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Contents

Original Article

Development and validation of MAPNI Questionnaire and Myths, Beliefs and Perceived Stigma towards Neuro-psychiatric Illness

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ABSTRACT

Background & Objectives*: In many parts of India, mental illness is still considered as shame and a taboo. Development and validation of an assessment tool that measures the domains of myths, beliefs and perceived stigma towards mental illness in a questionnaire, with items based on Indian culture and practices was the main aim of the study.* ***Material and Methods:*** *The study was conducted at Bakson Homoeopathic Medical College & Hospital, Greater Noida in collaboration with the Department of Psychology & Mental Health, Gautam Buddha University, Greater Noida and has been planned in two phases. The phase 1 includes development and validation of Myths And Perceived stigma towards Neuro-psychiatric Illness (MAPNI) questionnaire through a pilot work. The phase 2 will be a carried out in future to explore and compare the nature of beliefs, myths and perceived stigma based on educational status among Greater Noida population using the MAPNI questionnaire. The presented work is the Phase 1 of the study and was carried out in 2 stages. In stage 1, from the existing literature and available measures, a 30-item questionnaire was developed as per the aptness of their contextual meaning and suitability according to the socio-cultural ethnicity of Indian population. In stage 2, the researchers evaluated the internal consistency and reliability of the MAPNI Questionnaire in a sample study population.* ***Results:*** *The Cronbach alpha value against the overall MAPNI Questionnaire was 0.792 and is acceptable. The results of the survey emphasize the reliability and consistency of the questionnaire.* ***Conclusion:*** *The MAPNI Questionnaire is validated for its reliability and consistency. The questionnaire is expected to serve its profitability in measuring the prevalence of myths, beliefs and perceived stigma in any population and assist in planning awareness and interventional programs in that population.*

Keywords: *Neuro-psychiatric Illness, Myths And Perceived stigma towards Neuro-psychiatric Illness (MAPNI) Questionnaire, Reliability, Validity*

Introduction

The cultural aspects are socially constructed and varied in different countries and population. In a country like India, where the ethnicity and traditional customs change every 25 miles, the entire concept of mental illness and its causes are also very different from that of the Western world.[1] Since the ancient epoch, there are different theories related to mental illness prevailing in the Indian culture. The belief that some maleficent evil soul has possessed the human body, or some magical spirit like witchcraft and magic has been done to the possessor was common. It was also believed that mental illness is because of God's punishment for past sins and these are the major reasons that cause a change in the person's psychology and inappropriate behavior.[2,3]

This age-old concept regarding history of diseases is still believed, especially in case of neuropsychiatric disorders. The mental disease is considered a taboo and a matter of shame by the people.[1] Despite the withstanding efforts and awareness programs, the health seeking behavior patterns towards neuro-psychiatric ailments is still of traditional healing than modern psychiatric treatment.[4] The major influencers in seeking treatment and reporting of the disease are the existing stigma, discrimination and the cause of the mental diseases.[5] Culture not only influences perceptions and reactions, but it also even contributes to frequent occurrence of mental illnesses. Culture bestows upon modelling and shaping of symptoms of a mentally ill person.[6] In most of the cultures, especially India signs of mental illness are identified as negative and anti-social behavior, any behavior which is different from the expected 'normal'.[7]

For a better understanding of the terms of 'belief', 'myth' and 'stigma', separate elaborations have been given here. Beliefs are claimed to be formed at a very early age and are the conclusions that we draw from our past experiences. Belief is subjectively a mental interpretation derived from perception, contemplation (reasoning), or communication and can be considered as mental acceptance of a claim to be true, regardless of any supporting or contrary empirical evidence.[8] As per Tao de Hass, a famous psychotherapist "A belief is something that you believe or accept as true. You might believe something based on a fact, an opinion or an assumption. When you believe something, you might not have immediate personal knowledge but you are satisfied that something is the way it is."[9]

