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Development and validation of “Knowledge on screening and identification of mental illness (KSIM) questionnaire” among primary care nurses in India

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Abstract:

BACKGROUND: As stated in the World Health Organization’s Mental Health Report 2022, 13%, or almost a billion people, had a mental health issue, and 82% of these people resided in low- and middle-income countries with limited access to mental health treatments. Successful integration of mental health services into primary healthcare depends on primary healthcare providers receiving the proper training and information required to provide basic mental health care in the community. Primary care nurses generally lack the confidence and skills to handle mental health issues while being in an excellent position to screen, identify, refer, and follow-up on a person with mental illness (PMI). The study aimed to develop and validate the KSIM questionnaire to assess the knowledge of primary care nurses in screening, identifying, referral, and follow-up persons with mental health issues in the community.

MATERIALS AND METHODS: The study was conducted based on a sequential exploratory design in two phases: the development and the validation phases. An extensive literature search was done, and the themes derived from the two focus group discussion (FGD) and three direct interviews, and the inputs from the mental health experts were used to design the KSIM questionnaire. A panel of 17 experts validated the KSIM questionnaire through item-level content validity index (I-CVI) and scale-level CVI (S-CVI) for content validation, and the reliability test was done using the intraclass correlation coefficient ICC test–retest method.

RESULTS: The draft version-1 of the KSIM questionnaire showed high content validity of individual items (I-CVI range: 0.82–1.00) and high overall content validity (S-CVI = 0.95), and suggestions from the experts were incorporated. The KSIM questionnaire consists of 30 multiple choice questions and 10 case vignettes. The KSIM questionnaire has a very good test–retest reliability using the single measure two-way mixed absolute agreement ICC value 0.97 with 95% CI.

CONCLUSIONS: Using an iterative approach, the development and validation of the KSIM questionnaire demonstrated high I-CVI and S-CVI with good ICC test-retest reliability to assess the knowledge of primary care nurses on screening and identification, referral and follow-up of a PMI in the community. Primary care nurses’ knowledge on how to screen for and identify people with mental health issues in the primary care setting can be evaluated with the help of the KSIM questionnaire, and providing need-based training may help to reduce the time taken for people with mental illness to receive professional help.

Keywords:

Knowledge questionnaire, mental illness, primary care nurses, validation

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Introduction

According to the National Mental Health Survey 2016, the prevalence of mental health disorders in India is 10.6%, and the treatment gap varies from 60% for Common Mental Disorders to 90% for Substance Used Disorders.^[1-3] The mental disorders include Common Mental Disorders (CMD), such as depression, anxiety, and somatization disorders; Substance Use Disorders (SUD), such as alcohol, tobacco, and other substance use, and Severe Mental Disorders (SMD), such as schizophrenia and mania.^[4-6] Due to the lack of trained professionals and significant discrepancies in the distribution of resources, mental health problems account for 25.3–33.5% of the global burden and have a treatment gap of 76–84% in poor and middle-income countries, respectively.^[3,7]

Basic community mental health treatment can be effectively provided by a variety of primary care workers, including non-specialist physicians, nurses, and other paraprofessionals, in low- and middle-income countries.^[3,8,9] According to the National Mental Health Survey 2016, all of India's states should prioritize human resource management, with a particular emphasis on training medical professionals, nurses, and community health workers to recognize and treat mental health problems at the primary care level.^[2,8]

The manpower development of primary care doctors through the On-Consultation Training program demonstrated high sensitivity and reasonably high specificity for the psychiatric diagnoses made in the primary care setting.^[4] The primary care nurses are the people who reach the patients who are not attending the PHC, and training them to identify the patients with mental health issues at the community level and refer them for treatment can bring a significant change. However, the PHC nurses have to address all 23 programs, and they find it very difficult to give more focus to psychiatry based on the currently available standardized MSE and history collection format.^[3,7,8] Primary care nurses generally lack the confidence and skills to handle mental health issues while being in an excellent position to screen, identify, refer, and follow up on a person with mental illness (PMI). The study aimed to develop and validate the KSIM questionnaire to assess the knowledge of primary care nurses on screening, identifying, referral, and follow-up of the person with mental health problems.

Materials and Methods

Based on the sequential exploratory design, the present study was carried out in the design, development, and validation KSIM questionnaire [Figure 1]. This research

project received ethical clearance from the Institutional Ethics Committee, Ref No. NIMH/DO/IEC (BEH. Sc.DIV)/2018 Dated: 17/12/2018 and approval from the Technical Advisory Committee, DHFWS, Govt of Karnataka with Ref No. DD/Mental Health/50/2019-20. Permission was obtained from the DHO, Ramanagara District and the Medical officers of each PHC. The signed informed consent was obtained from all the mental health experts and nurses, and confidentiality was maintained.

