# Prenatal Memory: How to Accept Love from Our Children

Akira Ikegawa, Yuko Igarashi, and Yuko Tsuchihashi

Abstract: Dr. Akira Ikegawa opened a maternity clinic in Japan and has been helping parents handle childbirth for 40 years. His interest in ensuring the healthy growth of children and a happy family life was stimulated while interacting with the people who visited his clinic. His research on prenatal memory resulted in a new parenting method designed to increase the happiness of parents and children. He discovered that parents must be conscious of receiving love from their children. In this paper, Ikegawa compares his experience with standard obstetrical practices in Japan and his experience after introducing the Prenatal Memory method in his clinic. He also provides thoughts on Prenatal Memory Education, which evolved from prenatal memory research from Japan.

Keywords: prenatal memory, childbirth, obstetrics

Prior to the modern era, most births in Japan took place at home. In most cases, midwives and women with childbirth experience were there to attend births at home. Traditional home birth eventually shifted in 1948 when the Ministry of Health and Welfare issued a statement recommending that births be held at medical facilities. At the time the statement was issued, 99% of births took place at home. According to some statistics, about 300 pregnant parents died per 100,000 home births then, and about 27.5 babies died per 1,000 births. In that era, childbirth was

**Akira Ikegawa, MD** is an OB-GYN, author, and lecturer who has an extensive background in the research of the concept of Prenatal Memory. He distributed about 3,600 questionnaires consisting of 85 questions in 2002 and 2003 and continues to interview people with Prenatal Memory. He guides how to communicate with babies in the womb for the pregnant parents at his clinic and delivers lectures nationally and internationally about the extraordinary stories that he discovered from the research of Prenatal Memory. **Yuko Igarashi** graduated from The Evergreen State College with a BA in Consciousness Studies and is a certified Prenatal and Perinatal Educator. She launched the Prenatal Memory Global Project in 2018 with Dr. Ikegawa and Dr. Masayuki Ohkado at the Society for Mind-Body Science 28th Annual Conference. She organized and coordinated joint group presentations for the 2019 and 2021 APPPAH International Congress. **Yuko Tsuchihashi** is a founder and a representative for the SCORE since 1994 and a Vice-Chairperson of the PREMEA Japan. She remembers her Prenatal Memory as resonance and detected her mother's surrounding environment and emotions while she was in the womb. Through her life experience as an educator, she developed a keen sense through countless daily encounters with children and operating a childcare facility designed by children.

considered a life-threatening experience for both the pregnant parent and child (Ministry of Health, Labour, and Welfare, 2011).

The Ministry of Health and Welfare switched from supporting home births to institutional births, hoping to ensure safer childbirth experiences. The Ministry issued a statement to encourage the public to give birth in institutions. As a result, people began to give birth in hospitals, clinics, and midwifery centers, instead of at home. By the year 1975, almost a quarter of a century after the government's new policy had been instituted, 99% of births took place in institutions. As a result of these changes, maternal deaths improved to 27.3 per 100,000 births and neonatal deaths to 6.8 per 1,000 births by 1975. Developmental improvements in obstetric and neonatal care also contributed to the continued improvement in safety during childbirth. In present-day Japan, maternal deaths have improved significantly to 4.8 and neonatal deaths to 0.9, making it extremely rare for an individual to lose their life during childbirth.

The quality of obstetric care has tended toward improvement year by year. At the same time, the number of expectant and nursing parents report anxiety during pregnancy, as well as difficulty in raising children (Ministry of Education, Culture, Sports, Science and Technology, n.d.) and depression after childbirth (Matsuoka, 2009) which has been increasing with each passing year (Ohinata, n.d.).

While modern obstetric care is quite sufficient in terms of saving the lives of birth parents and children, there is little consideration given to the life experience of individuals as a result of their childbirth experiences. There are many cases where the experience of childbirth, which is a great learning experience for human beings, does not result in their happiness and health in life after childbirth. This may be due to the lack of a philosophical perspective on the meaning of birth among obstetrical practitioners. To counteract this lack of a philosophical perspective, Ikegawa's approach is to inform parents about the concept of prenatal memory before and during pregnancy. He predicted that parents' awareness of prenatal memory would lead to improved parent-child and family relationships both before and after birth.

## Research on Prenatal Memory

Ikegawa first became aware of the concept of prenatal memory around 1998. At that time, he came across a best-selling book by Fumihiko Iida (trans. Yoshikawa, 1996), *Creating the Value of Life*, which was based on knowledge and concepts obtained through regression hypnosis. The book also described how to have a sense that life is worth living. Iida wrote that children have consciousness and memories from the time they are in the womb. Ikegawa used the knowledge he gained from these books and

conducted interviews with the pregnant parents who were raising their children, asking them about their prenatal memories. He presented his findings to medical groups as well as submitted an article to a magazine. He then expanded the scope of research and conducted a questionnaire survey of all the parents enrolled in every public nursery school in a particular area in 2002—2003. The results of this research led to a summary of prenatal memory that has become the basis of subsequent research (Ikegawa, 2005).

## Trends and History of Childcare in Japan

Among children who could recall experiences immediately after birth, there were several cases in which they described these experiences as "unpleasant memories" of being separated from their parents and taken immediately to the neonatal ward. These children stated that right after birth newborns want and need to be close to their birth parents. As mentioned earlier, the Ministry of Health and Welfare announced the national policy of institutional birth in the year 1948 in Japan, which resulted in a massive surge in the number of institutions handling births. Because of this shift, newborns were isolated in the neonatal ward from birth until discharge, approximately one week. By 1975, this practice was established throughout Japan.

Most families in Japan at that time practiced bathing and sleeping together. This meant that, although newborns were isolated from the birth parent for a week immediately after birth, they had an intimate connection with the family after the discharge from the hospital. However, for 20 years starting in 1964, the Ministry of Health and Welfare printed and distributed 1.6 million pamphlets per year, advising parents not to sleep with their children, or carry them in their arms or on their backs after birth (Yoshitani, 2017). Because this recommendation was continued by the Ministry of Health and Welfare for a long time, the tendency to separate parents and children has become more common, not only during the hospitalization period but also after leaving the hospital. During these decades, many children were born and raised without being carried or slept with, and they were separated from their parents. This led many people to believe that separation and distance were the right way to raise children. It created a world where carrying a baby was frowned upon and discouraged, in the belief this would spoil the child (PREMEA, 2017).

After 20 years of exposure to the booklet recommending the separation of parents and children, the policy was suddenly changed to encourage people to carry their babies. But the message that had been ingrained in the society for 20 years did not simply disappear. The people who were raising their children during this period felt that they were providing the best care for their children. However, many of their babies had little to no direct contact through carrying with their parents and/or caregivers. This

led to a large number of adults who felt that they did not receive enough love and affection from their parents (The Hitachi Global Foundation & Okada, n.d.). If we consider the generation of people who did not experience love from their parents in the process of growing up as the first generation, we are already in the era of the second and third generations of children being born from these adults. These adults, who have grown up without feeling loved, tend to have difficulty in expressing their love to the following generation of children (Kubota, 2010). Thus, a negative chain of cause-and-effect has begun in which the unloved generation gives birth to another unloved generation.

