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CURRENT SCENERIO OF AYURVEDIC TOOLS AND ITS DEVELOPMENT

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ABSTRACT:

In our daily life we are dealing with instruments and tools that make our life easy and simple. Just like that in our Ayurvedic field also, there should be proper standardized tool and methods for every aspect we are dealing with. Most of the methods we are using are personalized one, personalized diagnosis brings about a high level of variability among the clinicians and researchers. Developing and validating assessment tools can help in standardizing the clinical approach among Ayurvedic practitioners and outsiders of Ayurveda fraternity, to facilitate convincing research outcomes. Only then we can ensure advancement of this field to the rest of the world. There are many research works going on for developing and validating different tool related to ayurvedic diagnosis, criteria for diseases, treatment protocols and SOP's. This paper is a gentle effort to understand the current scenario of tools in our field and to report the findings of a google form survey among PG Scholars of institutes in kerala about their knowledge and attitude regarding assessment tools in Ayurveda.

Keywords: Tool development, Validity, Ayurvedic research, Translational Ayurveda

INTRODUCTION:

In our daily lives, we encounter various tools and instruments that have simplified and enhanced our routines. Take, for example, the choice between using an elevator or climbing stairs in a building. This simple decision reflects our inclination toward convenience and efficiency. Similarly, the transition from traditional sundials to modern battery-powered clocks highlights our reliance on technology to provide accuracy and reliability in timekeeping. Yet, traditional methods, like the sundial, had their limitations. While they were accurate within their context, they were restricted to daytime use, rendered ineffective during inclement weather, and influenced by individual interpretation. This highlights the drawbacks of traditional approaches, which often lack adaptability and reliability. In contrast, modern technology, such as battery-powered clocks, offers consistency and precision, regardless of external factors like weather conditions. However, it is not immune to issues, as batteries can deteriorate over time, affecting their accuracy. This underscores the inevitability of change and the ongoing need for improvement and its reflection to the field of Ayurveda, where similar challenges are faced. Ayurveda relies on personalized observations and findings, which can vary from one practitioner to another. To ensure Ayurveda's broader acceptance and understanding by individuals outside the Ayurvedic community, it emphasizes the importance of standardization. Standardization is already underway in Ayurveda, aiming to establish uniform tools and methodologies. This standardization process seeks to bring consistency and clarity to Ayurvedic concepts and treatments. The ultimate goal is to make Ayurveda accessible and comprehensible to a global audience, fostering its growth and acceptance worldwide. These changes aim to bridge gaps in understanding, ensuring that ancient wisdom and holistic healthcare principles, such as those found in Ayurveda, can be appreciated and applied beyond their traditional boundaries.

Methodology:

This study utilized a comprehensive survey-based approach to gather data on the knowledge and attitudes of PG scholars in Kerala regarding the development and use of tools in Ayurveda. The survey was conducted using Google Forms, with a carefully designed questionnaire consisting of questions covering various dimensions related to the necessity, awareness, and utilization of tools in Ayurvedic practice. The survey questions included:

1. The necessity of tool development in Ayurveda & tool development as an important area in Ayurvedic research
2. Awareness regarding the steps involved in tool development
3. Usage of validated tools in clinical practice.
4. Suggestions for additional tools that should be developed in Ayurveda.

Participants:

The participants in this survey were selected from the pool of postgraduate scholars specializing in Ayurveda in Kerala. A diverse ample was chosen to ensure representation from various educational institutions and backgrounds within the field of Ayurveda.

Result & discussion: The article presents the key findings of the survey, highlighting the current attitudes and awareness levels of PG scholars in Kerala regarding the development and utilization of tools in Ayurvedic practice. The results provide insights into the perceived necessity of tool development, existing awareness about the steps involved in tool development, the extent of validated tool usage in clinical practice, and the scholars' suggestions for the development of additional tools in Ayurveda. The discussion section delves into the implications of the findings for the advancement of Ayurvedic practices and the potential areas for future research and development in the field.

