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Review Article

A REVIEW STUDY ON THE CONCEPT OF ATULYAGOTRIYA MARRIAGES AND ITS SCIENTIFIC VALIDITY

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ABSTRACT

Ayurveda is a thousand of years old science and it is very interesting fact that it is covering every aspect of human beings life i.e. physical, psychological, social and related to soul. Ayurvedic *Acharya* mentioned *Atulyagotriya* marriage concept right from *Samhita Kala* and explained bad effect of *Tulyagotriya* marriages. Many *Samhita's* like *Charka*, *Kashyapa* and *Bhela Samhita* mentioned separate chapters regarding this subject. Though studies are done regarding bad effect of consanguineous marriages in ancient and current sciences as well, but in seriousness are not disseminated to the nuke and corner of the society through scientific reports. Consanguineous marriages incidences are also may be varying from area to area or from culture to culture. People who are blood relatives share a greater proportion of the same genes than unrelated people do because they have a common ancestor such as a grandparent from whom they inherited their genes through their parents. The closer the biological relationship is between relatives, the more likely that they will have the same faulty gene in common. A healthy child is the wealth of the nation and for the procreation of a healthy child apart from mentally and physically healthy parent, it is important that the couple should be mutually of a different clan. Among genetic disorders, Autosomal recessive disorders are strongly associated with consanguinity, approximately 30% of sporadic undiagnosed cases of mental retardation, congenital anomalies and dysmorphism may have an Autosomal recessive etiology with risks of recurrence in future pregnancies.

KEYWORDS: *Tulyagotriyavivaha, Janmajatavikara, Atulyagotriyavivaha,* Consanguinity, Clan.

INTRODUCTION

Ayurveda is a life science system. It is not only deals with treatment of diseases, also describes the rule and regulation for human beings for being free from diseases i.e. state of physical, psychological and social wellbeing. Ayurvedic Acharyas mentioned concept of *Dincharya*[1], *Ritucharya*[2], *Sadhvrita Palana*[3] *and Atulyagotriya etc* for maintaining the healthy state of body. A healthy child is the wealth of the nation and for the procreation of a healthy child apart from mentally and physically healthy parent, it is important that the couple should be mutually of a different clan. Consanguinity describes a relationship between two people who share a common ancestor: a 'shared blood' relationship. The most common form of a consanguineous relationship or marriage is between first cousins and in some societies, can account for a large proportion of relationships. Traditionally, some cultures have practiced and continue to practice marriage between relatives such as cousins as a means of strengthening family ties and retaining property within the family. We all carry several harmful faulty gene copies on our chromosomes but have a working copy on the other partner chromosome to provide the information for our bodies. Usually two unrelated people will not carry the same faulty gene copy. In order to avoid wastage of pregnancy and related reproductive health problems in India, it is imperative to initiate awareness creation measures regarding the adverse effect of consanguineous marriages, particularly in those regions where it is still dominantly prevalent like south India.

OBJECTIVES

- To find out the relation between *TulyagotriyaVivaha* and *Janmajatavikara*.
- To find out the bad outcomes in offspring's of consanguineous couples.
- To create the awareness regarding *Atulyagotriya* marriages and bad affects of consanguineous marriages.

METHODOLOGY

A review based study, information pertaining to this study was primarily obtained from various textbooks and previous research works.

DISCUSSION

India has a great heritage of literatures such as *Veda's*, *Puranas*, *Samhita's* etc. these literatures are great source of knowledge regarding rituals, lifestyles, health related information etc. these literatures has given many rules and regulation or *Samskara's* regarding human beings. These are not only for spirituality, but also have scientific reason like *Atulyagotriyavivaha*. Right from *Vedic* period Indian ancient scholars told that a person should marry in different clan for a health offspring. This is a very scientific concept, recent researches also proving connection between consanguinity and their bad outcomes. Ayurvedic *Acharyas* were very well aware of genes or genetic concept along with genetic disorders. There are so many references regarding individual's genetic potential and different genetic disorders.

Some important references regarding *Atulyagotriya Vivaha*, gene concept and genetic disorders in *Ayurvedic Samhitas* are as follows.

Caraka Samhita

Caraka Acharya told that, when a woman after her menstruation cohabits with a man of a different clan in a lonely place, the man ejaculates something composed of 4 *Mahabhuta's* and having 6 *Rasa*, which results in conception in a woman[4].

