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## Research Article

# A QUESTIONNAIRE BASED SURVEY TO ASSESS THE KNOWLEDGE, ATTITUDE AND PRACTICES OF AYURVEDIC PRACTITIONERS TOWARDS *MASANUMASIK KASHAYAS*

# Munshi Renuka P1\*, Kumbhar Dipti A2, Munot Sonali R3

\*1Additional Professor & In-charge, Department of Clinical Pharmacology, 2Ayurvedic Research Officer, TN Medical College & BYL Nair Hospital, Mumbai, India.

## **ABSTRACT**

For a healthy pregnancy and delivery of a normal child, different group of medicines taken for each month of pregnancy is described in Ayurveda as Masanumasik Kashayas (monthly antenatal decoctions). **Objectives:** To assess the knowledge, attitude and practice of Ayurvedic practitioners regarding Masanumasik Kashayas. Methodology: Following ethical approval, a cross-sectional descriptive survey was conducted among Ayurvedic physicians from Mumbai region. Results: Of 130 questionnaires distributed, 120 physicians responded (92%). Although all the physicians were aware that Masanumasik Kashayas are described in the Samhitas, only 60% knew the number of Kashayas (decoctions). 85% knew the rationale for prescribing these Kashayas (decoctions) and 93% agreed that these Kashayas (decoctions) improved pregnancy outcome. However, in clinical practice, 45% participants said that they prescribed Kashayas (decoctions) only in patients with bad obstetric history while 52.5% prescribed in regular antenatal care. 83% preferred Vati (tablet) form rather than Kashaya (decoction) as patient compliance was better. All physicians who prescribed said that there were no adverse complaints and the pregnancy outcome was good. Conclusion: The study thus showed that all Ayurvedic practitioners were still well versed with Masanumasik Kashayas and prescribed these Kashayas (decoctions) for a good pregnancy outcome in clinical practice with some modifications like usage of only 9 Kashayas (decoctions) and Vati form (tablet).

**KEYWORDS:** *Masanumasik Kashayas,* Pregnancy, Ante-natal care, Ayurvedic physicians, Questionnaire.

## **INTRODUCTION**

Although the maternal mortality rates worldwide have dropped by about 44% over the last few decades, (between 1990 and 2015), nearly 830 women die daily from preventable causes related to pregnancy and childbirth. 99% of all maternal deaths occur in the developing countries. Maternal mortality is higher in women living in rural areas and among poorer communities. Young adolescents face a higher risk of complications and death as a result of pregnancy than other women.<sup>[1]</sup>

Ayurveda, the ancient Indian system of medicine, describes a concept for safe motherhood. It describes the rationale from conception to the germination of the embryo and its transformation into a healthy baby. When the male and female seeds unite and the Soul enters the union, it becomes a *Garbha* (embryo). [2] '*Kukshi*' is the word used by *Charaka*, meaning 'a portion of uterus' where this embryo resides. [3] The psychological condition of the women during conception plays a vital role in development of the progeny. [4]

In Ayurveda, *Maharshi Sushrut* had described the general management of pregnancy under the heading 'Garbhinivya karana'.<sup>[5]</sup> It encompasses Aahar, Vihar, Achar and Vichar (rules concerning diet and lifestyle) during pregnancy. Thus, Ayurveda emphasizes that special attention should be paid to nutrition in pregnancy.

Masanumasik Chikitsa describes the different medicines that are given to a woman during pregnancy to promote a healthy pregnancy and progeny. [6-10] Ayurvedic plants have been mentioned in the Samhitas (Ayurvedic texts), which are claimed to be Garbhastravahara (anti-abortifacient). [11,12] Garbhposhak (fetal growth promoters) [13] and Shoolashamaka (pain relievers) [14,15]. These plants are said to help maintain the health of the expectant mother, prevent intra-uterine fetal growth retardation & death (IUGR &IUFD) and ensure the birth of a normal and healthy child.

In Masanumasik Kashayas Panchavidha Kashaya Kalpana viz. Swaras, Kalka, Kwatha, Heema & Phanta) (five types of preparation methods of Ayurvedic medicines viz. juice, paste, decoction, cold infusion and hot infusion) are mentioned. However, in clinical practice, various decoctions specially prepared for the different stages of pregnancy are used as Masanumasik Kashayas. Considering the palatability of these Kashayas (decoctions), Vati (tablet) form is currently available in the market. Ideally these Kashayas (decoctions) should be prescribed to the all pregnant women especially those with bad obstetric history.