Likewise, 'Myth' usually refers to a story of forgotten and vague origin which is mostly of religious or supernatural origin, through which people seek to explain and rationalize prevailing aspects of the world or a society.[8] In a broad sense, the word myth can refer to any traditional story, popular misconception or imaginary entity.[10] Similarly, 'Stigma' connotes to a deep mark of shame and degradation carried by any individual as a function of being a member of a devalued social group.[11] Therefore, display of a negative attitude toward psychiatric patients lead to a deep-seated prejudice toward mental illness that may manifest among common public in the form of fear and intolerance. This culminates in further fortifying the stigma surrounding mental illness, and hence a vicious cycle ensues.[12] Beliefs, myths and perceived stigma about mental illness potentially emerge and are shaped by personal knowledge with the influence of pre-existing belief systems, cultural influences about mental illness and interventions. Cultural aspects play an important role in establishing personal thoughts related to mental illness. For e.g., a study on Jewish population revealed that they think mental illness is seen as an opportunity to receive divine messages, a means of forgiveness, and to improve their souls. However, Southeast Asians perceive that supernatural forces/phenomenon are responsible for mental health issues and consider them the result denial of spirit or deities.[13]

Socio-cultural background of an individual plays a role on how an individual reacts towards any pre-defined notion (like mental illness) in the society. There are many sociocultural theories related to human behavior. Vygotsky's sociocultural theory states that human development is a socially mediated process where children acquire their cultural values, beliefs, and problem-solving strategies through communication with more knowledgeable members/ peers of society. While Piaget theory believed that a child builds a unique view of the world, Vygotsky suggested that others within a child's social circle influence their perspectives, values, and attitudes.[14] It is often seen that myths and beliefs are expressed negatively and the mentally ill patients face rejection, exploitation and discrimination. A large proportion of population remains deprived of mental health care services due to stigma and suffers the adverse consequences of poor quality care. Myths around mental illnesses fuels this stigma and discrimination makes it harder to reach out for help.

Based on this review, to measure the domain of beliefs, myths and perceived stigma in Indian population, need for an apt measuring tool that can assess the existing notions towards mental illness in the community was felt. The rationale for developing the Myths And Perceived Stigma towards Neuro-psychiatric Illness (MAPNI) Questionnaire is:

1. There is a gap between the reported data regarding mental disease patients and the actual population in India. The reasons being the existing myths, wrong beliefs and associated stigmatization towards mental illness. The people do not themselves seek

help due to the societal issues and even the family members, do not either realize or are unaware of the condition and those cases, never get adequate treatment.
2. There is no standardization in Indian population.
3. Cultural differences and local parlance issues exist in the existing scales in terms of content of the items as regard to Indian population.

So, to justify the need, based on face validity and content validity in Indian adaptation and keeping in mind, the socio-cultural background a questionnaire was developed considering the items that satisfy the criteria for social context, people's beliefs and existing stigma in society towards mentally ill people and which may cover all the given attributes together and validated in Phase 1.

Material and Methods

The current exploratory survey study is planned in two phases. The pilot work (Phase 1) with the objective to develop and validate the MAPNI questionnaire, based on socio-cultural context, existing literature and available measures on beliefs, myths and perceived stigma with respect to mental illness was conducted in two stages and has been presented below. The main study (Phase 2) aiming to measure and explore the nature of beliefs, myths and perceived stigma based on educational status among Greater Noida population will sequentially be carried out in the future.

Stage 1: Questionnaire Development of an assessment tool for Myths and Perceived stigma towards Neuropsychiatric Illness from April 2021 to October 2021.

The objective of the qualitative phase was to identify the available tools to assess the beliefs, myths and stigma towards mental illness in the community. A thorough literature review of the published data available from web search was done. This scale was designed by taking references from the pre-existing scales along with few self-developed questions by the contribution of technical expertise. A review of published questionnaires such as CAMI,[15] ISMI,[16] Beliefs toward mental illness (BMI) scale,[17] DISC-12,[18] scales used in studies 'Myths about mental illness among the care givers of mentally ill clients'[19] and 'Myths & Misconceptions of Mental Illness and Health Seeking Behaviour of Adults'[20] was undertaken to identify the question items. Relevant points from the available published papers and questionnaires regarding the common beliefs, myths, stigma and attitude of people towards mentally ill sufferers was discussed, understood and the appropriate points were shortlisted. For the newly drafted questionnaire a bank of questions was formed to enable to produce multi-items scale and from those Question items, 30 items were drafted considering three domains, beliefs, myths and perceived stigma towards neuropsychiatric illness in context with Indian population. Among those, 15 positively and 15 negatively worded question items were structured. In successive meetings the items were revised for their meaning, relevance and adaptability to the socio-cultural aspect of Indian population. Each item was ranked on a Likert scale of '1 to 5' against options as 'Strongly disagree", "Disagree", "Can't say", "Agree" and "Strongly agree" with 15 items measuring positive approach and other 15 negatively worded questions were given reverse scoring. The questionnaire was translated in Hindi language and was undergone the process of reverse validation.

