

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

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**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

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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 than 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		All
		0**	1***	
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	0(No)	23	53.49	20	46.51	43
practice	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.*

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## Appendix 1

## ANNEXTURE 1

मनशक्ती

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  Peaceful7) Have you attended Manashakti's Pre-marriage Test?  Yes  No

## Appendix 2

## ANNEXTURE 2

मनशक्ती

## 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)?

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**Efforts done for offspring:****मनशुकी**

- 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 \_\_\_\_\_