## The Relationship between Parent and Child Revealed from Prenatal Memory

Researcher Yuko Tsuchihashi, who maintains her own clear prenatal memory, reported that the sensations she felt in the womb were completely synchronized with her mother. She could not distinguish whether the information she received was from her mother or her own direct experience.

When she first entered the nursery school run by her parents at the age of four, Tsuchihashi was still a very young child herself, but she closely observed how adults interacted with children. She has been researching alternative methods for childcare and varied parenting styles for the past 40 years, based on observations of the children in her facility. She has been applying knowledge gained from her experiences to the facility she is managing and is receiving great feedback from parents. The new methods of parenting that Tsuchihashi has developed with children are not based on the traditional view of children from the perspective of adults, but rather on the viewpoint of children in which they express the wish to be equally treated. Children who grow up with this new approach appear more confident and self-sufficient. They enter elementary school with a clearer understanding of what they want to achieve in life.

Tsuchihashi posits that the most important thing to recognize in raising children is that the child and the birth parent are two distinct entities, beginning in the prenatal period. She stated that, normally, the dyad's senses are in sync, so much so that the child has difficulty distinguishing between their own senses and those of the pregnant parent. Tsuchihashi experienced the mixing between her own feelings and her mother's—she felt as if they were inseparable. Moreover, she argues that it is very important to identify this sense of unity from the prenatal period in order to develop a sense of self-identity. The unborn baby can begin to develop their own autonomy when their caregivers regularly ask them to make choices, such as, "Which do you prefer?" It allows the unborn baby to have autonomy.

If the unborn baby begins to learn that they are separate from their parents, it will speed up the time it takes for the child to recognize that they are independent after birth. This may be crucial for future generations. According to Tsuchihashi's prenatal memories, she chose to assimilate her mother's consciousness when she was a fetus; after that time, she used to have difficulty living her life because she felt she merged with her mother's consciousness, losing her own sense of existence. Now that she is an adult, Tsuchihashi looks back on her past experiences and says:

> The unborn child is sharing information about everything in their daily lives including their pregnant parent's emotions and behavioral choices. It is very difficult for the fetus to distinguish whether these emotions and behavioral patterns are their own or those of the pregnant parent. the prenate is able to learn about the pregnant parent's patterns and learn the differences between themselves and the pregnant parent from the fetal stage and to experience these differences together throughout the pregnancy. Children who have experienced this pregnant parent-fetus difference and learn from it are better able to understand and act on their own in many situations in life and are able to be respectful of their own wishes.

Based on her experience of learning through non-verbal communication with children on a daily basis, Tsuchihashi strongly believes that in order to prevent children from growing up with difficulties in life, we, as adults, need to respect the "children's point of view" and see things from their perspective.

From the prenatal period to after birth, children are sending massive amounts of love to their parents. However, according to a May 2010 Cabinet Office survey on the causes of delinquency report, parents are not feeling this love from their children (Cabinet Office, 2010). While the love that parents send to their children reaches them, sadly children need more than the love they receive (PREMEA, 2017). Only when parents can receive the love their children have for them, do the children then feel that they are loved by the parents. By creating a cycle of love between parents and children, the child can establish a sense of self-efficacy that they have served their parents, as well as a sense of self-affirmation that validates their existence.

Children can attest that by continuing this cycle of love even after birth, children have achieved their first mission, "To make their parents happy" (PREMEA, 2017). They can then immediately begin their primary mission, which is their personal mission in life. You can imagine giving a gift to someone as an example. Let's imagine that a gift from a parent is received by their child, but the parent would not accept a gift from the child. The parents believe they are doing a good job for their child, but the

child whose gifts cannot be received by the parents may feel helpless and isolated. The authors believe that this phenomenon is the beginning of a sense of deprivation and interferes with the child's sense of self-efficacy and self-affirmation. Many children are feeling sad that their gifts are not received by their parents.

Yuko Tsuchihashi remembers the sensation of being a particle very clearly from her early life, and Ikegawa has posited that her particle may be an undiscovered particle that is smaller than a subatomic particle. Tsuchihashi explains her feeling that the particle itself is consciousness, as well as "love."

In the book, *Tracking Consciousness Before Birth and Beyond*, Jaroslav Vlcek (2017) explains and analyzes the time sequence from the beginning of consciousness to birth. He shows the relationship between the scientific and empirical knowledge of life and the various events that occurred during the period from conception to birth, including the relationships. The various events that took place during this prenatal period and how life is shaped from the existence of the primordial embryo to birth are explained in detail in three parts.

The particles experienced by Tsuchihashi and the beginning of Vlcek's consciousness may be different ways to explain the same things. Based on these two testimonies, we might consider the possibility that there is a physical mechanism of transmitting information to others through these small particles.

## The Consciousness and Material Aspects of Love between Parents and Children

Based upon the above discussion, Ikegawa offers the hypothesis that love is a system that is transmittable by a physical substance. The current view is that the transmission of information between cells in the body can be explained by vesicles, such as exosomes that circulate in the body (Verny, 2021). These vesicles are known to transmit information to distant organs via mRNA, microRNA, and proteins. The exosome is estimated to be 50—150nm in size, which is similar to the size of an odor molecule. Odor molecules are estimated to be 3—30nm in size. If odor molecules are released from the body through sweat glands, etc., and people nearby can recognize that odor, then we can also propose that a vesicle that is secreted which transmits information to outside of the body of approximately the same size (Verny, 2021).

Let's imagine that there is a physical phenomenon that envelops a person like a mist, containing vesicles that are filled with information of love and going out of the body. Assuming that the inside of the vesicle is packed with these small particles and that these particles contain

information of love, the mechanism of love transmission can be explained as a physical phenomenon.

Here is a specific example of this phenomenon. What if we assume that nursing is more than just giving the child the nutrients and immune substances provided by breast milk? Would it be possible to think of nursing as a system that physically transmits information about the parent's love to the baby? We think that nursing is one way to pass on the information of parental love, via vesicles released in the breast milk and through the parent's skin and transmitted into the baby's body.

Tsuchihashi, however, proposes that the transmission of love from the parent to the child is inadequate. She believes that children release more love from their whole body than their parents express. For this reason, Ikegawa tried to describe the transmission of love from children to their parents as a physical phenomenon by comparing the released love with "vesicles." There are physical signs that a parent has received love from their child. Tsuchihashi says these signs include the parent's big smile, gentle gaze at the child, flushed cheeks, elevated body temperature, and other physical signals that are sent to the child. The signs that children send to their parents would be a smile and a good mood. By exchanging these bi-directional signals between parent and child, the child understands that they have received love from their parent. Ikegawa speculated that when this bi-directional communication of love is consciously implemented for the first time, the love that reaches the child's heart will be activated.

The conventional wisdom is that there is no thought or memory from embryo to infancy. However, the concept of prenatal memory suggests that children have memories and consciousness from the time they are in the womb. The birth parents who have memories of being loved and nurtured could be able to exchange affection in both directions with their children in an unconscious manner. However, those who do not recall receiving affection from their parents during their infancy will have to be more conscious about this two-way communication. This is the first step towards stopping the intergenerational cycle of not being able to feel love.