The month-wise treatment during pregnancy is described under *Masanumasik Chikitsa*. The combination of drugs in each month of pregnancy fulfills the essential nutritional and therapeutic requirement for benefiting fetal and maternal needs.<sup>[16]</sup>

There are limited published papers published on Masanumasik Kashayas. A review article by Sachin Gadhavi *et al* describes the theoretical relationship between Masanumasik Garbhavruddhi (organogenesis) and *Kashavas* (decoctions) [16] Similarly, in their paper describing the clinical importance of Garbhini Paricharya (diet and lifestyle in ANC), Anjumani Deka et al have elaborated on the need to follow the guidelines suggested by the Acharyas viz. Ahara, (specific dietary regimen), Vihara (normal daily activities) and Vichara (psychological and emotional activities) along with Garbhopaghatakar bhavas (activities and substances which are harmful to fetus) and Garbhasthapakdravyas (substances beneficial for maintenance of pregnancy) in order to ensure a normal pregnancy and uncomplicated labour with delivery of a healthy baby. The authors have also given a detailed description of the probable mode of action of the drugs used as Masanumasik Kashayas.[17] Marlewar et al have proposed that the Kalka form (paste) of drugs should be used in Masanumasik Kashayas. They also emphasized the use of these *Kashavas* (decoctions) for 10 months considering 28 days as 1 month.[18]

In this study, we wished to assess whether Ayurvedic practitioners still follow the *Masanumasik Chikitsa* and prescribe *Masanumasik Kashayas* to pregnant women during antenatal care. Hence, we conducted a survey to assess the knowledge, attitude and practice of Ayurvedic practitioners regarding *Masanumasik Kashayas*.

**Study Objective:** To assess the knowledge, attitude, and practices of Ayurvedic practitioners towards *Masanumasik Kashayas* in their clinical practice.

## **MATERIALS & METHODS**

# Methodology

A cross sectional descriptive survey was conducted amongst 130 Ayurvedic practitioners in and around Mumbai region over a period of 18 months using a validated self-administered questionnaire.

## **Ethical Considerations**

Ethical approval of the study protocol, Informed Consent Document and a validated self-administered questionnaire was obtained from the Institutional Ethics Committee of a tertiary care hospital prior to study initiation. (Ref: ECARP/2013/132 dated 25th January 2014)

# **Study Procedure**

The survey instrument (self-administered Ouestionnaire) was drafted and underwent face & content validation prior to execution of the Questionnaire. Validation was carried out by a team of 5 Ayurvedic physicians at least 7 years of experience (content validity ratio of 0.8). The Questionnaire was then pilot tested in 12 Ayurvedic physicians and its reliability was confirmed with an internal consistency of 0.7 using Cronbach's alpha test. The validated questionnaire comprised of 31 questions, of which 4 were related to Knowledge of Masanumasik Kashayas, 5 questions to Attitude and the remaining 22 questions were related to Practice with respect to Masanumasik Kashayas such as use, formulation, dosage, efficacy safety, tolerability and compliance. The Questionnaire was then distributed to 130 Ayurvedic physicians of either gender practicing in and around Mumbai region and who were willing to participate in the survey. Written informed consent was obtained from each physician prior to completion of the questionnaire. The questionnaires were distributed to the Ayurvedic physicians either by personal visits to their clinics by the Study Investigators or communicating via email after obtaining consent for the same.

The questionnaires returned by the Ayurvedic physicians were checked for completeness of the data. The data thus obtained was analysed in Microsoft Excel. Descriptive statistics was used to summarize the data.

# **RESULTS AND DISCUSSION**

Of the 130 Ayurvedic physicians who consented to participate, 120 responded and completed the questionnaire appropriately. 10 physicians didn't either complete the questionnaire properly or later refused to participate in spite of repeated telephonic calls, mails, and personal visits.