Development of questionnaire

The KSIM questionnaire was developed and validated under four stages:

- 1) An extensive literature search.
- 2) Focused group discussion and in-depth interviews with primary care nurses and experts.
- 3) The development of the KSIM questionnaire.
- 4) Stabilizing the face and content validation, and
- 5) Testing Reliability.

An extensive literature search

Using various searching mesh terms such as knowledge questionnaire, identification of mental illness, primary care nurse's role, referral, follow-up, management of mentally ill, etc., an extensive search was done from several databases such as PubMed, PsycINFO, Science Direct, CINAHL, Cochrane, Scopus, and Google Scholar for studies related to the knowledge of primary care nurse in screening and identification, referral, and management of a person with mental health issues. The researcher has referred to 87 studies and reviewed 35 various studies related to the assessment of knowledge of primary care nurses on handling a person with mental health issues. Research studies matching the keywords, studies in the English language, and studies with full text were included. Research studies older than 20 years, except for landmark studies, those other than the English language, and those lacking appropriate methodology were excluded.

Focused group discussion and in-depth interviews with nurses and experts

After the literature review, a draft of the KSIM questionnaire was prepared and discussed individually with several mental health experts from the multidisciplinary team.

Two focused group discussions were done with DMHP nurses (12 nurses) and primary care nurses (6 field nurses from Jigani PHC), and three in-depth direct interviews for 30 minutes each with the primary care nurses from Gottigere PHC [Table 1] The sample size for the number of FGD and the direct interview was decided upon data saturation during the qualitative phase. The theme analysis was done using ATLAS-ti software, and the major themes raised from the FGD and direct interviews were used to develop the KSIM questionnaire.

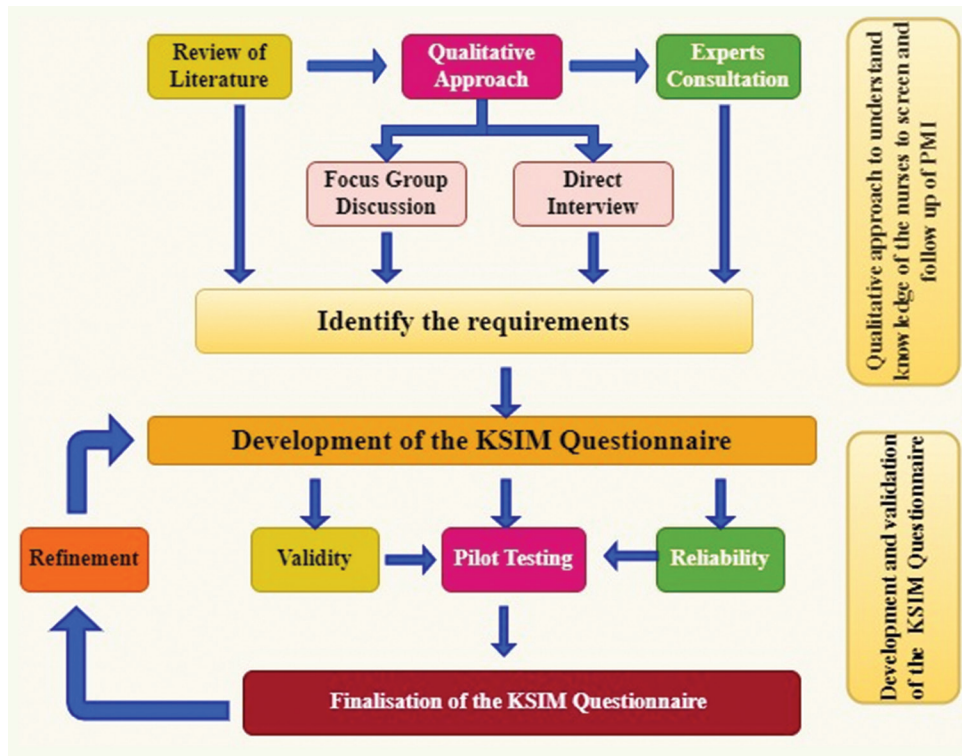


Figure 1: Sequential exploratory design

Table 1: Composition of the subjects for the FGDs and in-depth interviews

Code Number	Designation	No. of Nurses
N.O	Primary Health Care Nurse (PHC and Subcenter)	06
C.N	DMHP-Community Nurse	06
C.P	DMHP-Psychiatric Nurse	06
D.I	Direct Interview-Nursing Officer	03
Total Number of Participants		21