Pregnant parents in particular need to be aware that a tremendous amount of love from the unborn baby is pouring into the pregnant parent. The moment the pregnant parent learns about prenatal memory and realizes that the baby is conscious in utero, they activate the massive amount of love from the baby that is flowing into their body and manifest it as love.

One of the basic elements that will bring peace of mind to the child's life is the activated love from the pregnant parent that is transmitted to the child. The child is aware that they are loved by the parent. This awareness is activated in both the conscious and subconscious minds of children. The authors believe that this sequence of

events is an essential and fundamental element at the beginning of life to fulfill our lives.

There are several types of love described here. The first one is the love for personal growth, which requires a bi-directional transfer of love to activate based on the concept of prenatal memory. To fulfill a life's mission, one must activate this first mission. Children release physical substances from their bodies to transmit love and it is activated the moment the caregivers accept the love. Then, love is triggered in the child and a sense of self-empowerment is activated. Even if there is a conflict between parent and child during this period, there will be few problems if the first phase of love is activated.

The second is the love of communication, which is nurtured through relationships with parents and family. This requires continuous mutual understanding and progressively develops a sense of self-sufficiency. During this period, the parents and the child are preparing for the third kind of love, love that is extended to all fellow humans. The third kind of love is the love that gives us a sense of satisfaction that we are contributing to society by demonstrating our abilities. When the scale of the contribution becomes wider, it will no longer be in the form of material exchange of information, but in the form of radio waves or quantum waves, which are of a different state. There are probably many other ways to transmit information that we are not currently recognizing.

## Conclusion

Ikegawa and colleagues have hypothesized the idea of a physical system of transmitting love. The moment a pregnant parent learns about prenatal memory and realizes that the baby is conscious in utero, the system of love transmission will start operating. In other words, the authors believe that the first process for parents in consciously raising their children should be to activate the system that enables them to feel love from their children throughout the pregnancy and childbirth period.

The authors pondered the possibility that the parental love transmission from parents to children was dysfunctional because the pregnant parents weren't consciously accepting the love from their children. The moment parents receive the love emitted by their children, a bi-directional cycle of love flows from the parents to the children and from the children to the parents. By maintaining the physical transmission system of this circulation of love, a well-balanced sense of self-affirmation and self-efficacy will be established in the children.

This awareness of the bi-directional flow of love will have a powerful effect on the parent-child relationship as the concept of prenatal memory is introduced into the field of pregnancy, childbirth, and parenting. It is our hope that understanding the physical transmission system of love

will provide a solution to many of life's traumas and challenges. To promote this concept, we have established the Prenatal Memory Education Association and will continue to actively disseminate this information through courses and other means, so that this concept will be accepted not only in Japan but also around the world.

## References

Cabinet Office. (2010, May). Session 4: *Outline of the Comprehensive Research Study on the Causes of Delinquency*. https://www8.cao.go.jp/youth/kenkyu/hikou4/gaiyou/gaiyou.html?fbclid=IwAR3DFIhd3RZzgbrygCygl0y0juzOX5KaiUXGU-YrHyf1MM92rC_IYskynOY

The Hitachi Global Foundation & Okada, T. (n.d.). Attachment disorders in disrupted families, Mirai, 2. *The Hitachi Global Foundation Web Magazine*. https://www.hitachi-zaidan.org/mirai/02/paper/pdf/okada_treatise.pdf

Iida, F. (trans. Yoshikawa, 1996). *Creating the value of life*. https://trans4mind.com/download-pdfs/Creating_the_Value_of_Life.pdf

Ikegawa, A. (2005). Investigation by questionnaire regarding fetal/infant memory in the womb and/or at birth. *Journal of Prenatal & Perinatal Psychology & Health, 20*(2), 121—133.

Matsuoka, E. (2009, March 31). Cultural construction of maternity blues and postpartum depression [in Japanese]. *Senri Ethnological Reports*, *85*, 155—171. 10.15021/00001125

Ministry of Education, Culture, Sports, Science and Technology. (n.d.). *Current situation and background of children's development*, *4*, Retrieved February 25, 2022, from https://www.mext.go.jp/b_menu/shingi/chukyo/chukyo3/siryo/attach/1395404.htm

Ministry of Health, Labour, and Welfare (2011). https://www.mhlw.go.jp/toukei/saikin/hw/jinkou/geppo/nengai11/toukei02.html

Ohinata, M. (n.d.). *Modern child-rearing environment and local child-rearing support: Current status and issues,* https://www8.cao.go.jp/shoushi/shoushika/meeting/taikou/k_3/pdf/s4-1.pdf?fbclid=IwAR07Z0tgrYU-iiAiF-AMbNENivgNqBziDrzKTKQI9e3iRN_lMgU1e1cxvz

PREMEA, (Ed.).(2017). *Basic Course Textbook*, *6,* 40, 56—76, Prenatal Memory Education Association.

Verny, T. (2021). The inheritance of change. *In Change: Birthing & Parenting at Time of Crisis,* O. Gouni, JRG Turner, & TGN Turner-Groot (Eds.), 157–197. Cosmoanelixis.

Vlcek, J. (2017). *Tracking consciousness before birth and beyond*. FriesenPress.

Yoshitani, S. (2017). *Gendaijin no denki* [Modern human electricity]*, 1*, Chichishuppansha.

# Effectiveness of a Pre-Conception Education Program in India at Improving Fertility Rates

Gajanan Kelkar, Avinash Dharmadhikari, and Amita Dharmadhikari

Abstract: The problem of infertility is rapidly growing in India. Increased stress is one major cause of this. Pulling from the study of epigenetics, the Manashakti Research Centre developed the Pre-Conception Education (PCE) program—its main objective is to increase fertility among participants. The PCE has been conducted bimonthly since January 2010. This article studies the effectiveness and outcomes of practicing PCE in correlation with increasing fertility for couples by using feedback from surveys of couples who have participated in PCE from January 2016 to December 2018. Analysis revealed that from within the heteronormative, cis-gender couples, when the potential mother is under stress, practicing PCE increased fertility rates for the couple.