Following the Delphi process, five experts were invited from the Department of Psychology and Mental Health of Gautam Buddha University to share their opinion. First round they assessed the questionnaire through interrogation and ranked their agreement with each item of the questionnaire. In second round there was a trial of Questionnaire performed among the students of final BHMS, MD (Homoeopathy) and MPhil (Clinical Psychology). Through that trial survey the "unable to understand" and "misinter-preted" categories of question items were reformed. In third round, an acceptable degree of consensus was finally obtained and the process was deemed complete. The name of the newly developed Questionnaire was proposed unanimously as Myths And Perceived Stigma towards Neuropsychiatric Illness-MAPNI. The time taken to fill the questionnaire is about 5-7 minutes. Later, the IEC approved protocol was presented to the Expert Panel at 6th International Conference of Indian Academy of Health Psychology (ICIAHP-2021) held from 26 to 28 November 2021 to receive the comments and reviews towards the objective of the Project. The opinions expressed were noted and

accordingly, changes were incorporated feasibly.

All the co-investigators were trained to administer the newly developed MAPNI questionnaire in the sample through a six-day training, held as an In-house training program at Bakson Homoeopathic Medical College and Hospital. Thereafter, having finished the pre-requisites of the survey, the study areas were identified.

Step 2: Administration of MAPNI Questionnaire from November 2021 to December 2021

The design of the study was a comparative, cross- sectional exploratory study and was done by interviewing the subjects from POPDs (Surajpur, Malakhpur) and OPD of Bakson Homoeopathic Medical College and Hospital, Greater Noida.

The Selection of samples was done in four groups:

Group A- No education

Group B- education till 8th standard

Group C- education from 9th to 12th standard

Group D- Graduation and above

Total targeted sample size taken was 140. There were 15 people who either withdrew consent or refused to fill the questionnaire and left the form incomplete. So, they were considered as drop-outs and total 125 sample was achieved and were included in the final analysis. Subjects falling between the age 25 years to 59 years from each of uneducated and varied level of education groups were included in the study. The exclusion criteria were the subjects having any major medical as well as neuropsychiatric disorder or having any form of permanent disability.

Using an interview method with the set of consent form, demographic Sheet and MAPNI questions, the survey was conducted in different areas of Greater Noida. Keeping in mind the exploratory nature of the study, a sample of 125 was achieved from people of different educational backgrounds. The interviewers were given Informed consent before enrolling them in the survey. All the subjects were interviewed on various measures and their responses were recorded based on Likert scale with respect to each of the variable. (Table 1)

The instructions on the questionnaire conveyed clear indications for anonymity and confidentiality. Individual responses to the 30 item questionnaires by each respondent (n=125) were recorded. The total scores were calculated and higher scores indicated higher myths, wrong beliefs and negative perceived stigma for mentally ill persons. Data were collected and extracted manually in specially designed extraction sheet before data entry and analyzed. The items identified in the questionnaire were tested for internal reliability through Cronbach's alpha coefficient. The statistical analysis was done using SPSS software.