To meet the objectives of phase 1 of the study, the FGDs and direct in-depth interviews focused on

1. What common mental health problems or patients do you face during field visits?
2. Do you feel you can screen and identify patients with mental disorders?
3. Do you feel you can attend to the families of patients with mental disorders?
4. What services are offered to people and their families with mental health issues?
5. Do you think you require some guidance to help you identify mental illness? And why?
6. What are the common mental health issues you are addressing in the community?
7. Do you think you will be able to screen and identify the CMD, SMD, intellectual developmental disabilities, and SUD in the community? And why?
8. How much time can you provide for a family to screen for mental illness during your field visit?
9. What components would you like to include in the

guideline that helps to screen the patients for mental illness with minimal time?

10. What do you do for the patient's family members if you identify a person with some mental health issues?
11. How do you follow up with the patient who identified with some mental health issues?
12. What are the assessments you would like to do during your follow-up?
13. How will you monitor drug compliance?
14. How will you assess the need for psycho-social interventions?
15. What do you do if the patient or family members report no improvement in the conditions?
16. What activities will you do to improve the community's mental health?

Development of KSIM questionnaire

Based on the review of the literature and the inputs from the FGD and in-depth interviews and discussions with the experts on the knowledge of primary care nurses in screening, identification, referral, and follow-up of a person with mental health issues. The KSIM questionnaire was developed as 30 multiple choice questions and 10 case vignettes on nurses' knowledge of screening and identification of mental illness in the following five domains: 1. Causes and Prevalence of Mental Illness, 2. Stigma and Myths about MI, 3. Screening and Identification of MI, 4. Treatment and Management of PMI, and 5. Handling Side Effects and Follow-up [Figure 2].

Table 2: Domains of KSIM questionnaire

Divisions–Knowledge on	Min- Max Score	Question No.
Causes and Prevalence of Mental Illness	0–5	1, 2, 3, 14, 27
Stigma and Myths about MI	0–6	4, 9, 13, 18, 20, 22
Screening and Identification of MI	0–8	7, 8, 10, 23, 24, 25, 26, 29
Treatment and Management of PMI	0–7	5, 6, 11, 12, 15, 19, 21
Handling Side Effects and Follow-up	0–4	16, 17, 28, 30
Case Vignettes on Knowledge on Identification of Mental Disorders	0–10	CV-1 to CV-10
Total	0–40	

Using the case vignettes-based questionnaire, the researcher assessed the nurses' knowledge of identifying mental illness in the community. The case vignettes were developed based on all the mental disorders like schizophrenia, mania, depression and suicide prevention, anxiety disorder, somatization disorder, alcohol and tobacco addiction, and intellectual developmental disorder (mental retardation) and two case vignettes with general non-psychiatric disease conditions. The case vignettes were quantified based on the application of knowledge in identifying the disorder using objective questions. Each MCQ and case vignette has one multiple-choice question with the right answer scoring "1" and the wrong answer scoring "0." The total score for this scale is 40. It took approximately 20–30 minutes to complete this tool [Table 2].

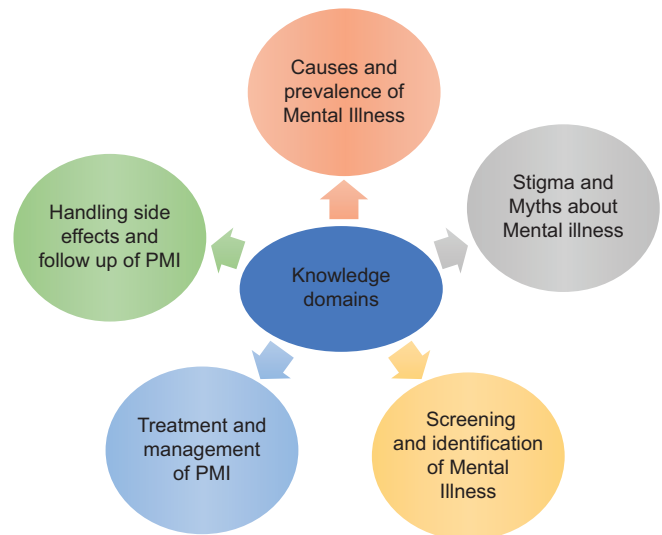
Validation of KSIM questionnaire

The researcher approached 28 mental health experts from three universities, three mental health institutions, two medical colleges, and one community health center across India. Out of 28, only 17 mental health professionals from the multidisciplinary team (Psychiatrist-5, Psychiatric Nurses-7, Primary care nurses-3, Medical officer-1, and Senior Resident in Community psychiatry-1) had sent their comments, and the remaining 11 did not respond. The validation and data collection process took about ten months, from 2020–21.

