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Questionnaire designing and validation on *Dadhi Sevana* in *Kaphaja Kasa*

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ABSTRACT

Consumption of *Dadhi* (curd) has a role in the formation of *Kaphaja Kasa*. It acts as a *Viprakrista Nidana* (distant cause) and as a *Vyabhichari Nidana* (weak cause) for the causation of disease. *Dadhi* being *Madhura*, *Amla Rasa*, *Guru*, *Snigdha*, *Abhishyandi Guna*, *Ushna Veerya* and *Amla Vipaka* and having *Kaphakara* property. *Samanya Nidana* of *Kaphaja Kasa* is intake of *Guru*, *Abhishyandi*, *Madura*, *Snigdha Guna Aharas*. And also, *Dadhi* is one among the *Kapha Prakopa Karana Ahara* explained by *Madhavakara*. To make *Ayurveda* easily acceptable, as per the current trends in research, a review of previously proved fundamentals of *Ayurveda* in line with currently followed method of research is essential to achieve easy application in field of clinical research. Five step processes of designing and validation of questionnaire ensure a research tool for clinical research. Thus, validations of Questionnaire are based on *Dadhi Sevana*. Due to *Samanya Vishesha Siddhanta*, *Samana Guna* acts as a *Vruddhi Karana*, also one who doesn't follow *Dadhi Sevana Niyamas*, hence it shows risk factor in the formation of *Kaphaja Kasa*.

Key words: Questionnaire Designing and Validation, *Dadhi Sevana*, *Kaphaja Kasa*

INTRODUCTION

Dadhi (Curd) by its nature has; *Madhuraamlarasa* (sweetish sour taste), *Amlavipaka* (sour post digestion taste),^[1] *Guru* (heavy to digest), *Ushnaviryā* ^[2] (hot in potency) and is *Abhishyandi* (coats over the channels carrying *Dosha*, *Dhatu* and *Mala*). Predominant taste of *Dadhi* is *Amla Svadu* and it possesses *Grahi* and

increases *Agni* and produces *Shopha* according to *Acarya Harita*. The attributes of *Dadhi* varies according to inoculation time for fermentation, type and nature of milk used. *Dadhi* belongs to *Amla Skanda* (group of sour drugs) and it is one among the *Vicitra Pratyarabdha Dravya* (a *Dravya* which does not act as per *Rasa Panchaka*); as these *Dravyas* are having the capability of producing both positive and negative impact on health. On the basis of the *Panchabhuta* composition, *Dravya* do not have structural similarity among the constituents. Another concept is which can be considered here is *VikrutiVishama Samaveta* – there is structural similarity but exhibit special pharmacological action. *Dadhi Rasa*, *Guna*, *Veerya*, *Vipaka* are differs hence it is *Vicitra Pratyarabda Dravya*.

MATERIALS AND METHODS

Questionnaire developing based on classical reference on properties of *Dadhi*, *Dadhi Sevana Niyama*,^[3]

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followed by validation by methods of research. Basically, validation of questionnaire involves Five Steps 1. Preparation of questionnaire 2. Expert validity – taking the suggestions of subject experts for Content validity, to check the content of questionnaire, this is done by experts or authority persons 3. Construct validity – checked by Reliability tests 4. Face validity - Pilot study 5. Final reforming of questionnaire.

RESULT AND DISCUSSION

Validation of Questionnaire for reliability and consistency carried out with the following steps;

1. Preparation of questionnaire
2. Expert validation
3. Cronbach's alpha and Principal Component Analysis
4. Pilot Study
5. Final reforming the Questionnaire.

1) Preparation of the Questionnaire

A preliminary list of items related to *Dadhi* [4] and its mode of intake with duration in seasonal as well as daily routine and *Dadhi Sevana Niyama* were prepared according to classical *Samhitas* and same was converted into questions and two versions of questionnaires are prepared i.e., in English and Kannada language. This was followed by preliminary version of questionnaire with seventy-one items. The prepared questionnaire comprised of five Domains with Duration, Quantity, Types, Mode/Adjuvent, and Symptoms. The items in the questionnaire were developed in such a way that it was understood and easily completed by patients aged between 18-60 years and it was designed to be self-administered. The respondents were given the option for recording their responses in the form of "Regularly = 5-10 times a week, Frequently = 2-4 times per week, Sometimes = 1-2 times in 2 weeks, Occasional = once in a month and Never" with Duration= time of year of practicing these habits, by recording a check mark in the respective column provided for the purpose.

2) Expert validation

Expert validation was conducted to explore opinions about the positive and negative aspects of questionnaire and give expert suggestions. Ten experts were given the questionnaire containing seventy-one questions with option as Essential, Useful but not essential, not necessarily graded as 2, 1, 0 respectively for each question and their suggestions were noted. Cronbach alpha scale was tested for seventy-one questions as a whole. Two in domain 1- 'Duration', Three in domain 3- 'Types', Two in Domain 5- 'Symptoms' removed. Thus, total seven question got deleted and sixty-four questions were finalized based on results of suggestions of experts and cronbach's alpha. The data analysis was done using the software 'Statistical Package for Social Sciences', Version 23 (SPSS IBM).

