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Development and validation of Susceptibility Assessment Tool in Homoeopathy (SATH) in homoeopathic clinical practice

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Abstract

Background: The homoeopathic philosophy identifies susceptibility as a key concept for prescribing a similimum, i.e., the indicated remedy and its potency. No validated instrument to measure susceptibility as high, medium or low could be identified in the literature. Objective: The present study was undertaken to identify the factors governing susceptibility assessment and to develop a simple tool for physicians to assess the susceptibility of the cases they see in their clinical practice. Material and Methods: A new questionnaire was developed using standardised procedures including item development, pilot testing, and psychometric evaluation. The psychometric properties of this pilot tool were assessed by applying it on patients in routine clinical practice in different types of illnesses. Data was computerised and analysed by principal component analysis as an extraction method and orthogonal varimax as a rotation method. Results: The final 17-item questionnaire was arranged into nine domains as per rotated component matrix analysis. Overall internal consistency of the final questionnaire, as calculated by Cronbach's alpha, was 0.607, and the measure of sampling adequacy was 0.729. Conclusion: A simple, homoeopathically appropriate, easy-to-use tool has been developed which can be applied by the practitioners during case taking to come up with a score, identifying low, normal or high susceptibility. This susceptibility assessment tool in Homoeopathy (SATH) can be further applied in diverse settings to enhance its validity and clinical utility.

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ORIGINAL ARTICLE

Development and validation of Susceptibility Assessment Tool in Homoeopathy (SATH) in homoeopathic clinical practice

Divya Taneja [1,*], Anil Khurana [1], Kumar Dhawale [2], Renu Mittal [1], Padmalaya Rath [3], Abhijit Chakma [1], P. Dastagiri [4], Pritha Mehra [1], Hima Bindu Ponnam [1], Sunil Bhalinge [2], Rahul Suryavanshi [5], Sudha Dharmarajan [6], Parthasarathi Chakraborty [7], Pooja Kumari [1], Priyanka Nim [8], Subhash Kaushik [1]

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ABSTRACT

Background: The homoeopathic philosophy identifies susceptibility as a key concept for prescribing a similimum, i.e., the indicated remedy and its potency. No validated instrument to measure susceptibility as high, medium or low could be identified in the literature. **Objective:** The present study was undertaken to identify the factors governing susceptibility assessment and to develop a simple tool for physicians to assess the susceptibility of the cases they see in their clinical practice. **Material and Methods:** A new questionnaire was developed using standardised procedures including item development, pilot testing, and psychometric evaluation. The psychometric properties of this pilot tool were assessed by applying it on patients in routine clinical practice in different types of illnesses. Data was computerised and analysed by principal component analysis as an extraction method and orthogonal varimax as a rotation method. **Results:** The final 17-item questionnaire was arranged into nine domains as per rotated component matrix analysis. Overall internal consistency of the final questionnaire, as calculated by Cronbach's alpha, was 0.607, and the measure of sampling adequacy was 0.729. **Conclusion:** A simple, homoeopathically appropriate, easy-to-use tool has been developed which can be applied by the practitioners during case taking to come up with a score, identifying low, normal or high susceptibility. This susceptibility assessment tool in Homoeopathy (SATH) can be further applied in diverse settings to enhance its validity and clinical utility.

Keywords: Homoeopathy, Homoeopathic philosophy, SATH, Susceptibility, Questionnaire

Introduction

According to Dr. Samuel Hahnemann (1755–1843), the founder of Homoeopathy, two fundamental factors are necessary for an individual to fall ill: the person's inherent susceptibility and exposure to a

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natural disease or, more broadly, to precipitating events or stressors (Aphorism 31). To Dr. Hahnemann, susceptibility is the predisposing, most fundamental and determining cause for becoming sick and for being protected from sickness and it is influenced by precipitating events or stressors.[1]

Susceptibility has also been defined as an expression of vacuum in the individual, which attracts and pulls for the things most needed that are in the same plane of vibration as the want of the body. Primarily, susceptibility is the reaction of the body to external and internal influences.[2] Susceptibility is considered to be a general quality or capability of the living organism to receive impressions and the power to react to stimuli. Susceptibility, when morbid, results in the development of disease in an individual and at the same time also determines his (or her) response to the similimum in the diseased state. It is a qualitative and quantitative attribute that governs the expression of an organism towards external influence.[3]

Homoeopathic philosophy identifies susceptibility as a key concept for the prescription of a similimum, i.e. indicated remedy and its potency and repetition.

Successful treatment of disease depends not only upon conserving and utilising the natural (normal/inherent) susceptibility of the living organism, but on properly selecting remedy and adjusting the dose to the needs of the organism so that susceptibility may be restored and equilibrium or health is restored.[3] A homoeopathic remedy or disease process that aligns with the organism's susceptibility can harmonise these responses, thereby restoring balance and establishing immunity. This relationship highlights the dynamic connection between susceptibility, immune function, and overall health, emphasising the need for precise therapeutic interventions that address the individual's unique susceptibility profile. The physician must judge the degree and quality of susceptibility for maximum response from intervention in a shortest possible time.[3]

Various authors have identified a number of factors which characterise it, such as age, constitution, temperament, habits, environment, character and completeness of symptoms, previous treatments undertaken, etc.[2–7]

Based on these factors, the susceptibility of an individual can be high, low or normal, which forms the basis of selection of potency and frequency of dosage of the medicine. Although to measure susceptibility objectively and its practical approach as to how it can be ascertained is understood theoretically, no studies could be identified in the literature. Anecdotal evidence and published cases do suggest that physicians may choose a potency based on assessment of susceptibility,[3] but no measure used is reported.

