role in reducing fertility. Hypnofertility is a method that can be used to relieve stress. The basis of Hypnofertility was constituted by HypnoBirthing philosophy. "Hypnofertility Support Program" was created by HypnoBirthing Institute educator Sherry Gilbert in 2013 to ensure the use of Hypnofertility on couples living fertility problems. Its basic principle is that fertility is a natural function. In this article, a sample intervention plan based on an Hypnofertility Support Program has been prepared that nurses can perform to women who are taking fertility support from the first encounter until the last meeting. In the intervention plan, ways stress affect fertility and initiatives that can be performed for areas affected were explained in detail. The use of Hypnofertility-Based nursing care will provide a holistic, systematic and based on knowledge approach to women. The program can be effective in reducing the stress of women, increasing pregnancy results and changing the confidence and perspective to nurse.

## Introduction

Fertility problem is an important source of stress for couples. Stress is also known to play an important role in reducing fertility [1-6]. In spite of this, worldwide especially in our country only physical interventional procedures are provided to couples during fertility treatment. Nurses working in the fertility clinic support women in subjects such as training on the use of ovulation induction drugs, follow-up during examination, technical procedures such as pre-embryo transfer or post-embryo transfer. The psychological support provided is either insufficient for the woman or it is not effective in reducing stress because it is not professional, systematic and based on a specific method. The use of systematic, holistic and knowledge-based approaches to women by nurses who work with women with fertility problems may be effective in reducing women's stress, increasing pregnancy outcomes, and changing the perspective and confidence in nurses. This approach may also be an important indicator of the professionalism of the nurse.

When we look at the practices applied to women to reduce stress, we see that one of them is Hypnofertility, which has been applied recently. Hypnofertility argues that the brain strongly

affects the body and fertility is a natural function. The purpose of this article is to embody the use of Hypnofertility in nursing care, which will provide a systematic approach to reduce the stress of women who receive fertility support. By using Hypnofertility, it is aimed to create a sample intervention plan that health professionals can use to reduce the negative messages that women consciously or unconsciously recorded from the intrauterine life and the stress triggered by them, positively affect consciousness and subconsciousness, and cope with stressful situations.

## Mind-Body Map and Neuroendocrine Effect of Stress on Fertility

The brain records every experience from intrauterine life through to adulthood and consciously or unconsciously stores it in long- or short-term memory. Negative emotional responses are transmitted by the brain biochemically and electrically. These messages are released directly into the bloodstream and transmit to the hypothalamic / pituitary / gonadal (HPG) axis, which has hormonal responsibility in reproduction [7]. Hypothalamus is responsible for the induction of germ cells such as sperm and

ovum, and the regulation of hormonal balance [8]. Emotionally originated messages are sent to the brain through the receptors, to the autonomic nervous system. They then are transmitted to the anterior lobe of the pituitary [9]. The hypothalamus does not have a direct neuronal connection with the pituitary but is connected to the pituitary via the blood circulation. During emotional stress, it transmits stress hormones to the pituitary with hypothalamic signals, and at the same time reduces Gonadotropin Releasing Hormone (GnRH) secretion [8].

The pituitary gland is dependent on hypothalamic signals. Before the signals reach the anterior pituitary, GnRH is released into the blood while passing through the hypothalamus [9]. Luteinizing Hormone (LH) and Follicle Stimulating Hormone (FSH) are secreted by stimulating the anterior pituitary, and estrogen and progesterone are secreted by stimulating the ovaries. The hypothalamic / pituitary / gonadal axis is negatively affected as a result of the decrease in hormones under stress [8].

Through emotional stress, the autonomic nervous system is activated and then the sympathetic nervous system is activated, suppressing the hypothalamus. Emotional stress messages received through the frontal, parietal, occipital and temporal lobes of the brain are transmitted to the amygdala, where emotional messages

are processed and transmitted to the hippocampus, which acts as a channel. Emotional signals from the amygdala in the hippocampus are transmitted to the hypothalamus to initiate chemical reactions appropriate to the signal. The hypothalamus, which acts as the center, sends messages to the right brain, where the subconscious is affected, and the left brain, where consciousness is affected.