Results

Baseline characteristics-

The demographic factors of 125 samples were taken at baseline. Out of 125 samples, 27 (21.6%) were in Education *Group A:* no education at all, 28 (22.4%) in *Group B:* education till 8th std, 36 (28.8%) in *Group C:* education 9th-12th standard and 34 (27.2%) in *Group D:* education above graduation and post-graduation. According to the age, in the age group of less than 30 years there were 39 (31.2%), in 31-40 years were 49 (39.2%), between 41-50 years there were 30 (24%) and above 50 years, 7 (5.6%) respondents. 73 (58.4%) people were of urban population and 52 (41.6%) came from rural background. According to religion, 116 (92.8%) samples were Hindu, 8(6.4%) were Muslim and 1 (0.8%) were Sikh. Based on the socio-economic class, respondents were categorized into middle and poor class, with 8 (6.4%), 75 (60%) and 42 (33.6%) in each category respectively. There were 107 (85.6%) married samples and 18 (14.4%) unmarried. No major past history of any single illness was significantly present in the sample. None of the respondents had permanent disability of any sort. 9 (7.2%) people mentioned having a family history or a family member is suffering from mental illness.

12 (9.6%) sample mentioned a positive history of COVID-19 and 64 (51.2%) people took 2 doses of vaccination against COVID, 47 (37.6%) had taken the 1st dose and 14 (11.2%) were not vaccinated.

Reliability & Validity

Researchers examined the descriptive statistics of mean and standard deviation, skewness, kurtosis and range of all question items (Table 2). The skewness and kurtosis signify that data lies within the accepted normality range of ± 2. The reliability

Table-1: Items of the MAPNI Questionnaire

Question Number	Items	Adopted/ Modified/ Self-developed
Q1.	Mentally ill person is a burden on society.*	Modified[15]
Q2 .	Mental illness is an illness like any other.	Adopted[15]
Q3.	Mental Illness is God's punishment for past sins. *	Adopted[19]
Q4.	There is nothing to feel embarrassed with the term "psychological disorder".	Adopted[17]
Q5.	A mentally ill person is more likely to harm others than a normal person.*	Adopted[17]
Q6.	We need to adopt a far more tolerant attitude towards mentally ill people in our society.	Adopted[15]
Q7.	Individuals diagnosed as mentally ill will suffer from its symptoms throughout their life.*	Adopted[17]
Q8.	We should not stay away from people who have psychological disorder because their behaviour is not always harmful.	Modified[15]
Q9.	It is difficult for mentally ill people to follow social rules such as being punctual or keeping promises.*	Modified[17]
Q10.	Mental patients should be encouraged to assume the responsibilities of normal life.	Modified[15]
Q11.	Most people would not knowingly be friends with a mentally ill person.*	Adopted[17]
Q12.	Any person who was once patient in a mental hospital can be trusted for house help.	Modified[15]
Q13.	The best way to handle the mentally ill is to keep them behind locked doors.*	Adopted[15]
Q14.	During lifetime, anyone can become mentally ill.	Modified[15]
Q15.	The mentally ill people should be isolated from the rest of the community.*	Adopted[15]
Q16.	The mentally ill people should not be denied of their individual rights.	Adopted[15]
Q17.	There is nothing to be embarrassed if people know that I have relationship with a person who received psychological treatment.	Modified[17]
Q18.	A person would be foolish to marry someone who had suffered from mental illness, even though he seems fully recovered.*	Modified[15]
Q19.	Mentally ill person is controlled by evil spirits/ghosts.*	Self-developed
Q20.	Anyone with a history of mental problems should be excluded from taking public office.*	Adopted[15]
Q21.	A mentally ill person do not deserve our sympathy.*	Modified[15]
Q22.	I would trust the work of a person assigned to my work team, who has recovered from mental illness.	Modified[17]
Q23.	Locating mental health services in residential neighbourhood endangers local residents.*	Modified[15]
Q24.	I would have no problem to live next door to someone who has any mentally illness.	Modified[15]
Q25.	The behaviour of people who have any psychological disorders is unpredictable.*	Adopted[17]
Q26.	Any person suffering from mental illness should not be forbidden to follow religious practices like others.	Adopted[16]
Q27.	People with mental illness can't contribute anything to society.*	Modified[16]
Q28.	People with mental illness can live a good, rewarding Life.	Adopted[16]
Q29.	Mental illness is something people should hide and be ashamed of.*	Adopted[19]
Q30.	I will be comfortable in sharing public transport with a person suffering from any mental illness.	Adopted[16]

*These items are negatively worded, and the scores are considered in reverse order.

and internal consistency were evaluated for the total items of the questionnaire using Cronbach's alpha. The Cronbach's alpha for the total items of MAPNI Questionnaire was achieved as 0.792. The coefficient of Cronbach's Alpha for the items yielded Acceptable reliability level.[21]

To establish the internal consistency and reliability of the questionnaire in the study groups, mean scores and 95% confidence intervals were computed in the four study groups presented in Table 3. Analysis of variance of mean scores on four study groups yielded F value at df = 3 of 7.736 ($P < 0.000$).

