

Transmitted Genes and Pithru-tharpanam

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ABSTRACT Human Genome Project has estimated that the total number of genes may be around 30,000. In India, there exists the phenomenon of pithru-tharpanam, which, offers with respect and reverence homage to the departed souls in the family. In this article is reported the author's family pedigree and the transmitted genes and genetic traits from the forefathers. Moreover, the transmitted genes are correlated to the pithrus mentioned in the pithru-tharpanam.

INTRODUCTION

The genesis of the paper is at Kailash-Manasarovar in July 2009.

The 'nature loving-religious-spiritual pilgrimage' to Kailash- Manasarovar was completed. After the holy bath at Manasarovar, as the pithru-tharpanam was being performed, the thought flashed was the transmitted genes and the genetic traits, from the forefathers and ancestors, 'the pithrus'.

Genes, the hereditary units, containing the deoxyribose nucleic acid (DNA), present in the thread-like structures, the chromosomes, are considered to be responsible for the features, the traits and the characteristics of the human beings. The Human Genome Project on completion of the draft of the DNA sequence of the 3 billion base pairs has estimated that the genes may be around 100,000; but, in fact, now, it is supposed to be around 25,000 to 30,000 genes (Turnpenny and Ellard 2008).

Pithrus are the ancestors and the 'pithru-tharpanam', one of the regular features in the life of the Hindus, is carried out towards the betterment of the departed souls, especially for the parental and grandparental members of the previous 3 generations. The 3 generation pithrus, depending on the paternal (pitha) and maternal (matha) sides, are named as Vasu, Rudra and Athithya Roopa Pithrus. In general, the male members of the family, to be specific, the sons, perform the pithru- tharpanam on monthly Amavasya days (no moon) or annually on Malayapaksham or at the time of the 'Thithi' days of the departed soul.

"An article on the combined 7 generational transmitted features (genetic traits) and the importance of pithru-tharpanam has stated that an individual possesses 84 features from the

previous 6 generations, including his or her contribution, which becomes the 7th generation. The described information has been more or less translated, without affecting the original description in Tamil language. "During the reproductive life cycle of men, including him as the 7th generation, their sperms contain 84 transmitted features.

The breakdown of the 84 traits across 7 generations is listed:

7. From himself:	28
6. From father:	21
5. From paternal grandfather:	15
4. From paternal great- grandfather:	10
3. From paternal great-great- grandfather:	06
2. From paternal great-great-great- grandfather:	03
1. From paternal great-great-great- great grandfather:	01
Total:	84

The 84 traits are further passed on from the sperms to their children" (Subhayogam 1993).

Even though, the pithru-tharpanam is done on a regular monthly or annual basis, as a geneticist, only, during the trip to Manasarovar, at the time of performing the pithru-tharpanam, the thought flashed was the 'transmitted genes and the genetic traits'.

Hence, the article was undertaken, to present the pedigree in 'pithru' terminology, along with the percentage of the genes received from the pithrus.

Aim

The aim of the present paper is to report and correlate the transmitted genes i.e., genetic traits from the previous generations of the author, for whom, the pithru-tharpanam is offered.

MATERIALS AND METHOD

In Figure 1 is depicted the family pedigree of the female proband i.e., the author.

OBSERVATIONS

From Figure 1, it is seen, that the transmitted genes and the genetic traits, to the proband (Generation V.1) are 50% from the respective parents and the deceased father indicated as the

Vasu Roopaan Pithrun in Generation IV.1., and mother in generation IV.2., it comes to 15,000 genes from the parents;

25% from the deceased paternal grandparents, the Rudra Roopaan Pithaa Mahaan and Vasu Roopaa Pithaa Mahi (Generation III. 1 and 2) and maternal grandparents the Vasu Roopaan Maatha Mahaan and Vasu Roopaa Maatha Mahi (Generation III. 3 and 4), 7,500 genes;

12.5% from each of the great- grandparent in the 2nd generation (Athithya Roopaan Pra: Pithaa

