



WORLD JOURNAL OF CURRENT MEDICAL AND PHARMACEUTICAL RESEARCH

www.wjcmpr.com

ISSN: 2582-0222

A review on looking at prescription quality in Ayurveda and principles of ethical Ayurvedic prescription

Badri Sireesha^{1*}, Malapati.Anjali², Mullagura.Bhavya sri², K. Swapna kumari², R. Suvatha², T.Padmavathi²

¹Assistant professor, Sankar Reddy Institute of Pharmaceutical Sciences, Salakalaveedu(V), Bestavaripeta (M), Prakasam (D), Pincode-523370

²B.Pharmacy, Sankar Reddy Institute of Pharmaceutical Sciences, Salakalaveedu(V), Bestavaripeta (M), Prakasam (D), Pincode-523370

Abstract

Medical prescriptions have few common generic features, usually containing the basic details of the patient and prescriber identification followed by the medications including its dose, intake schedules and total duration of drug consumption. The importance of prescription quality among every system of medicine an attempt was made to design a prescription quality index for ayurveda. Prescription quality index for ayurveda was found useful in between the ideal and generated prescriptions. Ayurvedic practice of medicine is largely criticized for not utilizing its own concepts of disease, diagnosis and management imposing the modern concepts of pathogenesis and treatments upon their own treatment principles. There is a poor quality of ayurvedic prescriptions is an undercurrent observations and brought into notice frequently. The pilot test was also able to reveal many underlying limitations in contemporary ayurvedic prescription writing. Great caution is warranted while prescribing medicines in children, elders and pregnant ladies and it has been suggested to prescribe disease-specific drugs in limited number of combinations in proper doses with proper adjuvants.

Article History:



Received: 18.07.2022

Revised: 29.07.2022

Accepted: 14.09.2022

Keywords:

Ayurveda, Panchakarma, Purvakarma, Paschatakarma, Prescription quality index, Pradhanakarma, Diagnostic tools,

*Corresponding Author

Badri.Sireesha

DOI: <https://doi.org/10.37022/wjcmpr.v4i5.227>

This article is licensed under a Creative Commons Attribution-Non-commercial 4.0 International License.

Copyright © 2022 Author(s) retain the copyright of this article.



Introduction

A medical prescription is the proposed intervention plan drafted by the concerned physician, aiming to deal with certain kind of illness of a person. In Charka Samite and Sushruta Samhita, various principles and guidelines are mentioned for ethical prescription writing to make sure the patient's health as a prime concern. A good prescription also becomes the spine of evidence-based medical practice as it may lead to a good case report if the records are reported meticulously. As prescriptions are the sole instruments ensuring the successful management of a disease if the treatment is executed as per the initial plan of the physician [1]. Prescription Quality Index (PQI) was initially proposed as a mean to identify the prescription related errors in order to improve them further. Various PQI tools have been developed in clinical medicine addressing the prescriptions related to the type of illness or clinical specialty. It is a matter of concern that ayurveda physicians/quacks without doing thorough examination of patients as advised by Ayurveda seers write lengthy prescriptions having multiple ingredient combinations [2].

A written medical prescription is a health-care program implemented by a physician or other medical doctors in the form of instructions that govern the plan of care for an individual patient. The prescription is a document which brings

coordination between the Bhatia (physician), Upstate (attendant), and Rogue (patient), all the important participants in the disease management has been observed that present day Ayurveda physicians are writing lengthy prescriptions having multiple ingredient combinations in one prescription, which leads to overdosing of medicines. Though a prescription is an instruction to a pharmacist and guidelines to the patient; it can also be used as a source of mini case-sheet of the patient [3]. For the physician himself who has generated the prescription, it acts as a record to evaluate the role of interventions during follow ups. Importance of writing a good prescription in legible hand writing is beyond doubt. Even a carefully drafted prescription can lead to execution problems if it is not readable. Prescriptions have been directly delivered by family physician manufactured by themselves from time to time. Rational use of drugs has been a concern world wide. There are reports of misuse, overuse and inappropriate use of drugs occurring consistently and globally. A few classes of drugs are widely known for their over and irrational use through prescriptions to the extent that the phenomenon may be called as PRESCRIBING ABBUSE [4].

