Int J Trans Res Ind Med 2022, 4(1): (P) 25 - 32

Review Article

ISSN 2582-0109

International Journal of Translational Research in Indian Medicine
www.ijtrim.com
Volume 4, Issue 1 – 2022

ASSESSMENT OF VARIOUS PRESCRIPTION PRACTICE AMONG SIDDHA PHYSICIANS IN THE TREATMENT OF SWASAKASAM (BRONCHIAL ASTHMA) - A CROSS SECTIONAL STUDY

M.G.Anbarasi [*1], K.Pavithra [2], U.Chitra [3], N.Anbu [4]

[1,2] P.G.Scholar, Department of General Medicine, Government Siddha Medical College, Arumbakkam, Chennai-600106, Tamil Nadu, India.
[3] Lecturer, Department of General Medicine, Government Siddha Medical College, Arumbakkam, Chennai- 600106, Tamil Nadu, India.
[4] Head of the Department of General Medicine, Government Siddha Medical College, Arumbakkam, Chennai-600106, Tamil Nadu, India.

ABSTRACT

Bronchial asthma signifies higher prevalence across the globe, as the conventional medicines fails to offer adequate relief imparts the positive impression on availing traditional siddha medicines. Siddha therapy gains paramount importance due to their competent cure and wellness in the patients. Further siddha formulations comprises of herbal therapeutics with multiple pharmacological action. Natural products have been the cornerstone of therapeutic agents for millennia and more recently an important source of therapeutic drugs with unique structural diversity and pharmacological actions. Herbs are used for the treatment of asthma should have anti-inflammatory, immunomodulatory, antihistaminic and allergic activity. Hence the main aim of the present observation study is to analyse the prescription pattern, therapeutic approach and strategies availed by the siddha physicians in clinical management of bronchial asthma. Cross sectional observation study comprises of 50 siddha physician (25 private and 25 government) subjected to critical analysis on prescription practice towards clinical management of bronchial asthma. It was concluded from the data's of current cross sectional study is that siddha physicians utilised versatile formulations which includes Chooranam, Parpam, Chendooram, Chunnam, Legiyam, Nei, Mathirai and Kudineer for managing symptoms associated with bronchial asthma. Further it was also observed that siddha therapy found clinically effective with lower incidence of adverse event in economical mean and at lesser time. Hence availing siddha medicines found to ideal in limiting the symptoms associated with bronchial asthma.

KEY WORDS: ***Siddha, Bronchial asthma, Herbs, Siddha physicians, Prescription pattern, Formulations, Therapy***

Corresponding Author: M.G.Anbarasi, P.G.Scholar, Department of General Medicine, Government Siddha Medical College, Arumbakkam, Chennai- 600106, Tamil Nadu, India

1. Introduction

India alone has an estimated 15–20 million asthmatics cases that account for major health issues. Mortality data from developed countries show that the rates varies from 0.1- 0.8 per 100,000 persons aged 5–34 [1]. For managing asthma attacks, symptomatic relief is foremost requirement. In India, in various traditional systems like Ayurveda, Unani and Siddha, numerous herbs were mentioned for therapeutic use in asthma.

Bronchial asthma is the most common chronic disease worldwide [2] which involves the immune system. Many cells are involved in its pathogenesis, such as dendritic cells (Th2), lymphocytes, eosinophils, mast cells, neutrophils, macrophages, epithelial cells, fibroblasts, and smooth muscle cells. These cells release inflammatory mediators such as histamine, prostaglandin D2, leukotrienes, cytokines, chemokines, oxidative markers, and nitric oxide [3]. In an immune-mediated disorder like asthma, Th2 cytokines such as IL-4, IL-5, and IL-13 initiate allergic responses by increasing the infiltration of eosinophils and enhancement of the production of IgE and Th1 cytokines (interferon [IFN]-γ), which inhibit Th2 responses [3]. Inflammatory cells such as macrophages and eosinophils generate reactive oxygen species, and hence oxidative stress is increased in patients with asthma [4]. Increased oxidative stress is associated with disease severity and may enhance the inflammatory response [5]. The main therapeutic strategies used for treatment of asthma focus on reducing airway inflammation, but there is no definite cure for reducing the airway remodelling observed in this disease.