# Knowledge Regarding Masanumasik Kashayas

The survey result showed that all the Ayurvedic physicians were aware that *Masanumasik Kashayas* is described in all the Ayurvedic *Samhitas*. All the physicians (n=120) said that the *Masanumasik Kashayas* are described in the *Bruhatrayis* viz., *Charaka Samhita*, *Sushruta Samhita* and *Vagbhata Samhita* (Ayurvedic texts. Overall 72 of the 120 responders said there are 10 *Kashayas* (decoctions)

while 52 mentioned 9 *Kashayas* (decoctions) 39 practitioners said that there are 10 *Kashayas* (decoctions) mentioned in *Sushruta Samhita* while 28 said there were 9 *Kashayas* (decoctions) in *Vagbhata Samhita*. 3 practitioners were not aware about the details of the *Masanumasik Kashayas* in the Ayurvedic *Samhitas*. The results on the overall responses regarding knowledge of *Masanumasik Kashayas* in the *Samhitas* are shown in Table 1.

Table 1: Responses regarding Knowledge of Masanumasik Kashayas in Ayurvedic Samhita

	Text Preference	Number of Kashayas			
		9	10	12	NA
1	Astanga Sangraha	0	3	0	0
2	Charaka	2	3	0	0
3	Sushruta	19	39	2	0
4	Kashyapa	1	7	4	0
5	Vagbhata	28	8	0	0
6	Yogaratnakar	2	12	3	0
7	Not known	0	0	0	3
	Total	52	72	9	3

47 physicians said that they followed *Sushruta Samhita* as a primary preference regarding *Masanumasik Kashaya* while 14 physicians preferred to use it as a secondary reference. 36 physicians said they preferred *Vagbhata Samhita* as their primary preference text. The preference of the Ayurvedic physicians regarding the use of a certain Ayurvedic text as their primary reference book is listed in Table 2.

Table 2: Preference of Ayurvedic texts by Ayurvedic Practitioners for the use of Kashayas

Preferred Ayurvedic Text	Primary Reference book (n)	Secondary Reference book (n)		
Sushruta	ATAPR YOU	14		
Charaka	5	0		
Vagbhata	36	0		
Kashyapa	9	3		
Ashtanga Sangraha	3	0		
Yogaratnakar	16	1		
None	3	0		
No preference	1	0		
Total	120	18		

When questioned regarding the rationale for the use of these *Kashayas* (decoctions), 56 (46.67%) volunteers said these are used as *Garbhastravahara* (Anti-abortifacient), whereas 34 (28.33%) said these *Kashayas* (decoctions) are *Garbhastravhara* (Anti-abortifacient) as well as *Garbhposhak* (fetal growth promoters), 12 said they are only *Garbhposhak* (fetal growth promoters) while 4 said these are used for *Suprajanirmiti* (growth of healthy foetus). The opinion of the practitioners regarding the rationale for the use of *Kashayas* (decoctions) is mentioned in Table 3.

Table 3: Opinion of Ayurvedic Practitioners regarding the rationale for the use of *Masanumasik Kashayas* 

Rationale mentioned in text for the use of these Kashayas?	No. of practitioners (n)		
Garbhastravhara (Anti-abortifacient)	56		
Garbhaposhan and Garbhastravhara (Anti-abortifacient & fetal growth promoter)	34		
Garbhaposhan (Fetal growth promoter)	12		
Garbhiniparicharya (Regimen for pregnant women)	5		
Garbha Sanskar	5		
Garbhapaathar (Anti-abortifacient)	1		
Supraja (Healthy child)	4		
No response	3		
Total	120		

# Attitude regarding Masanumasik Kashayas

105 (87%) practitioners felt that this therapy should be prescribed to all pregnant women while 112 (93%) practitioners felt that these *Kashayas* (decoctions)definitely improved the pregnancy outcome. 99 (82%) practitioners agreed that these *Kashayas* (decoctions)can be used in pregnant women without any adverse effect while 104 (87%) said that this therapy could be combined with allopathic therapy without any problems. 110 (91.67%) practitioners said that either they had or would prescribe this therapy to their family members for a better pregnancy outcome. Table 4 shows the breakup of the responses received regarding the attitude of the practitioners towards the use of *Kashayas* (decoctions).