Keywords: DASS-42 test, Pre-Conception Education (Suprajanan), Pearson's chi-square test

The Manashakti Research Centre (MRC) Lonavla, near Mumbai, India, has been engaged in the Prenatal Project since 1960. The goal of the project is to welcome the baby with good thoughts, impart positive values to the fetus, improve the emotional health of the parents, increase the

**Gajanan Kelkar** is the Trustee and Research Director of the Manashakti Research Centre, a Charitable Trust in Lonavla, India and has directed the Prenatal Project for the last 31 years. He initiated and developed the Pre-Conception Education program and regularly conducts the workshops. He holds a Master's degree in engineering (MTech.) from the Indian Institute of Technology, Mumbai, and has designed many instruments used in Pre-conception and Prenatal projects. He presented at APPPAH's Congresses in 2001, 2009 and 2013. **Dr. Avinash Dharmadhikari** was a Professor of Statistics at Pune University (India) until December 2004. His research interests include exploratory data analysis, life testing and reliability, and planning of experiments. He is associated with the Manashakti Research Centre, Lonavla, and guides the analytical work. **Dr. Amita Dharmadhikari** is a M.Sc., Ph.D. in Statistics. She is a retired professor of statistics from India and her research interests mainly are in Applied Statistics. Earlier she had worked in Disputed Authorship. For the last 20 years she has been associated with the Manashakti Research Centre, Lonavla, and is working in projects concerned with Prenatal Education, DASII (Indian equivalent of Bailey Scale of Infant Development), and Pre-Conception Education.

active participation of partners during pregnancy, and increase courage and confidence of birthing parents during labor. Details of this program are found in Kelkar (2002). Further, the positive effects of rational prayer on the fetus are established by quantitative methods (Kelkar et al., 2012, 2017).

With the evolution of the theory of epigenetics, "environment changes gene expression," MRC designed and developed a program on Pre-Conception Education (PCE) in 2010. In this program, the participant couples are advised about changing the internal and external environment to improve the chances of conception. The phrase "Pre-Conception Education" translates to Suprajanan in Sanskrit language. It can be bifurcated as "*su* + *prajanan*." "*Su*" means of "good quality" and "*prajanan*" means "giving birth to a child" or "genesis." Thus, Suprajanan is a process which involves planning and efforts to produce offspring to be endowed with virtues found to be positive in India for helping couples to conceive naturally.

In the program, the couples who are trying to conceive attend a one-day workshop called a PCE workshop (or Suprajanan Workshop). Couples are then asked to participate in remedial measures suggested in the workshop in the subsequent months.

In a broader sense, the PCE program can be looked upon as a tool for social revolution which attempts to bring positive changes in Indian society by making couples aware about many aspects of giving birth to a child. Through the PCE workshop, MRC addresses two issues simultaneously. One is "making efforts to produce a virtuous child" and the other is "reducing stress levels among the aspirant parents which will result in reducing problems in conception." In India, "virtuous" behavior is interpreted as that which shows high moral standards. The PCE program suggests following 12 virtues: academic intelligence, healthy physique, expertise in sports, expertise in arts, foresight, street smarts, leadership, benevolent behavior, fearless courage, gratitude towards elders and society, patriotism, and love of peace. When couples aspire for a virtuous, well-cultured baby, they are asked to develop the same values in themselves, so that there is a high probability of those values being passed on to the baby. The changed behavior of the couples also has a positive effect on their parents. In this way, the three generations—couples, their parents, and the expected babies—undergo a positive change, thus slowly improving the society.

According to research in epigenetics, human cells and genes are affected by the environment. Nijhout (1990) summarizes, "When a gene product is needed, a signal from its environment, not an emergent property of the gene itself, activates the expression of the gene" (p. 441). In other words, when it comes to genetic control, the environment instigates a gene's expression. Regarding the effect on genes, Church (2008) writes, "With every feeling and thought, in every instant, you are

performing Epigenetic Engineering on your own cells" (p. 76). Although genes cannot change, their expressions begin to change and as such new properties begin to develop in the organisms. Thus, the physical, emotional, and intellectual personality of an unborn child does not solely depend on genes inherited from parents, but it can develop as per the changes inculcated by parents in their behavior. It is important to note that epigenetic changes can take place at any age.

As per the philosophy of Swami Vijnanananda, the first thinker of MRC, the role of parents is not limited to provide the physical environment through sperm and ovum. That means, for conception to take place, both sperm and ovum are essential, but not sufficient. There must be proper connection between sperm and ovum which is brought about by a third entity, namely the energy or consciousness of the baby who wishes to be born. Ancient and modern sciences agree that conception is not merely a physical process, but the thought of conception emerges in the couple's mind and brain first. *Bhagavad Gita* is an ancient, sacred Hindu scripture (B.C.E.). Chapter 2, verse 22 quotes, "As man casts off worn-out garments and put on others that are new, so does the soul cast off its worn-out bodies and enters into new ones." (Dandekar & Dyanneshwar, 2016, p. 182). This is in line with the recent research showing birth as a neuro-psycho-social event (Olza et al., 2020).

In current Indian society, infertility is a rapidly growing problem, currently affecting about 14% of the overall Indian population (ISAR, 2020). Infertility affects more families in urban populations, with one in six couples, or about 17% of couples, facing this problem. One of the reasons for this is attributed to increasing amounts of stress faced by young couples (ISAR, 2020). Stress includes family generated stress, work stress, and personality dependent stress. Although it is true that stress alone does not cause infertility, it may push people toward unhealthy habits that can reduce fertility. PCE workshops act as an intervention program that heightens awareness of the impact of stress on fertility for couples. The Manashakti Research Center uses three basic principles to develop PCE: a) invite and welcome the incoming soul, b) introspection of SELF, and c) creating a healthy environment for the expecting couples.

## About the PCE Program

The first PCE workshop was held on January 14th, 2010. By January 2016, 5,576 people participated in PCE workshops, in 104 groups. During the COVID-19 pandemic, from March 2020 onwards, the workshops were held online every month and 477 couples attended.

The PCE workshop lasts eight hours. At the time of registration for the workshop, personal, biological, medical, and stress related information is collected in a specially designed form, which is included in

Appendix 1. During the workshop, a standard Anxiety, Stress, Depression test (DASS-42; Gale, 2015) is administered to all the participants. After analyzing the test results, every participant is given a customized remedial protocol as follows:

**Pre-Conception Remedial Protocol**

**1. Meditation on Color Symbol:**

Meditation is the habitual process of training one's mind to focus and redirect the thoughts. The popularity of meditation is increasing as more and more people discover solace and peace of mind. A customized color symbol is given to each individual participating in the PCE program. The symbol consists of a circle filled with a color and a brain wave pattern as per the individual's score on the DASS-42 (Gale, 2015). The circle is either red, green, blue, or black, while the brain wave pattern is one from the types of Delta, Theta, Alpha, SMR and Beta. Color is closely linked with personality (Egypt Today, 2018) and brain wave pattern is indicative of thought process (Sisode, 2016). The participant is asked to meditate daily for 15 minutes on the symbol. MRC created this method based on the principle of biofeedback.

**2. Prayer for Self-Reflection:**

This prayer is for self-improvement and is to be recited daily by both partners in order to have a virtuous baby (New Way Udyog Shakti Charitable Trust Publication, n.d.):

> I am calling upon my internal energy and resolving to work towards my own welfare. My personality has evolved based on my behavior until today. From today onwards, I resolve to seek only good inspiration. For the bad experiences I have had, instead of blaming others, I will myself reflect upon them. Instead of seeking false satisfaction, I will rely on courage and good wisdom. Because of this, I will gain long lasting peace and success. To the extent that I am achieving this, I am at peace now itself.

