



IMPROVING MENTAL AND EMOTIONAL HEALTH FOR PREGNANCY PREPARATION

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OBJECTIVES

At the end of the module, the participants will be able to:

1. To reinforce advocacy and provide leadership for the emotional and mental health of the prospective parents
2. To provide support on evidence based, cost effective, and human rights oriented emotional and mental health and social care services in community-based settings for early identification and management of prospective parents' mental disorders;
3. To provide strategies for promotion of psychosocial well-being, prevention and promotion of mental disorders of parents before, during pregnancy and after delivery;
4. To support the integration of the programmes with family health initiatives, with gender sensitive, and equity and human rights oriented strategies of WHO;
5. To strengthen information systems, evidence and research relevant to emotional and mental health of prospective parents starting with the period prior to conception.



1. General description of EMOTIONAL AND MENTAL HEALTH

1.1. Context. Description/definition of EMOTIONAL AND MENTAL HEALTH

The perspective of parenthood bring to future mother and father a lot of questions concerning their ability to give birth and take care of a child! “How can I be a good mother?” “How to deal with the parenting challenges?” “How can I not repeat the mistakes my parents made?” “How to manage work and family commitments?”

The arrival of a child in a family is for most parents a happy and long-awaited event, which brings them joy and fulfillment. However, the challenges of daily life added to the responsibility felt in the prenatal period can increase the stress level of the future mother and future father.

It is ideal for future parents to prepare themselves emotionally and mentally before the conception. The appearance of a child stirs up all the memories of rejection, separation, abandonment, suffering lived in childhood, in a word, all the unhealed traumas the future parents have ever experienced.

It is essential that before the conception of the child a process of integration of one's own relational experiences takes place. By forgiving and accepting their own person and then their own parents, the future mother and future father can open the way to an empathetic relationship between them and with their offspring.

Research has shown that stresses of everyday life, the emotional challenges, especially around pregnancy and birth, can affect the thinking style and behaviour of many prospective parents, so that coping with the many tasks of child-care become difficult. These problems with thinking, behaviour and coping are sometimes diagnosed as perinatal mental disorders. In such conditions, the parent experiences depressed mood, loss of interest and enjoyment, and reduced energy leading to diminished activity. In order to be diagnosed with depression, the parent must experience these symptoms for most of the time for at least 2 weeks. Many parents with depression also suffer from anxiety symptoms and medically unexplained somatic symptoms. They have difficulties carrying out their usual work, domestic or social activities due to symptoms of depression. In high income countries 1 in 10 women develop perinatal depression whereas in 1 in 5 women in developing countries suffer from perinatal depression.

1.2. The impact of EMOTIONAL AND MENTAL HEALTH on pregnancy /mother/child health proved

It has been known since ancient times that the mother's mental suffering during pregnancy can influence the child's health. In many traditions, expectant mothers are recommended to look at beautiful images, to rejoice, to experience positive emotions, to show love, etc. Unfortunately, many of the good advice passed down from ancestors are no longer taken into account and future parents are now less aware of the importance of emotional harmony before and after the conception of the child.



Worldwide about 10% of pregnant women and 13% of women who have just given birth experience a mental disorder, primarily depression. In developing countries this is even higher, i.e. 15.6% during pregnancy and 19.8% after child birth. In severe cases mothers' suffering might be so severe that they may even commit suicide. In addition, the affected mothers cannot function properly. As a result, the children's growth and development may be negatively affected as well. Maternal mental disorders are treatable. Effective interventions can be delivered even by well-trained non-specialist health providers.

An Italian study on almost 3600 children (2019, *Epidemiology and Psychiatric Sciences*) shows that maternal mental disorders before and during pregnancy (maternal anxiety, depression and sleep disorders) have been associated with the risk of attention-deficit/hyperactivity disorder (ADHD) in their offspring.

A study conducted in 2012 showed that the exposure of the pregnant woman to psychological and biological stress causes changes in health for both mother and child. Stress exposure was analyzed at 20, 25, 31, and 36 weeks of pregnancy, and children were assessed at 3, 6, 12, and 24 months of age for cognitive and neuromotor development, and the ability to respond to emotional demands. and stress. Assessment of cognitive function after the age of 2 years was performed by tests and brain imaging techniques performed between the ages of 5 and 8 years.

The results of this study showed that the mother's psychological and biological stress during pregnancy, especially in the first weeks of pregnancy, was associated with several increased risks for the child: delayed fetal development, difficulties in regulating emotions, impaired cognitive performance, decreased brain volume in areas associated with learning and memory (in children 6-8 years).