The present study was, therefore, undertaken to identify the factors governing susceptibility assessment and to develop a simple tool for physicians to assess susceptibility in the cases in their clinical practice. The psychometric properties of this pilot tool are assessed by applying it to patients in routine clinical practice in different types of illnesses.

Material and methods

Development of questionnaire

Development of susceptibility assessment tool in Homeopathy (SATH) was carried out as reported procedures of item development, pilot testing, and psychometric validation used in the development of quality-of-life scales.[8]

Factors affecting susceptibility were identified by detailed literature review with the help of homoeopathic experts in philosophy. Based on the literature review and the identified variables, a construct was defined as "*Susceptibility is a sum total of such factors, which are responsible for the individual's reaction to disease stimuli, and therefore govern the identification of most similar medicine, appropriate potency and dosage affecting the outcome of treatment*".

An expert group, comprising five (05) experts of homoeopathic philosophy, each of whom had an experience of more than 30 years examined the construct and the identified factors using Delphi method. A questionnaire with 31 questions was developed while taking utmost care to avoid the omission of necessary concepts. The options for the questions were framed in the form of multiple-choice responses covering all the possible categories of responses which the practitioners could choose from based on the case details that best aligned with the patient's responses.

Face validation of the questionnaire was performed by circulating it among four (04) additional practitioners with more than 30 years of experience. The experts were requested to give their view on the questionnaire and its individual items, if such an instrument can be used to assess susceptibility in the patients and if the questionnaire covers all measurable aspects associated with susceptibility of an individual? Their responses were obtained using yes/no options to indicate whether the questions were clear, along with open-ended comments to suggest rephrasing, addition, or deletion of questions, wording, as well as modifications needed in the response scale. The opinions of the experts regarding the questionnaire were assessed, focusing on problem areas such as difficulties in understanding the questions, clarity of the questions, and familiarity or unfamiliarity with them. The experts provided feedback on the

relevance, wording, readability, clarity, and comprehensiveness of the questions. They were also asked about any other questions that need to be added or changed or changes in the response categories for any of the questions. Once consensus was obtained from all members, the questionnaire was finalised.

Ethical statement

The study was approved by the 20th Institutional Ethical Committee of the Central Council for Research in Homoeopathy, New Delhi (vide its letter no. 1-3/2016-17/CCRH/tech/20th EC/3244 dated 14.02.2017). It was, however, not registered in the Clinical Trial Registry of India (CTRI), as it was not a mandatory provision at that time. All procedures were in accordance with the ethical standards of the responsible committee on human experimentation and with the World Medical Association Declaration of Helsinki: Ethical Principles for Medical Research Involving Human Subjects.[9]

Psychometric evaluation

Psychometric evaluation was conducted in two phases to refine the questionnaire and apply in different settings.

Phase – I

The questionnaire was applied in homoeopathic clinical facilities by five practitioners to assess the susceptibility of the patients being treated by them. The pooled data were analysed to conduct the first phase of psychometric analysis and revise the questionnaire.

Phase – II

A revised questionnaire was used to assess patient susceptibility for prescription by five practitioners on 30 acute cases and 30 chronic cases in their routine outpatient department (OPD) practice. These practitioners were different from those included in the first phase of the study.

In each phase, the respective practitioners participated in orientation training programs and follow-up meetings to ensure alignment with the study processes and methodological requirements.

Sample size

Phase – I

Considering there were 31 questions, a sample of 155 cases was considered.[10] Each practitioner was requested to provide the data of 35 to 40 cases from their routine clinical practice.

Phase – II

For an instrument with 17 questions, a sample of 170 cases was needed. However, since this was a pilot questionnaire with no other instrument to be compared with a larger sample size of 340 cases was considered[10] to cover both acute and chronic cases (170 each) and a 20% dropout.

Participants

- **Inclusion criteria:** persons coming for outpatient treatment, consenting to participate in the study
- **Exclusion criteria:** patients suffering from conditions requiring immediate emergency care and those requiring inpatient department (IPD) admission.

Voluntary, written informed consent was taken from all participants.

Data collection

Phase – I

A complete case history of the patient was detailed as per the routine practice of the practitioners. The practitioners additionally recorded the susceptibility of each patient assessed on their understanding, as they have been doing routinely in practice. The prescribers were free to make the prescription as per their assessment. Simultaneously, susceptibility measurement was made by the same practitioner using the questionnaire, where the numerical total was simply recorded but did not affect the prescribing choice made on the case history. They also identified the relevance of each individual question for the assessment of susceptibility.