Charaka Acharya concluded that for procreation of a healthy child, it is necessary that the male and female should be mutually of a different clan. Coitus among the members of the same clan is a sinful act which does not have the sanction of scriptures. Similarly cohabitation is prohibits during the first three days of the period of fertilization when there is flow of menstrual blood. Privacy is a *sine qua non* for undisturbed ejaculation. For proper conception it is necessary that both the sexual partners are in an appropriate position. Coitus in reversed position is prohibited.

Kashyapa Samhita

Kashyapa described *Asamangotriaadhyaya*[5], but detail regarding the topic is missing from the chapter, only *Masa-Anumashika Vrudhikrama* is available in this chapter.

Bhela Samhita

Acharya Bhela quoted that, one should go to a female of a deferent linage after she has bathed following menstruation; she will give birth to a son who is brilliant and disease free [6]. Just as a plant does not grow very well, nor in a perfect manner, so does the fetus get destroyed by the blemishes of the mother and father.

Some hypothesis related chromosome and genes along with *Vedic Gotra* system

Chromosomes and Genes

Humans have 23 pairs of Chromosomes and in each pair one Chromosome comes from the father and the other comes from the mother. So in all we have 46 Chromosomes in every cell, of which 23 come from the mother and 23 from the father. Of these 23 pairs, there is one pair called the Sex Chromosomes which decide the gender of the person. During conception, if the resultant cell has XX sex chromosomes then the child will be a girl and if it is XY then the child will be a boy. X chromosome decides the female attributes of a person and Y chromosome decides the male attributes of a person.

When the initial embryonic cell has XY chromosome, the female attributes get suppressed by the genes in the Y chromosome and the embryo develops into a male child. Since only men have Y Chromosomes, son always gets his Y chromosome from his father and the X chromosome from his mother. On the other hand daughters always get their X Chromosomes, one each from both father and mother. So the Y Chromosome is always preserved throughout a male lineage (Father - Son - Grandson etc) because a Son always gets it from his father, while the X Chromosome is not preserved in the female lineage (Mother, Daughter, Grand Daughter etc) because it comes from both father and mother.

A mother will pass either her mother's X chromosome to her Children or her father's X chromosome to her children or a combination of both because of both her X Chromosomes getting mixed (called as Crossover). On the other hand, a Son always gets his father's Y chromosome and that too almost intact without any changes because there is no other corresponding Y chromosome in his cells to do any mixing as his combination is XY, while that of females is XX which hence allows for mixing as both are X Chromosomes.

MODERN REVIEW

In this 21st century, there is great advancement in every field especially in science and technology. Genetic science is also making new landmarks day by day. In present time, stem cell treatment is increasing very rapidly in developed countries and as well as developing countries like India. The gene concept, different kind of genetic disorders are very well known to scientific world. Peoples related to medical fields are very well aware about consanguineous marriages and their outcomes. But general population is not well aware regarding this especially in south India.

Consanguinity: Consanguinity (Latin con = shared, sanguis= blood) means descends from a common ancestor. A consanguineous couple is usually defines as being related as second cousins or closer. It is also defined as the marriage between close relatives. The harmful effect associated with consanguinity is the expression of the rare abnormal recessive traits inherited from common ancestors'.

Consanguineous means related by blood: As a working definition, unions contracted between persons biologically related as second cousins or closer are categorized as consanguineous, having one or more ancestors in common no more remote than a great-grandparent (*consag.net; WHO document 1997, EUROCAT*).

Global Prevalence of consanguinity:

- **Less than 1%:** United Sates, Russia, Australia, parts of Latin America and Europe.
- **1-10%:** China, Latin America, North India, Japan, South Europe and Canada.
- **10-50+%:** Arab countries, Turkey, Iran, Pakistan, Afghanistan, South India.
- **Unknown:** Parts of South-East Asia, most Africa.

Consanguinity and Birth defects

- Generally speaking, frequency of congenital malformations among newborns of first cousin unions is about 2 times the frequency among the general population. In other words instead of a rate of 2-3% of birth defects in the general population, the risk to first cousin couples is around 4-6%.
- Another estimate puts the offspring of first cousin unions at a 1.7-2.8% increased risk above the population background risk (Bennett et al, 2002).

Consanguinity and genetic disorders

Among genetic disorders, only Autosomal recessive disorders are strongly associated with consanguinity, approximately 30% of sporadic undiagnosed cases of mental retardation, congenital

anomalies and dysmorphism may have an Autosomal recessive etiology with risks of recurrence in future pregnancies. (Hamamy et al 2007 SMJ)

Genetic classification of relationship

Relationships between blood relatives have been classified by genetics specialist according to degree of closeness, based on the perportion of their genes that they share:

1. Brothers and sisters, nonidentical (dizygotic or faternal) twins, parents and children are ***first degree relatives***; they have half of their genes in common.
2. Uncle and aunts, nephews and nieces, grandparents and half brother and half sisters are ***second degree relatives***, they have a quarter of their genes in common.
3. First cousins, half uncles and aunts, half nephews and nieces are ***third degree relatives***. They have an eight of their genes in common.
4. Second cousins, great grandparents, great uncle, great nephews and nieces are ***fourth degree relatives***.