Effects have also been found in mothers, by disrupting endocrine function and increasing the amount of stress hormones. They were at increased risk of postnatal depression, affecting memory and the ability to manage emotions. The conclusions of the study indicate that the psychological and biological stress of the mother during pregnancy has long-term implications both in the neuropsychological development of the future adult but also on the interactions and quality of the mother-child relationship.

Other recent research suggests that maternal stress and anxiety experienced prenatally increase the risk of asthma and eczema in offspring.

1.3. The root of prenatal mental disorder symptomology

Ancient traditions underscore the importance for future parents of psychological balance before conception. Chinese traditions proposed many centuries ago the Taojiao: the art of "fetus education / prenatal education/prenatal influence" through a healthy maternal behavior manifested psychologically and physically prior to conception and during pregnancy. In our days, evidence-based research shows that future mother's emotions and mental state influence the health of future child, this is why it is very important that future mothers should be trained to manage their emotions even before conception. Negative emotions, such as anger, fear, panic impair the fetal

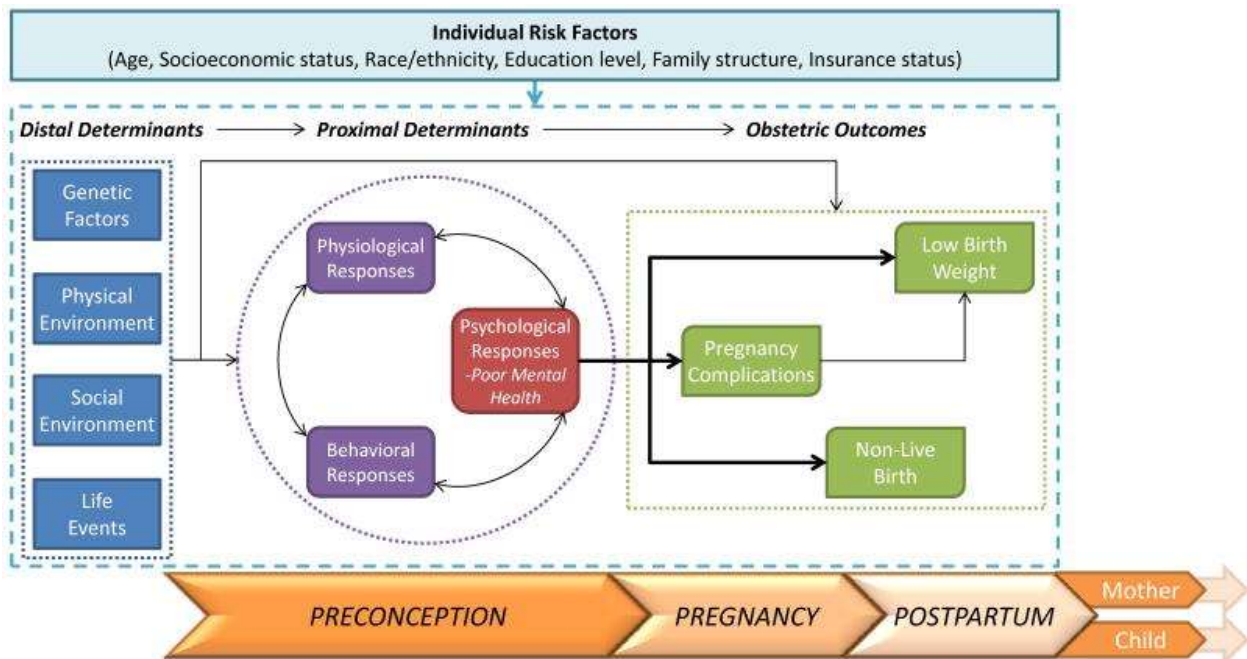


development; prolonged depression and anxiety could produce low birth weight and affect the neurodevelopment of the fetus and future child. A recent Australian cohort study ([https://www.thelancet.com/journals/eclinm/article/piiS2589-5370\(20\)30308-4/fulltext](https://www.thelancet.com/journals/eclinm/article/piiS2589-5370(20)30308-4/fulltext)) shows that common mental disorders (anxiety, mild depression) which occurred across adolescence and during young adulthood in a persistent manner both for future fathers or future mothers before conception can influence the duration of pregnancy, causing preterm birth. The findings of this study underscore the importance of optimizing mental health in adolescence both for boys and girls. The prevention of the onset and persistence of common mental disorders at young age will produce benefits not only for the mental health of the young adults but also for the health of their future children, minimizing the potential risks for their development.

2. Main researches/ studies concerning the EMOTIONAL AND MENTAL HEALTH. [PHOTO] 3-4 pages

2.1. Conclusions about determinants of common perinatal emotional and mental disorders in parents and the impact on children health

Some studies show that preconception mental health problems may be related to preterm birth and pregnancy loss. In what way?