Follow-up for acute conditions was made after one week and for chronic diseases after one month, to assess response to treatment. Considering that the medicine prescribed was correct, the treatment response was assessed on the basis of the potency that was prescribed in the case.

Phase – II

Applicability and usability of the questionnaire (tool) were taken in Phase II of the study. A complete case history of the patient was detailed on a standardised case recording proforma.[11] Susceptibility measurement was made simultaneously on the questionnaire. Based on the outcome of the Phase I, the questionnaire divided the numerical scores as low (17–46), normal (47–55), and high (56–85) susceptibility. The treatment plan in centesimal potency, as per the susceptibility identified, was applied. Participants with high susceptibility were given medicine

in high potency (200, 1 M or higher), for normal susceptibility, 30C was given, and for low susceptibility, mother tincture (Q), 6C or 12C were given.

Acute cases were followed up for fifteen days, and chronic cases were followed up for three months. The follow-up prescription was based on the response of patient. Response to prescription was identified on the Outcome in Relation to Impact on Daily Living (ORIDL) scale.[12] Correctness of the prescription and case outcomes were assessed as good, bad or doubtful by an independent validator and verified by second one, who also ascertained the usefulness of the potency prescribed.

Data analysis

Phase - I

Content validity ratio (CvR) for each question was identified based on the number of experts indicating the question to be most relevant versus the total number of questions. Exploratory Factor analysis (Extraction Method Principal Component analysis with Rotation Method: Varimax with Kaiser Normalization) of questions with positive CvR only, was done for validating the construct, identifying the domains affecting susceptibility and to reduce multicollinearity. The prescriber measure of susceptibility was matched with the scores on the questionnaire to develop a scoring chart for the questionnaire.

Phase - II

Principal component analysis (Extraction Method Principal Component analysis with Rotation Method: Varimax with Kaiser Normalization) was conducted to further refine the questionnaire. Cronbach alpha was calculated for the individual domains and the total questionnaire.

Prescription validation

Validation of prescription was done by two independent experts to identify appropriateness of the prescription, potency of medicine and response of the participants. This validation was done by analysing the correctness of medicine and assessment of potency and dose.

Results

Development of SATH

An instrument with 31 questions was developed. The instrument was identified to cover all aspects of the measure of susceptibility in a patient and was recommended for application.

Phase - I

One hundred and eighty-four (184) participants were enrolled, comprising 125 females and 59 males, with a mean age of 33.25 ± 19.50 years.

Susceptibility was adjudged to be high in 116 cases, where 68 cases were prescribed 200C or 1M potency; 44 were prescribed 30C potency and 4 were prescribed 6C potency. Further, 43 cases were identified with low susceptibility, where 10 were given 200 and above potency, 25 were given 30 potency and 8 were given 6C potency (Table 1).

Table 1. Susceptibility identified on scale and potencies prescribed

	High (n = 116)	Normal (n = 25)	Low (n = 43)
6C potency	4	1	8
30C potency	44	5	25
200C & above	68	19	10

Content validity ratio of the questions was negative for 3 questions pertaining to cravings, aversions and use of stimulants (tea, coffee, colas, etc.). These questions were deleted from the exploratory factor analysis (Table 2), and the construct was validated that susceptibility is a function of age, intellect, emotions, reactions to the environment, intolerances, symptoms and pathology involved.

During data analysis, multicollinearity was checked. Some questions were found to be related to multiple variables, meaning they provided overlapping information. To develop a statistically valid, clear and reliable questionnaire, questions providing overlapping information are deleted. As such the questions (Q2, Q7, Q15, Q16, Q19, Q20, Q23, Q24 and Q30) exhibiting multicollinearity were removed. These were questions pertaining to nutrition, mental activity, family history, stress perception, use of tobacco, exposure to environmental stimulants, pathology, nature of symptoms, and overall characteristics of disease pathology, were deleted to reduce multicollinearity. Age affects daily functioning, occupation, level of activity, etc. As such, the variable age showed multicollinearity with pathology. However, the question of the age of the person as an important independent variable was retained for identifying susceptibility. This helped in keeping only the most relevant and independent questions for the study.

The analysis also grouped the questions together into 9 groups, which were identified as nine domains. The domains developed, therefore, were age, emotional characteristics, intellect, reaction to environment, intolerances, disease pathology and treatments undertaken in the past (Table 3).

Table 2. Rotated component matrix identified (Varimax rotation[a])

	Variables	1	2	3	4	5	6	7	8	9
Q1	Age						0.383			0.563
Q2	Nutrition							–0.34		0.461
Q3	Built									0.761
Q4	Work			0.716						
Q5	Intellect			0.775						
Q6	Emotional state	0.6								
Q7	Mental activity	0.452		0.682						
Q8	Frequency of illnesses					0.726				
Q9	Reaction to environment					0.809				
Q10	Effect of emotions	0.791								
Q13	Food intolerance		0.932							
Q14	Effect of intolerant food on health		0.94							
Q15	Family history			0.323					0.626	
Q16	Stress level	0.556	0.321							
Q18	Alcohol							0.611		
Q19	Tobacco					–0.31		0.729		
Q20	Frequency of chemicals exposures	–0.487				–0.315				
Q21	Frequency of treatment taken								0.696	
Q22	Suppressive treatment /surgeries								–0.627	
Q23	Pathological conditions						0.53	0.395		
Q24	Nature of symptoms	0.474			0.615					
Q25	Organ involvement							0.567		
Q26	Pathological process						0.758			
Q27	Organs primarily involved						0.431			
Q28	Effect of illness on emotional state	0.748								
Q29	Symptom similarity				0.865					
Q30	Characteristic of disease pathology				0.402		0.598			
Q31	Nature of onset of symptoms				0.409					

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
[a]Rotation converged in 16 iterations.