The mental health expert evaluated each item of the KSIM questionnaire using a structured tool on how the contents described were applicable. For Face validation of the questionnaire, the researcher asked each mental health professional to give their opinion on appropriateness and relevancy through a 3-point scale of 1 = completely meets the criteria, 2 = partially meets the criteria, and 3 = does not meet the criteria to calculate the item-level CVI (I-CVI). The S-CVI was calculated using the average of the I-CVI of each item of the KSIM questionnaire.^[9,10] After incorporating the suggestions from the experts, the KSIM questionnaire was developed. The item-wise content validity index of the KSIM questionnaire and the experts' remarks are given in Tables 3 and 4.

Testing reliability

The reliability of the KSIM questionnaire was measured through the single measure two-way mixed absolute

**Figure 2: Domains of KSIM questionnaire**

agreement ICC was done. Thirty-nine subjects were recruited for the test-retest reliability from the PHC. The test was administered through online google forms, and the participants filled the google form in the presence of the researcher; a retest was done. After 15 days. Thirty-two subjects completed the re-test after 15 days intervals through online google forms. Seven subjects did not complete the retest, so they were excluded from the process.

Results

The study has developed the KSIM questionnaire, which helps to assess the knowledge level of the primary care nurse to screen, identify, refer, and follow-up the person with mental health issues, especially particular focus on CMD, SMD, Intellectual Development Disorder (IDD), and SUD. The ten major themes identified from the FGDs and direct interviews were used to frame the domain of the KSIM questionnaire [Table 5].

Findings from the FGD' and direct in-depth interviews among nurses

The mean age of the participants was 32.95 (\pm 5.05) years, most of which were females (85.7%). The mean educational experience was 15.67 years (\pm 2.06), and experience in psychiatry was 0.81 years (\pm 0.87) [Table 6]. Around 52.4% of nurses completed GNM, and 6 nurses

Table 3: Distribution of Intensive content validity index (I-CVI) for the KSIM questionnaire

Evaluation criteria	E-1	E-2	E-3	E-4	E-5	E-6	E-7	E-8	E-9	E-10	E-11	E-12	E-13	E-14	E-15	E-16	E-17	Expert Agreement	Item CVI
Sociodemographic profile	1	1	1	1	1	1	1	2	1	1	1	2	1	1	1	1	1	15	0.88
KSIM questionnaire																			
Q-1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17	1
Q-2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17	1
Q-3	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	16	0.94
Q-4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17	1
Q-5	1	2	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	15	0.88
Q-6	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	16	0.94
Q-7	1	1	1	2	1	1	1	2	1	1	1	1	1	1	2	1	1	14	0.82
Q-8	1	2	1	1	1	1	2	1	1	1	1	2	1	1	2	1	1	13	0.76
Q-9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17	1
Q-10	2	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	15	0.88
Q-11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17	1
Q-12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17	1
Q-13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17	1
Q-14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17	1
Q-15	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	0.94
Q-16	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17	1
Q-17	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17	1
Q-18	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17	1
Q-19	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	16	0.94
Q-20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17	1
Q-21	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	16	0.94
Q-22	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	0.94
Q-23	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	16	0.94
Q-24	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17	1
Q-25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17	1
Q-26	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17	1
Q-27	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17	1
Q-28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17	1
Q-29	1	1	1	2	1	1	1	2	1	1	1	2	1	1	1	1	1	14	0.82
Q-30	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17	1
Case Vignette's																			
CV-1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	16	0.94
CV-2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17	1
CV-3	1	1	1	1	1	1	1	2	1	1	1	1	2	1	1	1	1	15	0.88
CV-4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17	1
CV-5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17	1
CV-6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17	1
CV-7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17	1
CV-8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17	1
CV-9	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17	1
CV-10	1	1	1	1	3	1	1	1	1	1	3	1	1	1	1	1	1	15	0.88

were recruited for each FGD from DMHP community nurse, DMHP psychiatric nurse, PHCO, and 3 nursing officers for direct interviews [Table 1].

Individual case analysis

The audio-recorded raw data were transcribed and entered into the Atlas-ti version 8 software. The network analysis was done as described above using Creswell’s (2009) six steps to identify the themes and categories revealed through the participant’s narratives

and quotations and interpreted by the researcher. Each transcript was coded similarly, and a set of codes, memos, verbatim pertaining to the codes, and texts of relevant meaning from the verbatim were derived. Through this process, the researcher identified 40 different codes. They were

1. Unwillingness to seek treatment in mental hospitals.
2. Early identification can reduce the treatment gap
3. Stigma and misconceptions lead to delay in availing treatment.