Conceptual framework of the preconception determinants of adverse obstetric outcomes

From Matern Child Health J. 2012 Oct; 16(7): 1525–1541: Whitney P. Witt, Lauren E. Wisk, Erika R. Cheng, John M. Hampton, and Erika W. Hagen, Preconception Mental Health Predicts Pregnancy Complications and Adverse Birth Outcomes: A National Population-Based Study



In that model there are analyzed some distal factors, occurring before pregnancy, including genetic, physical environment, social environment, and life events, which can impact outcomes directly and also through more proximal preconception determinants including behavior, physiology, and perceived mental health.

This study was conducted in U.S. during 1996-2006 and included 8152 pregnant women. There were taken in account the following outcomes: pregnancy complications, non-live birth and low birth weight children.

Almost all women self-reported a mental health condition of anxiety or depression prior to conception. Women who reported poor mental health before pregnancy were 40% more likely to have a pregnancy complication, almost 50% more likely to have a non-live birth, and nearly twice as likely to give birth to a low birth weight baby. These findings draw attention to the importance of effective preconception care to improve mental and emotional well-being of future mothers and consequently of their babies.



There is accumulating evidence that maternal antenatal stress, including depression and anxiety, is associated with an increased risk of behavioural and emotional problems in the child (Glover, 2014). Fetal programming may account, the differences in the association between maternal and paternal mood during pregnancy and child outcomes. It is also supported the hypothesis of the potential opportunity for preventative intervention by optimizing antenatal mental health (Capron et al 2015). children of an externally oriented mother are more likely to score poorly on tests concerning the understanding of fundamental mathematical and scientific concepts compared to children of an internally controlled mother, and, importantly, we found that about half of this is due to features of the behavior of the mothers.

Programs to enable mothers to become more internally oriented may also help them use behaviors resulting in long-term benefit to the child's educational achievements (Golding et al 2019). Locus of control (LOC) measures an individual's expectancy regarding their ability to affect what happens to them based on their behavior. Those with an internal LOC (ILOC) believe their own behavior influences what happens to them. Those with an external LOC (ELOC) perceive that what happens to them is beyond their control (i.e. determined by luck, fate, chance or powerful others). It has been suggested that an ELOC pregnant mother is associated with many adverse personal, social, academic and newborn health outcomes (Iles-Caven et al 2018). Moreover, there is an interaction between pregnancy anxiety and sleep duration in the prediction of the timing of delivery (Tomfohr-Madsen et al 2019).

On the other hand, there is a promising relationship between dispositional mindfulness and mood and therefore completing mindfulness-based courses, is potentially beneficial for improvements in mood during pregnancy (Krusche et al 2019).

2.2. Screening instruments concerning EMOTIONAL AND MENTAL HEALTH of parents

For future parents, an interesting assessment of their emotional and mental balance could be the testing for Sense of coherence (SOC), in order to discover how they view life and how they might use their resources to overcome resistance and maintain and develop their health.

Sense of Coherence (SOC) (Antonovsky et al 1993) The SOC scale includes of 29 items. The responses to each question are rated on a seven-point scale (scores 1 to 7) and the total score is calculated. A higher total score indicates that the individual is more likely to demonstrate coping abilities in terms of comprehensibility, manageability and meaningfulness. The scale ranges from 0 to 203 points.

In a review of 15 studies concerning the SOC of pregnant women (*Sense of Coherence and Childbearing by Ferguson et al. published in INTERNATIONAL JOURNAL OF CHILDBIRTH Volume 4, Issue 3, 2014, © 2014 Springer Publishing Company, LLC www.springerpub.com*) It was shown the association of women with strong SOC with a positive experience of pregnancy including improved emotional health and improved health behaviors:

Pregnant women with strong SOC were less likely to smoke and more likely to seek out useful support compared to women with low SOC.



Women with strong SOC experiencing less depression, anxiety, stress, and posttraumatic stress disorder and demonstrated increased emotional health

Women with strong SOC were more likely to experience uncomplicated birth and birth at home, identify normal birth as their preferred birth option in pregnancy and identify a desire to avoid epidural anesthesia in labor compared to women with low SOC.

Edinburgh Postnatal Depression Scale (EPDS) (Cox et al 1987). EPDS, a 10 item self report scale, each item scoring 0–3, depending on the severity or duration of each symptom. **Women Abuse Screening Tool (WAST)** (Brown et al 2000). The original English version of the WAST consists of 8 short questions and it is a self-report scale consisting of statements describing forms of abuse (physical, sexual and emotional). Each question has three possible answers, graded depending on the severity or duration of each form of abuse.