Materials and Methods

Relevant references were searched concerning rogue (disease) and rogue Parikh (clinical examination of patient) and chaliast siddhanta (treatment principles) described in Brihatrayee, namely, Charak Samhita, Sushruta Samhita, and Astanga Hridaya and Laghu trayee, namely, Madhav Nidana, Sharangdhara Samhita, and Bhavprakash and other relevant ayurvedic texts. All the references were reviewed, compiled, analyzed, and discussed thoroughly for the in-depth understanding of the concept of diagnosis and treatment of ayurvedic medicines in clinical practice [5]. The study was conducted at State Ayurvedic College and Hospital, Luck now. The development and validation of the prescription quality index for Ayurveda (PQIA) was done primarily at this setting however the face and content validity in part was done at New Delhi by involving many Ayurveda experts from Ministry of ayush , Govt of India. The pilot testing of the PQIA was done at State Ayurvedic College and Hospital, Luck now [6].



a. Classical Ayurvedic Drugs

Drugs having a reference in some ayurvedic classical text were considered classical ayurvedic drugs these drugs are prepared as per composition described in ayurvedic texts [7]. For the purpose of study, these are also called as Generic Drugs. These type of formulations and compositions are available in AF I.

b. Proprietary Ayurvedic Drugs

These type of drugs in ayurveda are defined as compound formulations and are not described in classical ayurvedic texts and are developed by pharmaceutical companies having a proprietary right on the drug formulation and its marketing. These formulations are not available in AFI [8].

Review Findings

Archery Charka has indicated that the patient must be examined thoroughly to obtain the knowledge of pathogenesis factors, namely Agni (digestive capacity), Baal (strength), and intensity of morbidity, and then only he/she can initiate appropriate therapy. According to him, if a physician is not able to name a particular disease, he/she should not feel ashamed on that account because it is not always possible to name all types of diseases in definite terms [9].

- **Astavidha Parikh** (eightfold clinical examination): Astavidha Parikh was described by Yoga Ranker where he has advised to examine eight means thoroughly to arrive at a correct diagnosis. They are

- Nadir (pulse), Muttra (urine), Mala (stool), Jihad (tongue), Sheba (speech and sound), Sparta (tactile), Drip (Eye), and Kristi (physique).

Nidhana panchaka

Archery Madhava described five means for the diagnosis and prognosis of a disease commonly known as Nidana Panchak, namely, Nidana (etiological factors), Purvarupa (prodromal features), Rupa (clinical features. Anupana and Sahapana (adjuvant) also have a great impact in therapeutics. Besides increasing palatability, they also help in increasing the bioavailability of the drug and sometimes have antidotal activities, and thus help in counteracting possible adverse drug reactions. If any Teekshna Dravya (potent or toxic substance) is the component of the prescription, as far as possible, a suitable antagonistic drug is to be added, which will check the unwanted effects.[10]

Development of the PQIA:

A thorough literature review was done to explore existing PQI in clinical medicine and of Ayurvedic classical literature to see the essentials of prescription in Ayurveda. A prescription was thought to contain essentially the information related to patient, physician and treatment center identification.

content validity:

In the process the content validity, the preliminary draft of PQIA was subjected to peer review. Initial discussion among the peers (KS, SS, RB, SJ) was done at State Ayurvedic College, Lucknow which resulted in addition of 6 items, deletion of 2 items and revision of another 2 items , as a result the revised PQIA consisted 28 items.[11]

GENERAL INSTRUCTIONS

The dose given in the booklet is for adult. For children $\frac{1}{2}$ or $\frac{1}{4}$ of this adult dose may be used. The dosage may be adjusted with little alterations according to the tolerance and desire. Paste should be prepared by crushing/ grinding the drug very finely with desired liquid if required. In general too spicy, salty, chilly, sour, preserved items fried food, heavy, indigestible, too cold & hot, stale food and the food that do not suit the health should be avoided [12].