Table 3: Internal consistency evaluated by the value of Cronbach's alpha (Study groups)

Discussion

Construction and Development-

There are many scales that aim to separately measure the attributes of beliefs, myths and perceived stigma of community people towards mental disease and the mentally ill. However, the attributes of belief, myth and perceived stigma are connected as the existing beliefs in the people create the myths and perceptions regarding anything, and these

Table-2: Descriptive statistics for each item to indicate the variability in responses

Question Items	Mean ± SD	Median /IQR	Observed range	Skewness (SE=.217)	Kurtosis (SE=.430)
Q1.	2.63 ± 1.468	2/1-4	1-5	.475	-1.194
Q2 .	3.00 ± 1.338	3/2-4	1-5	.185	-1.252
Q3.	2.94 ± 1.564	3/1-5	1-5	.108	-1.552
Q4.	2.19 ± 1.134	2/1-2	1-5	1.200	.864
Q5.	3.46 ± 1.215	4/2.5-4	1-5	-.545	-.709
Q6.	1.86 ± 0.846	2/1-2	1-5	1.321	2.124
Q7.	3.02 ± 1.221	3/2-4	1-5	.197	-.973
Q8.	2.22 ± 1.046	2/2-2	1-5	1.126	.796
Q9.	3.97 ± 1.008	4/4-5	1-5	-.993	.387
Q10.	2.06 ± 0.978	2/1-2	1-5	1.358	1.904
Q11.	3.99 ± 0.955	4/4-5	1-5	-1.115	.975
Q12.	2.68 ± 1.154	2/2-3	1-5	.558	-.531
Q13.	2.45 ± 1.400	2/1-4	1-5	.682	-.892
Q14.	1.81 ± 0.931	2/1-2	1-5	1.675	3.275
Q15.	2.34 ± 1.270	2/1-3	1-5	.832	-.449
Q16.	2.12 ± 1.075	2/1-2	1-5	1.184	.877
Q17.	1.77 ± 0.934	2/1-2	1-5	1.566	2.614
Q18.	2.70 ± 1.297	2/2-4	1-5	.540	-.875
Q19.	2.25 ± 1.412	2/1-3	1-5	.876	-.604
Q20.	3.10 ± 1.204	3/2-4	1-5	-.034	-1.204
Q21.	2.51 ± 1.342	2/1-4	1-5	.544	-1.006
Q22.	2.70 ± 1.070	2/2-3	1-5	.577	-.445
Q23.	2.57 ± 1.328	2/2-4	1-5	.439	-1.164
Q24.	2.51 ± 1.280	2/1.5-4	1-5	.488	-.958
Q25.	3.74 ± 1.158	4/3-5	1-5	-.797	-.055
Q26.	2.17 ± 1.230	2/1-3	1-5	.943	-.173
Q27.	2.74 ± 1.290	2/2-4	1-5	.369	-.975
Q28.	2.41 ± 1.129	2/2-3	1-5	.744	-.162
Q29.	1.79 ± 1.117	1/1-2	1-5	1.693	2.279
Q30.	2.90 ± 1.364	3/2-4	1-5	.292	-1.223

Table-3: Internal consistency evaluated by the value of Cronbach's alpha (Study groups)

Study Group	N	Mean ± SD (95% CI)	Cronbach's Alpha	ANOVA (one-way)	P value
Group A	27	85.41 ± 14.653	0.818	7.736	0.000
Group B	28	83.82 ± 13.024	0.759		
Group C	36	75.22 ± 10.210	0.550		
Group D	34	72.47 ± 12.903	0.852		
Overall	125		0.792		

perceptions among the common people give rise to stigmas. MAPNI Questionnaire was developed to measure all the three attributes together at the same time, understanding the concept of their inter relatedness and utility in signifying the existing scenario in the study population. The items included in the questionnaire are relevant in terms of their contextual language and socio-cultural aspect as far as Indian population is concerned. The pre-existing tools lack these and many of the items in the available tools do not seem relevant in Indian population. Though, no proper explanation as why these differences exist is established, but there is difference among various cultural groups in relation to mental illness stigma and beliefs.[22]