Table 4: Responses of the Ayurvedic Practitioners towards the use of Masananumasik Kashayas

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Attitude towards the use of Masananumasik Kashayas	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total			
Do you agree that this therapy should be prescribed to all pregnant women?	46	59	7	3	5	120			
Do you agree that prescribing these <i>Kashayas</i> will improve the pregnancy outcome?	43 UA	69	8	0	0	120			
Do you agree that this therapy does not cause any adverse effects in pregnant women?		72	15	4	2	120			
Would you prescribe this therapy to yourself/wife/family members?	32	78	8	2	0	120			
Do you agree that this therapy can be given along with allopathic therapy (folic acid, iron supplements etc.)?	20	84	13	2	1	120			

## Practice regarding Masanumasik Kashayas

#### a) Usage

Regarding actual usage of the *Masanumasik Kashayas* in clinical practice, on an average of the 10 pregnant women seen by the Ayurvedic physicians in the previous six months, about 5 were prescribed *Masanumasik Kashayas*.

When asked regarding prescribing of the *Kashayas* (decoctions) in women with other medical conditions like anemia, hypertension, Pre-eclampsia and Urinary tract infections, 114 (95%) physicians

said that they ruled out such conditions while 6 said they did not rule such conditions before starting *Kashaya* therapy. 38 (31.67%) physicians referred such cases to Allopathic physicians for management of the underlying condition while 77 (64.17%) said that they did not refer such cases to Allopathic physicians.

# b) Formulation

On questioning regarding the preferred dosage form of the *Kashayas* (decoctions), 101 (83%) of the practitioners said that they used these *Kashayas* (decoctions) in *Vati* (tablet) form mainly as patients

prefer this dosage form. The results have been summarized in Fig. 1.81 (67.5%) practitioners prescribed the *Kashayas* (decoctions) manufactured by Ayurvedic Pharmaceutical companies rather than preparing the same at their clinics.

## c) Dosage Schedule

Dosage prescribed by 81 practitioners for Masanumasik Kashaya in Vati form (tablet) was 2 tablets (1 tablet= 250 mg) twice a day with milk as Anupan (adjuvant). On enquiring regarding the use of the Kashayas (decoctions) in their clinical practice, 117 (97.5%) Ayurvedic practitioners said that although they prescribed this therapy as mentioned in Ayurvedic texts, they also prescribed other Ayurvedic medicines to the pregnant women. Most of the physicians (n=51) preferred Shatavari Kalpa as a first choice to be given along with the Kashayas (decoctions). About 19 practitioners used Garbhapaal Rasa along with the Kashayas (decoctions), because as the name suggests, properly anchors the foetus and maintains the pregnancy.10 practitioners said that they prescribed Suvarnamalinivasantakalpa, 10 prescribed Madhumalinivasanta kalpa while 14 prescribed Laghumalini Vasanta Kalpa along with the *Kashayas* (decoctions) and 10 practitioners prescribed Tapyadi Lohaa long with the Kashayas (decoctions). Some physicians used medicines like Garbhachintamani rasa, Dadimadighruta, Phala ghruta, Pravalpisti, Pravalpanchamrut, Ashokarista, Guduchi Ghana. Navayasaloha, Chyavan<mark>pras</mark>ha, Brahmivati, Sitopaladichurna along with Kashayas (decoctions).

When asked regarding patient compliance, the practitioners said that about 87.5% pregnant women complied with the dosage schedule of *Kashayas* (decoctions). One of the main reasons for non-compliance mentioned by the physicians was the cost of the treatment as these medicines were to be taken in addition to the regular ANC medications.

# d) Efficacy, Safety and Tolerability

83 (68%) of the Ayurvedic practitioners said that they did not maintain records of the pregnancy outcome following use of *Masanumasik Kashayas* though 117 (97.5%) said that they had seen only good outcomes in terms of fetal development, good maternal health and birth of a healthy baby. 117 (97.5%) Ayurvedic physicians said that they had not yet seen any adverse effects in the women or the child following use of the *Kashayas* (decoctions) and that the medicines were well tolerated by the women, even in the first trimester when they had nausea. Only 54 (45%) physicians prescribed these *Kashayas* (decoctions) to women with bad obstetrics history i.e. repeated abortions, IUGR etc.14 physicians withdrew therapy during the course of pregnancy

when the abortion risk reduced and good fetal growth was seen and in cases of repeated episodes of nausea and vomiting in the women. 91 (75.83%) physicians stopped *Kashaya* (decoctions) therapy in a case a pregnant women receiving therapy was diagnosed to be suffering from gestational diabetes or PIH, while 24 physicians continued *Kashaya* (decoctions) therapy till birth of the child.

# e) Compliance

63.33% of the practitioners said that they ensured compliance by asking questions to the patients at every visit while 9% asked the patients to get the medicines at their next ANC visit.