Natural products have been the cornerstone of therapeutic agents for millennia and more recently an important source of therapeutic drugs with unique structural diversity and pharmacological actions [6]. Many therapeutic agents currently in use in several therapeutic areas such as cardiovascular, oncology, transplantation are natural products or their derivatives such as digoxin, vincristine, and cyclosporine, respectively. However, their use as pharmaceutical agents has waned over the last few decades in the face of advances in combinatorial chemistry and biopharmaceutical technology, the latter supplying the majority of the top ten block buster drugs in the market in 2018 [7]. Indeed, more than 70% of the world's population use herb-based medicines for primary healthcare. A recent study has also reported that approximately 60% of asthma patients in the UK have used herbal remedies for their asthma [8]. These findings suggest a strong held belief that natural products not only have therapeutic benefit in a wide range conditions, but that they are also safe.

Asthma is initiated by multiple interactions between inflammatory cells and mediators. After an exposure to a triggering factor, inflammatory mediators are released from mast, macrophages, T-cells and epithelial cells. This cause attraction of other inflammatory cells mainly eosinophil into the pulmonary tissues. These causes lung injury, mucus hypersecretion and smooth muscle hyperactivity. Furthermore, at least 27 cytokines and 18 chemokines play a role in asthma pathophysiology. Th2 lymphocytes cytokines and Th1 cytokine interferon-gamma are the main ones to provoke allergy and asthma [9].

Asthma is a complex inflammatory disease cause's airway narrowing and associated with changes in the levels of eosinophils, mast cells, lymphocytes, cytokines and other inflammatory cell products. It is well known that patients with asthma have high levels of specific IgE that binds to receptors of mast cells and other inflammatory cells. Interaction between IgE antibody and antigen results in the activation of a series of inflammatory cellular reactions, including the release of mediators such as histamines, prostaglandins and leukotrienes, which subsequently lead to contraction of airway smooth muscle and bronchoconstriction [10-12]. Asthma is a common disease that is rising in prevalence worldwide, with the highest prevalence in industrialized countries. Asthma affect about 300 million people worldwide and it has been estimated that a further 100 million will be affected by 2025 [13, 14]. Since 1970s, the global prevalence, morbidity, mortality, and economic burden of asthma have increased particular in children [15]. The main aim of the present observation study is to analyse the prescription pattern, therapeutic approach and strategies availed by the siddha physicians in clinical management of bronchial asthma.

2. Materials and Methods

2.1. Study design

Cross sectional observation study comprises of 50 siddha physician (25 private and 25 government) subjected to critical analysis on prescription practice towards clinical management of bronchial asthma. Study conducted with the prior approval from the concerned authority. Physicians were also explained about the objective of the study and purpose of the questionnaires. Data were dealt with the high level of anonymity and confidentiality.

2.2. Questioner Pattern

The questionnaire was divided accordingly to cover the entire purpose of the study such as pretreatment procedures, drugs of choice, external therapy, add on therapy, treatment duration and details on adverse drug reactions if any.

3. Results

3.1. Existence of pretreatment procedure

It was observed from the study that, 38 physicians (76%) out of 50 were giving pretreatment procedure in Swasakasam (Bronchial Asthma). As shown in

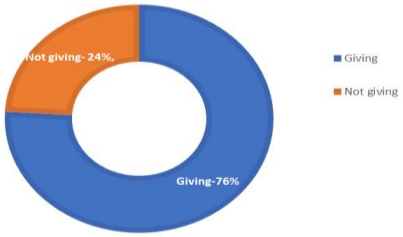

Figure 1.

