Original Article

An Epidemiological Survey Study to Enlist Vyadhi and its Classification WSR to Drought Affected Population

Parth Kumar Chaudhary*, Vasudev Anandrao Chate, Shreevathsa B.M

ABSTRACT

Background: To achieve the two principal objectives, the concept of Trisūtra and Bija Catustaya has been designed by Ācārya Caraka and Ācārya Susruta respectively, Vyādhi is the one among them. Homeostasis of the components of life maintains health whereas the imbalance of same leads to disease. Ayurveda analyses Vyādhi and its Vargikarana to facilitates easy understanding of Vyādhi as well as shows the path for further treatment aspects. Without the knowledge of Vyādhi Vargikarana, it is futile to achieve the Savikalpa Jñāna. **Objectives:** Evaluation of disaster affected diseases with Vyādhi Vargikarana. **Materials and Methods:** For the survey study, the affected places of Drought disaster events were visited, observed and surveyed through face to face. To collect the data a modified general case proforma was prepared with the help of disaster management faculty. For each event sample of minimum 100 affected people have been incorporated to enlist the major diseases in order to classify them under Vyādhi Vargikarana. **Results:** The following Vyādhis observed under Drought disaster, population are more vulnerable to GI Diseases, RT Diseases, UT Diseases, Nutritional Deficiency, Skin Diseases, Sun stroke and Leucorrhoea. There is a more chance of getting following Vyādhi Vargikarana in Drought viz., Nija, Āgantuja, Sākhāgata, Kōsthagata, Marmagata, Pittaja, Dwandvaja, and Sannipātaja are highly Significant with *p* = .001. **Conclusion:** Disaster directly impacts the health of the population. In the present study, major observed Vyādhi has been enlisted. Āgantuja, Sāririāka – Mānasika, Sākhāgata, Kōsthagata and Sannipātaja are the common Vargikarana.

Keywords: Vyādhi, Vargikarana, Disaster, Drought.

Parth Kumar Chaudhary*, Vasudev Anandrao Chate, Shreevathsa B.M

Department of Ayurveda Samhitha and Siddhanta, Government Ayurveda Medical College, Mysuru, Karnataka, INDIA.

Correspondence

Dr. Parth Kumar Chaudhary
Final year PG Scholar, Department of Ayurveda Samhitha and Siddhanta, Government Ayurveda Medical College, Mysuru-570001, Karnataka, INDIA.
Email id: chaudharyparth36@gmail.com

INTRODUCTION

Ayurveda believes that "Rōgamādau parīksēta tatŏ'nantaramausadham" A wise physician should examine the distinctive features of the disease beforehand and then treatment should be started only if the disease is curableThe disease is defined as a state in which both the body and mind are subject to pain and misery. it can be classified in Various types. Diseases are classified according to need of treatment, causative factor, prognosis etc. like, Śarīrā (Physical) - Mānasika (Mental), Nija (Endogenous disease)- Āgantuja (Exogenous disease), Sādhya (Curable)-Asādhya (Incurable)[1-4] and so on. A wise physician with his Yukti can further classify the disease in many ways.[5] It is noticeable that Ayurveda refers that the "Saṁprāpti Vighatana" is the Cikitsā, so, for Saṁprāpti Vighatana it is necessary to understand the Vyādhi and its classification in relation to diseases caused by disasters. As per the Disaster Management Act 2005, a disaster is defined as "a catastrophe, mishap, calamity or grave occurrence in any area, arising from natural or man-made cause, or by accident or negligence which results in substantial loss of life or human suffering or damage to, and destruction of property, or damage to, or degradation

of, environment, and is of such a nature or magnitude as to be beyond the coping capacity of the community of the affected area".[6] There is lacuna of research in ayurveda for the management of diseases due to disaster so, the classification of Vyādhi is an essential for understanding of the disease due to disaster, and it is a prerequisite factor for management of such incidences. In any disasters occurrence there will be definite role and contribution from the different professions or authorities of society, there is only minimum contribution from AYUSH. Hence, this work has been taken to analyse the Vyādhi and its classification in disaster affected people for the welfare of the society.

Objectives

To enlist the prevalent Vyadhi observed Under Drought disaster in order to classify them under different Vyadhi vargikarana.

MATERIALS AND METHODS

It is a Retrospective Observational Study which is a Collaboration work with Administrative Training Institute Mysore in that 100 subjects were selected for

Table 1: What is already known on this subject.