Overview

It has been estimated that the average person inherits several alleles for conditions lethal prenatally, plus between one and two for other harmful recessive disorders. This hidden detrimental component of the genome is called the genetic load. The main genetic consequence of inbreeding is to bring such recessive alleles to expression by increasing the proportion of homozygotes. Children born to incestuous (parent–offspring or brother–sister) matting's include around 40% with mental defect and many with impaired hearing or vision. At least 1100 million people are either married to relatives as close as, or closer than, second cousins, or are the progeny of such unions. In Arab populations the most common consanguineous marriage is between first cousins who are the offspring of brothers, while in India uncle–niece liaisons constitute 10% of all marriages. In the UK double first cousins (i.e. both sets of grandparents are full siblings) are the closest relatives legally permitted to marry.

In general rarer an AR disease, the higher the degree of inbreeding found in those patients. For example, in one study of cystic fibrosis, the most common AR disease, the frequency of cousin marriages among the parents was 1.4%. This rises to 25% for the exceedingly rare alkaptonuria. The combined frequency of abnormalities among offspring of first cousin marriages is almost twice the background rate faced by the average couple, but the chance that a child from such a mating will be 'normal' is still high, at 93–95%.

Consanguinity Atopy

Atopy is naturally occurring familial hypersensitivity or allergic reaction of human beings for which there was a genetic predisposition. The basis for the predisposition lies in the histocompatablity genes. Hey fever and asthma are two of the most commonly inherited allergies. Contact dermatitis and gastrointestinal reactions also may be inherited. As with all type 1 hypersensitivity reactions, IgE is the primary antibody involve. Here antigens involved are inhalants like pollen, house dust or ingestants like eggs and milk. Predisposition to Atopy is genetically determine. All individuals produce IgE response is precondrant. Symptoms of Atopy are caused by the release of pharmacologically active substances following the combination of the antigen and cell fixed IgE.

The portal of entry of the antigen is usually determines clinical expressions of atopic reactions, example conjunctivitis, rhinitis, gastrointestinal symptoms, dermatitis etc. sometimes the effects may be at sites remote from the portal of entry, e.g.- urticaria following ingestion of the allergens.

Consanguinity and intelligence

- Severe mental retardation is associated with consanguinity because many Autosomal recessive conditions include moderate-severe MR.
- Association of consanguinity with low intelligence is not confirmed

Exogamy

Exogamy is a social arrangement where marriage is allowed only outside of a social group. The social groups define the scope and extent of exogamy, and the rules and enforcement mechanisms that ensure its continuity. In social studies, exogamy is viewed as a combination of two related aspects: biological and cultural. Biological exogamy is marriage of non blood-related beings, regulated by forms of incest law. Cultural exogamy is the marrying outside of a specific cultural group. The opposite of exogamy is endogamy, a marriage within a social group.

Cultural exogamy

Cultural exogamy is the custom of marrying outside a specified group of people to which a person belongs. In addition to blood relatives, marriage to members of a specific totem, clan(s) or other groups may be forbidden. Different theories are proposed to account for the origin of exogamy. Edvard Westermarck said an aversion to marriage between blood relatives or near kinemerged with a parental deterrence of incest. From a genetic point of view, aversion to breeding with close relatives results in fewer congenital diseases, because, where one gene is faulty, there is a greater chance that the other being from a different line is of another functional type and can take over. Out breeding thus favours the condition of heterozygosity, that is having two non-identical copies of a given gene. J. F. McLennan holds that exogamy was due originally to scarcity of women, which obliged men to seek wives from other groups, including marriage by capture, and this in time grew into a custom.

Émile Durkheim derives exogamy from totemism and says it arose from a religious respect for the blood of a totemic clan, for the clan totem is a god and is especially in the blood.

Morgan maintains that exogamy was introduced to prevent marriage between blood relations, especially between brother and sister, which had been common in a previous state of promiscuity. Frazer says that exogamy began to maintain the survival of family groups, especially when single families became larger political groups. Lang, however, argues against Howitt's claim of group

marriage and claims that so-called group marriage is only tribe-regulated licence.