Figure 1: Existence of pretreatment procedure

3.1.1. Percentage preference on pretreatment – Purgation

From the results of the present investigation it was observed that 21 physicians (58%) had given Agasthiyar Kulambu, 7 physicians (14%) Murukanvidhai Mathirai, 6 physicians (12%) Merugulli oil, 4 physicians (8%) Vellai ennai and 12 physicians (24%) had not given purgation to Bronchial asthma (Swasakasam).

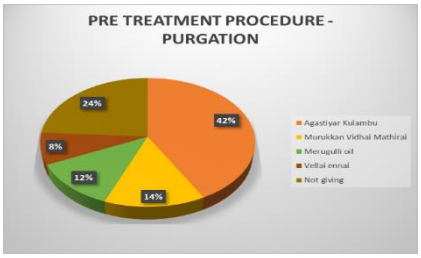

Figure 2: Percentage preference towards Purgation

3.2.Physicians therapeutic preference towards Chooranam based preparations

It was observed from the study that 14 physicians (28%) had given Thrikadugu choornam, 13 physicians (26%) Thalisathi choornam, 7 physicians (14%) Thipilliyathi choornam, 9 physicians (18%) Karpoorathy choornam, 5 physicians (10%) Chitarattai choornam, 2 physicians (4%) had given Kandankathiri choornam.As shown in Figure 3.

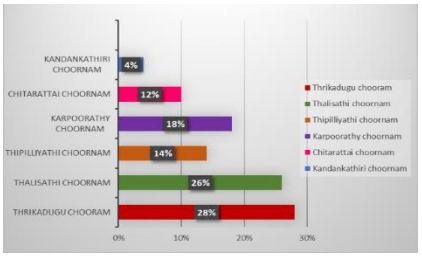

Figure 3: Percentage preference towards Chooranam

3.3. Therapeutic preference towards drug of choice on parpam based preparations

It was observed from the result of the present analysis out of 50 Physicians, 17 Physicians (34%) treated with Muthuchippi parpam, 14 Physicians (28%) Pavala parpam, 11Physicians (22%) Palagarai parpam, 5 Physicians (10%) Thalaga parpam, 1 Physician (2%) Kanta parpam and 2 Physicians (4%) are not giving any parpam to treat Swasakasam (Bronchial Asthma). As shown in Figure 5.

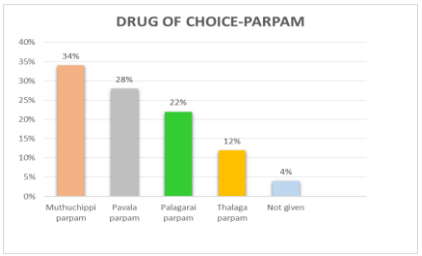

Figure 4: Percentage preference towards Parpam

3.4. Therapeutic preference towards drug of choice on Chendooram based preparations

According to the study out of 50 Physicians, 14 Physicians (28%) prescribed Gowri Chintamani chendooram, 10 Physicians (20%) Sivanar amirtham, 9 Physicians(14%) Kasturi karuppu, 4 Physicians (8%) Pattu karuppu, 6 Physicians (12%) Linga chendooram, 2 Physicians(4%) Thalaga chendooram, 4 Physicians (8%) Anapavala chendooram and 3 Physicians (6%) have not prescribed any Chendooram to the patients. As shown in Figure 5.

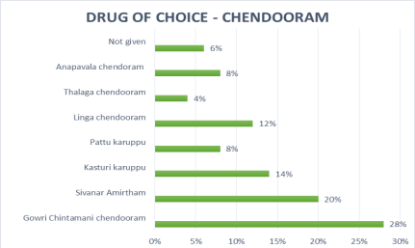

Figure 5: Percentage preference towards Chendooram

3.5. Therapeutic preference towards drug of choice on Chunnam based preparations

According to the study out of 50 Physicians, 8 Physicians (16%) had given Sangu parpam, 5 Physicians (10%) had given Pavala parpam, 2 Physicians (4%) had given Vediyuppu chunam and 35 Physicians (70%) have not given Chunnam to Swasakasam (Bronchial Asthma).As shown in Figure 6.