Title	Study On Manas with Special Reference to Assess The Status Of Manas In Drought Disaster Affected People – A Survey Study.[7]
Result	In drought affected people it was observed that out of 15 Manasika bhavas, kama, chinta, bhaya, shoka, vishada was shown statistical significantly.

the evaluation of Vyādhi in Drought disaster affected people. The data pertaining to present study has been gathered from Morawada village of Suigama Taluka, Banasakantha District of Gujarat State. The place visited and sample of 100 people of 30 affected families was surveyed by using the special Case proforma through face-to-face interview. The list of prevalent diseases has been enlisted. Data was analysed by using Frequency, Percentage and Chi-square test.

RESULTS

Meta-analysis on present work has been mentioned in Table 1.

What this study adds

- Prevalent Vyadhi in Drought affected people.
- Provides classification of each observed Vyadhi in order to plan the appropriate treatment modalities.

Criteria for the classification of Vyadhi

The observed diseases have been subjected to information available in Ayurvedic lexicons regarding vyadhi classification in order to classify them under each classification.

Vyadhi

It is found that among 100 Drought affected people, 22 (22.0%), 16 (16.0%), 21 (21.0%), 13 (13.0%) and 13 (13.0%) were having Krōdha, Śōka, Cintā, Bhaya and Cittōdvēga respectively.

Among 100 Drought affected people, 5 (4.2%), 14 (11.9%), 16 (13.6%), 19 (16.2%), 26 (22.2%), 19 (16.2%), 8 (6.8%) and 10 (8.5%) were suffering from Sun stroke, GI diseases, RT Diseases, UT Diseases, Nutritional Deficiency, Skin diseases, Leucorrhoea and Psychological diseases respectively enumerated in Figure 1.

Observations

Demographic data

Among the 100 drought affected people, maximum number i.e., 61.0% were Male, and 39.0% were Female. Maximum number of people i.e., 51.0% belonged to the age group of Below 30 years, followed by the 38% belonged to the age group of 31 – 60 years and 11% belonged to the age group of Above 60 years. Maximum number of people i.e., 70.0% belonged to the lower class and Minimum 30% belonged to the Middle class.

Distribution of Diseases in relation with Socio Economical Status among Drought affected people

Among 100 Drought affected people, total 117 diseases were observed.

In Lower class, 4 (3.4%), 9 (7.7%), 12 (10.2%), 13 (11.1%), 17 (14.5%), 13 (11.1%), 5 (4.3%) and 8 (6.8%) people suffering from Sun Stroke, GI Diseases, RT Diseases, UT Diseases, Nutritional Deficiency, Skin Diseases, Leucorrhoea and Psychological Diseases were observed respectively.
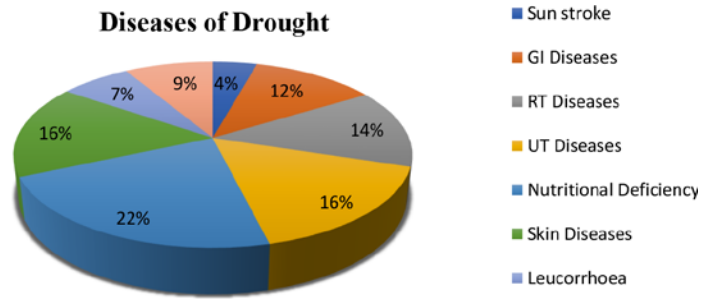

Figure 1: Diseases found in Drought.

In Middle class, 1 (0.9%), 5 (4.8%), 4 (3.4%), 6 (5.1%), 9 (7.7%), 6 (5.1%), 3 (2.6%) and 2 (1.7%) people suffering from Sun Stroke, GI Diseases, RT Diseases, UT Diseases, Nutritional Deficiency, Skin Diseases, Leucorrhoea and Psychological Diseases were observed respectively.

In Upper class, 0 victim was observed.

Distribution of Diseases in relation with Age among Drought affected people

In age group of below 30, 3 (2.5%), 7 (5.9%), 9 (7.6%), 9 (7.6%), 17 (14.5%), 10 (8.5%), 4 (3.4%) and 0 (0. 0%) people suffering from Sun Stroke, GI Diseases, RT Diseases, UT Diseases, Nutritional Deficiency, Skin Diseases, Leucorrhoea, and Psychological Diseases were observed respectively.