Claude Lévi-Strauss introduced the "Alliance Theory" of exogamy, that is, that small groups must force their members to marry outside so as to build alliances with other groups. According to this theory, groups that engaged in exogamy would flourish, while those that did not would all die, either literally or because they lacked ties for cultural and economic exchange, leaving them at a disadvantage. The exchange of men or women therefore served as a uniting force between groups.

Dual exogamy

Dual exogamy is a traditional form of arranging marriages in numerous modern societies and in many societies described in Classical literature. It can be matrilineal or patrilineal. It is practiced by some Australian tribes, historically widespread in the Turkic societies, Taï societies (Ivory Coast), Eskimo, among Finnic people and others. In tribal societies, the dual exogamy union lasted for many generations, ultimately uniting the groups initially unrelated by blood or language into a single tribe or nation.

Linguistic exogamy

Linguistic exogamy is a form of cultural exogamy in which marriage occurs only between speakers of different languages. The custom is common among indigenous groups in the northwest Amazon, such as the Tucano tribes. It is used to describe families in Atlantic Canada with a Francophone and an Anglophone parent.

Consanguineous marriage trends in India

Attitudes in India on cousin marriage vary sharply by region and culture. The family law in India takes into account the religious and cultural practices and they are all equally recognized. For Muslims, governed by uncodified personal law, it is acceptable and legal to marry a first cousin. But for Hindus it may be illegal under the 1955 Hindu Marriage Act, though the specific situation is more complex. The Hindu Marriage Act makes cousin marriage illegal for Hindus with the exception of marriages permitted by regional custom. Practices of the small Christian minority are also location dependent: their cousin marriage rates are higher in southern states like Karnataka with high overall rates.

Cousin marriage is proscribed and seen as incest for Hindus in north India. In fact it may even be unacceptable to marry within one's village or for two siblings to marry partners from the same village. The northern kinship model prevails in the states of Rajasthan, Gujarat, Uttar Pradesh, Odisha, West Bengal, Bihar, Jharkhand, Madhya Pradesh, Uttarakhand, Haryana, and Punjab. However in south India it is common for Hindu cross cousins to marry, with matrilateral cross-cousin (mother's brother's daughter) marriages being especially favoured. The southern kinship model prevails in the states of Andhra Pradesh, Telangana, Karnataka, Kerala and Tamil Nadu.

CONCLUSION

Consanguineous marriages are common in our country, but approximately 30 to 40% of the people in India are not very well aware regarding that the children of consanguineous couples are more diseased in compare to non-consanguineous couple children's i.e. genetic disorder or congenital anomalies. But 60-70% of the Indian people, though they knows about the bad effects of consanguineous marriages, they are not paying much attention and still following this culture, and this heritage is more common in south Indian population of Hindus as well as Muslims. We can conclude that there is a clear direct relation between consanguineous marriages (*Tulyagotriyavivaha*) and congenital/genetic disorders (*Janmajatavikara*) in their respective offspring's. Review study clearly concludes that closer the degree of consanguinity; chances are more of getting congenital anomalies or genetic disorders (*Janmajata Vikara*) in the offspring.

REFERENCES

1. Laghu Vagbhata, Asthanga Hridya, edited with Vidhyotini Teeka by Atrideva Gupta, Sutra Sthana-2, Varanasi, Chaukhamba Prakashan, 2008, page no.: 21-32.
2. Agnivesa, Caraksamhita, edited with Vidyotiniteeka by Kasinath Sastri and Gorakhanath Chaturvedi, vol-1, Sutra Sthana-6, Varanasi, Chaukhambabharti publication, 2005, page no. - 139-46.
3. Agnivesa, Caraksamhita, edited with Vidyotiniteeka by Kasinath Sastri and Gorakhanath Chaturvedi, vol-1, Sutra Sthana-8, Varanasi, Chaukhamba bharti publication, 2005, page no. - 181-90.
4. Agnivesa, Caraksamhita, edited with Vidyotiniteeka by Kasinath Sastri and Gorakhanath Chaturvedi, vol-1, Sharira Sthana-2, verse no.-3, Varanasi, Chaukhamba bharti publication, 2005, page no. - 837.
5. VrudhaJeevaka, Kasyapa Samhita, edited by Shri Satyapalabhisagacharya, Shariraa Sthana, Varanasi, Chaukhambha Visvabharati, 2009, p- 69-72.
6. Acarya Bhela, Bhela Samhita, edited by Dr. K. H. Krishnamurathy, Sharira Sthana, Chapter No.-3, verse No.-1, Varanasi, Chaukhamba Viswabharti publication, 2008, p. 198.

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