Maternal Adjustment and Maternal Attitudes (MAMA) (Kumar et al 1984) MAMA is a 60-item self-administered scale designed to measure key psychosocial dimensions related to the maternity experience. A lower score indicates more positive maternal attitudes toward the pregnancy and baby and positive postnatal adjustment. The scale includes a pre- and postnatal component.

3. Recommendations by WHO and other organizations. Examples of evidence based interventions for promoting emotional and mental health

The recommendations of WHO for preconception care focus on different dimensions of women life and health:

- Assessing psychosocial problems
- Providing educational and psychosocial counselling before and during pregnancy
- Counselling, treating and managing depression in women planning pregnancy and other women of childbearing age
- Strengthening community networks and promoting women's empowerment
- Improving access to education for women of childbearing age
- Reducing economic insecurity of women of childbearing age

Beyond the services future parents can attend to evaluate their health and get counseling to improve their life styles, they can do something themselves, to improve their mental and emotional health prior to conception.

Scientific research underscore the connection between emotions on the one hand and hormonal balance on the other. Thus, beyond the classical preparation of pregnancy with classical medicine which focus mainly on the evaluation and correction of health parameters, alternative medicine can contribute also to the balance of body energies, bringing together different approaches like herbal therapy, homeopathy, acupuncture, nutritional and psychological counselling etc. When a couple think about the conception of a child, it is very important to consider body-mind connection:



the body could be prepared for a pregnancy, but unresolved feelings, beliefs and memories may prevent a successful conception or pregnancy.

— Alice Domar, M.D., Director of Women’s Health Programs at Harvard Medical School states, *“We already have clues that stress and depression contribute to infertility. On the female side, emotional upset has been shown to cause tubule spasms, irregular ovulation, and hormonal shifts, all of which can impact fertility. In addition, a variety of human studies have linked extreme stress and emotional upset to miscarriage. On the male side, stress has been associated with significant drops in sperm counts and quality.”*

— Another fertility specialist, Niravi Payne, M.S., states: *“Emotionally-laden experiences are transmitted biochemically and electrically to the hypothalamus, ultimately negatively affecting the pituitary gland’s output of LH and FSH, affecting ovulation and spermatogenesis.”*

Carista Luminare Rosen, a psychological and spiritual counsellor for conception explains that when a future mother wants to conceive a child but has subconsciously an ambivalence in having a baby due to unresolved memories from the past, the suppressed emotions have a biochemical effect confusing her hormonal system. The result consists in a blockage and the woman has difficulties in conceiving a child and becoming a mother. Addressing consciously the ambivalent feelings and thoughts concerning a pregnancy could solve the fertility and pregnancy challenges.

For both future mother and father, becoming self-aware of the aspects that determine the hesitation to become a parent, can enhance a lot a positive pregnancy and parenting experience once the conception occurs. Working on body-mind balance can improve the healing process and wellness. Personal choices concerning the life-style and the change of perspective concerning relationship, family, parenting, sexuality, pregnancy, birth, children are very important in increasing the capacity of conceiving a child and living a healthy pregnancy.

Keeping in mind that physiological processes and the states of mind are interconnected, future parents can focus more on their mental and emotional healing and wellness.

Here are some advices of Carista Luminare- Rosen:

- *“ Explore the advantages and effectiveness of natural fertility and pregnancy options, in addition to conventional approaches.*
- *Clarify and learn to resolve your concerns regarding conception and parenthood — including fears, ambivalences, and any health challenge that is stressful for you.*
- *Learn how to experience preconception and prenatal bonding with your future child.*
- *For those challenged with infertility: whether your fertility challenges are physiological or psychological in nature, or have been diagnosed to be of “an unknown origin,” a holistic perspective can increase the effectiveness of your efforts.*
- *Heal and empower yourself if conception does not occur.*
- *Create a personal step-by-step plan to enhance your fertility health, before and after conception occurs. “*



Another very important approach focus on mother wellbeing during pregnancy. proposed in 2015 a program to be generalized with future mother through educational sessions conducted by midwives or other health educators specialists in the care of pregnant women.

Modular structure of Thinking Healthy (WHO 2015)

Thinking Healthy has an introductory session, followed by five modules covering the period from the second or third pregnancy trimester to the first year of the infant's life. The contents of the sessions and activities for the mother are tailored according to the age and developmental stage of the infant and the needs of the mother at each stage.

Each module has three sessions, each session covering one of the three areas relevant to mother and infant health during pregnancy and after childbirth – the mother's personal well-being, the mother-infant relationship, and the relationship with and support from significant others. Each session incorporates the 3 Steps to Thinking Healthy to help the mother negotiate each of these 3 areas.