In age group of 31 – 60, 2 (1.7%), 7 (5.9%), 5 (4.2%), 8 (6.8%), 7 (5.9%), 4 (3.4%), 4 (3.4%) and 9 (7.6%) people suffering from Sun Stroke, GI Diseases, RT Diseases, UT Diseases, Nutritional Deficiency, Skin Diseases, Leucorrhoea and Psychological Diseases were observed respectively.

In age group of above 60, 0 (0.0%), 0 (0. 0%), 2 (1.7%), 2 (1.7%), 2 (1.7%), 5 (4.2%), 0 (0.0%) and 1 (0.8%) people suffering from Sun Stroke, GI Diseases, RT Diseases, UT Diseases, Nutritional Deficiency, Skin Diseases, Leucorrhoea, and Psychological Diseases were observed respectively.

Distribution of Diseases in relation with Gender among Drought affected people

Out of 68 male, 5 (4.3%), 10 (8.5%), 13 (11.1%), 9 (7.7%), 14 (11.9%), 12 (10.3%), 0 (0. 0%) and 5 (4.2%) were suffering from Sun Stroke, GI Diseases, RT Diseases, UT Diseases, Nutritional Deficiency, Skin Diseases, Leucorrhoea and Psychological Diseases respectively.

Out of 49 female, 0 (0.0%), 4 (3.4%), 3 (2.6%), 10 (8.5%), 12 (10.3%), 7 (5.9%), 8 (6.8%) and 5 (4.2%) were suffering from Sun Stroke, GI Diseases, RT Diseases, UT Diseases, Nutritional Deficiency, Skin Diseases, Leucorrhoea and Psychological Diseases respectively.

Result on Vyādhi Vargīkarana

Distribution of each Vyadhi Vargikarana, available in classics in relation with Drought Disaster has been mentioned in Table 2.

In Drought total 10 Psychological diseases were found.

In Drought among 44 Śārīrīka - Mānasīka Vyādhi, 1 (0.8%), 5 (4.2%), 6 (5.1%), 11 (9.4%), 7 (5.9%), 9 (7.7%), 5 (4.2%) and 0 (0.0%) were found in Sun Stroke, GI Diseases, RT Diseases, UT Diseases, Nutritional Deficiency, Skin Diseases, Leucorrhoea and Psychological Diseases respectively enumerated in Figure 2.

Table 2: Distribution of Vargīkarana in relation with Drought Disaster.

Vyadhi Vargikarana		Percentage
Based on Adhisthana[8]	Saririka	56.0%
	Manasika	10.0%
	Saririka – Manasika	34.0%
Based on Nimitta[8]	Nija	95.0%
	Agantuja	5.0%
Based on Rogamarga[9]	Shakhagata	33.0%
	Koshthagata	63.0%
	Marmagata	4.0%
Based on Dosha[8]	Vataja	5.0%
	Pittaja	16.0%
	Kaphaja	10.0%
	Dwandvaja	32.0%
	Sannipataja	37.0%
Based on Bala[3]	Mrudu	77.0%
	Daruna	23.0%
Based on Sadhyasadhyata[3]	Sukhasadhya	70.0%
	Kricchasadhya	23.0%
	Yapya	7.0%
	Pratyakheya	0.0%

Figure 3: Relation between Vargīkarana based on Nimitta and Diseases of Drought disaster.

Figure 4: Relation between Vargīkarana based on Rōgamārga and Diseases of Drought.

Figure 2: Relation between Vyādhi Adhisthāna and Diseases of Drought.

Distribution of Vyādhi Vargīkarana based on Nimmita in relation with Diseases of Drought Disaster

In Drought among 112 Nija Vyādhi, 0 (0.0%), 14 (11.9%), 16 (13.6%), 19 (16.2%), 26 (22.2%), 19 (16.2%), 8 (6.8%) and 10 (8.5%) were found in Sun Stroke, GI Diseases, RT Diseases, UT Diseases, Nutritional Deficiency, Skin Diseases, Leucorrhoea and Psychological Diseases respectively.

In Drought total 5 Āgantuja Vyādhi Found under Sun stroke enumerated in Figure 3.