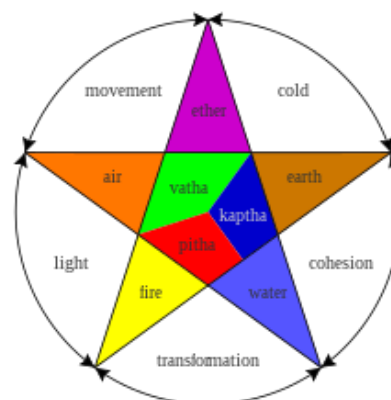
Formulations

There are two types of formulations

They are 1) Single formulations 2) Compound formulations

Measurements 5 gm = 1 Tea spoon full 5 ml = 1 Tea spoon full

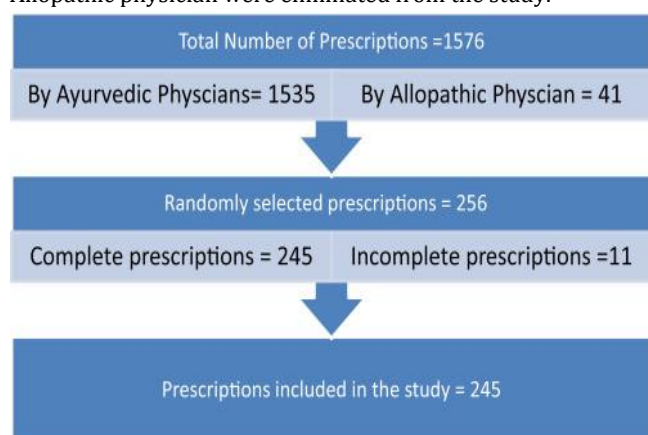
When physician prescribe the medication to the patient [rogue] he may prescribe these two types of formulations for any type of disease and disorder like JVARA[fever] ATISARA[diarrhea],PAKSAGHATA[paralysis] ,STHAULYA[obesity] etc [13]



Theoretical Format of PQIA

1. Name, Address, Telephone no of treatment centre
2. Date of prescription
3. Signature of prescriber
4. Name of prescriber
5. Qualification and designation of prescriber
6. Registration number
7. OP Timings and days
8. Name of patient
9. Age of patient
10. Sex of patient
11. Contact details

Lucknow. These prescriptions were generated by 38 physicians including one Allopathic physician (YKS). 41 prescriptions generated. Total 1576 prescriptions were generated in year 2015 at IP section of State Ayurveda College Hospital, Lucknow. Prescriptions generated by the Allopathic physician were eliminated from the study.



The prescriptions were further screened for the information related to clinical examination of the patient. Clinical findings from Ayurvedic perspective were sought for their incorporation in the prescription. 21% (294) prescriptions had descriptions related to the clinical examination of the patient. This is important to note that Ayurvedic components of clinical examination including prakriti, vikriti, rog bala, samprapti and saadhya asaadhyaata were missing all together in all the prescription screened.[8] All the prescriptions were examined for the mention of dose, frequency, anupana, time of use in relation to food, and total duration of therapy. 71% (994) prescriptions had a mention of drug dosage. 72% (1008) had the mention of frequency of drug use [14]. Anupana (post medicine drink) was available in 8.5% (119) prescriptions. Only 1.01% [15] prescriptions had a mention of drug intake in relation to food.

Treatment Principles

- Ayurvedic medicines have been evolved with two objectives: the first one is for the preservation of health of a healthy person and second for the treatment of a sick person by maintaining the balance of deranged Doshas.
- Ayurveda strongly believes that disease is nothing but the state of imbalance of doshas and treatment is the collective approach and co-ordination of physician, medicine, nursing personnel, and patient.
- Nidan parivarjanam (abstinence of causative and provocative factors) is the very foremost and important principle of ayurvedic therapy.