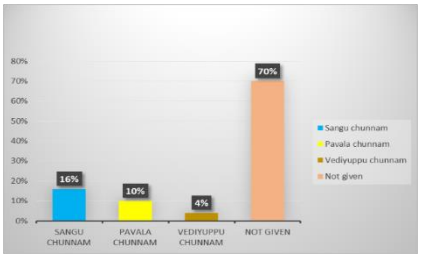

Figure 6: Percentage preference towards Chunnam

3.6. Therapeutic preference towards Legiyam based preparations

According to the study out of 50 Physicians, 12 Physicians (24%) had given Thippilayathi legiyam, 10 Physicians (20%) had given Kandankathiri legiyam, 5 Physicians (10%) Vilvathi legiyam and 23 Physicians (46%) had not given any legiyam to the patients .As shown in Figure 7.

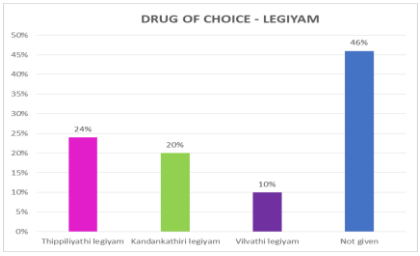

Figure 7: Percentage preference towards Legiyam based preparations

3.7. Therapeutic preference towards Nei based preparations

According to the study out of 50 Physicians, 5 Physicians (10%) had given Thutuvalai Nei, 3 Physicians (6%) had given Kandankathiri Nei and 42 Physicians (84%) had not given any Nei to the patients .As shown in Figure 8.

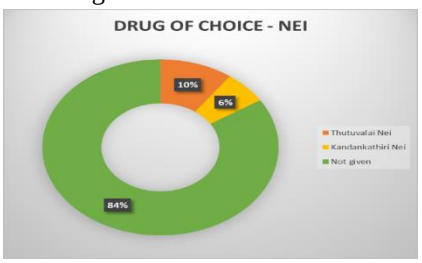

Figure 8: Percentage preference towards Nei based preparations

3.8. Therapeutic preference towards Mathirai based preparations

According to the study out of 50 Physicians, 16 Physicians (32%) had given Swasakodari mathirai, 14 Physicians (28%)had given Vasantha Kusamagara mathirai , 12 Physicians(24%) Thalisathi vadagam, 6 Physicians(12%) Linga mathirai,1 Physician (2%) had given Kadukai vadagam and one physician (2%) had not given any mathirai to the patients. .As shown in Figure 9.

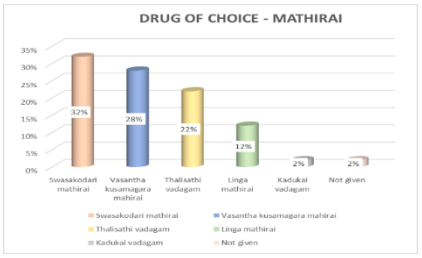

Figure 9: Percentage preference towards Mathirai based preparations

3.9. Therapeutic preference towards Kudineer based formulations

According to the study out of 50 Physicians, 13 Physicians (26%) had given Adatodai kudineer, 8 Physicians (16%) had given Thalisabathiri kudineer, 10 Physicians (20%) had given kabasura kudineer, 12 Physicians (24%) had given Nilavembu kudineer and 7 Physicians (14%) had given Nochi kudineer. As shown in Figure 10.