Distribution of Vyādhi Vargīkarana based on Adhisthāna in relation with Diseases of Drought disaster

In Drought among 63 Śārīrīka Vyādhi, 4 (3.4%), 9 (7.7%), 10 (8.5%), 8 (6.8%), 19 (16.2%), 10 (8.5%), 8 (6.8%), 19 (16.2%), 10 (8.5%), 3 (2.5%)

and 0 (0.0%) were found in Sun Stroke, GI Diseases, RT Diseases, UT Diseases, Nutritional Deficiency, Skin Diseases, Leucorrhoea and Psychological Diseases respectively.

Distribution of Vyādhi Vargīkarana based on Doshaja in relation with Diseases of Drought disaster.

In Drought among 5 Vātaja Vyādhi, 1 (0.8%), 3 (2.5%) and 1 (0.8%) were found in GI Diseases, RT Diseases and Nutritional Deficiency respectively.

In Drought among 19 Pittaja Vyādhi, 5 (4.2%), 3 (2.5%), 8 (6.8%), 1 (0.8%) and 2 (1.7%) were found in Sun Stroke, GI Diseases, UT Diseases, Skin Diseases, and Leucorrhoea respectively.

In Drought among 10 Kaphaja Vyādhi, 2 (1.7%), 3 (2.5%) and 5 (4.2%) were found in GI Diseases, Leucorrhoea and Psychological Diseases respectively.

In Drought among 39 Dwandvaja Vyādhi, 6 (5.1%), 9 (7.7%), 6 (5.1%), 14 (12.0%), 2 (1.7%) and 2 (1.7%) were found in GI Diseases, RT Diseases, UT Diseases, Nutritional Deficiency, Leucorrhoea and Psychological Diseases respectively.

In Drought among 44 Sannipātaja Vyādhi, 2 (1.7%), 4 (3.4%), 5 (4.2%), 10 (8.5%), 19 (16.2%), 1 (0.8%) and 3 (2.5%) were found in GI Diseases, RT Diseases, UT Diseases, Nutritional Deficiency, Skin Diseases, Leucorrhoea and Psychological Diseases respectively enumerated in Figure 5.

Vargikarana based on Dosha and Diseases of Drought

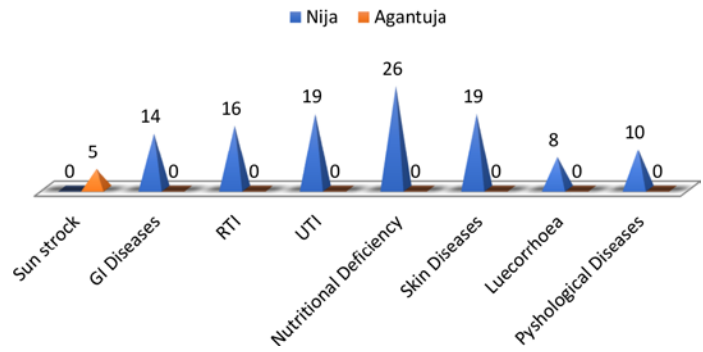**Figure 5:** Relation between Vargīkarana based on Dōsa and Diseases of Drought.