If there are similar messages in the past experiences, these messages are also activated in the right and left brain. It transmits chemical responses to the messages to the anterior pituitary in an efferent way [9]. While it is transmitted to the anterior pituitary, GnRH released into the blood decreases, LH and FSH release from the anterior pituitary and estrogen and progesterone release from the ovaries decrease. Corticotropin Releasing Hormone (CRH) is also released while stimulation goes from the hypothalamus to the anterior pituitary [8,10-12]. This causes Adrenocorticotropic Hormone (ACTH) and  $\beta$ -endorphin release from the anterior pituitary (Buckley, 2015).  $\beta$ -endorphin increases cortisol release. ACTH also stimulates the adrenal cortex, epinephrine and cortisol. Vasoconstriction occurs and the blood flow to the ovaries decreases [8,10-13] (Figure 1). Hypnofertility aims to reduce the neuroendocrine effect of stress on fertility and increase natural fertility by reducing the stress of the woman.

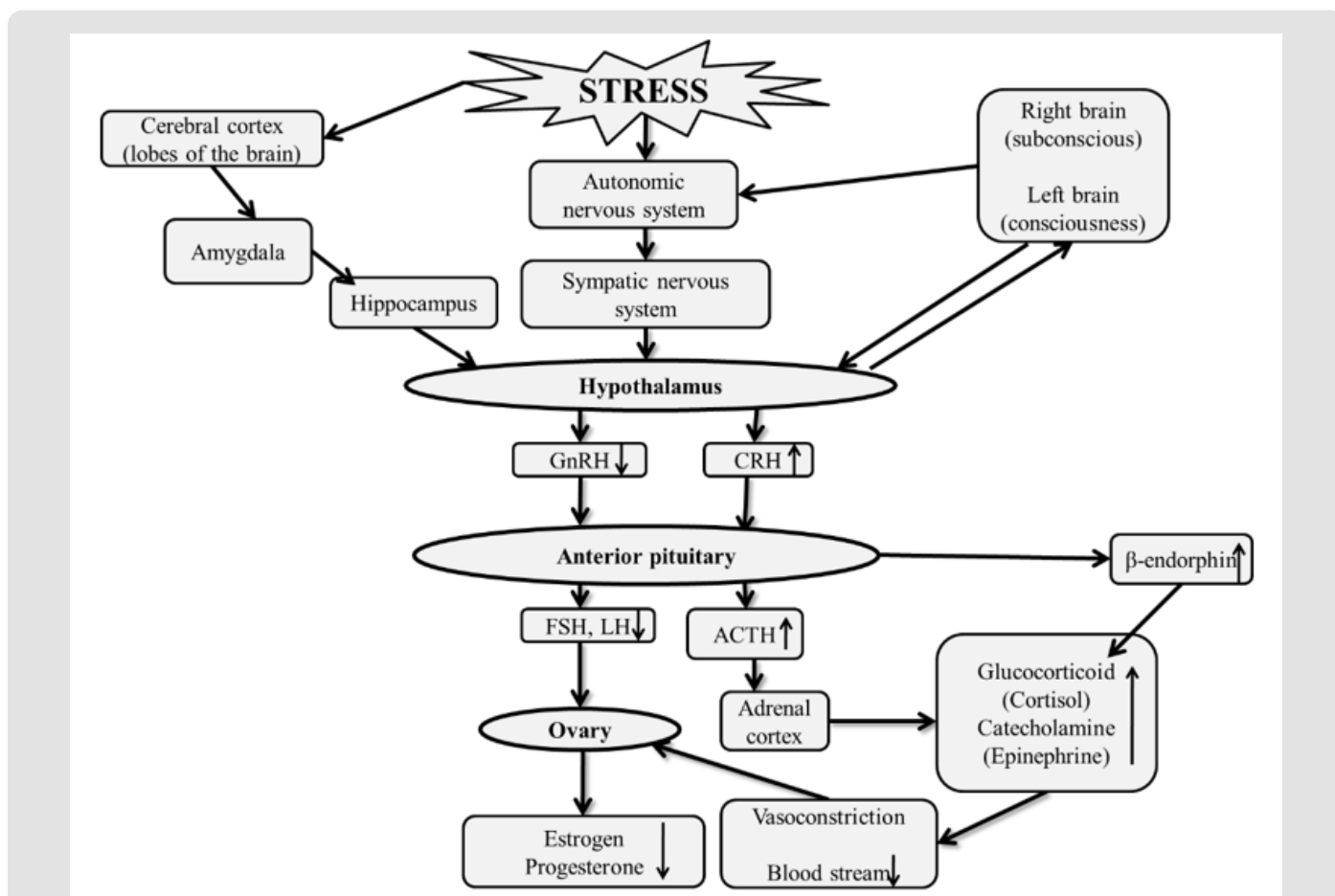


Figure 1: Neuroendocrine Effect of Stress on Fertility.