Table 3. Domains identified

Number of domains	Domain	Question number	Questions pertaining to
1	Emotions	6,10,28	Emotional state, effect of illness on emotional state
2	Intolerance	13,14	Food, drinks aversions, intolerances
3	Intellect	4,5	Overall intellect, work
4	Symptoms	29,31	Symptom similarity
5	Reaction to environment	8,9	Frequency of illnesses, reaction to environment
6	Pathology	26,27	Organs involved, pathology
7	Addictions	18	Alcohol use
8	Treatments	21	Treatments, surgeries
9	Age	1,3	Age, built

Accordingly, the construct susceptibility is a function of age, intellect, emotions, reactions to the environment, intolerances, symptoms and pathology involved was validated.

A questionnaire with 17 questions (Supplementary File 1), with multiple choice was developed. The total score range from all items was identified to be 17–85. Based on the practitioner assessment and calculation on the questionnaire, the scoring for susceptibility was identified.

Phase – II

A total of 314 cases were enrolled comprising of 152 acute and 162 chronic cases. 150 were males and 164 were females (Table 4). The mean age was 30.74 ± 17.54 (male 29.58 ± 18.53, females 31.80 ± 16.56). Two acute cases and 9 chronic cases did not have any follow ups and were not considered for analysis (Table 5).

43% of participants were identified to have normal susceptibility, requiring a 30C potency, whereas 50.64% had high susceptibility requiring 200C or 1M potency. Out of these 50%, acute and chronic cases were equally distributed (Table 6). The percentage of acute and chronic cases was also equal in cases of low susceptibility.

The questions were distributed into various domains as per the highest numeral (irrespective of the

Table 4. Socio-demographic characteristics of participants

Gender	Acute (n = 152)	Chronic (n = 162)	Total (n = 314)
Male	36	68	104
Female	57	75	132
Male child (below 17 years)	38	08	46
Female child (below 17 years)	21	11	32
Age	**Acute**	**Chronic**	**Total**
Upto 1 year	05	00	05
1 to ≤25 years	80	41	121
26 to ≤40 years	46	63	109
41 to ≤60 years	17	44	61
61 to ≤70 years	04	12	16
71 + years	00	02	02
Total	152	162	314

Table 5. Cases followed up

Case type	Number of cases	With no follow-ups	With potency – susceptibility discrepancy [n(%)]
Acute	152	2	16 (10.52%)
Chronic	162	9	35 (21.60%)

Table 6. Susceptibility identified

	Acute	Chronic	Total
Normal	50	75	125
High	86	73	159
Low	16	14	30
Total	152	162	314

sign) obtained in the rotation matrix, and 5 characteristic domains were identified (Tables 7 and 8).

Three questions showed multi-collinearity related to age, work and intellect of the person. However, all these three questions were retained in the first version of the questionnaire as these were important variables as included in the literature.

A scale with 17 items based on the construct that susceptibility is a sum total response of an individual characteristics viz, age, intellect, emotional characteristics and physical characteristics governing the disease process and responses to environmental stimuli is therefore developed. The assessment made on the scale can give a reliable indicator of the level of susceptibility, which can be the basis of potency selection during treatment of an individual patient.

Measure of sampling adequacy and Bartlett's test of sphericity were found to be satisfactory (KMO >0.7), as given in Table 9.

Cronbach's alpha of the scale was identified to be 0.607.

Table 7. Factor analysis

		Component[a]				
	Variables	**1**	**2**	**3**	**4**	**5**
Q1	Age			.495	.462	
Q2	Nutrition				.557	
Q3	Built			.373		.642
Q4	Work		.507	.442		
Q5	Intellect		.772			
Q6	Emotional state	.729				
Q7	Mental activity	.709				
Q8	Frequency of illnesses		.689			
Q9	Reaction to environment	.627				
Q10	Effect of emotions			.727		
Q11	Desires/cravings	.784				
Q12	Aversions	–.663				
Q13	Food intolerance				.634	
Q14	Effect of intolerant food on health			.675		
Q15	Family history				.708	
Q16	Stress level		.662			
Q17	Use of stimulants					–.757

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
[a]Rotation converged in 6 iterations.

Clinical validation of SATH

The case data were examined by independent assessors with more than 30 years of clinical experience. The clinical outcome was identified as favourable, not favourable or doubtful, based on the change of symptoms. Further, an assessment of potency was made in cases where the potency prescribed was as per the susceptibility identified (Table 10–13).