- **Mother's well-being:** Mothers who are depressed or under stress often ignore their personal health, e.g., their diet and rest. Often, they do not have the energy or motivation to seek appropriate health care for themselves or their children. They get caught up in a cycle of inactivity, which further damages their health and worsens the depression. This also increases the risk for low birth weight and other health problems in the infant. Each module contains a session addressing the mother's personal health.
- **Mother-infant relationship:** Mother-infant relationship includes responding appropriately to the infant's emotional needs, frequent physical interaction, establishing eye contact, verbal communication, and creating a stimulating physical environment for the child through toys, pictures and books. Similarly, feeding behaviours (both breast and bottle), such as appropriate nipple insertion and removal, positive affect during feeding, and provision of nourishing foods (as opposed to comforting foods such as sweets) are also aspects of this interaction and make important contributions to the growth of the infant and young child. The quality of this reciprocal relationship is important for optimal health of both mother and infant. Each module contains a session to address mother-infant relationship.
- **Relationship with people around the mother and infant:** Research shows that the social network or support system available to the mother is important in determining her mood, general health, and the quality of care she is able to provide to her infant. Social support can be divided into intimate versus community. Intimate support comes from members of the immediate household (husband, in-laws) while community support may come from the neighborhood or community associations or even health workers. Social structures such as marriage, religious or cultural institutions, and community centers could function as systems of support. Stressed or depressed mothers often find it difficult to engage and maintain social networks. Each module contains a session to address the social support of mother and infant.



4. How behavior can change- the role of professionals

The approach of child conception prerequisites can change and the role of health professionals is very important. The principles that should be emphasized throughout training and supervision:

- Move away from the purely medical care model: Many community health workers are used to working with physical conditions and follow a medical approach where they perform a procedure (e.g., administer vaccination or prescribe medicine). It is required a different approach to one that most primary care centers are used to - one that relies on having conversations concerning lifestyles with future parents especially with future mother rather than giving pills or injections. It is therefore crucial that both the midwife and the family move away from the purely medical model of care.
- Be community-based: It is preferable to ‘treat‘ the future mother in the community or at home rather than at the health center. Community midwives should routinely see mothers at home during pregnancy and after childbirth, and are often trusted and respected by the mother and family. They are therefore the most suitable people to deliver this type of intervention. Also health education and emotional management programs for children and teenagers, developed in schools and community should become a powerful tool for attaining mental and emotional balance.
- Focus on future mother well-being rather than emotional and mental disorder: Many women and their families do not see emotional and mental disorder as a problem requiring intervention. Some would perceive it as a stigmatising. It is therefore useful to avoid medical terms such as ‘depression‘ or ‘illness/disorder‘ when talking to mothers and families. Women and their families relate better to everyday terms such as stress and burden. Also, ‘maternal well-being‘ is likely to be universally understood.
- Optimal development of the infant can provide the pivot around which families can be engaged: Family members may disagree on many things but infant health is usually a common agenda. Within this agenda, efforts to improve the physical and psychological health of future parents, especially the mother, can be addressed without much resistance or stigma.
- Empower and activate: Future parents must not become passive recipients of advice but actively participate in seeking and practicing health-promoting activities that the program suggests. The practical activities will give the families tangible goals to achieve, which can be monitored in a supportive way to encourage mothers and families to achieve these goals.
- Encourage family participation: It is important to not just be focused on the mother, but also include all family members. Health promoting activities involve the whole household and cannot be practiced in isolation.
- Work in an integrated and holistic way: Most midwives have a heavy workload. This intervention must therefore be integrated into existing work so that rather than being an extra burden, it facilitates their day-to-day activities. This is why, especially before conception, it is very important that the community health workers, psychologists, health and prenatal educators assists



the prospective parents in changing their approaches – if needed – to a healthier way of living, with wise decisions to expel stress, to gain emotional balance and bring joy in their life.

5. Education for future parents/population for a healthy life style concerning the EMOTIONAL AND MENTAL HEALTH and in general – the role of educational programs, the role of community, schools. How information can be spread

Regardless their professional background, the educators, teachers, health workers, psychologists, medical personnel, the community mediators and general public should be very active in promoting prenatal education and informing teenagers, young people, couples about the importance of their living prior to child conception and during the pregnancy.

Researchers from all over the world, in the fields of medicine, biochemistry, physiology, genetics and psychology have shed a new light on prenatal life, from conception to birth, acknowledging the importance of this period for the health, psychological balance and creative potential of tomorrow's adults.