## Hypnofertility

The “Hypno Birthing” philosophy forms the basis of Hypnofertility. Hypno Birthing is a birth technique and philosophy developed by Marie F. Mongan, founder of the Hypno Birthing Institute, which physically and psychologically prepares women for birth. Its basic principle is that childbearing is a normal, natural and healthy function for women., it aims to ensure that the woman is free from her fears and relax by prenatal education and applying self-hypnosis at birth [14]. Based on the Hypno Birthing philosophy, the “Hypnofertility Support Program” was created in 2013 by the Hypno Birthing Institute trainer, Sherry Gilbert, to ensure its use in couples with fertility problems. Its basic principle is that fertility is a natural function [7]. The program is based on powerful and effective mind-body interaction. The mind, consciously or unconsciously, records

all of our experiences and external messages since our childhood. The mind functionally consists of consciousness, subconscious and critical factors [7].

**Consciousness** is the part that makes analysis, logic, and where reality takes place. It records short-term memory. It includes personal boundaries, attitudes, beliefs, decisions, hope for the future, and thoughts. Women with fertility problems often hear words such as infertile, unsuccessful, sterile, complete failure, complex, difficult, dysfunction, disorder, damage, deficiency, too late. Experiences and these negative messages from outside turn into social isolation by negatively affecting personal boundaries; attitudes such as blame, jealousy; the belief that treatment and itself will fail; the decision to stop treatment; to despair about pregnancy; thoughts such as difficult, complex [7] (Figure 2).