The review of literature helped us in identifying the existing measures in the area of beliefs, myths and perceived stigma and we came across various scales. These scales consisted of items that were more culturally biased and not applicable to people in India. According to the face validity and content validity of each item in the preexisting scales, the items were shortlisted for the MAPNI Questionnaire as per their aptness and suitability in the Indian

population. An initial draft of 63 questions was first made. In successive sessions, the selected items from the draft were further slashed removing the repetitive and similar meaning items and a second draft of the questionnaire with 45 items, that were either adopted in the same form (without any changes in the item, extracted from any preexisting scales), or modified in their content to measure the desired variables in the new questionnaire (taken from preexisting scales) or were self-developed as suggested by the experts was devised (Table 1). After the Delphi process (as mentioned in methodology), the final question-naire with 30 items measuring the beliefs, myths and perceived stigma towards neuro-psychiatric illness was thus created. The advantage of this questionnaire is that it can distinctively measure three inter-related variables of neuropsychiatric illness all at once .

Psychometric properties

The 30-item MAPNI Questionnaire has been studied for its reliability and validity in 125 samples from the population based on their education status and appears to be a reliable and valid tool to measure the beliefs, myths and perceived stigma towards neuropsychiatric illnesses in Indian population. The study samples were categorized in four different groups (Group A, Group B, Group C, Group D) on the basis of their education standard and the responses were noted. The overall Cronbach alpha value against the items of the MAPNI questionnaire (Table 3) indicates high level of reliability and validity and is at par with the other existing scales in the area.

A stigma related behavior measure scale named as Reported and Intended Behaviour Scale (RIBS) developed and validated by Evans-Lacko et al[24] showed similar values of coefficient of alpha.[23] A similar development and validation study for the Community attitude towards mental illness scale (CAMI), revealed a significant coefficient of alpha of 0.876. The CAMI scale is a 40-item scale that measures the four subscales of Authoritarianism (AU), Benevolence (BE), Social Restrictiveness (SR), and Community Mental Health Ideology (CMHI) all having 10 items, each.[15] CAMI is a widely used tool to measure attitude of the people towards mental ill patients. Another tool named as, Mental Health Knowledge Schedule (MAKS) had the Cronbach's alpha value of 0.749, which supports the results of this study. MAKS is a 12-item scale that comprises domains of relevant evidence-based knowledge in relation to stigma toward mental illness.[24] King et al[25] in 2007 developed and validated the standardised measure of the stigma of mental illness with the name of the Stigma scale showing similar results of Cronbach alpha value of 0.87. A psychometric validation study[26] of Belief towards Mental Illness (BMI) in Turkish population concluded the high consistency and validity of the scale with Cronbach value of 0.82.

Future applications

In order to measure these attributes significantly in the targeted Indian population, a need of a scale or questionnaire was felt and MAPNI Questionnaire was a forward step in this direction. The questionnaire is first of its kind, which has been developed and constructed keeping in mind the ethnicity and socio-cultural context of Indian people. This questionnaire may be used as a reliable measure to study the beliefs, myths and perceived stigma in Indian context, which may help further in designing the educative and mental health activities to overcome stigma and modify the attitude, beliefs and stigma towards mental illness in the society and community.

Conclusion

This MAPNI questionnaire measuring all three aspects of beliefs, myths and perceived stigma towards neuropsychiatric illness is the only available tool designed keeping in mind the difference in culture, customs and beliefs in India over the western world. The utility of the scale in the community can be assessed to estimate the existing pattern of beliefs, myths and stigma in study population. With the application of such a tool, the research studies may help to plan out the treatment approaches and sensitization protocols creating awareness and knowledge on the mental illnesses. The questionnaire may be used extensively for future research in the area of assessing the nature of beliefs, myths and perceived stigma in Indian population.

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