**3. Prayer for the Expected Baby:**

This prayer is to be recited by both partners daily to invite the Soul (Kelkar, 2013):

> O' powerful Nature! We have united in mind and body as husband and wife (or as partners). We are following the virtuous family life. We are imbibing and nurturing good thoughts as well as practices in ourselves. With the belief that social service is service to God, we have/are going to commit ourselves to serve the society. We invite with great pleasure, a strong, virtuous, and knowledgeable soul that complements our thoughts to take shelter in our bodies and express itself as our offspring and oblige us. As parents we will take care of

this soul with great love, happiness and knowledge and raise them as an excellent member of society. Our commitment of social service shall continue through them. We will thus contribute to the national good. Of course, we will lovingly welcome whichever soul that complements our combined karma/deeds, comes to us.

**4. Breathe Well:**

This breathing technique helps couples learn to breathe correctly and efficiently. Scientific evidence has shown that breathing exercises, when performed routinely, can lower blood pressure by about 10 to 15% (Joyner & Baker, 2021). Breathing incorrectly even for three minutes is enough to decrease the amount of oxygen to the brain and heart.

The normal breathing rate is around 12 to 16 breaths per minute (bpm). The Breathe Well technique guides one to relax and progressively reduce one's breath rate to optimum levels, which is around 6 bpm, called "Effective Breathing." The principle of this technique is "Slow Abdominal Breathing." This helps to increase Heart Rate Variability (HRV) thus improving Sympatho–Vagal balance, reducing stress considerably (Joyner & Baker, 2021). MRC has designed an audio track "Breathe Well" to help couples learn how to breathe correctly and efficiently (Wang et al., 2010).

**5. Reading Books:**

Stress can multiply in the mind when couples are in constant pursuit of more pleasure and more happiness. Often, people are not content with their present situation. We recommend participants read books, explaining rules of nature regarding pleasure and pain or joy and sorrow, which can create a calm and content mood. Positive thoughts and emotions can be channeled through reading, bringing out desired and helpful psychosomatic changes for the couples.

**6. Diet:**

The proverb "You are what you eat" proves to be true when couples wish to conceive. Our diet affects our cells, blood, and hormones, as well as our microbiome. It is important to eat a balanced meal with a variety of food. Organic food helps to decrease the consumption of toxins.

The diet should contain cereals, especially millets, pulses, sprouts, vegetables, fruits and dry fruits, milk, and milk products. Use of dates in place of sugar, soaked pumpkin seeds for zinc, good fats such as coconut, coconut oil, butter, and ghee (clarified butter) are recommended. Zinc appears to play a major role in conception (Fallah, 2018), and in India, clarified butter, known as desi ghee, is also believed to play a role (News 18, 2020). Non-vegetarians are advised to eat eggs, fish in moderation, and have lots of vegetables and salads. As per epigenetics, diet is looked

at as an epigenetic modifier, meaning proper diet has the capacity to change the genetic expression of the person (Zhang & Kutateladze, 2018).

**7. Exercise and Yoga:**

Besides a good diet and emotional regulation, physical fitness is also essential while planning for conception. Keeping this in mind, a few Yogic postures (*asanas*) are suggested for daily practice for about 20 minutes.

**8. Meditating on Live Flame:**

It is well known in Indian culture that light energy coming out of a flame fills our body with positivity. It also helps to bring tranquility to mind and improve our focus. For this the participants are advised to sit in front of a live flame (e.g., a candle flame in a lowly lit room) at a fixed time, preferably in the evening. This is to be practiced every day for about 10 minutes.

**9. Selfless Service:**

Doing work selflessly is believed to be the master key in India to improve one's Karma. Almost every individual in daily life, works and struggles for the self. Nature, in this paradigm, doesn't permit this one-way traffic of struggling for just the self and family. Every action needs to be counterbalanced by an equal and opposite reaction. If you inhale air, you must exhale air to complete the cycle in nature. In this sense, if you act selfishly for yourself, it must be counterbalanced by selfless work for others.

With this background, MRC advises the participants to devote on average one hour a day for any service to society and humanity. This one hour could be physical service or money equivalent of one hour income to be utilized for any social cause.

Thus, the PCE program aims at making positive changes at the thought level with appropriate behavioral changes in participants. These positive changes will be more likely to transfer to the next generation by the principles of epigenetics. The participants are supposed to follow and keep daily record of the above activities for at least three months. The above remedies, if done sincerely, will help reduce stress in the couples' lives which we believe will help in increasing the chances of conceiving.

## Participants

Any couple in the reproductive age group can participate in the PCE workshop. Participating couples are classified as follows:

1) Newly married couples.

2) Couples who were earlier using contraceptives and are now planning to conceive.

3) Couples who have been trying to conceive for many years but have not been successful.

4) Couples with known medical problems using a doctor's treatment for pregnancy, other than IVF.

5) Couples who are undergoing IVF treatment.

6) Couples planning for a second child.

**Data Collection**

Data collection began in November 2019. The purpose was to study the effectiveness of PCE. January 2016 to December 2018 was considered the study period during which 1,085 couples had participated in PCE workshops. Feedback was sought by contacting these 1,085 couples by telephone, and asking them relevant questions such as: After attending the workshop, (1) Did you follow the given remedial protocol regularly? (2) Did you conceive or give birth to a child? (3) If the answer to Question 2 is yes, what is your pregnancy month or child's birth date, whichever is applicable? The complete list of questions in feedback form is given in Appendix 2. Telephone interviews were conducted during the period November 2019 to March 2020. Out of 1,085 couples contacted, 707 couples responded. The project data consist of data from registration forms obtained on the day of the PCE workshop and from telephone feedback.

Married couples who registered for the PCE workshop were each given a standard DASS-42 test (Gale, 2015) individually. The outcome of this test classifies a person on Anxiety(A), Stress(S) and Depression(D) in one of the five categories, Normal, Mild, Moderate, Severe, and Extremely Severe. We paired Normal and Mild together as 0, and Moderate, Severe, and Extremely Severe as 1. A, S, and D are in increasing order (i.e. A is milder then S, which is milder than D). So a "triplet" (A, S, D) is consistent if:

1. (A=0, S=0, D=0), which means a person is "normal,"
2. (A=1, S=0, D=0), which means a person has anxiety but has no stress or depression,
3. (A=1, S=1, D=0), which means a person has stress but no depression, or
4. (A=1, S=1, D=1) which means a person has depression.

In our survey, for 628 out of 707 women, triplets were consistent. So, consistency for women was 628/707 = 0.89. For 685 out of 707 men triplets were consistent. So, consistency for men was 685/707 = 0.97. For 579 out of 707 couples, triplets were consistent. So, consistency for couples was

579/707 = 0.82. Further analysis is based on data on these 579 couples which satisfy the consistency criteria on ASD scores, as shown in Table 1.