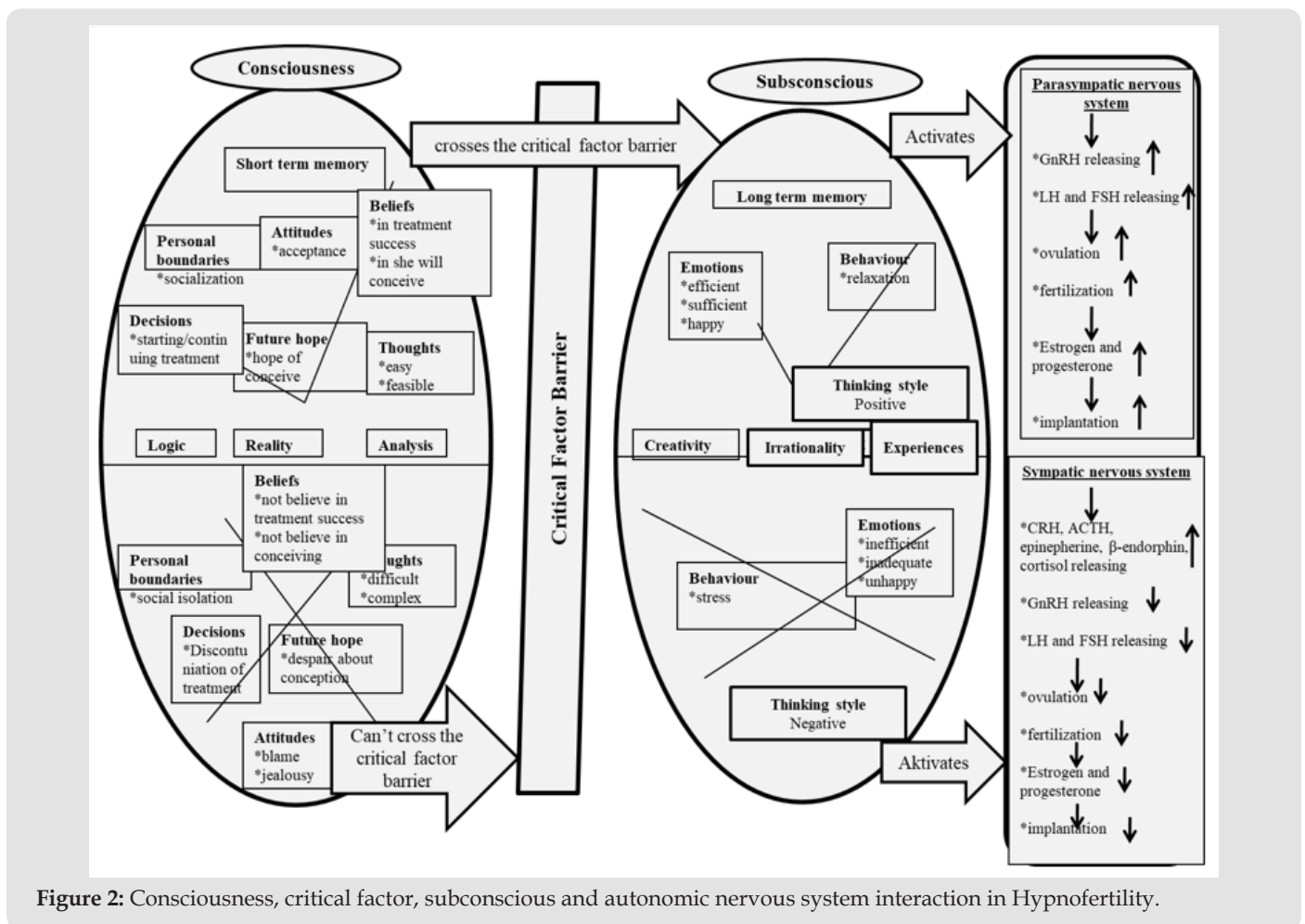


Figure 2: Consciousness, critical factor, subconscious and autonomic nervous system interaction in Hypnofertility.

**Subconscious** is the creative, emotional part that accepts without separating right or wrong like the computer; does not think rationally. It records the long-term memory. It records and stores all positive / negative experiences from intrauterine life to adulthood. Our subconscious contains emotions, behaviors, experiences and thinking style. The subconscious of women with fertility problems holds emotions such as inefficient, inadequate, unhappy. The women adopt a negative way of thinking during the diagnosis and treatment process and experience stress in terms of behavior [7]

(Figure 2). The critical factor is located between consciousness and subconscious. Our conscious does not accept messages without judgment. On the contrary, our subconscious accepts all messages, positive or negative.

**The critical factor** barrier comes into play with Hypnofertility and prevents negative messages from settling in the subconscious while allowing positive messages to settle. If there were negative messages in the subconscious before the application

of Hypnofertility, the old messages are removed and new and therapeutic messages are placed. Because the subconscious stores a single message at the same time, new messages coming to the subconscious are stronger, and when it conflicts with the old one, it is always accepted a new one. Messages placed in the subconscious by crossing the critical factor barrier are transmitted to the autonomic system via neurotransmitters. The parasympathetic nervous system is stimulated, then it is ensured that GnRH, FSH, LH, estrogen and progesterone hormones are increased, fertilization and implantation are facilitated [7] (Figure 2).

### How Can We Affect the Consciousness in a Positive Way?

The language of consciousness are words. Affirmations are used to positively affect consciousness. Affirmation is the positive expression of a discourse [15]. In order for affirmations to be effective, it must have 6P (Personal; Positive, Precise, Present Tense, Plausible, Practiced) feature. It should be personal, positive, precise, present, logical and practical. In the Hypnofertility method, instead of words such as infertile, unsuccessful, sterile, complete failure, complex, difficult, dysfunction, disorder, damage, deficiency,

too late, it takes words such as fertile, fertility, productive, efficient, capable, sustainable, abundant, possible, developing, improving, hopeful. These are mentioned as the language of fertility in Hypnofertility [7].

The language of consciousness affirmations is transmitted via neurons to the Wernike field in the temporal lobe. Auditory information processed in the Wernike area is transmitted to the amygdala, where it is processed and transferred to the hippocampus, which acts as a channel. Incoming sensory signals are delivered to the hypothalamus to initiate chemical reactions appropriate to the signal. The hypothalamus, which acts as the center, sends messages to the left brain, where consciousness is located. The critical factor barrier is overcome by positively affecting consciousness. Chemical responses to messages are transmitted to the autonomic nervous system and hypothalamus. It transfers them to the anterior pituitary through efferent way. While transmitting to the anterior pituitary, GnRH released into the blood, LH and FSH release from the anterior pituitary, blood flow to the ovaries and estrogen and progesterone release from ovaries increase [7,9] (Figure 3). Let's explain with examples how affirmations can be applied to individuals with fertility problems:

