



Review Article

Ophidiophobia: Fear of Snakes

Anuja Wadadekar^{1,*}, Lakshmi Navsupe²

Associate Professor¹, P. G. Scholar²

Department of Agadtantra^{1,2}

^{1,2}P.D.E.A.'S College of Ayurved and Research Centre, Nigdi, Pune, Maharashtra, India-411044

Article Received on: 05/07/2023; Accepted on: 11/07/2023.

*Corresponding Author: Dr. Anuja Wadadekar, E-mail: : anujak1486@gmail.com

ABSTRACT:

Introduction:

Serpent mythologies are an international phenomenon that generally results in Ophidiophobia (fear of snakes) and the killing of snakes. Ophidiophobia is an irrational, persistent, overwhelming fear of snakes. It can cause physical discomfort & psychological disturbance. Misinformation regarding venomous species leads to this fear.

Objectives: To study Ophidiophobia according to modern science and *Ayurveda*.

Data Source: Classical *Bruhatrayee* texts like *Charak Samhita*, *Sushrut Samhita* and *Ashtanga Hriday* and e-resources like Scopus, PubMed, and Google Scholar were used.

Review Method: A systematic review was done by using available different e-resources like Scopus, PubMed, and Google Scholar. Keywords like Ophidiophobia, *Sarpangabhihata*, *Shankavisha*, and *Sarpa* were used. Available articles were reviewed.

Results: Ophidiophobia is one of the most common specific phobias. Psychological studies have reported that 2–3% of the participants suffered from ophidiophobia. In *Ayurveda*, *Sarpangabhihata* and *Shanka Visha* concepts are similar to ophidiophobia. *Satwawajay Chikitsa*, *Mantra Chikitsa*, and reassurance. Exposure therapy and Cognitive behavioral therapy are advised for the management of Ophidiophobia.

Conclusion: Promotion of the conservation of snakes, and education on their true nature and behavior must be undertaken. The scientific community, educators, and the general public should all take initiative. Social media, reach-out programs during scientific studies, and snake education in schools are some of the effective techniques to be followed. Education of our communities to prevent fear-based killings of snakes should be done.

KEY WORDS: Ophidiophobia, *Sarpangabhihata*, *Shankavisha*, *Sarpa*

INTRODUCTION:

India had 1.2 million snakebite deaths (representing an average of 58,000 per year) from 2000 to 2019 with nearly half of the victims aged 30-69 and over a quarter being children under 15.⁽¹⁾ Serpent mythologies are an international phenomenon that generally results in Ophidiophobia (fear of snakes) and the killing of snakes. Ophidiophobia is an irrational, persistent, overwhelming fear of snakes. It can cause physical discomfort & psychological disturbance. Misinformation regarding venomous species leads to this fear.⁽²⁾ It is one of the most common phobias of

animals (affecting 2-3% human population). There are more than 3500 species of snakes, but only about 250 are venomous in the world. In India 216 species are found, of which 52 are poisonous.⁽³⁾ 85-90% of species all over the world are non-poisonous.⁽⁴⁾ Snakes play an important role in our ecosystem and provide us with economic and therapeutic benefits. Conservation and protection of snakes is important as without them the numbers of prey species would increase to unnatural levels and the predators that eat snakes struggle to find food.⁽⁵⁾ (Figure 1)

Figure No. 1: The existence and importance of snakes in our life



This article aims to promote awareness regarding Ophidiophobia in the community and help in the conservation of snakes.

MATERIALS AND METHODS:

Objectives: To study Ophidiophobia according to modern science and *Ayurveda*.

Data Source: Classical *Bruhatrayee* texts like *Charak Samhita*, *Sushrut Samhita*, and *Ashtanga Hruday* and e-resources like Scopus, PubMed, and Google Scholar were used.

Review Method: A systematic review was done by using available different e-resources like Scopus, Pub Med, and Google Scholar. Keywords like Ophidiophobia, *Sarpangabhihata*, *Shankavisha*, and *Sarpa* were used. Available articles were reviewed.

DISCUSSION:

Concept of Ophidiophobia:

Ophidia is a *Latin* word meaning serpent from which the word *Ophidio* has been derived. The literal meaning of *Ophidiophobia* is an excessive fear of snakes.⁽⁶⁾ It is a type of specific phobia where a particular object or condition triggers immediate excessive anxiety or fear, despite the lack of actual risk. These phobias affect patient's daily routines. In this case, snakes act as a trigger.

Prevalence:

It is one of the commonest phobias about

animals affecting 2 to 3 % of the global population.^{(7), (8)} when demographic data are compared in various articles, it shows that women are more prone to suffer from anxiety caused by fear of snakes. This can be explained by their greater vulnerability to anxiety disorders. This is due to various biological influences, temperamental factors, stress and trauma, cognitive factors, and environmental factors.⁽⁹⁾

Causes:

Various theories evolved in the 1970's to explain fear acquisition and understand the development of phobias. They are as follows;⁽¹⁰⁾

1. Conditioning model: fear is initiated on exposure to a stimulus.
2. Non-associative models: an innate feeling which can be observed from a very young age.