**TABLE No 1: Classification of DASS-42 consistent couples**

| | | Husband's ASD* level | | |
|---|---|---|---|---|
| | | 0** | 1*** | All |
| Wife's ASD* level | 0** | 350 | 54 | 404 |
| | 1*** | 102 | 73 | 175 |
| | All | 452 | 127 | 579 |

ASD* : Anxiety, Stress, Depression
0** : Normal or Mild (0,0,0),
1*** : Moderate or Severe or Extremely severe
{(1,0,0) or (1,1,0) or (1,1,1)}

**Table 1: Classification of DASS-42 Consistent Couples.**

In Table 1, the total number of couples is 579.
C (0,0) =350= No. of couples without any ASD issues.
C (0,1) =54= No. of couples where wife does not have ASD issues, but husband does.
C (1,0) =102= No. of couples where husband does not have ASD, issues but wife does.
C (1,1) =73= No. of couples in which both husband and wife have ASD issues.
It is observed that (a) 350 (60.44 %) couples are free from ASD related issues, (b) 175 (30.22%) wives have ASD issues whereas (c) 127 (21.93%) husbands have ASD issues. In our sample, women faced more stress related issues than men.

**Data Analysis**

**TABLE No 2: Effect of practicing PCE remedies on conception**

| | | Status of pregnancy | | | | All |
|---|---|---|---|---|---|---|
| | | 0(No) | | 1(Yes) | | |
| | | count | % | count | % | |
| PCE practice | 0(No) | 92 | 41.26 | 131 | 58.74 | 223 |
| | 1(Yes) | 91 | 25.56 | 265 | 74.44 | 356 |
| | All | 183 | 31.39 | 396 | 68.39 | 579 |

| Pearson Chi-Square | DF | p-Value |
|---|---|---|
| 15.622 | 1 | <0.001 |

**Table 2: Effect of practicing the PCE remedies on conception.**

Out of 579 couples who responded, 396 couples conceived by the time of data collection, an overall conception success rate of 68.4%. Further, for those who practiced the PCE remedies, the success rate was slightly higher at 74.4%. For those who didn't practice, the success rate was 58.7%. Thus, there was a rise of 16% in conception rate after adhering to the PCE practices (chi-square p value < 0.001, which is statistically significant). This overall rise in conception rate after practicing the PCE remedies was further analyzed by considering the presence/absence of medical or ASD Problems in either partner. The results are presented in Tables 3 through 10.

TABLE No 3: Effect of practicing PCE remedies on conception:
HW_MP = 0, HW_ASD = 0 (Normal Couples)

| | | Status of pregnancy | | | | All |
|---|---|---|---|---|---|---|
| | | 0(No) | | 1(Yes) | | |
| | | count | % | count | % | |
| PCE practice | 0(No) | 23 | 32.86 | 47 | 67.14 | 70 |
| | 1(Yes) | 42 | 26.75 | 115 | 73.25 | 157 |
| | All | 65 | 28.63 | 162 | 71.37 | 227 |

| Pearson Chi-Square | DF | p-Value |
|---|---|---|
| 0.883 | 1 | 0.347 |

**Table 3: Effect of practicing the PCE remedies on conception for 227 couples having neither medical problems, nor anxiety, stress, or depression issues.**

C (0,0), 23 couples did not practice remedies or conceive,
C (0,1), 47 couples did not practice remedies and conceived,
C (1,0), 42 couples practiced remedies and did not conceive,
C (1,1), 115 couples practiced remedies and conceived.

Out of 70 couples not practicing remedies, 47 (67%) couples conceived. Out of 157 couples practicing remedies, 115 (73%) couples conceived. Thus, the probability of conception increased from 0.67 to 0.73 if couples practiced remedies. The probability of conception increased only by 6% with chi-square p-value = 0. 347, with confidence of 65% only. For these couples who practiced the PCE protocol, chances of conception improved only marginally.

TABLE No 4: Effect of practicing PCE remedies on conception:
HW_MP = 0, HW_ASD = 1

| | | Status of pregnancy | | | | All |
|---|---|---|---|---|---|---|
| | | 0(No) | | 1(Yes) | | |
| | | count | % | count | % | |
| PCE practice | 0(No) | 30 | 50.85 | 29 | 49.15 | 59 |
| | 1(Yes) | 29 | 29.9 | 68 | 70.1 | 97 |
| | All | 59 | 37.82 | 97 | 62.18 | 156 |

| Pearson Chi-Square | DF | p-Value |
|---|---|---|
| 6.847 | 1 | 0.009 |

**Table 4: Effect of adhering to the PCE remedies on conception for 156 couples having no medical issues but having ASD issues.**

C (0,0), 30 couples did not practice remedies and did not conceive,
C (0,1), 29 couples did not practice remedies and conceived,
C (1,0), 29 couples practiced remedies and did not conceive,
C (1,1), 68 couples practiced remedies and conceived.

Out of 59 couples not adhering to remedial practices, 29 (49%) couples conceived. Out of 97 couples adhering to remedial practices 68 (70%) couples conceived. The probability of conception increased from 0.49 to 0.70 if couples practiced the PCE remedies. The probability of conception increased by 21% with chi-square p-value=0.001 (99.9% confidence). Practicing the PCE protocol appears to be very beneficial—showing a rise of 21% in conception—for couples with at least one of the partners having stress related issues.

TABLE No 5: Effect of practicing PCE remedies on conception:
HW_ASD = 0

| | | Status of pregnancy | | | | All |
|---|---|---|---|---|---|---|
| | | 0(No) | | 1(Yes) | | |
| | | count | % | count | % | |
| PCE practice | 0(No) | 46 | 36.22 | 81 | 63.78 | 127 |
| | 1(Yes) | 57 | 25.56 | 166 | 74.44 | 223 |
| | All | 103 | 29.43 | 247 | 70.57 | 350 |

| Pearson Chi-Square | DF | p-Value |
|---|---|---|
| 4.427 | 1 | 0.035 |

**Table 5: Effect of adhering to the PCE practice on conception for 350 couples with no ASD for husband or wife. The couple may or may not have medical issues.**

C (0,0), 46 couples did not practice remedies and did not conceive,
C (0,1), 81 couples did not practice remedies and conceived,
C (1,0), 57 couples practiced remedies and did not conceive,
C (1,1), 166 couples practiced remedies and conceived.

Out of 127 couples not practicing remedies, 81 (63.78%) couples conceived. Out of 223 couples practicing remedies, 166 (74.44%) couples conceived. Thus, the probability of conception increased from 0.6378 to 0.7444 if couples practiced remedies. The probability of conception increased by 10.66% with chi-square p-value=0.035 (with 96.5% confidence). It appears that practicing the PCE protocol is moderately beneficial, with a rise of 10.66% in conception, for couples with none of the partners having stress related issues.

TABLE No 6: Effect of practicing PCE remedies on conception: H_ASD = 1, W_ASD = 0

| | | Status of pregnancy | | | | All |
|---|---|---|---|---|---|---|
| | | 0(No) | | 1(Yes) | | |
| | | count | % | count | % | |
| PCE practice | 0(No) | 7 | 33.33 | 14 | 67.67 | 21 |
| | 1(Yes) | 8 | 24.24 | 25 | 75.76 | 33 |
| | All | 15 | 27.78 | 39 | 72.22 | 54 |

| Pearson Chi-Square | DF | p-Value |
|---|---|---|
| 0.529 | 1 | 0.467 |

**Table 6: Effect of adhering to the PCE practice on conception for 54 couples with no ASD issues for wife but ASD issues for husband. The couple may or may not have medical issues.**

C (0,0), Seven couples did not practice remedies or conceive,
C (0,1), 14 couples did not practice remedies and conceived,
C (1,0), eight couples practiced remedies and did not conceive,
C (1,1), 25 couples practiced remedies and conceived.