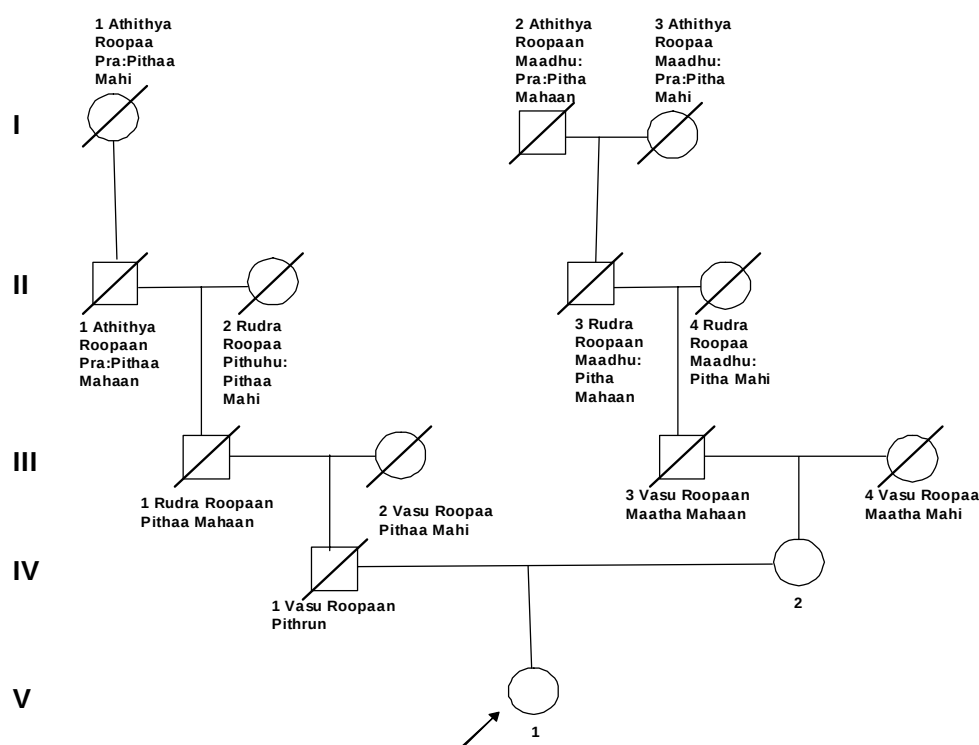


Fig. 1. Family pedigree of the author covering 5 generations.

Key:

- I: 1: Paternal great-great grandmother (Athithya Roopaa Pra: Pithaa Mahi)
- I: 2: Maternal great-great grandfather (Athithya Roopaan Maadhu: Pra: Pitha Mahaan);
- I: 3: Maternal great-great grandmother (Athithya Roopaa Maadhu: Pra: Pitha Mahi);
- II: 1: Paternal great-grandfather (Athithya Roopaan Pra: Pithaa Mahaan)
- II: 2: Paternal great-grandmother (Rudra Roopaa Pithuhu: Pithaa Mahi);
- II: 3: Maternal great-grandfather (Rudra Roopaan Maadhu: Pitha Mahaan)
- II: 4: Maternal great-grandmother (Rudra Roopaa Maadhu: Pitha Mahi);
- III: 1: Paternal grandfather (Rudra Roopaan Pithaa Mahaan)
- III: 2: Paternal grandmother (Vasu Roopaa Pithaa Mahi);
- III: 3: Maternal grandfather (Vasu Roopaan Maatha Mahaan);
- III: 4: Maternal grandmother (Vasu Roopaa Maatha Mahi);
- IV: 1: Father deceased (Vasu Roopaan Pithrun);
- IV: 2: Mother
- V: 1: Proband: Female

Mahaan and Rudra Roopaa Pithuhu: Pithaa Mahi in the paternal side in II.1,2,) and maternal side (Rudra Roopaa Maadhu: Pitha Mahaan and Rudra Roopaa Maadhu: Pitha Mahi in II. 3,4); 3,750 genes;

6.2% from the paternal great-great grandmother (Athithya Roopaa Pithu: Pra: Pithaa Mahi in I.1) and maternal great- great grand parents, (Athithya Roopan Maadhu: Pra: Pitha Mahaan and Atithya Roopaa Maadhu: Pra: Pitha Mahi in I. 2,3) 1,875 genes.

DISCUSSION

It is seen that an individual may have 84 genetic traits from his or her previous generations (Subhayogam 1993).

For all practical purposes, the breakdown of 84 across 7 generations considered in percentage, then, it seemed to agree with the estimated percentage based on the opined genes from Human Genome Project: 50% from parents to 25% -> 12.55 -> 6.2% -> 3.1 -> 1.5% from the forefather in the 7th generation.

On the basis of the studies of children born

to consanguineous parents, it has been estimated that the average human carries between one and two genes for harmful autosomal recessive disorder together with several mutations for conditions that result in lethality before birth. It is also reported, that in communities wherein consanguineous marriages practiced over generations, there has been a weeding out of deleterious autosomal recessive genes (Sanghvi 1966). The statements are applicable to one and all. But, in consanguinity, the chances of the lethal genes to be in homozygosity seemed to be high.

The article is concluded with grateful thanks to the 'pithrus' for the transmitted genes, for 'what I am', including the presence of the lethal genes.

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