The mother's blood transports the materials for her child's first structures and delivers the necessary elements for a good development. The quality of her nutrition is thus paramount, as are her joy and inner peace. When we feel joyous, optimistic and happy we release into our bloodstream a procession of well-being hormones such as oxytocin and other endorphins. However, when we feel sad, anguished or pessimistic, we release stress hormones – catecholamine's, adrenaline and their metabolic procession, which, in the pregnant mother, cross the placenta. This conveys the same psychological mood to the baby, establishing imprints, a predisposition to similar states of mind in the future. The mother's sadness and anguish not only hinder the formation of the child's organs, but also render the amniotic fluid bitter; and because of this bitterness the baby drinks much less than expected. But joy, peace, love, hope and optimism generate ideal raw materials for the formation of the brain and nervous system. As oxytocin sweetens the amniotic fluid, the baby drinks optimally.

The mother is constantly transmitting her energy to the baby: her thoughts, her emotions and what she lives are translated from her blood's biochemistry directly to the baby as valuable information. The baby's cells and organs record everything. These memories, these imprints become programs and have a lifelong influence on the person's mind and character.

A background of pessimistic thoughts, relentless stress or sadness in a pregnant mother will predispose, her child to develop a sad and pessimistic temperament, diminishing his or her desire to live and communicate with others. Aggressiveness, anti-social behavior and self-destructive tendencies often then develop. On the other hand, when an expectant mother is optimistic, hopeful, loving, good humored and lives a harmonious existence, she generates imprints that convey an optimistic, joyous, altruistic and creative temperament to her child who will be able to develop a pacific and convivial attitude, thus succeeding in expressing inner treasures and wonderful aptitudes.



In the womb, babies hear. They hear their mother's voice, are aware of all kinds of sounds coming from inside and outside her body, like their father's voice, and even react to caresses on her belly. Much research in the field of transpersonal psychology indicates the existence of a cellular consciousness at fertilization. The very first cells are already sensitive to the mother's thoughts, feelings and what she receives from her environment. Day in and day out, the baby receives love and feels happy about it. Indifference, however, is a most tragic experience for the baby, one that will make childhood and adulthood more difficult.

As confirmed by epigenetics – the science of fetal origins of adult health and disease – which explains how the pregnant mother, and by extension her companion, influence how their child's DNA will be expressed. This understanding is extremely significant and implies a powerful role of the parents in their children's formation. As body and mind are interdependent, what the mother lives becomes the biology of the fetus. Thus, when parents offer their children the best possible conditions for a harmonious prenatal development, they not only contribute – like genetic engineers – to their babies' health but also to the health of tomorrow's adults.

Like a gardener, a true educator makes sure that the tree takes root well from the start, because later on it will be much easier for it to grow and bare fruits. Such is Prenatal Education: a valuable education for each new generation.

Many ancient traditions throughout the world, in India, Egypt and Greece, for instance, have taught it. Pregnant women were made conscious of their responsibility and power to weave health and virtues for their children.

Pythagoras exclaimed: *“It is not fair that those who love dogs, horses and birds do everything they can so that their progeny be healthy, but when it comes to their own descendants, human beings don't take any precaution.”*

According to Plato, *“The young, especially during pregnancy, must be mindful not to do anything detrimental to health, violent or unjust... because it gets recorded in the body and the soul of their children”* and *“Pregnant women should not live in passions and sadness, but in honor, joy, calm and good humor.”*

Aristotle taught that *“The mind of a pregnant woman must be calm, since her children absorb life through her, like plants absorb it through the earth.”* For the couple, this awareness of such meaningful common objective enriches and deepens their love. Here are some very important learning points to be promoted to prospective parents which will provide a holistic health, including emotional and mental health:

1. Be aware about the importance of Conception

« In every art, the beginning is extremely important for the whole, when constructing buildings, foundations are most important, in the naval field, the importance is in the hull... Thus, in society, the way couples unite and the beginning of life are very important for their prosperity

».

Ocelle of Lefkada , disciple of Pythagoras



Long before conceiving a child, the prospective parents should choose to quit smoking, not to drink alcohol, to eat healthy, to take walks in nature while breathing deeply, and above all to nurture for each other a profound love.

2. During the nine months... the future parents engender a new world!

Studies of epigenetics and molecular biology shown that the embryo development depends on different forces from inside and outside the womb. Mother's thoughts, emotions and behavior, different environmental factors influence for better or for worse the shape and the function of the future human being. It was revealed that mental and psychic changes may induce epigenetic changes on the brain functions. "Respect towards nature and human beings cannot exist without respect towards the child in the womb. This is why future parents should rejoice, feel enthusiastic, grateful and proud: it is a great honor to bring a new life on earth. Live this expectancy as a feast in which your child is the guest of honor! Their other occupations, the problems they have to face, the difficulties, should come second to this formative and pedagogical work nature has entrusted the future parents with!