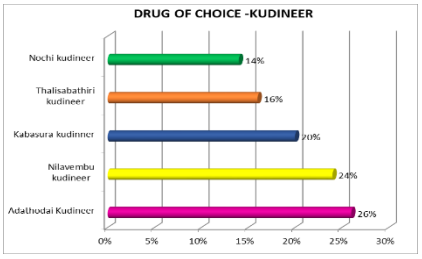

Figure 10: Percentage preference towards Kudineer formualations

3.10. Therapeutic preference towards other medicines

According to the study out of 50 Physicians, 32 Physicians (64%) had given Adatodai manapagu, 15 Physicians (30%) had given Thippili Rasayanam and 3 Physicians (6%) had not given any Rasayanam or Manapagu to the patients. As shown in Figure 11.

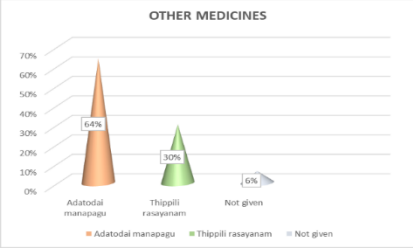

Figure 11: Percentage preference towards other medicines

3.11. Therapeutic preference towards External therapy

According to the study, the external therapies given by the 50 Physicians were stated as, 35 Physicians (70%) treated with Oil bath, 40 Physicians (80%) had given Varmam therapy, 28 Physicians (56%) had given Nasiyam, 32 Physicians (64%) offered Pugai and 5 Physicians (10%) treated the patients with Ottradam . As shown in Figure 12.

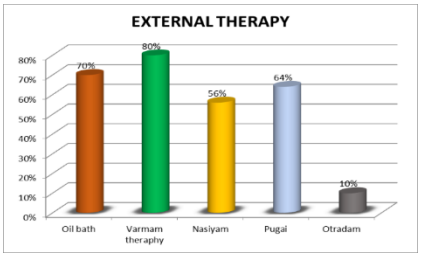

Figure 12: Percentage preference towards External therapy

3.12. Therapeutic preference towards oil bath (External)

According to the study out of 50 Physicians, 15 Physicians (30%) prescribed Chukku thylam, 13 Physicians (26%) prescribed Arakku thylam, 9 Physicians (18%) prescribed Nochi thylam, 2 Physicians (4%) prescribed Karisalai madakku thylam, 5 Physicians (10%) prescribed Enji thylam and 6 Physicians (12%) have not prescribed oil bath. As shown in Figure 13.

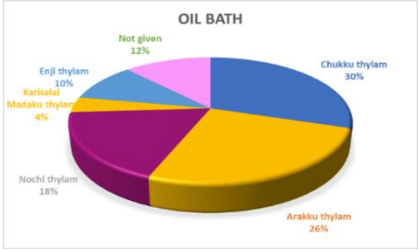

Figure 13: Percentage preference towards oil bath (External)

3.13. Therapeutic preference towards Nasiyam (External)

According to the study, the external therapy Nasiyam the medicines treated for the patients by the physicians were as follows, 11 Physicians (22%) gave Inji thylam, 7 Physicians (14%) treated with Inji charru, 5 Physicians (10%) treated with Thippiliyathi pottanum and 27 Physicians (54%) had not given Nasiyam in Swasakasam (Bronchial Asthma). As shown in Figure 14.

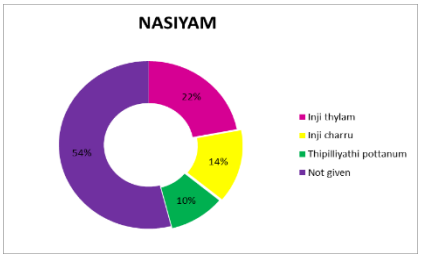

Figure 14: Percentage preference towards Nasiyam (External)

3.14. Therapeutic preference towards add on therapy (External)

According to the study, out of 50 Physicians, 28 Physicians (56%) stated that the patients treated by them had taken add on therapy during their treatment and 22 Physicians (44%) stated that no add on therapy was taken by the patients for Swasakasam (Bronchial asthma). As shown in Figure 15.