Three learning pathways were suggested by Rachman in 1977 as follows;⁽¹¹⁾

1. Direct learning through classical conditioning,
2. Indirect learning through observation (vicariously or modeling),
3. Information or instructional learning

Based on these etiological mechanisms Murray and Foote first documented and explored the causes behind the fear of snakes. In 1979,

Murray and Foote’s study indicated that fear of snakes was more likely acquired through observational and instructional experiences which communicates negative information about snakes. The observation of fear in others and negative instructions provided about them by parents, stories, and other sources of information were most crucial in the development of fear.⁽¹²⁾

Symptoms:

The following factors act as a trigger for

ophidiophobia.⁽¹³⁾

- Coming across a snake.
- Perceive a noise to be of a snake.
- Listening to someone talking about a snake.
- See a picture of a snake, or read about them.
- Thinking about snakes

The following physical and psychological symptoms are observed in a person suffering from ophidiophobia :^{(14), (15)}

Table No. 1: Physical and Psychological Symptoms of Ophidiophobia

Physical Symptoms	Psychological Symptoms
Dizziness or lightheadedness	Severe anxiety at the thought of snakes
Nausea	Inability to even look at snakes
Sweating, especially in the palms	Frequent thoughts of snakes
Tachycardia	Changing one’s daily routine to avoid snakes
Difficulty in breathing or shortness of breath	Severe fear of all snakes
Tremors	inability to tolerate snakes in cages or zoos
Increased Blood Pressure	

Diagnosis:

Diagnosis of phobias like ophidiophobia is done based on symptoms. The fifth edition of

The *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5) lays out seven criteria;⁽¹⁶⁾

1. A persistent fear that’s excessive or unreasonable occurring in the presence or anticipation of snakes.
2. An immediate anxiety response to exposure to snakes
3. Person himself recognizes the fear to be excessive or out of proportion to the threat.
4. One Avoids places where snakes could be present or feels intense anxiety or distress when snakes are present.
5. Evasive behaviors, the anticipation of nervousness, or distress when a snake is present significantly interferes with a person’s daily routine
6. The fear is persistent for at least six months.
7. No other mental disorder can explain fear.

Management:⁽¹⁷⁾

Self help is the first step in the management of Ophidiophobia. Person suffering from it should

spend time with outside world to gain knowledge about snakes. He should remain cautious. Following treatment modalities are used in the management.

- **Cognitive behavioral therapy (CBT):** structured psychotherapy can help patient understand and regulate their thoughts and emotions. This therapy helps in controlling negative response to stimulus given by thoughts of snakes.
- **Exposure therapy:** this is also known as desensitization. It helps patient to gradually deal with their fears. Over the time patient is exposed to the idea of snakes in a controlled environment. From initial exposure to cartoon sketches of snakes to real snakes in cage, exposure is increased which helps in management.
- **Hypnotherapy:** Under hypnosis patients are put in a trance like situation where they are more open to suggestion and change. A hypnotist convinces patient that they are less afraid of snakes.
- **Medications:** various anti-anxiety medications are used to lessen physical and psychological symptoms of anxiety.

Ayurvedic concept:

In Ayurvedic texts, concepts resembling to fear of snakes are as follows;

Sarpangabhihata ⁽¹⁸⁾ – Acharya Sushrut have classified snakebites in 4 types according to the bite marks. These are *Sarpitam*, *Raditam*, *Nirvisham* and *Sarpangabhihatam*.

In persons who are afraid of snakes even accidental touch by the body of the snake, leads to aggravation of *Vata*. This causes swelling at the site of touch. No bite marks are observed in these cases and other physical signs are absent. This condition is known as *Sarpangabhihata*.

ShankaVisha ⁽¹⁹⁾ – Acharya Charaka has elaborated the concept of *Shankavisha*. When a person walking in the darkness is pricked by thorn, it aggravates fear. Fear of snakebite is responsible for various psychosomatic symptoms of envenomation like, fever, vomiting, fainting & burning sensation along with exhaustion, delusion & diarrhoea. This condition is termed as *ShankaVisha*. The concept is similar to phobias. As per the Acharyas weak mentality leads to *Shanka Visha*.

Treatment of the Shanka Visha and Sarpangabhihata ⁽²⁰⁾ –

- *Mantra Chikitsa*: *Sita*, *Vaigandika*, *Draksha*, *Madhuka*, etc mixed with the *Madhu* is advised to drink after sanctified by *Atharva Vedokta Vishanashaka Mantra*.
- *Ashwasan Chikitsa*: he should be consoled with courageous words and pleasant things.

After identifying that there is no bite and all are psychological factors playing the role, just by consoling, patient's treatment can be done.