Thus, the results of the study showed that Masanumasik Kashaya therapy for a healthy pregnancy and pregnancy outcome is still practiced by many Ayurvedic physicians in and around Mumbai. This therapy is not only prescribed for good foetal development but also it is useful for good maternal health and avoids complications during the antenatal period. It was noted that most of the physicians knew the references in the ancient Avurvedic texts where Masanumasik Kashaya was mentioned along with correct numbers of Kashavas (decoctions) to be prescribed with the rationale, although only few of them are aware about the total contents of each Kashaya (decoctions).In the Ayurvedic texts there are 10 or 12 Kashayas decoctions) mentioned. According to Ayurveda there are 10 months of gestation as the menstrual cycle is of 28 days as per the lunar month (Chandramaas) and thus pregnancy is for 280 days or 10 months. Hence, as per Ayurveda, the Masanumasik Kashayas are prescribed to the pregnant women for 10 months.[16]

85% (n=102) of the physicians said that the main indication for the Masanumasik Kashayas is Garbhastravahara (anti-abortifacient) Garbhaposhana (fetal growth promoters) as per the Samhitas (Ayurvedic texts) in this study. Other indications by given the physicians Garbhiniparicharaya (diet and lifestyle during pregnancy), Garbhasanskar (educating the mind of foetus), Suprajanirmiti (healthy foetus) etc. However, these indications have not been described in the Samhitas (Avurvedic texts) for Masanumasik Kashayas. Additionally, as per the Samhitas (Ayurvedic texts), *Masanumasik Kashayas* are used as Garbhastravahara (high risk pregnancies)[11,12] from 1st to 7th month and used as *Shoolshamaka* (pain relievers)[14,15] as well as *Garbhposhaka* (fetal growth promoter))[13] for further pregnancy. However, it was found that in current clinical practice most of the practitioners prescribed these *Kashayas* (decoctions) to all pregnant women.

With regard to the attitude of the Ayurvedic practitioners, it was observed that 93% of the physicians prescribed *Masanumasik Kashaya* to pregnant women with the belief that these *Kashayas* (decoctions) would improve the pregnancy outcome with nearly 83% of the physicians believing that these *Kashayas* (decoctions) are without any adverse effects. They even prescribed these therapies to their family members along with allopathic medicines for other medical conditions like anemia, pre-eclampsia, UTI etc. However, the lack of documentation of the concomitant medicines given along with the *Kashayas* (decoctions) makes it difficult to confirm whether use of the *Kashayas* (decoctions) does result in a positive pregnancy outcome.

From the viewpoint of palatability and hence better adherence to therapy, Ayurvedic practitioners preferred the *Vati* (tablet) form of these *Kashayas* (decoctions). Also, they preferred to dispense the *Kashayas* (decoctions) themselves to the pregnant women so that compliance to the therapy could be assessed at every monthly visit.

Though many practitioners said that they have seen a good pregnancy outcome following use of the *Kashayas* (decoctions) the lack of documentation is a major hindrance to confirmation of the regarding the effectiveness and safety of this therapy. This study appears to be one of the first studies that has looked at the knowledge, attitude and practices of Ayurvedic physicians towards the use of *Masanumasik Kashayas* in pregnancy.

# CONCLUSION

Thus, the results of this study have demonstrated that *Masanumasik Kashayas* is still practiced by most Ayurvedic physicians and is prescribed for good pregnancy outcome. There were no adverse effects observed during pregnancy when given along with allopathic medicines. There are some modifications made by physicians as per current trends and patient's preference, like adding other Ayurvedic or allopathic medicines along with the *Kashayas* (decoctions) and prescribing the tablet form to overcome the bitter taste and improve compliance. Good foetal development was observed by almost all physicians but due to poor documentation we can't come to a final conclusion.

## **LIMITATIONS**

There are some limitations in this survey viz. majority of the responders were from the younger age group between age group 25 to 40 years. Also the survey was carried out in and around Mumbai region only with small sample size and the results may differ with respect to other parts of the state and country.

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## \*Address for correspondence Dr Munshi Renuka P

Addl. Professor & In-charge, Department of Clinical Pharmacology, TN Medical College & BYL Nair Hospital, Mumbai.

Email: <a href="mailto:renuka.munshi@gmail.com">renuka.munshi@gmail.com</a> Contact: 022 23027204

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