Vargikarana based on Bala and Diseases of Drought

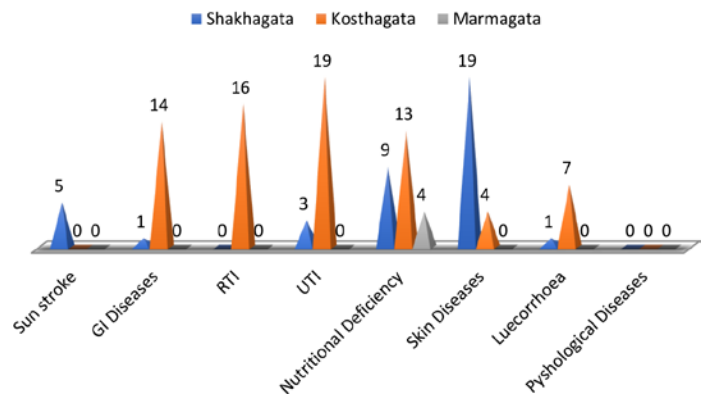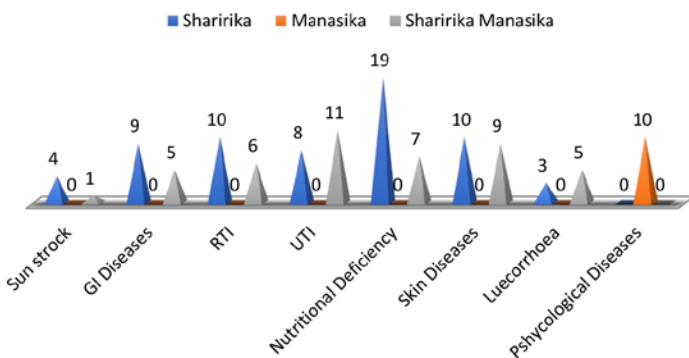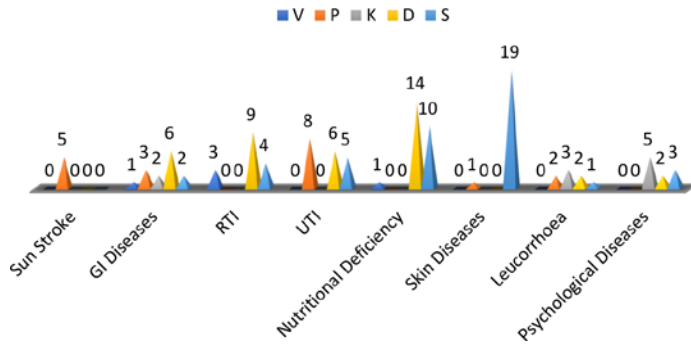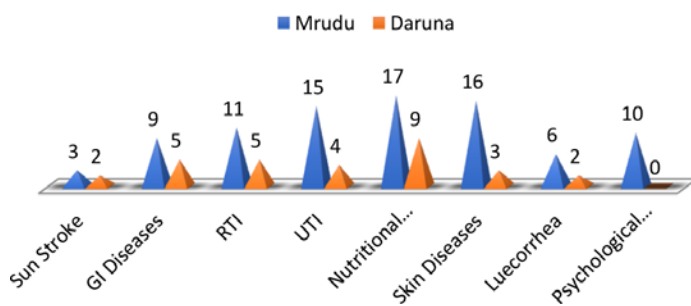**Figure 6:** Relation between Vargīkarana based on Bala and Diseases of Drought.

Distribution of Vyādhi Vargīkarana based on Rogamarga in relation with Diseases of Drought disaster

In Drought among 38 Śākhāgata Vyādhi, 5 (4.3%), 1 (0.8%), 0 (0.0%), 3 (2.6%), 9 (7.8%), 19 (16.5%), 1 (0.8%) and 0 (0.0%) were found in Sun Stroke, GI Diseases, RT Diseases, UT Diseases, Skin Diseases, Leucorrhoea and Psychological Diseases respectively.

In Drought among 73 Kōsthagata Vyādhi, 0 (0.0%), 14 (12.1%), 16 (14.0%), 19 (16.5%), 13 (11.3%), 4 (3.4%), 7 (6.0%) and 0 (0.0%) were found in Sun Stroke, GI Diseases, RT Diseases, UT Diseases, Nutritional Deficiency, Skin Diseases, Leucorrhoea and Psychological Diseases respectively.

In Drought total 4 Marmagata Vyādhi found under Nutritional Deficiency enumerated in Figure 4.

Distribution of Vyādhi Vargīkarana based on Sadhyasadhyata in relation with Diseases of Drought disaster

In Drought among 79 Sukha sādhya Vyādhi, 3 (2.5%), 9 (7.7%), 10 (8.5%), 15 (12.8%), 14 (12.0%), 13 (11.1%), 6 (5.1%) and 9 (7.7%) were found in Sun Stroke, RT Diseases, UT Diseases, Nutritional Deficiency, Skin Diseases, Leucorrhoea and Psychological Diseases respectively.

In Drought among 28 Krccha sādhya Vyādhi, 2 (1.7%), 2 (1.7%), 3 (2.5%), 4 (3.4%), 8 (6.8%), 6 (5.1%), 2 (1.7%) and 1 (0.8%) were found in Sun Stroke, GI Diseases, RT Diseases, UT Diseases, Nutritional Deficiency, Skin Diseases, Leucorrhoea and Psychological Diseases respectively.