Out of 21 couples not practicing remedies, 14 (66.67%) couples conceived. Out of 33 couples practicing remedies, 25 (75.76%) couples conceived. The probability of conception increased from 0.6667 to 0.7576 if couples practiced remedies. The probability of conception increased by 9.09% with chi-square p-value = 0.467 (with 53% confidence). It appears that practicing the PCE protocol was marginally beneficial—showing a rise of 9.09% in conception probability—for couples where the husband had stress related issues and wife did not have stress related issues.

TABLE No 7: Effect of practicing PCE remedies on conception:
H_ASD = 0, W_ASD = 1

| | | Status of pregnancy | | | | All |
|---|---|---|---|---|---|---|
| | | 0(No) | | 1(Yes) | | |
| | | count | % | count | % | |
| PCE practice | 0(No) | 23 | 53.49 | 20 | 46.51 | 43 |
| | 1(Yes) | 16 | 27.12 | 43 | 72.88 | 59 |
| | All | 39 | 38.24 | 63 | 61.76 | 102 |

Pearson Chi-Square Test

| Pearson Chi-Square | DF | p-Value |
|---|---|---|
| 7.324 | 1 | 0.007 |

**Table 7: Effect of adhering to the PCE practice on conception for 102 couples with ASD related issues for wife but not for husband. The couple may or may not have medical issues.**

C (0,0), 23 couples did not practice remedies or conceive,
C (0,1), 20 couples did not practice remedies and conceived,
C (1,0), 16 couples practiced remedies and did not conceive,
C (1,1), 43 couples practiced remedies and conceived.

Out of 43 couples not practicing remedies, 20 (46.51%) couples conceived. Out of 59 couples practicing remedies, 43 (72.88%) couples conceived. The probability of conception increased from 0.4651 to 0.7288 if couples practiced remedies. The probability of conception increased by 26.37% with chi-square p-value = 0.007 (with 99.3% confidence). There was a significant rise (26.37%) in conception probability with very high confidence due to practicing the PCE protocol when the husband had no stress and wife had stress.

TABLE No 8: Effect of practicing PCE remedies on conception:
H_ASD = 1, W_ASD = 1

| | | Status of pregnancy | | | | All |
|---|---|---|---|---|---|---|
| | | 0(No) | | 1(Yes) | | |
| | | count | % | count | % | |
| PCE practice | 0(No) | 16 | 50 | 16 | 50 | 32 |
| | 1(Yes) | 10 | 24.39 | 31 | 75.61 | 41 |
| | All | 26 | 35.62 | 47 | 64.38 | 73 |

| Pearson Chi-Square | DF | p-Value |
|---|---|---|
| 5.14 | 1 | 0.023 |

**Table 8: Effect of adhering to the PCE practice on conception for 73 couples with ASD issues for both wife and husband.**

C (0,0), 16 couples did not practice remedies or conceive,
C (0,1), 16 couples did not practice remedies and conceived,
C (1,0), 10 couples practiced remedies and did not conceive,
C (1,1), 31 couples practiced remedies and conceived.

Out of 32 couples not practicing remedies, 16 (50%) couples conceived. Out of 41 couples practicing remedies, 31 (75.6%) couples conceived. The probability of conception increased from 0.5 to 0.756 if couples practiced remedies. The probability of conception increased by 25.6% with chi-square p-value = 0.023 (with 97.7% confidence). There was a significant rise (25.6%) in conception probability with very high confidence, where couples practiced the PCE protocol, when both the partners have ASD issues.

TABLE No 9: Effect of practicing PCE remedies on conception:
HW_MP = 0

| | | Status of pregnancy | | | | All |
|---|---|---|---|---|---|---|
| | | 0(No) | | 1(Yes) | | |
| | | count | % | count | % | |
| PCE practice | 0(No) | 53 | 41.09 | 76 | 58.91 | 129 |
| | 1(Yes) | 71 | 27.95 | 183 | 72.05 | 254 |
| | All | 124 | 32.38 | 259 | 67.62 | 383 |

| Pearson Chi-Square | DF | p-Value |
|---|---|---|
| 6.739 | 1 | 0.009 |

**Table 9: Effect of adhering to the PCE practice on conception for 383 couples where neither wife nor husband has fertility problems. They may or may not have ASD problem.**

C (0,0), 53 couples did not practice remedies or conceive,
C (0,1), 76 couples did not practice remedies and conceived,
C (1,0), 71 couples practiced remedies and did not conceive,
C (1,1), 183 couples practiced remedies and conceived.

Out of 129 couples not practicing remedies, 76 (58.91%) couples conceived. Out of 254 couples practicing remedies, 183 (72.05%) couples conceived. The probability of conception increased from 0.5891 to 0.7205 if couples practiced remedies. The probability of conception increased by 13.14% with chi-square p-value = 0.009 (with 99.1% confidence). Even though there were no medical fertility problems and the couples practiced the PCE protocol, there was a moderate rise (13.14%) in conception probability with very high confidence.

TABLE No 10: Effect of practicing PCE remedies on conception: HW_MP = 1

| | | Status of pregnancy | | | | All |
|---|---|---|---|---|---|---|
| | | 0(No) | | 1(Yes) | | |
| | | count | % | count | % | |
| PCE practice | 0(No) | 39 | 41.49 | 55 | 58.51 | 94 |
| | 1(Yes) | 20 | 19.61 | 82 | 80.31 | 102 |
| | All | 59 | 30.1 | 137 | 69.9 | 196 |

| Pearson Chi-Square | DF | p-Value |
|---|---|---|
| 11.132 | 1 | 0.001 |

**Table 10: Effect of adhering to PCE practice on conception for 196 couples with either wife or husband or both having fertility problems.**

C (0,0), 39 couples did not practice remedies or conceive,
C (0,1), 55 couples did not practice remedies and conceived,
C (1,0), 20 couples practiced remedies and did not conceive,
C (1,1), 82 couples practiced remedies and conceived.

Out of 94 couples not practicing remedies, 55 (58.51%) couples conceived. Out of 102 couples practicing remedies, 82 (80.39%) couples conceived. The probability of conception increased from 0.5851 to 0.8039 if couples practiced remedies. The probability of conception increased by 21.88% with chi-square p-value = 0.001 (with 99.9% confidence). There was a significant rise (21.88%) in conception rate with very high confidence in couples following PCE remedies, where at least one partner is having medical fertility problems.

## Limitations

All the participants were cis-gender, heteronormative married couples from within the same Indian ethnicity (language, culture, region) who willfully joined the PCE program. The authors strongly believe that the effectiveness of these remedies could potentially be universal, with modifications. The validity of such modified remedies would have to be verified for unmarried partners, single individuals, non-heteronormative families, and for participants of different ethnicities. There was no consideration for socioeconomics in the study. If incorporated, the socioeconomics of the couple could help researchers better understand and

treat stress related to socio-economic standing. The researchers called the participants themselves, which limits the use of this data as there may be potential biases. There was no control group used in this study.