The results and discussions for each of the questions will be handled separately based on the 69 responses obtained from the survey.

1. Necessity of tool development in Ayurveda & Tool development as an important area in Ayurvedic research

Tool development in the field of Ayurveda was deemed crucial by 97% of the respondents, highlighting its essential role in advancing the field. Similarly, 98% of participants affirmed the importance of tool development in Ayurvedic research, emphasizing its significance in fostering scientific advancements and improved healthcare practices. Given the consensus among the scholars, it is imperative to explore the key benefits and implications of integrating tool development in Ayurveda. Health is a subjective awareness of an individual's well-being, often perceived rather than quantified. The comprehensive aspects of health cannot be fully encapsulated in numerical measures. Therefore, the inclusion of qualitative tools is imperative in comprehensively grasping the nuances of one's health or illness. When we opt for tool development for any of the aspect of ayurvedic health parameter the background support of qualitative research as well as the clinical applicability are mandatory. Since these two are complimentary to each other. The methodology followed in tool

development play a vital role in connecting both of them together. First, we should address qualitative issues regarding the concepts, its perception and applicability next, we have to settle issue regarding the type of assessment / evaluation needed and the available facilities for its fulfilment.

2. Awareness regarding the steps involved in tool development

The finding that 78.3% of individuals are not aware of the steps involved in tool development suggests a significant knowledge gap in this area. To address this gap, it's crucial to elaborate on the steps involved in the development of a tool. This information can empower individuals with a better understanding of the intricate process that goes into creating various tools. In the realm of tools, the questionnaire stands out as a widely employed instrument. The process of developing a questionnaire involves eight key steps: conceptualization and operationalization, item generation and selection/reduction, item wording and sequencing, selecting a suitable response format and scoring system, translation and back translation, pretests and pilot study, final administration on a preselected sample, and measuring reliability and validity.

I. conceptualization and operationalization: Process of taking a concept and refining it by giving it a theoretical definition is conceptualization. Concept derivation can be achieved through FGD and IDI. The abstract concepts are called construct and concrete representative are called variables. Working with variables is easy as they are measurable. Process of taking conceptual definition & making it more precise by linking it to one or more operational definition is operationalisation. Operational definition links the world of idea to the world of reality.

II. Item generation and selection/reduction: Items can be generated through clinical observation, theory, research finding, expert opinion, qualitative methods with target population, existing instrument and experience. After that we have to Prepare draft instrument with less no of item and identifiable domains.

III. Item wording and sequencing: the statement should be modified so that it should be understandable by the intended population. Generally, the questions are modified as to be understood by 12-year-old student. Also, it should be arranged in logical progression from general to specific and also simple to complex.

IV. Selecting a suitable response format and scoring system: level of measurement should be identified as either ordinal or nominal. Then scale of measurement should be fixed eg likert scaling, guttman scaling etc

V. Translation and back translation: if the tool is in local language, it must be translated to English by language expert fluent in both languages, knowledgeable about the content and the translated tool must be back translated to local language by the local language expert.

VI. Pretests and pilot study: Pretesting means testing of the research instrument such as questionnaire or the interview schedule. It can be achieved through peer review, expert review, respondent review whereas Pilot study is done to discover logistic issues & feasibility in the study… It is a smaller version of a larger study [1].

VII. Final administration on a preselected sample: Number of sample size should be fixed. Ideal ratio of question to sample is 1:10

VIII. Measuring reliability and validity: first we will discuss about validity The extent to which an instrument successfully measures the construct that is supposed to measure is validity it can be achieved from these 4 processes

a) Face validity-Simply indicates whether on the face of it the instrument appears to be assessing the desired qualities
b) Content validity- consist of judgement by expert whether the scale appears appropriate for the intended purpose
c) Criterion validity- correlation of a scale with some other measure of the trait ideally a gold standard that is known to be a good indicator
d) Construct validity tells whether the results are in accordance with the present theories concerning the area of research.