In more than 75% of cases in both acute and chronic conditions, the scale assessment matched the independent assessor assessment of potency and case prognosis, indicating the utility of the scale in both acute and chronic cases.

The utility of the scale was further identified in acute and chronic cases to identify the response to the prescription made on the basis of the scale used. The response was identified to be within a reasonable time frame in both acute and chronic cases when the potency selection was based on the scale used, irrespective of the expert opinion about the choice of potency being used in the individual cases.

Discussion

A mathematical scale to assess susceptibility has been developed, whose psychometric properties have also been assessed. Susceptibility was identified to be a function of personal characteristics like age, built,

Table 8. Domains identified

Number of domains	Question number	Questions on	Domain name
1	6,7,9,11,12	Frequency of catching infections or falling ill and undertaking treatments and types of treatments Reaction to changes in environment like temperature, humidity, altitudes, etc. generally Intolerance to food/drinks	Effect of environment
2	5,8,16	Overall emotional state, effect of emotions, effect of illness on mental and emotional state	Emotions
3	1,3,4,10,14	Age, built, intellect, work, alcohol/tobacco use	Personal characteristics
4	2,13,15	Nutrition, organs involved and extent of involvement	Physical characteristics
5	17	Symptom similarity	Similimum

Table 9. Kaiser-Meyer-Olkin and Bartlett's test

KMO and Bartlett'ts test	Original questionnaire (31 questions)	Original questionnaire after removing negative CVR and highly correlated items (28 questions)	Modified questionnaire (17 questions)
KMO measure of sampling adequacy	0.632	0.625	0.729
Bartlett's test of sphericity			
Approximate Chi-square	1711.588	453.618	1077.069
df	465	136	136
Significant	.000	.000	.000
Determinant of correlation matrix	3.956E-005	.074	0.027

intellect, type of work, use of alcohol and tobacco, nutrition levels, the overall emotional state, effect of illness on emotions, effect of environment and environmental changes, pathology, characteristics of symptoms, etc. The psychometric properties of the scale were identified. The scale was found to have a satisfactory internal consistency and content validity. It covered all domains relevant to susceptibility. The questionnaire is to be filled out by the physician during the process of case taking, from the history of the patient and requires simple totalling of scores for 17 items and not requiring additional assessments. The scale gives a quantifiable assessment of susceptibility based on which the practitioner can decide upon the potency of the drug to be prescribed. The scale can be applied in both acute and chronic cases.

The theoretical concept of susceptibility was evaluated both qualitatively and quantitatively to establish its practical utility in clinical practice. The conceptual framework and the instrument developed provided a way to quantify 'Susceptibility' as low, normal and high which can form the basis of selection of potency. This questionnaire includes questions on physiological parameters, lifestyle, disease pathology and drug indicated. The comprehensive assessment ensures that all parameters mentioned in the literature[2,3] are considered and given equal importance.

In current practices, practitioners identify susceptibility to be low, normal or high, based on clinical judgment and heuristics in absence of a standard instruments to quantify susceptibility. This is because the guidelines detailed in the homoeopathic philosophical literature focus on a number of qualitative attributes of the concept of susceptibility.[3] The process is highly subjective and difficult particularly for new practitioners. To our best knowledge, this is the first attempt to develop a quantifiable measure for susceptibility assessment by developing a standard instrument and to identify its utility in clinical practice, specifically in terms of selection of a potency.[1] The practitioners can estimate susceptibility as high, normal and low based on the total score and prescribe the required potency as outlined in the treatment plan.

The instrument, when applied in the field, showed 75% accuracy in potency selection associated with a favourable prognosis. The scale can be a useful guide for new practitioners and in cases where practitioners need objective guidance for selecting the potency. The utility of the tool can be enhanced further by applying it in different settings for different clinical conditions, in a diverse set of patients. However, the choice of the right medicine closely matching the totality of symptoms of the case is a necessary precursor for the correct prescription of the potency. Some cases where potency was not as per the scale showed a favourable response, thereby indicating the need for further development of the scale on different clinical settings and disease conditions.

Clinical validation of the scale developed was the secondary objective, which was done in a very limited set of participants. Initially, a sample size of 340 was proposed with 170 acute cases and 170 chronic cases.

Table 10. Application of different potencies in acute cases (n = 150)

	Potency correct (n = 124)					Higher should have been given					Lower should have been given				
Outcome	**6C**	**30C**	**200C**	**1M**	**Total**	**6C**	**30C**	**200C**	**1M**	**Total**	**6C**	**30C**	**200C**	**1M**	**Total**
Favorable	10	40	61	2	113	3	1	1	–	5	–	1	11	2	14
Not Favorable	–	1	3	–	4	–	–	–	–	–	–	–	4	–	04
Doubtful	–	7	–	–	7	–	–	–	–	–	–	–	2	1	03

Table 11. Duration of symptoms and response in acute cases (n = 149*)

Duration of symptoms	Number of cases Total	Number of cases with correct potency	Improved in days – median and range (cases with correct potency and favourable response	Number of cases with higher/lower potency should have been given	Improved in days – median and range (cases with correct potency and favourable response
≤5 days	72	58	Median – 6 Range – 1 to 21 days	14	Median – 6 Range – 5 to 30 days
5–10 days	42	36	Median – 7.5 Range – 2 to 33 days	6	Median – 10 Range – 7 to 21 days
10–15 days	20	16	Median – 8 Range – 4 to 25 days	4	Range – 8 to 20 days
15–20 days	2	2	–	–	–
20–25 days	–	–	–	–	–
25–30 days	7	6	Median – 11.5 Range – 6 to 18 days	1	–
>30 days	6	5	Median – 7 Range – 4 to 14 days	1	Range – 28 days

*No duration given in one case.