- Intake of dietary substances is (Pathyasevan) beneficial to the body, therefore abstinence of etiological factors such as diet, lifestyle, and specific habits and use of substances agreeable to the body is the ideal line of management.
- Acharya Sushruta has mentioned four types of treatment which include Samshamana (palliative therapy), Samshodhana (biopurificatory therapy), Aahara (dietetic regimen), and Acara (good conduct).
- According to Charaka, there is nothing in the world which does not have therapeutic value, unless it is used in apt condition.
- Brihatrayee hold commendable knowledge on therapeutic applications of nearly about 500 herbal drugs and equally herbal and herbomineral formulations which are described in various chapters.
- There is no fixed dose of a drug because drug dose does not only depend on the status of disease, but also depend on the intelligentia of the physician. According to Sharangdhara, dose fixation of a drug depends on Kala (season), Agni (digestion capacity), Vaya (age), Bala (strength of person and disease), Prakriti (body constituents), and Doshas and Desha (climate and body part afflicted).
- Ayurvedic way of examination considers many factors like Desha, Dhushya, Bala, Kala, Prakriti, Vaya, Ahara, Vihara, etc., and each factor has potential role in the determination of certain medicaments for the patient [15].



B

**Procedures**

Various bio purificatory procedures [called as panchakarma procedures] recommended in the prescription are considered as procedures for the purpose of the study. These include a single or a set of multiple procedures recommended to the same patient in a single prescription. Ayurveda has rightly emphasized that health is not only the state of not having disease but, it is a state of normalcy of Dosha, Dhatu, Agni, and Malakriya [16]. It also includes the prasanna atma [soul], indriya [sense organs] and manas [mind]. Three doshas of the

body, vata ,pitta and kapha which broadly represent the nervous system , the metabolic system and the nutritive system ,keep the human body in balance .The main objective of the ayurvedic system of treatment is to restore the original state of equilibrium between the doshas .In order to achieve the same ayurveda has advocated certain regimens and treatment modalities such as Dinacharya,Rutucharya,Vega adharana ,rasayana –vajikarana and panchakarma [17].

PANCHAKARMA is a method of cleansing the body of all the unwanted waste after lubricating it Panchakarma are in five in number hence the term PANCHAKARMA[five procedure] .Panchakarma treatment is unique in the sense that includes preventive , curative and promotive actions for various diseases .There are five karmas in the panchakarma procedure .The body can be divided on the basis of the parts that need cleansing .Head , GIT. The five main karmas to cleanse the complete body are

1.Vamanam[Therapeutic emesis] – induced vomiting helps clear the upper gastro till the duodenum [end of stomach] and part of the respiratory tract .

2.Virechanam [purgation] – induced purgation clears the lower gastro from the duodenum till the exit .

3. Anuvasana [enema using medicated oil] – oil enema helps lubricate the rectal area and take out all the lipid soluble waste out through the anus .

4.Nasyam-nasal instillation of medicated substances helps clear the respiratory tract and para-nasal sinuses .

5.Astapana Vasti[therapeutic decoction enema]- decoction enema cleanses the area from the transfers colon till the anus [18].

The complete process of PANCHA KARMA consists of three steps ;-

1.PURVAKARMA [preparatory procedures]

2.PRADHANA KARMA [major procedures]

3.PASCHATA KARMA [post procedures]

- **PURVA KARMA**-Which is the preparatory procedure required before the main procedure to enable a person to receive the full benefits of the main treatment. It consists of two main processes Snehan [oleation] and Swedan [fomentation] .These method helps to dislodge the accumulated poisonous substances in the body, thus preparing them for their complete removal.
- **PRADHANA KARMA**-the main procedure. on completion of the first step ,it is decided which of these are to be done depending upon the proximity of the waste .an increased level of upper respiratory tract waste shall call for vamana .similarly,a lower gastro accumulation of waste calls for a virechanam.
- **PASCHATA KARMA**-the post –therapy dietary regimen to restore the bodies digestive and absorptive capacity to its normal state [19, 20, 21].