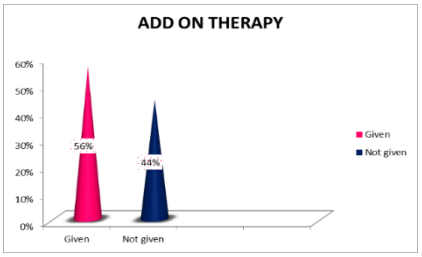

Figure 15: Percentage preference towards add on therapy (External)

3.15. Result analysis on duration of therapy

According to the study, the duration of the treatment given by 50 Physicians to the patients in Bronchial Asthma as follows- 6 Physicians (15 days), 9 Physicians (30 days), 15 Physicians (45days), 13 Physicians (2 months) and 7 Physicians (3-5 months). As shown in Figure 16.

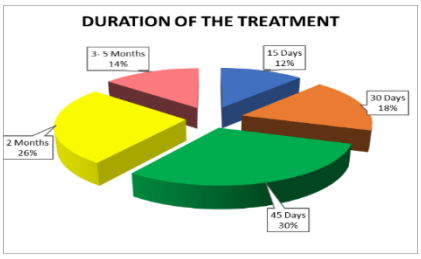

Figure 16: Result analysis on duration of therapy

3.16. Inference on adverse reaction

As per study conducted among 50 Physicians, 7 Physicians (14%) had observed adverse reaction and 43 Physicians (86%) had not observed any adverse reactions. As shown in Figure 17.

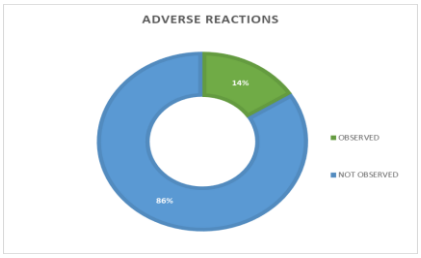

Figure 17: Result analysis on inference of adverse reaction

3.17. Result analysis on cost estimation towards therapy

As per the study conducted among 50 Physicians, the minimum expenditure for the treatment of Bronchial Asthma are as follows – 8 Physicians obtained ≤ 300 Rupees and 15 Physicians charged between 300 – 500 rupees and 17 Physicians charged between 500- 700 Rupees and 10 Physicians charged between (700 – 1000 Rupees). As shown in Figure 18.

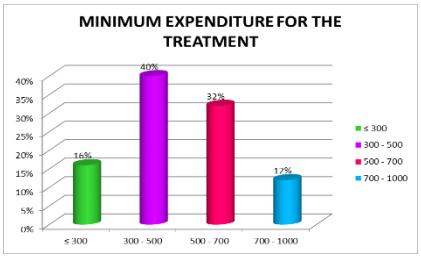

Figure 18: Result analysis on cost estimation towards therapy

3.18. Result analysis on Nature and preference of Diagnostic tools towards therapy

Result analysis reveals that among 50 Physicians, only 8 physicians (16%) were strictly adopted towards siddha diagnostic tools with reference to Nadi, Envagai thervu, Mukkutram etc. Wherein rest of 41 physicians (84%) relies on both siddha and modern diagnostic tool in the process of patient assessment. As shown in Figure 19.

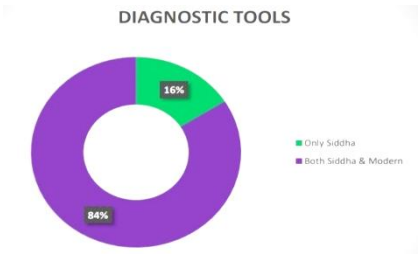

Figure 19: Nature and preference of Diagnostic tools

4. Discussion

The estimated global prevalence of asthma is 200 million with a mortality of around 0.2 million per year. Although the prevalence is more in developed countries, the developing countries have a higher total burden of the disease due to differences in population. In India, the estimated burden of asthma is believed to be more than 15 million. There was a constant and variable increase in asthma prevalence worldwide in the last two decades and the same is being observed in India [16].