However, no inferential statistics were proposed at this stage and the scale utility in absolute numbers only was assessed. As such, a sample of 314 cases enrolled was sufficient. This questionnaire needs further testing in larger settings to evaluate its effectiveness in assessing treatment response. While preliminary clinical validation was conducted after developing the scale, broader application and validation across different settings and disease conditions are necessary, and recommended, using varied study designs and statistical techniques.

The strengths of the study include the novelty of the concept of quantifying an attribute considered to be qualitative and yet expected to be high, normal, and low and be sensitive to change. To our knowledge, this is the first instrument quantifying the philosophical concept of susceptibility to lead to a mathematical precision for objective application in clinical settings. The numerical total in the scale is a guide to select the potency for which clear mathematical precision has so far been lacking in the literature. Further research studies can standardise potency selection based on this scale.

A drawback of the study could be that the mathematical framework, though based on literature, statistical testing and clinical application, may capture only certain aspects of the totality concept, such as genetic mechanisms, idiosyncrasies, behaviour characteristics, etc. Although a number of variables affecting susceptibility are being considered, there could be other possible variables, appearing in the clinical profile, which have a bearing on the overall susceptibility of the patient. With clinical application of the scale on a wider population, refinement of the tool can be established further. However, the scale requires testing in different clinical and geographical conditions in larger patient sets. This paper represents the first step in developing a practical scale to mathematically rank susceptibility based on factors traditionally used by practitioners through experience. The next phase will involve applying the scale in various clinical settings to assess its applicability and limitations. At the same time, the scale may require refinement, or new scales may need to be developed to capture different perspectives and the varying effects of different factors, which will be explored in future studies.

The lack of registration in the CTRI was also found to be a limitation. This resulted due to various reasons, but primarily since the study was initiated at a time when registration of trials was not mandatory. It may further be mentioned that since the study was not based on a specific disease condition, the treatment was not with any pre-specified medicine, and in the absence of a Homoeopathy-specific portal in the registry, the database required for CTRI could not have been filled, had the authors attempted its registry. Thus, it is suggested that the registry should have a specific subdivision for Homoeopathy to cater to our philosophy-based studies, just as one subdivision for Ayurveda has been incorporated in CTRI.[13]

Table 12. Duration of symptoms and response in chronic cases (n = 153)

Duration of symptoms	Number of cases Total	Number of cases with correct potency	Number of cases of correct potency and favourable response	Improved in days – median & range (cases with correct potency and favourable response	Number of cases with higher/lower potency should have been given	Number of cases of incorrect potency and favourable response	Improved in days – median and range (cases with incorrect potency and favourable response
≤1 month	11	11	10	Median – 30 days Range – 15 to 60 days	–	–	No improvement till last reported follow-up at 3 months.
1–6 Months	38	32	32	Median – 30 days Range – 2 to 60 days	6	2	
6 Months to 1 year	34	31	27	Median – 30 days Range – 15 to 60 days	3	3	
1 to 5 years	40	32	23	Median – 30 days Range – 4 to 60 days	8	4	
5 to 10 years	20	16	11	Median – 30 days Range – 7 to 90 days	4	2	
More than 10 years	9	9	8	Median – 30 days Range – 15 to 30 days	–	–	

Table 13. Improvement status and potency selection in chronic cases (n = 153)

	Response in correct potency cases				Response in cases where potency was not correct			
Potency	Correct potency	Favorable response	Unfavorable response	Doubtful response	Higher/Lower potency should have been given	Favorable response	Unfavorable response	Doubtful response
6C	7	7	–	–	1	1	–	–
30C	60	52	–	8	3	1	–	2
200C	63	52	1	10	17	9	–	8
1M	2	2	–	–	–			

Conclusion

SATH is a simple, homoeopathically appropriate, easy-to-use tool, which can be applied by the homoeopathic practitioners during case taking to come up with a susceptibility score, which could guide the selection of the most suited potency for the case. The obvious next step would be to apply the scale in diverse settings to further enhance its validity and clinical utility.

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Conflict of interest

The authors declare no conflict of interest.

Author's contribution

Divya Taneja: Design, Literature search, Data Analysis, Statistical analysis, Manuscript Preparation, Coordination.

Anil Khurana: Concept, Definition of intellectual content, Data analysis, Manuscript development.

Kumar Dhawale: Concept, Definition of intellectual content, Manuscript review.

Renu Mittal: Coordination, Data Compilation, Data Analysis, Manuscript editing.