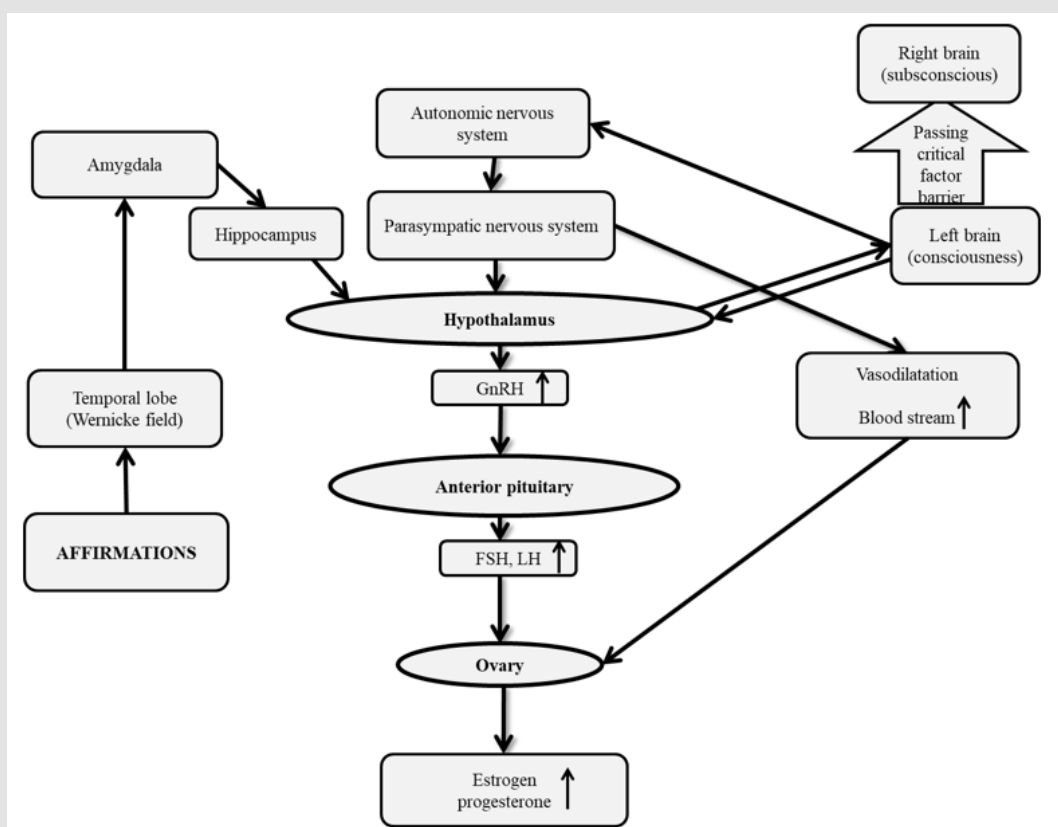


Figure 3: Neuroendocrine Effect of Affirmations on Fertility.

We can say to the woman whose follicles / oocytes are not sufficiently developed on the oocyte collection day, “Your eggs are still developing, we need more time to collect them” instead of saying “Your eggs are not developed, few and small”. Instead of

saying “You are not pregnant, treatment result is unsuccessful” to a woman who has a negative pregnancy test, we can say “You need more time and treatment to conceive, spend the time until the start of the treatment comfortably so that it affects the result positively.”

After consciousness is positively affected, *personal boundaries* are positively affected, turning into socialization, *attitudes* such as acceptance, *belief* that the treatment will be successful and conceiving, the *decision* to start or continue treatment, the *hope* of conceiving, and *thoughts* such as easy and feasible are occurred.

### How Can We Affect the Subconscious in a Positive Way?

The language of the subconscious is visualization, relaxation, and imagination. Frontal and parietal lobe using imagination, Wernike area located in the temporal lobe using relaxation, and occipital lobe using visualization are stimulated. Sensory information resulting from visualization, relaxation, and imagination is transmitted to the amygdala and from there to the hypothalamus via the hippocampus. The hypothalamus sends messages via afferent way

to the right brain where the subconscious is located. If there are positive messages during visualization, relaxation and imagination, they are sent to the left brain and transmitted to the right brain after crossing the critical factor barrier.