## Conclusion

The aim of the PCE program is to help couples trying to conceive, especially couples having either medical or stress related issues or both. This is done by conducting a one-day workshop in which the DASS-42 test is administered and as per the outcomes of this test, remedies, which need to be practiced daily by the couple, are suggested in order to increase the likelihood of conception. All remedies are aimed at reducing stress levels. Data on 579 couples was used for the statistical analysis for this paper.

The probability of conception increased significantly for the cis-gender heteronormative couples who followed PCE remedies regularly. Our study appears to show there is empirical, statistical evidence that the regular practice of PCE remedies could potentially increase the probability of conception by 10% to 26% in participants. Following PCE remedies regularly appeared to be even more helpful for couples having medical fertility issues and/or stress related issues. The researchers believe that PCE remedies have a positive effect in improving the probability of conception for aspiring parents.

## Acknowledgement

*We acknowledge (i) Pradnya Kelkar from MRC, a regular faculty at PCE workshops, (ii) help by Ujjwala Bhavsar, Sudhir Nilegaonkar and Kranti Gudhate (all from MRC) for conducting telephone interviews and for digitization of registration forms and feedback. We also acknowledge Sachin Chougule and Apoorva Date (both from Intelliment Technologies, Pune) for software help.*

## References

Church, D. (2008). *The genie in your genes* (2nd ed.). Energy Psychology Press.

Dandekar, M. & Dyanneshwar, S. (2016). वै.श्री.ह.भ.प. मामासाहेब दांडेकर [Sarth shri dnyaneshwari]. Generic.

Egypt Today. (3rd February 2018). How colors define personalities. https:// www. Egypttoday.com/Article/6/41659/ How-colors-define-personalities

Fallah, A., Mohammad-Hasani, A., & Hosseinzadeh Colagar, A. (2018). Zinc is an essential element for male fertility: A review of Zn roles in men's health, germination, sperm quality, and fertilization. *Journal of Reproduction and Infertility*, *19*(2), 69—81. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6010824/

Gale, L. (2015). Anxiety and depression assessment: Using the Depression Anxiety Stress Scales. Cinahi Information Systems, Glendale, CA.

https://www.ebscohost.com/assets-sample-content/Anxiety_and_Depression_Assessment_SWPS.pdf

Indian Society for Assisted Reproduction (2020). https://www.isarindia.net

Joyner, M.J., & Baker, S.E. (2021). Take a deep, resisted, breath. *Journal of American Heart Association, 10*(13).

Kelkar, G.S. (2002). A pre-natal project in India. *Journal of Prenatal and Perinatal Psychology and Health*, *16*(4).

Kelkar, G.S. (2013). *Prayer for expected baby*. Super procreation book, (p. 64). Manashanti New Way Ashram Publication. India.

Kelkar, G.S., Dharmadhikari, A.A., & Dharmadhikari, A.D. (2012). Effect of (rational) "prayer" on fetus and mother: A quantitative approach. *Journal of Prenatal and Perinatal Psychology and Health*, *27*(2).

Kelkar, G.S., Dharmadhikari, A.A., & Dharmadhikari, A.D. (2017). Fetus – an independent entity/ personality: The Manashakti Research Center approach. *Journal of Prenatal and Perinatal Psychology and Health, 31*(3).

New Way Udyog Shakti Charitable Trust Publication (n.d.). Prayer Book*, Prayer for Self-Reflection*, India.

News 18. (2022*). Benefits and uses of desi ghee for pregnant women.* https://www.news18.com/news/lifestyle/benefits-and-uses-of-desi-ghee-for-pregnant-women-3120431.html

Nijhout, H.F. (1990). Metaphors and the role of genes in development. *Bioessays 12*(9), 441—446.

Olza, I., Uvnas-Moberg, K., Ekström-Bergström, A., Leahy-Warren, P., Inga Karlsdottir, S., Nieuwenhuijze, M., Villarmea, S., Hadjigeorgiou, E., Kazmierczak, M., Spyridou, A., & Buckley, S. (2020). Birth as a neuro-psycho-social event: An integrative model of maternal experiences and their relation to neurohormonal events during childbirth. *Plos One*, *15*(7). https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0230992

Sisode, A. (2016). Emotions and brain waves. *International Journal of Indian Psychology, 3*(2), https://ijip.in/articles/emotions-and-brain-waves/

Vyasa. (B.C.E.). *Bhagavad Gita.*

Wang, S., Sha, L., Xiao-Yang, X., Gui-Ping, L., Li, S., Yan, Z., & Ting, H.W. (2010). Effect of slow abdominal breathing combined with biofeedback on blood pressure and HRV in Prehypertension. *Journal of Alternative Complementary Medicine, 16*(10), 1039—1045. https://pubmed.ncbi.nlm.nih.gov/20954960.10

Zhang, Y., & Kutateladze, T.G. (2018) Diet and the epigenome. *Nature Communications*, *9*(3375). https://doi.org/10.1038/s41467-018-05778-1

**Appendix 1**

## ANNEXTURE 1

मनःशक्ति

Manashakti Research Centre, Lonavla (India)

# Pre-conception Education Workshop

Registration Form

Date: Location:

Name:

Date of birth: Place of Birth:

Time of birth: Age (Yrs):

Marriage Date (DD/MM/YYYY): Married Years:

No. of children: Expected Child No.:

Education:

Address:

Mobile no.: Email:

1) Type Of occupation: Service / Business / Others:

2) Work Stress e.g., Financial, Health, Power, Others

3) Family type - Joint Family or Nuclear? Since When?

4) Family Stress – Yes No

5) If Yes to Q4, Explain:

6) Temperament - Angry Fearful Courageous Peaceful

7) Have you attended Manashakti's Pre-marriage Test? Yes No

**Appendix 2**

## ANNEXTURE 2 मनशक्ति

## SOP and Feedback Questionnaire.

1. Send email to the participant couple to fix the telephone appointment.

2. Ring up husband and / or wife. When contact was successful, following questions were asked:

i)Did you follow PCE protocol, one or both the partners, and its regularity?

ii)Did you conceive?

If yes, have you delivered?

If yes, (1) birth date

(2) sex of baby

(3) single or twin

(4) mode of delivery (vaginal or cesarean)

If no, what was the problem?

3. Did one or both of you suffer from medical issues (hypertension, diabetes, sub-fertility problems)?

## Efforts done for offspring: मनशक्ती

1) Do you face any problem in sexual relation? Yes No

2) What family planning methods were used?

3) How many years you have planned for not to have a baby?

4) How many years of efforts have you put in to have a baby?

5) Did you find any problem in medical examination? (Sonography / Semen test etc.)

6) Are you currently undergoing any kind of fertility treatment?

7) Did your first conception fail because of abortion? (Abortion could be wilfully, naturally, or as per Doctors advice) -
Yes No

8) Have you experienced a tendency of frequent miscarriages?
Yes No

9) Any other specific information regarding conception that you want to share? –

Participant's Signature