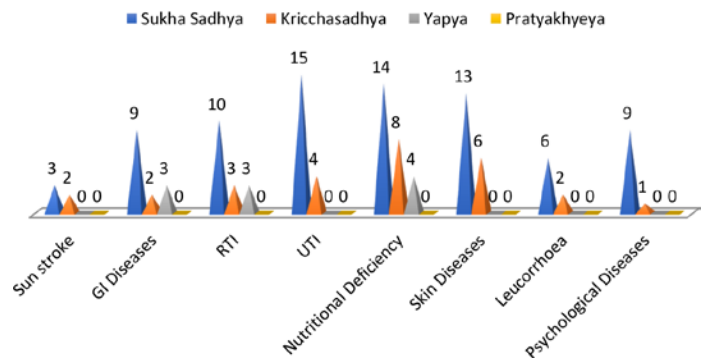## Vargikarana based on Sadhyasadhyata and Diseases of Drought

Figure 7: Relation between Vargīkarana based on Sādhyāsādhyatā and Diseases of Drought.

In Drought among 10 Yāpya Vyādhi, 3 (2.5%), 3 (2.5%) and 4 (3.4%) were found in GI Diseases, RT Diseases and Nutritional Deficiency respectively.

In Drought 0 Vyādhi wasfound in Pratyakhyeya enumerated in Figure 7.

Distribution of Vyādhi Vargīkarana based on Bala in relation with Diseases of Drought disaster

In Drought among 87 Mrdu Vyādhi, 3 (2.5%), 9 (7.7%), 11 (9.4%), 15 (12.8%), 17 (14.5%), 16 (13.6%), 6 (5.1%) and 10 (8.5%) were found in Sun Stroke, GI Diseases, RT Diseases, UT Diseases, Nutritional Deficiency, Skin Diseases, Leucorrhoea and Psychological Diseases respectively.

In Drought among 33 Dāruna Vyādhi, 2 (1.7%), 5 (4.2%), 5 (4.2%), 4 (3.4%), 9 (7.7%), 3 (2.5%), 2 (1.7%) and 0 (0.0%) were found in Sun Stroke, GI Diseases, RT Diseases, UT Diseases, Nutritional Deficiency, Skin Diseases, Leucorrhoea and Psychological Diseases respectively enumerated in Figure 6.

RESULTS

In Sun stroke, Nija, Āgantuja, Śākhāgata and Pittaja Vyadhi are highly Significant ($p = .001$).

In GI Diseases, Kōsthagata Vyadhi is highly Significant ($p = .001$).

In RT Diseases, Kōsthagata Vyadhi is highly Significant ($p = .001$), Followed by, Śākhāgata is Significant ($p = .003$).

In UT Diseases, Kōsthagata and Pittaja Vyadhi are highly Significant ($p = .001$).

In Nutritional Diseases, Marmagata Vyadhi is highly Significant ($p = .001$).

In Skin Diseases, Śākhāgata, Kōsthagata, Dwandvaja and Sannipātaja Vyadhi are highly Significant ($p = .001$).

DISCUSSION

Discussion has been done on Vyādhi Vargīkarana in relation with Drought disaster riveting over range of observed data by highlighting the role of disaster management cycle.

Based on Adhisthāna (Śārīrīka, Mānasīka Śārīrīka - Mānasīka)

Observed Data shows that there is more chance of getting Śārīrīka type of Vyādhi compare to Śārīrīka - Mānasīka and Mānasīka. Therefore,

the treatment modalities pertaining to Śārīrīka and Dhī, Dhrti, Atmādivijñāna Ādi[10] will be countable in the preparedness as well recovery stage of disaster management.

Based on Nimitta (Nija and Āgantuja)

Observed data shows that there is more chance of getting Nija Vyadhi compare to Āgantuja types of Vyādhi. Therefore, the treatment modalities pertaining to Nija followed by Agantuja Vyadhi will be countable in the preparedness as well recovery stage of disaster management.

Based on Rōgamārga (Śākhāgata, Kōsthagata and Marmagata)

Observed data shows that there is more chance of getting Kōsthagata compare to Śākhāgata and Marmagata type of Vyādhi. Therefore, the treatment modalities pertaining to Kōsthagata Vyādhi will be countable in the preparedness as well recovery stage of disaster management.

Based on Dōsaja

Observed data shows that there is high tendency of getting Dwandvaja and Sannipātaja types of Vyādhi compare to Eka Dōsaja. Therefore, the treatment modalities pertaining to Dwandvaja and Sannipātaja will be countable in the preparedness as well recovery stage of disaster management.