Reliability: Reliability means repeatability or stability whether the scale is measuring something in a reproducible fashion. Item analysis is done to assess distribution of responses to know how evenly distributed. Descriptive analysis and correlation matrices should be done [2].

3. Ever used a validated tool in your clinical practice or research purposes

The finding that 39% of respondents have never used a validated Ayurvedic tool, with a total negative response

exceeding 50%, suggests a potential lack of awareness and adoption within the Ayurveda community. This trend may impact research quality, hinder standardization in clinical practice, and highlight the need for professional development and education initiatives. Encouraging the use of validated tools could contribute to the advancement and credibility of Ayurveda, fostering collaboration and aligning with global healthcare standards.

4. Suggest areas where further tool development should be done

5.

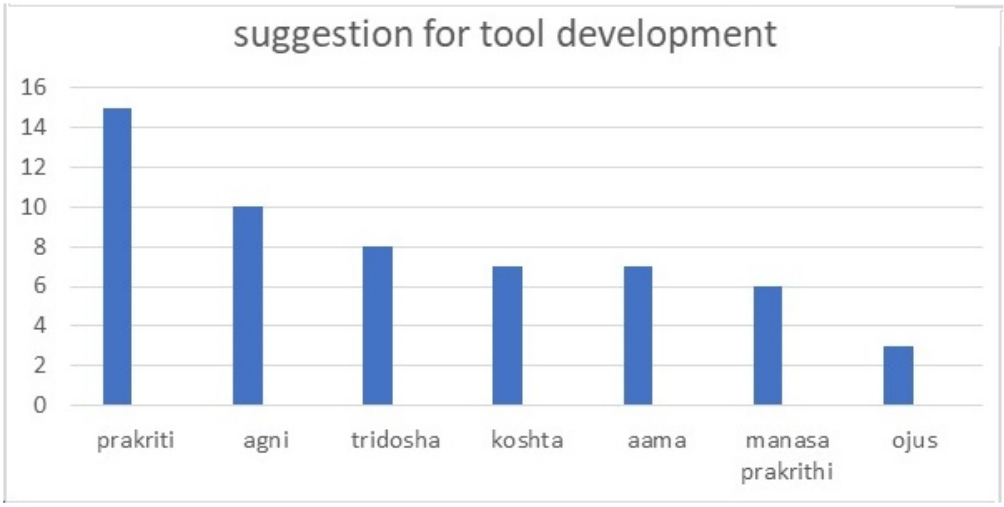

FIG 1: Suggestions for tool development

In the survey, participants were prompted to provide input on areas they deemed suitable for further tool development. The results highlighted a prevalent interest in the concept of 'Prakruti,' with many respondents suggesting it as an area requiring attention. All are unaware that there is already tool for prakriti. Funfact is that when searched for tool for *prakriti* there is not only one but got 7 *prakriti* assessment tool. There may be even more only which is in papers not published yet. A comprehensive overview of existing tools for '*Prakriti*' assessment, ranging from lengthy and detailed methods to shorter, clinically useful tools. This diversity offers flexibility in tool selection based on the specific requirements of clinical or research settings.

Similarly, '*Agni*' emerged as the second most suggested area for tool development. Again, the revelation

mirrored that of '*Prakriti*,' with the identification of more than one validated tool for assessing 'Agni.' This dual occurrence suggests an opportunity for increased dissemination of information within the Ayurveda community, ensuring that practitioners and researchers are aware of the existing validated tools for assessing key elements like '*Prakriti*' and '*Agni*.' This awareness could contribute to more informed and effective practices within the field.