3. During the pregnancy, future mother should rest, live and eat well

The future parents' lifestyle, especially for future mother can influence the health of the future child. Before conception, future mothers are advised to have a balanced diet, with folic acid supplement, to stop drinking alcohol, stop smoking, to keep a balanced body weight (under 30 kg/m²), to offer herself time for relaxation, walking in nature, breathing pure air and avoid the polluted surroundings and the excess use of electronic devices.

For future fathers there are important some adjustments in their lives if needed: decrease the alcohol intake, give up smoking, maintain or attain a healthy body weight. All these changes in their lifestyle increase the chances of conceiving and improve the general health. As for diet, men need selenium for a healthy sperm, zinc for a healthy testosterone levels and long-chain omega-3 fatty acids (from oily fish) to stimulate prostaglandin production, also important for healthy semen.

The baby has the sense of taste, and later on he /she will like what mother ate during pregnancy! This is why fresh food that has gathered beneficial sunrays: plenty of fruits and vegetables, beans, cereals (whole wheat, barley, quinoa, millet, oat, brown rice), cold pressed olive oil, nuts and dried fruits, 50% whole-wheat sourdough bread, honey and unprocessed sugars. As much as possible, it is important to choose food from sustainable and respectful farming.

4. Breathing deeply

Irregular breathing can produce many health issues. It is known that breathing deeply, with belly breathing can reduce stress, better oxygenate the blood, help brain to relax and focus, bringing benefit to the whole body. Later, during the pregnancy, breathing deeply will become a very important tool for pregnancy and birth management! "Breath is the bridge which connects life to consciousness, which unites your body to your thoughts." Singing, walking, dancing, swimming and all harmonious activities that increase future mother's



lungs' capacity. Reading out loud beautiful texts and reciting poems are also excellent activities which combining with breathing deeply will relax body and bring peace to mind and soul.

5. Beauty at the heart of the life

“The object of education is to teach us to love what is beautiful.” Plato. Translated to our days, these words can help a lot the future parent! Here are some advices for them “*Strive to close your inner doors to what is disharmonious around you, like gossip, cynicism, indifference, bad faith and all forms of social violence.*

With tranquility, push aside negative thoughts and feelings born of daily life.

Tell yourself, while patiently dealing with them, that they will pass like morning fog or clouds that the sun dissipates.

In order to form a child beautiful in mind and spirit, cultivate happy emotions.

Learn to transform anguish, fear, sadness, anger and sorrow.

During pregnancy, fearing the unknown is often a source of anxiety. Take refuge in the present moment; offer your womb to your growing baby as a nest tender and warm.

Admire works of art, stories about the great qualities and ideals of good and wise persons”.

12. The colors of light and their power

From ancient times, the light of the sun, especially in early morning, was considered one of the most powerful healing agent for mind and body. The last researches had shown that summer sunshine can contribute to boost the women fertility. The women's reproductive cycles are influenced by melatonin, a hormone produced by pineal gland. Melatonin secretion is stimulated by a natural circadian rhythm, with as little influence as possible on artificial light. It has been found that exposure to natural light during the day, especially in the morning beneficially influence the mental state, sleep, fertility, immunity response, physical fitness of the human being. Devices that produce blue light at night (mobile phones, computers, certain bulbs, etc) could impair this process.

Another important key to increase fertility, both in women and men is the vitamin D. When they have adequate levels of vitamin D, women can produce larger amounts of progesterone and estrogen. In men, vitamin D has an effect on testosterone which impacts a man's libido and aids in the formation of sperm. Men's sperm has been found to be up to twice as active in the summer months. Although vitamin D can be found in food, the main way to get this important vitamin is through sunlight. For people who don't spend large amounts of time outdoors, getting enough sunlight for vitamin D production can be difficult.

Different parts of the spectrum have different effects. While the invisible ultraviolet is needed for vitamin D synthesis, the visible part of the spectrum influences body rhythms and hormone levels.



For future children it seems that the prenatal exposure to sun mediated by the sun baths taken by their mothers can influence their height.

The future parents are advised to take walks in the morning sun, and open their home to its light; because it possesses anti-depressive and vitalizing powers and boost the fertility. The sun light, especially the first light rays at sunrise, can inspire future mothers to visualize high qualities and health for their future children.

7. Listen to music, sing, play an instrument

Music acts upon matter. “Musical education begins before birth,” explained renowned violinist Yehudi Menuhin;

Alfred Tomatis, he is one of the first to point out that the fetus hears its mother's voice as early as the eighteenth week of pregnancy and that the ear plays a major role in its cognitive development. He then establishes that intrauterine listening is crucial for emotional and affective development.