CONCLUSION:

Concept of *Sarpangabhihata* and *Shanka Visha* are similar to Ophidiophobia in etiological factor of fear stimulus. Major difference between the two is *Sarpangabhihata* and *Shanka Visha* are acute conditions, whereas Ophidiophobia is a chronic one. Ayurveda also emphasizes on *Manas Chikitsa* in form of *Ashwasan*.

Promotion of conservation of snakes, education on their true nature and behavior has to be undertaken to reduce the prevalence of Ophidiophobia. The scientific community, educators and the general public should all take initiative. Social media, reach-out programs during scientific studies, and snake education in schools are some of the effective techniques to be followed. Education of our communities to prevent fear-based killings of snakes should be done.

REFERENCES:

- [1] World Health Organization: Snakebite envenoming. <http://www.who.int/news-room/fact-sheets/detail/snakebite-envenoming> (2019).
- [2] Warrell DA, Guidelines for the management of snakebite, World Health Organization. Regional Office for South-East Asia, 2010
- [3] Tomar S et. al., Identification of Sarpa- Ayurvedic Perspective, Int. J. Ayu. Alt. Med., 2018; 6(5): 180-188
- [4] Meyers, S.E. and P. Tadi, Snake Toxicity. [Updated 2021 Jan 31]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing. 2021; p. Cited May 27, 2021. Available from: Available from: <https://www.ncbi.nlm.nih.gov/books/NBK557565/>.
- [5] <https://www.georgeinstitute.org.in/our-impact/policy-and-recommendations/snakes-the-ecosystem-and-us-its-time-we-change> accessed on 14th June 2023
- [6] <https://www.etymonline.com/word/ophidiophobia> accessed on 27th June 2023
- [7] Fredrikson, M., Annas, P., Fischer, H., and Wik, G. (1996). Gender and age differences in the prevalence of specific fears and phobias. *Behav. Res. Ther.* 34, 33–39. doi: 10.1016/0005-7967(95)00048-3
- [8] Ceriaco LM. Human attitudes towards herpetofauna: the influence of folklore and negative values on the conservation of amphibians and reptiles in Portugal. *J EthnobiolEthnomed.* 2012 Feb 8;8:8. doi: 10.1186/1746-4269-8-8. PMID: 22316318; PMCID: PMC3292471.
- [9] Zsido, Andras & Polák, Jakub & Coelho, Carlos. (2023). The Evolutionary Background of Ophidiophobia and Ophidiophilia. https://www.researchgate.net/publication/371900033_The_Evolutionary_Background_of_Ophidiophobia_and_Ophidiophilia accessed on 14th June 2023

- [10] Zsido, Andras & Polák, Jakub & Coelho, Carlos. (2023). The Evolutionary Background of Ophidiophobia and Ophidiophilia. https://www.researchgate.net/publication/371900033_The_Evolutionary_Background_of_Ophidiophobia_and_Ophidiophilia accessed on 14th June 2023
- [11] Rachman S. The conditioning theory of fear-acquisition: a critical examination. *Behav Res Ther.* 1977;15(5):375-87. doi: 10.1016/0005-7967(77)90041-9. PMID: 612338.
- [12] Murray EJ, Foote F. The origins of fear of snakes. *Behav Res Ther.* 1979;17(5):489-93. doi: 10.1016/0005-7967(79)90065-2. PMID: 508228.
- [13] <https://my.clevelandclinic.org/health/diseases/22519-ophidiophobia-fear-of-snakes> accessed on 14th June 2023
- [14] <https://www.healthline.com/health/anxiety/ophidiophobia#symptoms> accessed on 14th June 2023
- [15] <https://www.choosingtherapy.com/ophidiophobia/> accessed on 14th June 2023
- [16] <https://adaa.org/understanding-anxiety/specific-phobias/symptoms> accessed on 14th June 2023
- [17] <https://my.clevelandclinic.org/health/diseases/22519-ophidiophobia-fear-of-snakes#management-and-treatment> accessed on 14th June 2023
- [18] Susruta Samhita, Kalpasthana, *Sarpadash-tavidnyaniya kalpa Adhyaya*. 4/19. Available from: <https://niimh.nic.in/ebooks/esushruta> (Accessed on 13th June 2023)
- [19] Charaka Samhita, Chikitsasthana, *Vishachikitsitam Adhyaya*, 23/221-223 Available from: <https://niimh.nic.in/ebooks/ecaraka> (Accessed on 13th June 2023)
- [20] Paradkar BH, editor, (1st ed.). Sarvanga Sundara Vyakhya of Arunadutta and Ayurveda Rasayana Vyakhya of Hemadri on Ashtanga Hridaya of Vagbhata, Uttarantra; Sarpavisha Pratishedha Adhyaya: 36/ 89. Varanasi: Chowkambha Surabharati Prakashan, 2014; 913.

Cite this article as:

Anuja Wadadekar, Lakshmi Navsupe, Ophidiophobia: Fear of Snakes, PDEAS Int. J. R. Ayu. & A. Sc., 5(2); Aug 2023, p.33-37.

Conflicts of interest – None

Funding or sponsorship - None