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Data availability

The data that support the findings of this study are available on request from the corresponding author.

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Développement et validation d'un outil d'évaluation de la sensibilité en homéopathie (SATH) en pratique clinique homéopathique

Contexte : La philosophie homéopathique considère la sensibilité comme un concept clé pour la prescription d'un médicament similaire, c'est-à-dire le remède indiqué et sa puissance. Aucun instrument validé pour mesurer la sensibilité (élevée, moyenne ou faible) n'a été identifié dans la littérature. **Objectif :** La présente étude visait à identifier les facteurs régissant l'évaluation de la sensibilité et à développer un outil simple permettant aux médecins d'évaluer la sensibilité des cas qu'ils rencontrent dans leur pratique clinique. **Matériel et méthodes :** Un nouveau questionnaire a été élaboré à l'aide de procédures standardisées comprenant l'élaboration d'items, des tests pilotes et une évaluation psychométrique. Les propriétés psychométriques de cet outil pilote ont été évaluées en l'appliquant à des patients en pratique clinique courante pour différents types de maladies. Les données ont été informatisées et analysées par analyse en composantes principales (AP) comme méthode d'extraction et par varimax orthogonal (RV) comme méthode de rotation. **Résultats :** Le questionnaire final de 17 questions a été divisé en neuf domaines selon une analyse matricielle à composantes alternées. La cohérence interne globale du questionnaire final, calculée par le coefficient alpha de Cronbach, était de 0,607, et la mesure de l'adéquation de l'échantillonnage était de 0,729. **Conclusion :** Un outil simple, adapté à l'homéopathie et facile à utiliser a été développé. Il peut être utilisé par les praticiens lors de la prise en charge des cas pour obtenir un score identifiant une sensibilité faible, normale ou élevée. Cet outil d'évaluation de la sensibilité en homéopathie (SATH) peut être appliqué à divers contextes afin d'en améliorer la validité et l'utilité clinique.

Entwicklung und Validierung eines Instruments zur Beurteilung der Suszeptibilität in der Homöopathie (SATH) in der homöopathischen klinischen Praxis

Hintergrund: Die homöopathische Philosophie definiert die Suszeptibilität als Schlüsselkonzept für die Verschreibung eines Similimums, d. h. des indizierten Mittels und seiner Potenz. In der Literatur konnte kein validiertes Instrument zur Messung der Suszeptibilität als hoch, mittel oder niedrig identifiziert werden. **Ziel:** Die vorliegende Studie wurde durchgeführt, um die Faktoren zu identifizieren, die die Suszeptibilitätsbeurteilung beeinflussen, und um ein einfaches Instrument für Ärzte zu entwickeln, mit dem sie die Suszeptibilität der in ihrer klinischen Praxis behandelten Fälle beurteilen können. **Material und Methoden**: Ein neuer Fragebogen wurde unter Verwendung standardisierter Verfahren entwickelt, darunter Itementwicklung, Pilottests und psychometrische Auswertung. Die psychometrischen Eigenschaften dieses Pilotinstruments wurden durch Anwendung an Patienten in der klinischen Routinepraxis mit verschiedenen Krankheitstypen bewertet. Die Daten wurden computergestützt und mittels Hauptkomponentenanalyse als Extraktionsmethode und orthogonaler Varimax als Rotationsmethode analysiert. **Ergebnisse:** Der endgültige Fragebogen mit 17 Fragen wurde gemäß einer rotierten Komponentenmatrixanalyse in neun Bereiche unterteilt. Die allgemeine interne Konsistenz des endgültigen Fragebogens, berechnet mit Cronbachs Alpha, betrug 0,607, und das Maß für die Stichprobenadäquanz lag bei 0,729. **Schlussfolgerung:** Es wurde ein einfaches, homöopathisch geeignetes und leicht anzuwendendes Instrument entwickelt, das von Praktikern bei der Fallaufnahme eingesetzt werden kann, um eine Bewertung zu ermitteln und so eine niedrige, normale oder hohe Empfindlichkeit zu identifizieren. Dieses Instrument zur Empfindlichkeitsbewertung in

der Homöopathie (SATH) kann in verschiedenen Kontexten weiter angewendet werden, um seine Validität und seinen klinischen Nutzen zu verbessern.

होम्योपैथिक नैदानिक अभ्यास में होम्योपैथी सस्प्टिबिलिटी असेसमेंट टूल (एसएटीएच) का विकास और प्रमाणीकारण