Chemical responses to messages are transferred from the right brain to the autonomic nervous system and hypothalamus. The hypothalamus conveys it to the anterior pituitary via an efferent pathway. While passing to the anterior pituitary, GnRH released into the blood, LH and FSH release from the anterior pituitary, and estrogen and progesterone release from the ovaries increases [7,9]. At the same time, blood flow to the ovaries increases with the activation of the parasympathetic nervous system [13] (Figure 4). Let's clarify with examples how visualization, relaxation and imagination can be applied to individuals with fertility problems:

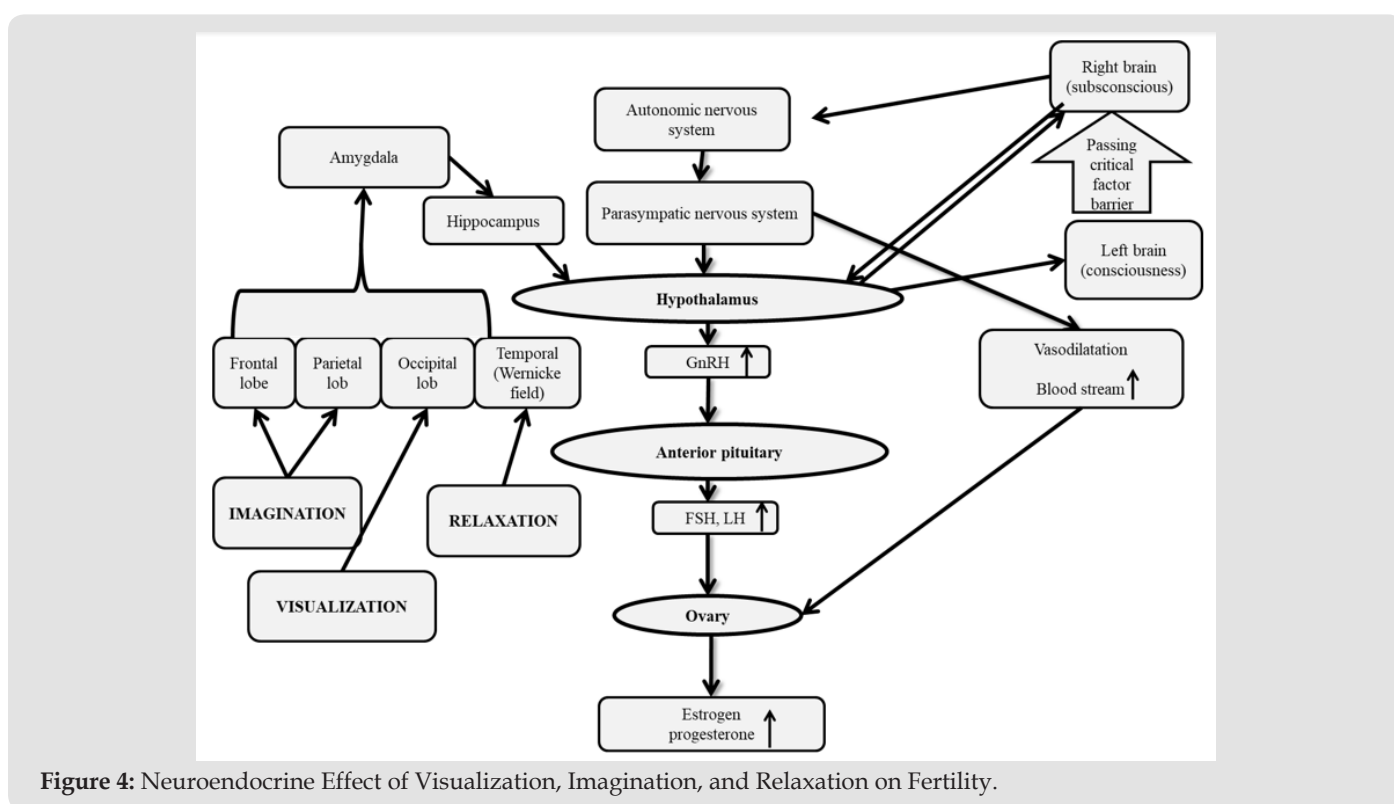


Figure 4: Neuroendocrine Effect of Visualization, Imagination, and Relaxation on Fertility.

#### Visualization

Creating a visual in the mind of a person and adding taste, smell and sound to it [16]. Visualization enables the parasympathetic nervous system to be activated and the HPG axis to be positively affected. For example, hanging pictures of couples who have children after treatment in the clinic can enable the woman to create the picture that she is in when she sees the pictures. As another example, when a woman visualizes her baby, she can create the baby picture in her mind, feel the smell, and hear the voice.