Some prakriti assessment tools are enlisting:

1. PRAKRITI TOOL- CCRAS: It is the one of the lengthiest prakriti assessment method available. It includes questions regarding physical traits, physiological traits, psychological and behavioral traits. Embodies the SOP for capturing each and every predictor for assessment of prakriti. Software has also been designed which is more user friendly [3].
2. DEVELOPMENT AND VALIDATION OF A PROTOTYPE PRAKRITI ANALYSIS TOOL (PPAT) BY SANJEEV RASTHOGY: Here each prakriti trait was examined through its *guna* and features. Eg in *Vata* trait one of the *guna* is *ruksha*, under that features included are dry skin, dry poor interrupted and unpleasant voice and reduced sleep where scores are there but no equal weightage. Number of *Gunas* taken for each prakriti analysis are 12 for *Kapha prakriti* 6 for *Pitta prakriti* and 8 for *Vata prakriti* [4].
3. AYUSOFT: This is a software consisting of 90 items which involve components of both history taking and examination. It is the most widely used tool in ayurvedic research studies. Required duration for administration of ayu-soft is 15-20 min. At the end it provides with *Vata Pitta Kapha* scores in percentage
4. DEVELOPMENT, VALIDATION AND CONFIRMATION OF AN ARCHETYPE TOOL TO EVALUATE PRAKRITHI BY PK TRIPATHI, S GEHLOT: while prakriti of an individual is defined in terms of both somatic and mental attributes i.e., psychosomatic, they claimed that others do not give proper magnitude to psychological attributes. Weightage for questions are given like this; *Vata* - 43 questions, *Pitta*- 36 questions , *Kapha*- 42 questions[5].
5. THE TOOL STANDARDIZATION OF SUSRUTHA PRAKRITI INVENTORY- SPI

AN AYURVEDIC BASED PERSONALITY ASSESSMENT TOOL WITH SCIENTIFIC METHOD BY RAMAKRISHNA B R etal: SPI has 2 Parts SPI questions and SPI checklist to assess the prakriti of the individual, Consisting of physiological, psychological, social, intellectual and spiritual characteristics of *Vata, Pitta* and *Kapha*. The self-explanatory questionnaire to be answered by the subjects and physical checklist assessment by the physician [6].

6. VALIDATION OF PROTOTYPE RESEARCH SOFTWARE- INFANT PRAKRITI ASSESSMENT (PRS-IPA): INFERENCE FROM A CROSS SECTION PATTERN: Infant *prakriti* knowledge can be helpful for diagnosis of diseases, management of disease, forecast the proneness for future disorder and prevents from many chronic diseases. Infant prakriti assessment questionnaire includes domains like feeding habits, bowel and urine habits, thirst habits, sweating habits, period of sleep-in hours, physical activity which includes movements of joints eye, tongue, head, attachment, tolerance to pain stimuli etc, speech/voice habits, disease incidents, like/ dislike towards feeding, body parts like physique, skin texture, skin color, hair, eye color, palm sole, lips, nail, body parts [7].
7. DEVELOPMENT OF CLINICALLY USEFUL TOOL FOR PRAKRITI ASSESSMENT BY ABHILASH M AND SUDHIKUMAR K B: This is the shortest validated *prakriti* assessment tool available till date other mentioned tools for prakriti assessment are not intended to be used in a clinical setting, which demands a short and flexible and less time consuming [8].

CONCLUSION:

The current scenario of Ayurvedic tools and their development reflects a growing awareness of the need for standardized methodologies in the field. The survey findings indicate that a majority of respondents recognize the crucial role of tools in advancing Ayurveda, both in clinical practice and research endeavours. However, there exists a substantial knowledge gap regarding the steps involved in tool development, emphasizing the need for educational initiatives to bridge this divide. The study sheds light on the underutilization of validated Ayurvedic tools, with a significant percentage of respondents having never employed such tools in their clinical practice or research. This points to a potential barrier in the standardization of

Ayurvedic approaches, hindering research quality and overall credibility. Professional development and education initiatives are essential to address this gap and promote the use of validated tools within the Ayurveda community. Here comes the importance of translational ayurveda which is the process by which the results of research done are directly using to treat patient i.e., bench to bedside

In short, the current state of Ayurvedic tools showcases both progress and challenges. While there is a clear acknowledgment of the necessity for tools and ongoing research efforts, there is room for improvement in terms of awareness, utilization, and standardization. Addressing these aspects will contribute to the continued growth, credibility, and global acceptance of Ayurveda as a holistic healthcare system.

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