Several factors have been known to precipitate asthma symptoms including cold air, extreme emotional arousal, physical exercise, aspirin and other NSAIDs, beta-blockers, indoor allergens (house dust mites in bedding, carpets and stuffed furniture, pet dander), outdoor allergens (especially molds and pollen), tobacco smoke, chemical irritants in the workplace and air pollution [17].

Medicinal plant used for the treatment of asthma should have anti-inflammatory, immunomodulatory, antihistaminic, smooth-muscle relaxants and allergic activity [18]. According to Ayurveda anti-asthmatic drug should have properties such as anti-kapha and anti-vata [19]. Antioxidant supplements are effective in reducing bronchoconstriction severity by inhibiting pro-inflammatory events as a result of neutralizing the effects of excess reactive oxygen species and reactive nitrogen species [20].

According to traditional practise drug should have properties such as anti-kapha and anti-vata [21]. Antioxidant supplements are effective in reducing bronchoconstriction severity by inhibiting pro-inflammatory events as a result of neutralizing the effects of excess reactive oxygen species and reactive nitrogen species [22]. Current asthma therapy lack satisfactory success due to adverse effect, hence patients are seeking complementary and alternative medicine to treat their asthma [23].

Siddha system of medicines offers tremendous relied in managing bronchial asthma, as the goal of therapy relies on minimising the hypersensitivity and limiting the rapid release of cytokines. From the data's obtained from the present investigation it was advocated that siddha physicians utilise versatile formulations which includes Chooranam, Parpam, Chendooram, Chunnam, Legiyam, Nei, Mathirai and Kudineer for managing symptoms associated with bronchial asthma.

Despite of oral medication siddha pioneers the technique of external therapy that contribute significant clinical recovery in patients with asthma. Outcome of present investigation further signifies that siddha physicians are confident in handling external techniques such as Nasiyam, Oil bath and other add on therapies.Current asthma therapy lack satisfactory success due to adverse effect, hence patients are seeking complementary and alternative medicine to treat their asthma. As per study conducted among 50 Physicians, 7 Physicians (14%) had observed adverse reaction and 43 Physicians (86%) had not observed any adverse reactions.

Expenditure of therapy is the highest concern for patients from lower economic zone, traditional therapy found to be cost effective with high clinical relevance in managing asthma. As per the study conducted among 50 Physicians, the minimum expenditure for the treatment of Bronchial Asthma are as follows – 8 Physicians obtained ≤ 300 Rupees and 15 Physicians charged between 300 – 500 rupees and 17 Physicians charged between 500- 700 Rupees and 10 Physicians charged between (700 – 1000 Rupees).

5. CONCLUSION

5.Conclusion

Bronchial asthma relapse higher prevalence across the globe, as the conventional medicines fails to offer adequate relief imparts the positive impression on availing traditional siddha medicines. It was concluded from the data's of current cross sectional study is that siddha physicians utilised versatile formulations which includes Chooranam, Parpam, Chendooram, Chunnam, Legiyam, Nei, Mathirai and Kudineer for managing symptoms associated with bronchial asthma. Further it was also observed that siddha therapy found clinically effective with lower incidence of adverse event in economical mean and at lesser time. Hence availing siddha medicines found to ideal in limiting the symptoms associated with bronchial asthma.

Acknowledgement

I wish to acknowledge my thanks to The Tamil Nadu Dr. M.G.R. Medical University, Chennai, Tamil Nadu, India and The Noble research solutions, Chennai, Tamil Nadu, India for their support.