#### Imagination

It is the imagination of the place, the event and the time

in which one can feel calm, relaxed and peaceful [17]. The aim of the technique is to mentally remove the individual from the uncomfortable environment, to reduce tension, to provide mental and physical relaxation [18]. For instance; imaging the blood flow to the uterus during and after the embryo transfer will activate the parasympathetic nervous system of the woman to relax and really increase the blood flow to the uterus.

#### Relaxation

It is the person's leaving his body to nothing. It is one of the techniques frequently used to get rid of the effects of stress. During relaxation, breathing exercises, imagination, visualization, mental

space creation and music can be used [16]. With the breathing exercise, the air goes deep into the lungs and is breathing regularly [16,17]. By creating a mental space, the person feels comfortable and peaceful during relaxation [16]. The use of relaxing music with positive meaning or without words decreases cortisol hormone level and neuromuscular arousal and stimulates the parasympathetic nervous system [19-21]. For example, the fact that a relaxing, non-verbal music is played in the clinic, the use of breathing exercises and the mind area during the procedures will help the woman to relax.

As a result of visualization, relaxation and imagination, emotions turn into productive, sufficient and happy, the way of thinking about the diagnosis and treatment process turns into positive, and behavior turns into relaxation [7].

### How Can be Practiced Hypnofertility-Based Cursing Care?

There are the experiences women have gained in the past and the messages they constantly receive. The nurse must first question these. A sample intervention plan based on the Hypnofertility-Based nursing care has been prepared, which can be applied by nurses from the first encounter with the woman receiving fertility support to the last interview (Table 1). In the intervention plan, according to the Hypnofertility method, how stress affects fertility, interventions that can be made for the areas affected in Hypnofertility to reduce stress are included. The intervention plan can be used in nursing care, individual or couple clinical practice. Thus, women will be evaluated in a holistic manner and psychosocial factors that negatively affect fertility will be determined and reduced.

**Table 1:** Hypnofertility-Based Nursing Care -Sample.

Time	Purpose	Intervention		Areas affected in hypnofertility
In the first encounter with the woman;	*To reveal the negative thoughts in the mind	*Learning the positive or negative feelings, thoughts, beliefs and behaviors in the subconscious about infertility	Affirmation	Thoughts Personal limits (Consciousness)
	*To ensure that affirmations affect the consciousness positively	*Using hypnofertility language *Teaching to use affirmations at home *Hanging affirmations in the waiting room	Affirmation	Attitudes Beliefs Future Hope Thoughts Decisions (Consciousness)
	*Ensuring that the woman affects her subconscious positively through visualization	*Using visualization by hanging pictures in the waiting room *Teach them to use visualization at home	Visualization	Emotions Thinking style (Subconscious)
	*Relaxing the woman	*Using relaxation music in the clinic *Teaching breathing exercises *Teaching their use at home	Relaxing	Emotions Behaviours (Subconscious)
In drug education;	*To ensure that affirmations affect the consciousness positively	*Using hypnofertility language *Writing affirmations to education rooms	Affirmation	Attitudes Beliefs Future hope Thoughts Decisions (Consciousness)
	*Ensuring that feelings of anxiety and curiosity during drug education are replaced by feelings such as hope	*Imaging that follicle / oocyte development during drug education	Imagination	Emotions Behaviours Thinking style (Subconscious)
	*To make the woman relax	*Using relaxation music *Breathing Exercises	Relaxation	Behaviors (Subconscious)
During examination and procedure days (Oocyte Pick-up, Intrauterine insemination, Embryo transfer etc.);	*To ensure that affirmations affect the consciousness positively	*Using hypnofertility language *Writing affirmations to examination rooms	Affirmative	Future hope Thoughts Decisions (Consciousness)
	* To make the woman relax	*Using relaxation music *Breathing Exercises	Relaxation	Behaviors (Subconscious)
On the day of pregnancy test;	*To ensure that the affirmations affect the consciousness positively	*Using the language of Hypnofertility	Affirmation	Attitudes Beliefs Future hope Thoughts Decisions (Consciousness)

## Conclusion

The fact that the Hypnofertility-Based nursing care is non-invasive, cheap and easily applicable is important for nurses to use in nursing care. Clinician nurses' use of this program in care will provide a systematic, holistic and knowledge-based approach to women. It is thought that the program will be effective in reducing the stress of the woman, increasing the pregnancy outcomes and changing the trust and perspective towards the nurse. Research nurses can also plan research on the subject in order to evaluate the effectiveness of Hypnofertility on the stress and pregnancy outcomes of women with fertility problems.

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