3) Cronbach's alpha^[5]

Cronbach alpha is a measure of Internal Consistency means how closely related to a set of items are as a group. It is a measure scale reliability, while validating the scales, value of alpha greater than 0.7 was accepted, and value of alpha in between 0.8 to 0.9 is having a good consistency, Here the Cronbach alpha is 0.822 which means it is having a good consistency, those value of Alpha greater than Cronbach's coefficient alpha, corresponding item were deleted. For expert validation Cronbach alpha value was 0.822, seven questions were removed, two from duration (midnight and early morning curd intake), three from types of curd intake and two from symptoms was removed. For Pilot study Cronbach alpha scale tested for seventy-one questions as a whole. Alpha value was 0.821, which is acceptable.

Table 1: Showing Reliability Statistics (Cronbach alpha)

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.822	0.821	64

Principle Component Analysis and Cohens kappa

Principle Component Analysis as well as cohens kappa could not able to elicit due to small sample size and less items present in the questionnaire.

1) Pilot Study

The self-administered questionnaire was distributed to 30 in-patients of Sri Dharmasthala Manjunatheshwara College of Ayurveda and Hospital, Hassan, for pilot study during the month of February-March 2020. Patients were given 24 hours' time to complete the questionnaire. Cronbach alpha scale tested for sixty-four questions as a whole.

2) Final reforming the Questionnaire

Final questionnaire contains sixty-four, the questionnaire also contains a copy of confidentiality agreement and brief history of patient. Confidentiality agreement stating the purpose of the study and assuring strict confidentiality of the respondents and the respondents were also asked to furnish demographic details about their age, gender etc. After pilot study on thirty patients, Cronbach's Alpha value was 0.821 considered to be acceptable. All the items were significant and acceptable. Validated *Dadhi Sevana* questionnaire is presented in Table 1.

Table 2: Showing validated *Dadhi Sevana* Questionnaire.^[6,7]

Instructions to fill

Regularly (R)	5-10 times a week
Frequently (F)	2-4 times per week
Sometimes (S)	1-2 times in 2 weeks
Occasional (O)	once in a month
Never (N)	Never
Duration (D)	Since when you are practicing these habits

Item no.	Questions	R	F	S	O	N	D
I. Domain: DURATION							
1.	What is the frequency of Curd intake?						
2.	Usual time of curd intake? Morning (6:00a.m-12:00p.m)						
3.	Afternoon (12:00p.m-4:00p.m)						
4.	Evening (4:00p.m-7:00p.m)						
5.	Night (7:00p.m-12:00a.m)						
6.	Usual season of curd intake? Winter (Mid november- Mid january)						
7.	Cold, Dew (Mid January- Mid march)						
8.	Spring (Mid March- Mid July)						
9.	Summer (Mid May- Mid July)						
10.	Rainy (Mid July- Mid September)						
11.	Autumn (Mid September- Mid November)						
II. Domain: QUANTITY							
12.	What is the amount of Curd intake? Less than 25ml						
13.	25ml- 50 ml						
14.	50ml-75ml						
15.	75ml-100ml						
16.	100ml-200ml						
17.	More than 200 ml						

III. Domain: TYPES						
18.	What type of Curd do you use? Homemade cow curd					
19.	Homemade buffalo's curd					
20.	Packed curd					
21.	Which Flavor of curd you use? Sweet					
22.	Sour					
23.	Yogurt					
24.	Shrikhand					
25.	Formed curd					
IV. Domain: MODE/ADJUVANT						
26.	Mode of intake of curd? Plain curd					
27.	With Sugar					
28.	With Salt					
29.	With Pickle					
30.	With Dal					
31.	With Honey					
32.	With Milk					
33.	With Amla powder					
34.	After meals					
35.	Do you consume curd with following? Rice					
36.	Chappati					
37.	Vegetable Salad					
38.	Fish					

39.	Milk					
40.	Heated curd					
41.	Ushna Dravyas					
42.	Common food items Lassi					
43.	Rabadi					
44.	Jelabi					
45.	Dahi vada					
46.	Curd rice					
47.	Dahi puri					
48.	Mangalore buns					
V. Domain: SYMPTOMS						
49.	Do you have following symptoms after curd intake? Cough					
50.	Cough with Sputum expectoration					
51.	Difficulty in breathing					
52.	Sneezing /cold					
53.	Heaviness of chest					
54.	Excess Sleep					
55.	Itching					
56.	Excess salivation					
57.	Decreased digestion					
58.	Hoarseness of voice					
59.	Will these symptoms decreases after stopping curd? Cough					

60.	Cough with Sputum expectoration						
61.	Difficulty in breathing						
62.	Sneezing /cold						
63.	Heaviness of chest						
64.	Do you refrigerate curd?						

CONCLUSION

Questionnaires are the most commonly used tool in survey research. Questionnaires should produce valid and reliable demographic variable measures. A questionnaire is valid if what it measures is what it had originally planned to measure. Information scattered in *Ayurveda* text on particular fundamental principles needs to be compiled and a method has to be devised for its application. One such method is questionnaire designing. Hence designing of questionnaire and its validation is of paramount importance in *Ayurveda Anusandhana*. These self-report scales, which are usually presented in questionnaire form, are one of the most used instruments in psychology and observational studies, and thus it is important that the measures be constructed carefully, while also being reliable and valid. The way that a question is framed can have a large impact on how a research participant will answer the question. The vocabulary of the questions should be very simple and direct, sensitive questions which are very personal to the patients should be framed well and consciously. Order of questions should be arranged in such a way that respondent feel interest in answering and to catch the respondent's

attention. Then reliability test should be carried based on response of subjects.

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