8. References

1. Nichols DJ, Longsworth FG. Prevalence of exercise-induced asthma in schoolchildren in Kingston, St. Andrew and St. Catherine, Jamaica. West Indian Med J. 1995;44:16–9.
2. Masoli M, Fabian D, Holt S, et al. The global burden of asthma: executive summary of the GINA Dissemination Committee report. Allergy. 2004;59:469–478.
3. Bloemen K, Verstraelen S, Van Den Heuvel R, et al. The allergic cascade: review of the most important molecules in the asthmatic lung. Immunol Lett. 2007;113:6–18.
4. Garcia G, Godot V, Humbert M. New chemokine targets for asthma therapy. Curr Allergy Asthma Rep. 2005;5:155–160.
5. Nakagome K, Nagata M. Pathogenesis of airway inflammation in bronchial asthma. Auris Nasus Larynx. 2011;38:555–563.
6. Newman D. J., Cragg G. M. (2016). Natural products as sources of new drugs from 1981 to 2014. J. Nat. Prod. 79 (3), 629–661.
7. Brown A., Elmhirst E., Gardner J. (2017). EP Vantage 2018 Preview. (Evaluate Ltd.), 1–26.
8. Clark C. E., Arnold E., Lasserson T. J., Wu T. X. (2010). Herbal interventions for chronic asthma in adults and children: a systematic review and meta-analysis. Primary Care Respirat. J. 19 (4), 307–314.
9. Koda-Kimble M.A. Ninth ed. Wolters Kluwer Health/Lippincott Williams & Wilkins; 2009. Applied Therapeutics: The Clinical Use of Drugs.
10. Holgate ST, Polosa R. Treatment strategies for allergy and asthma. Nat Rev Immunol. 2008;8:218–230.
11. Donno DM, Bittesnich D, Chetta A, Olivieri D, Lopez-Vidriero MT. The effect of inflammation

on mucociliary clearance in asthma. Chest. 2000;118(4):1142–1149.
12. Tattersfield AE, Knox AJ, Britton JR, Hall IP. Asthma. Lancet. 2002;360:1313–1322.
13. Masoli M, Fabian D, Holt S, Beasley R. The global burden of asthma: executive summary of the GINA Dissemination Committee report. Allergy. 2004;59:469–478.
14. Bousquet J, Bousquet PJ, Godard P, Daures JP. The public health implications of asthma. Bull World Health Organ. 2005;83:548–554.
15. Braman SS. The global burden of asthma. Chest. 2006;130:4S–12S.
16. The International Study of Bronchial Asthma and Allergies in Childhood (ISAAC) Steering Committee. Worldwide variation in prevalence of symptoms of Bronchial Asthma, allergic rhino conjunctivitis, and atopic eczema: ISAAC. Lancet. 1998;351:1225–32.
17. Vernon MK, Wiklund I, Bell JA, Dale P, Chapman KR. What do we know about asthma triggers? A review of the literature. J Asthma. 2012;49:991–8.
18. Greenberger PA. Therapy in management of rhinitis asthma complex. Allergy Asthma Proc. 2003;24:403–407.
19. Lyengar MA, Jambaiah KM, Rao GM. Studies on an anti-asthma kada: A Proprietary Herbal Combination Part-I Clinical Study. Indian Drug. 1994;31(5):183–186.
20. Henricks PA, Nijkamp FP. Reactive oxygen species as mediators in asthma. Pulm. Pharmacol. Ther. 2001;14:409–420.
21. Lyengar MA, Jambaiah KM, Rao GM. Studies on an anti-asthma kada: A Proprietary Herbal Combination Part-I Clinical Study. Indian Drug. 1994;31(5):183–186.
22. Henricks PA, Nijkamp FP. Reactive oxygen species as mediators in asthma. Pulm. Pharmacol. Ther. 2001;14:409–420.
23. Slader CA, Reddel HK, Jenkins CR, Armour CL, Bosnic Anticevich SZ. Complementary and alternative medicine use in asthma: who is using what? Respirol. 2006;11:373–387.