पृष्ठभूमि: होम्योपैथिक दर्शन में सस्प्टिबिलिटी को सिमिलिमम, अर्थात्, सांकेतिक औषधि और उसकी क्षमता निर्धारण का प्रमुख आधार माना जाता है। साहित्य में सस्प्टिबिलिटी को उच्च, मध्यम या निम्न स्तर पर मापने हेतु कोई मान्य उपकरण नहीं पाया गया है। **उद्देश्य:** इस अध्यन का उद्देश्य सस्प्टिबिलिटी मूल्यांकन के कारकों की पहचान करना तथा चिकित्सकों के लिए एक सरल उपकरण का विकास करना था, जिससे वे अपनी नैदानिक अभ्यास में रोगियों की सस्प्टिबिलिटी का आंकलन कर सकें। **सामग्री और विधियाँ:** एक नया प्रश्नावली उपकरण विकसित किया गया, जिसमें मानकीकृत प्रकियाएं जैसे आइटम विकास पायलट परिक्षण और साइकोमेट्रिक मूल्यांकन सम्मिलित थे। इस पायलट उपकरण के साइकोमेट्रिक गुणों का मूल्यांकन विभिन्न प्रकार की बीमारियों में नियमित नैदानिक अभ्यास में रोगियों पर लागू करके किया गया। संग्रहित डाटा को कंप्यूटरीकृत कर प्रिंसिपल कंपोनेंट एनालिसिस विधि तथा ओर्थोगोनल वैरिमैक्स रोटैशन विधि द्वारा विश्लेषित किया गया। **परिणाम:** अंतिम 17-आइटम प्रश्नावली को रोटेटंड कंपोनेंट मैट्रिक्स विश्लेषण के आधार पर नौ डोमेन्स में वर्गीकृत किया गया। अंतिम प्रश्नावली की समग्र इंटरनल कनसिसटेंसी, क्रोंनबैक अल्फ़ा द्वारा गणना की गई,जो 0.607 थी, तथा सैंपलिंग एडिकेमी का मान 0.729 था। **निष्कर्ष:** एक सरल, होम्योपैथिक रूप से उपयुक्त तथा प्रयोग में आसान उपकरण विकसित किया गया है जिसका उपयोग चिकित्सक केस लेते समय निम्न, सामान्य या उच्च सस्प्टिबिलिटी को पहचानने के लिए स्कोर प्राप्त कर सकते हैं। होम्योपैथी में यह सस्प्टिबिलिटी असेसमेंट टूल विभिन्न परिस्थितियों में लागू कर इसकी वैधता और नैदानिक उपयोगिता को और सशक्त किया जा सकता है।

Desarrollo y validación de la Herramienta de Evaluación de Susceptibilidad en Homeopatía (SATH) en la práctica clínica homeopática

Antecedentes: La filosofía homeopática identifica la susceptibilidad como un concepto clave para la prescripción de un similimum, es decir, el remedio indicado y su potencia. No se ha identificado en la literatura un instrumento validado para medir la susceptibilidad como alta, media o baja. **Objetivo:** El presente estudio se realizó para identificar los factores que rigen la evaluación de la susceptibilidad y desarrollar una herramienta sencilla para que los médicos evalúen la susceptibilidad de los casos que atienden en su práctica clínica. **Material y métodos**: Se desarrolló un nuevo cuestionario utilizando procedimientos estandarizados que incluyen el desarrollo de ítems, pruebas piloto y evaluación psicométrica. Las propiedades psicométricas de esta herramienta piloto se evaluaron aplicándola a pacientes en la práctica clínica habitual con diferentes tipos de enfermedades. Los datos se computaron y analizaron mediante análisis de componentes principales como método de extracción y varimax ortogonal

como método de rotación. **Resultados:** El cuestionario final de 17 ítems se organizó en nueve dominios según el análisis de matriz de componentes rotados. La consistencia interna general del cuestionario final, calculada mediante el alfa de Cronbach, fue de 0,607, y la medida de adecuación del muestreo fue de 0,729. **Conclusión:** Se ha desarrollado una herramienta sencilla, homeopáticamente apropiada y fácil de usar, que los profesionales pueden aplicar durante la toma de casos para obtener una puntuación que identifique la susceptibilidad baja, normal o alta. Esta herramienta de evaluación de la susceptibilidad en homeopatía (SATH) puede aplicarse en diversos entornos para mejorar su validez y utilidad clínica.

顺势疗法易感性评估工具 (SATH) 在顺势疗法临床实践中的开发与验证

背景：顺势疗法哲学将易感性视为开具类似药物（即适应症及其药效）的关键概念。文献中尚未发现任何经过验证的工具来衡量易感性（高、中、低）。**目的**：**本研究旨在确定影响易感性**评估的因素，并开发一种简便的工具，供医生评估其在临床实践中遇到的病例的易感性。**材料与方法**：**采用**标准化程序开发了一份新的问卷，包括项目开发、初步测试和心理测量评估。通过将该初步工具应用于不同类型疾病的常规临床实践患者，评估了其心理测量特性。数据经计算机处理，并使用主成分分析法（提取方法）和正交方差最大法（旋转方法）进行分析。**结果**：**最**终问卷包含**17个条目**，**根据旋**转成分矩阵分析法，将其划分为**9个**领域。最终问卷的总体内部一致性（以Cronbach's alpha **系数**计算）为0.607，**抽**样充分性指标为 0.729。**结论**：**我**们开发了一种简单易行、适用于顺势疗法且易于使用的工具，可供从业者在病例采集过程中使用，**从而得出**评分，以识别低、正常或高易感性。该顺势疗法易感性评估工具（SATH）**可**进一步应用于各种环境，以提高其效度和临床实用性。