Discussion

Encourage the patient to talk freely. As per Sushruta, the various information related to the patient required for reaching the diagnosis of a disease must be obtained by interrogating the patient. A prescription should consider every possible role it may play in the precise management of the disease and also multiple ancillary roles where it may come as an evident



medical record for reference. There are also reports of thousands of people dying every year because of poor communication of disease management decision to the health care team [22, 23, 24] Eventually this happens with the poorly written or incomplete prescription allowing room for lapses and medication errors. A poorly drafted prescription defeats its own goal of offering a cure to the patient as its therapeutic plan may not be executed religiously for want to clarity . Ayurveda, a commonly practiced system of medicine in India .Besides the routine drug prescribing , ayurveda sometimes radically approaches towards the disease by offering Here some rational use of drugs are prescribed by the examination through ,

- Rational of diagnostic tools .
- Rational of Nidana panchaka
- Rational of Samana Shodhan therapy
- Rational of Ahara and Pathya-Apathya {Ayurvedic dietetics}

The disease should be diagnosed first and then rational therapeutic measures should be employed. Physician, who starts the treatment without diagnosing a disease, succeeds by chance even if he/she is an expert in medicine [25, 26].

Conclusion

For prescribing any type of medication to the patient ,writing a prescription is an essential component of ayurvedic practice .In the context of Ayurveda,a prescription is a document which brings a coordination between physician ,patient and attendant it also provides instructions to the pharmacist and guidelines to the patient .A written prescription is a health care plan executed by physician in the form of instructions that administrate the arrangements of care for an individual patient.By the development of prescription quality index of ayurveda [PQIA],in this quality of prescription can be considered as a direct predictor of the net outcome in a given case .Ayurveda has its own understanding of diseases and its management ,PQI for ayurveda thoroughly reviewed and validated prescription in ayurveda was developed based on ethical writing in clinical examinations.