He wrote in one of his works: "To help pregnant women live a better pregnancy, nothing like putting mother and child on the same wavelength!" Everyone agrees today that during the 9 months in utero, the child has a very intense psychic and sensory life, he stores emotions that will follow him all his life. As early as 4 and a half months the fetus perceives the sounds. Mainly his mother's voice, charged with all his emotions. These wonderful moments of pregnancy are therefore important for both the mother and the unborn child. Tomatis also said: "If the emotional relationship between mother and child is not realized in utero, language may not be initiated and sometimes even not exist." Prenatal music therapy sessions allow for serenity, but they also have an effect on the birth itself.

Several studies had shown that gentle sounds, like lullabies, are designed to be soothing for unborn babies, yet they are startled by very loud or erratic noises, and too much noise may be stressful.

UNICEF recommends music to play an important role in child's growth, even before birth. Exposing the child to music ignites all areas of child development, ensuring a healthy growing.

8. Imagine the future child as a seeder of peace!

“Children are the seeds of peace not war !“ The future parents have a great opportunity to help their future child shape his or her destiny! Every thought, intention or action played by future parents in prenatal period produce an echo in the future child development. Admiring the qualities of the heroes and great beings in the stories and legends they love, looking for great traits of character in the books, movies, plays, prospective parents will project them to be embodied by the future child.. The formative power of imagination is astonishing! The pregnant women can use this power and influence the physical and psychological development of the fetus. The fathers should also be invited to imagine what they wishes for their child.

9. The love for the child should start from the prenatal period or even before

French neonatologist Jean-Pierre Relier explains that “Love for the pre-nate is the most appropriate stimulant for the creation of brain synapses.”



Studies has shown that the attachment between infant and mother begins long before birth. Once the future mother feels the child growing and moving inside of her, she can establish a very special bond through her words, songs, thoughts, emotions. Together with the father, they both can share their love touching the belly, communicating with future child, transmitting him/her their intentions and welcoming benevolence. The role of the father is very important in preparing child development; a Chinese proverb recommends: “May the father have the mother and the child in his thoughts and in his heart.”

Research has suggested that prenatal attachment motivates good health practices during pregnancy, facilitates adaptation to the role of parenthood, and perhaps even serves as a protective factor against perinatal depression.

10. Birth- how to open the door to life. Welcoming the child with breastfeeding

“Birth without violence” was a proposal launched in 1974 by a French obstetrician, Frederic Leboyer. He pointed out that babies had sensitivities, this is why their experience of childbirth would help shape the individual they became. If the child is welcomed and is treated with calm and gentleness from the very beginning of his newborn life, the relationship with his mother/parents will have a better start. Midwives, doctors should be very careful in receiving the new life, offering to the child the same conditions you offer to a new guest you cherish!

As far as breastfeeding is concerned, specialized studies as well as the findings of the billions of mothers around the world who have brought children into the world show that a child's health and intelligence are supported and consolidated by exclusive breastfeeding for the first 6 months of life and complementary/diversified feeding up to the age of 2 years. Breast milk is the most complete food for the infant. It contains exactly the right amount of fat, carbohydrates, water, protein and minerals needed for growth and development. Most babies digest breast milk better than any other form of milk. Beyond these nutritional advantages, the breastfeeding helps essentially the bond between mother and child which will continue all over their lives.

Prenatal education could contribute promoting the emotional and mental health for both child and mother. Professionals (midwives, prenatal educators, social workers) can help pregnant women / couples to become aware about the importance of self-awareness and mental health. Here it is a three steps program, which can help future mothers to manage their emotion and thinking:

Step 1

Learning to identify unhealthy thinking: In order to promote positive thinking, it is important to be aware of the common types of unhealthy thinking styles that gradually develop as a result of life problems or experiences. Using carefully researched and culturally appropriate illustrations, mothers are educated about such unhealthy thinking styles and learn to identify them. Some of the unhealthy thoughts could act as barriers to achieving maternal and infant well being, rather than personal thinking styles.



Step 2

Learning to replace unhealthy thinking with helpful thinking: Identifying such unhealthy thinking styles enables parents to examine how they feel and what actions they take when they think in this way. Again, using culturally appropriate illustrations, the intervention helps parents to question the accuracy of such thoughts and suggest alternative thoughts that are more helpful.

Step 3

Practicing Thinking and Acting Healthy: The intervention suggests activities to help parents to practice helpful thinking and more helpful behaviour. Carrying out these activities is essential for the success of the programme. Mothers receive health education and other materials tailored to their individual needs to help them progress between sessions. A Health Calendar is used to assist the mothers in monitoring these activities in between sessions.

Seeing how difficult is sometimes for some people to manage thoughts and emotions in adult life, becomes obvious the need to learn as early as possible in life how to think and feel positive. Preparing pregnancy with positive emotions and thinking will lead to a healthy and fulfilling life for future children and families.

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