Based on Bala (Mrdu and Dāruna)

With the help of current data, it can be concluded that there is more chance of getting Mrdu compare to Dāruna types of Vyādhi. Therefore, the treatment modalities pertaining to Mrdu Vyādhi will be countable in the preparedness as well recovery stage of disaster management.

Based on Sādhyāsādhyatā (Sukhasādhya, Kricchasādhya and Yāpya)

Observed data shows that affected People are more vulnerable to fall under Sukhasādhya category compare to Kricchasādhya and Yāpya category. Therefore, the treatment modalities pertaining to Sukhasādhya Vyādhi will be countable in the preparedness as well recovery stage of disaster management. Thereby, arrest the process of disease transformation from one stage to other.

CONCLUSION

In present scenario, natural / man-made calamities are the major challenges to humanity. Understanding the concept comprehensively and situational analysis of the same is the only way to cope such situations. The same has been understood fully by our acharyas, which is very much evident in present era also

1. There is extensive classification of the diseases in the Ayurvedic lexicons. The logic behind the classification is to be explored for the better understanding the aim of science.
2. A different kind of treatment modalities has been designed by scholars aiming to get rid from such diseased conditions. And, the

knowledge regarding Vyādhi Vargikarana will provide a bridge through which one can achieve the same.

3. In present study, the attempt has been made to understand the concept of Vyādhi and its Vargikarana with new impression i.e., disaster for advancement of community.
4. The observed Mānasika bhāvās in range between 18.0% - 25.0% are Cittōdvēga, Bhaya, Śōka, Krōdha and Cintā. This suggests that the chance of getting above mentioned Bhāvās are more.The observed Vyādhi suggest that, under Drought disaster the population are more vulnerable to GI Diseases (11.9%), RT Diseases (13.6%), UT Diseases (16.2%), Nutritional Deficiency (16.2%) and Skin Diseases (16.2%).
5. Results in Drought viz., Nija, Āgantuja, Śākhāgata, Kōsthagata, Marmagata, Pittaja, Dwandvaja, and Sannipātaja are highly Significant with $p = .001$.

A contribution towards betterment of the society in the form of researches in disaster is need of hour.

ACKNOWLEDGEMENT

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

ABBREVIATIONS

GI Diseases: Gastro Intestinal Diseases; **RT Diseases:** Respiratory Tract Diseases; **UT Diseases:** Urinary tract Diseases.

REFERENCES

1. Acharya YT, editor. Charaka Samhita of Agnivesha, sutra Sthana. Ch 20. Ver 20. reprint ed. Varanasi: Chaukhamba orientalia; 2019. p. 115.
2. Bhisagacharya HPV, editor. Sarvanga Sundari commentary of Arunadatta and Ayurveda rasayana commentary of Hemadri on Astanga hridayam of Vagbhata, Nidana Sthana. Ch 1. Ver 1. Varanasi: Chaukhambha Sanskrit sans than; 2017. p. 440.
3. Acharya YT, editor. Charaka Samhita of Agnivesha, vimana Sthana. Ch 6. Ver 3. reprint ed. Varanasi: Chaukhamba orientalia; 2019. p. 252.
4. Acharya YT, editor. Charaka Samhita of Agnivesha, sutra Sthana. Ch 10. Ver 8. reprint ed. Varanasi: Chaukhamba orientalia; 2019. p. 66.
5. Acharya YT, editor. Charaka Samhita of Agnivesha, vimana Sthana. Ch 6. Ver 4. reprint ed. Varanasi: Chaukhamba orientalia; 2019. p. 253.
6. [cited Jun 17 2022]Available from: https://nidm.gov.in/PDF/Disaster.
7. [cited Jun 26 2022]. Available from: http://www.iamj.in/posts/2019/images/upload/1787_1793.pdf.
8. Acharya YT, editor. Charaka Samhita of Agnivesha, sutra Sthana. Ch 20. Ver 3. reprint ed. Varanasi: Chaukhamba orientalia; 2019. p. 112.
9. Acharya YT, editor. Charaka Samhita of Agnivesha, sutra Sthana. Ch 11. Ver 48. reprint ed. Varanasi: Chaukhamba orientalia; 2019. p. 77.
10. Acharya YT, editor. Ch-1, Ver – 58. Varanasi: Chaukhamba orientalia. In: Charaka Samhita of Agnivesha sutra sthana. reprint ed; 2019. p. 16.