Reference

1. Guide to Good prescribing, A practical manual, WHO Geneva. Available at: <http://apps.who.int/medicinedocs/pdf/whozip23e/whozip23e.pdf> (Accessed 5 March 2016).
2. Ni K, Siang C, Ramli M. Non compliance with prescription writing requirements and prescribing errors in an outpatient department. *Malays J Pharma* 2002;1:45e50.
3. Singh, A., Kumar, A. and Kalaiselvi, P., 2018. Aegeline, targets LOX1, the receptor for oxidized LDL to mitigate hypercholesterolemia: a new perspective in its anti-atherosclerotic action. *Free Radical Biology and Medicine*, 128, p.S41.
4. Schnoor J, Rogalski C, Frontini R, Engelmann N, Heyde C. Case report of a medication error by look-alike packaging: a classic surrogate marker of an unsafe system. *Patient Saf Surg* 2015;9:12.
5. Uppugalla S, Male U, Srinivasan P. Design and synthesis of heteroatoms doped carbon/polyaniline hybrid material for high performance electrode in supercapacitor application. *Electrochimica Acta*. 2014 Nov 10;146:242-8.
6. Male U, Uppugalla S, Srinivasan P. Effect of reduced graphene oxide-silica composite in polyaniline: electrode material for high-performance supercapacitor. *Journal of Solid State Electrochemistry*. 2015 Nov;19(11):3381-8.
7. Uppugalla S, Srinivasan P. High-performance supercapacitor coin cell: polyaniline and nitrogen, sulfur-doped activated carbon electrodes in aqueous electrolyte. *Journal of Solid State Electrochemistry*. 2019 Jan;23(1):295-306.
8. Uppugalla S, Srinivasan P. Polyaniline nanofibers and porous Ni [OH] 2 sheets coated carbon fabric for high performance super capacitor. *Journal of Applied Polymer Science*. 2019 Nov 5;136(41):48042.
9. Uppugalla S, Boddula R, Srinivasan P. Methyl triphenylphosphonium permanganate as a novel oxidant for aniline to polyaniline-manganese (II, IV) oxide: material for high performance pseudocapacitor. *Journal of Solid State Electrochemistry*. 2018 Feb;22(2):407-15.
10. Abhilasha, S., Narasimhan, C.L., Kumar, S.A., Kumar, S.N.K., Bhavani, R.D., Thangarajeswari, M., Prema, V. and Kalaiselvi, P., 2017. Ethanolic extract of aegle marmelos mediates its hypocholesterolemic effect by retarding circulatory oxidized ldl formation via 12/15 lipoxygenase pathway.
11. Singh, A., 2022. Role of microbial metabolites in cardiovascular and human health. In *Microbiome, Immunity, Digestive Health and Nutrition* (pp. 137-148). Academic Press.
12. Singh, A., 2022. Role of microbial metabolites in cardiovascular and human health. In *Microbiome, Immunity, Digestive Health and Nutrition* (pp. 137-148). Academic Press.
13. Shiv Chandra Singh, A., Yu, A., Chang, B., Li, H., Rosenzweig, A. and Roh, J.D., 2021. Exercise Training Attenuates Activin Type II Receptor Signaling in the Aged Heart. *Circulation*, 144(Suppl_1), pp.A14259-A14259.
14. Sharma PV. *Sushruta Samhita, Dalhana Commentary English Translation: Kalpasthana and Uttartantra*. Reprint Edition. Vol. 3. Ch. 64. Ver. 36. Varanasi: Chaukhambha Vishwabharati; 2010. p. 624.
15. Zhang T, Smith MA, Camp PG, Shajari S, Macleod SM, Carleton BC: Prescription drug dispensing profiles for one million children: a population-based analysis. *Eur J Clin Pharmacol* 2012
16. Nielsen MW, Hansen EH, Rasmussen NK: Prescription and non-prescription medicine use in Denmark: association with socio-economic position. *Eur J Clin Pharmacol* 2003, 59:677-684.
17. Wilson LE, Korthuis T, Fleishman JA, Conviser R, Lawrence PB, Moore RD, Gebo KA: HIV-related medical service use by rural/urban residents: a multistate perspective. *AIDS Care* 2011, 23:971-979.
18. Samhita Kashyap, Sharma Hem Raj. *Chaukhambha Sanskrit Sansthan, Varanasi*. 2004.
19. Samhita Saharangdhara, Tripathi BN. *Chaukhambha Surbharati Prakashan, Varanasi*. 1990.
20. Mallick S. From heritage to practice: Ayurveda in Delhi's public healthcare system. *The Focus j* 27 The Newsletter, No. 65. Autumn 2013.
21. Singh, A., Srinivasan, A.K., Chakrapani, L.N. and Kalaiselvi, P., 2019. LOX-1, the common therapeutic target in hypercholesterolemia: a new perspective of antiatherosclerotic action of aegeline. *Oxidative medicine and cellular longevity*, 2019.
22. Murty S. *Sutrasthana*. In: *Asthang Hridaya*, English Translation. 8th ed., Vol. 1. Ch. 12/67-68. Varanasi: Chaukhambha Krishnadas Academy; 2011. p. 179.
23. Singh, A., Gowtham, S., Chakrapani, L.N., Ashokkumar, S., Kumar, S.K., Prema, V., Bhavani, R.D., Mohan, T. and Sathyamoorthy, Y.K., 2018. Aegeline vs Statin in the treatment of Hypercholesterolemia: A comprehensive study in rat model of liver steatosis. *Functional Foods in Health and Disease*, 8(1), pp.1-16.
24. Roh, J., Hill, J.A., Singh, A., Valero-Muñoz, M. and Sam, F., 2022. Heart failure with preserved ejection fraction: heterogeneous syndrome, diverse preclinical models. *Circulation Research*, 130(12), pp.1906-1925.
25. Boini, K.M., Singh, A. and Koka, S.S., 2021. Gut Microbial Metabolite Trimethylamine N-oxide Enhances Endoplasmic Reticular Stress and Promotes Endothelial Dysfunction. *Circulation*, 144(Suppl_1), pp.A14071-A14071.
26. Roh, J.D., Kitchen, R.R., Guseh, J.S., McNeill, J.N., Aid, M., Martinot, A.J., Yu, A., Platt, C., Rhee, J., Weber, B. and Trager, L.E., 2022. Plasma proteomics of COVID-19-associated cardiovascular complications: implications for pathophysiology and therapeutics. *Basic to Translational Science*, 7(5), pp.425-441.