4. Lack of specialists in the remote areas
5. Lack of confidence in identifying a PMI.
6. Lack of motivation to do the screening and extra work.
7. Able to identify serious mental illness
8. Fewer opportunities during the diploma in Nursing.
9. Lack of knowledge on mental illness and its management.
10. Medication adherence and compliance with treatment.
11. Handling side effects of medication.
12. Handling expressed emotions.
13. Handling psychiatric emergencies
14. Frustration due to the workload from various programs.
15. Lack of knowledge on mental illness and its management.
16. Organizational and job-related barriers.
17. Time constrain lead to neglect of mental health aspects.
18. Personal barriers.
19. Regular follow-up and periodic home visits.
20. Family education on handling person with mental illness.
21. Importance of drug compliance.
22. Monitor the PMI through ASHA workers.
23. Teach the family about the early signs of relapse.

Table 4: The I-CVI score and experts' comments on each item of the KSIM questionnaire

Topic	I-CVI	Remarks by validators
Average I-CVI of the KSIM Questionnaire (30 Questions)	0.93	Reframe the 5 th and 18 th questions in a simple way for easy understanding. Simplify the questions.
Average I-CVI of Case Vignettes (10 Case Vignettes)	0.97	Make the case vignettes simpler way for easy understanding. Kannada translation to be done.
Average S-CVI=	0.95	

I-CVI:- Item-level Content validity Index; S-CVI:- Scale-Level Content Validity Index

Table 5: Major Themes Identified during the Focus Group Discussion and Direct interview

Major Themes Identified during the Focus Group Discussion and Direct interview

- Understand the importance of mental health in primary health care.
- Stigma and misconceptions about mental illness.
- Confidence level in identifying and managing the PMI in the community.
- Knowledge level of nurses about mental illness.
- Skill in identifying mental illness.
- Barriers in routine screening for mental illness.
- Role in prevention of relapse.
- Referral system for a person with mental illness.
- Empowerment of nurses in doing follow-up.
- Support services available for a person with mental illness.

24. Refer to the medical officer during the home visit.
25. Conformation of referral through ASHA worker.
26. Refer to medical officer for non-adherence and no improvement during the follow-up visit.
27. Refer to the DMHP psychiatrist by the medical officer
28. Express the need for guidance.
29. Showing interest in training.
30. Enhance the confidence level in handling PMI
31. Mental health services offered.
32. Family and financial support.
33. Welfare benefits and disability certification.
34. Supply of free essential drugs in PHC.
35. Home visit
36. Start with general questions and then move to specific questions.
37. Identification of common mental disorders.
38. Identification of severe mental disorders.
39. Identification of substance use disorders.
40. Special focus on patient and family education and counseling.

The credibility of coding is maintained by involving two other naive researchers to code the same transcript quotations individually and then discussed the similarities and differences found in the set of codes for each quotation. It was supervised by two research experts, including the research guide. The revision of codes helped to clarify and confirm the research findings. The major themes identified are explained in Table 5.

The I-CVI calculations for the relevancy of each item are in Tables 3 and 4. Thirty-three items (82%) of the KSIM questionnaire were marked as relevant, and the I-CVI ranged from 0.76 to 1.00. Twenty-five items had an I-CVI = 1.00, eight a score of 0.94, four a score of 0.88, two a score of 0.82, and one a score of 0.76. Most of the items were considered relevant and three questions were modified as per the expert's suggestions [Table 3].

The average S-CVI of the KSIM questionnaire is 0.96, which shows high content validity and test-retest reliability of the tool is very good. It requires 15–30 minutes to screen the nurse's knowledge on screening and identification, referral and follow-up of a PMI in the community, and the comprehensive assessment yields specific targets or goals of raining that can be tailor-made to suit the nurse works in the primary health care centers.

For each item, the I-CVI is computed as the number of experts given a rating of 1 or 2, divided by the number of experts and the S-CVI is calculated by taking an average of the I-CVI. The S-CVI for the KSIM questionnaire was 0.95, which is very close to 1; it indicated the average proportion of items judged relevant across the 17 experts = 0.95, which is very good [Table 4].^[9,10]

Table 6: Socio-demographic data of the participants for the FGD and in-depth interview (n=21)

Variable	Participant in the FGD and in-depth interview mean (SD)	
Age in Years	32.95 (5.05)	
Education In Years	15.67 (2.06)	
Experience in Psychiatry	0.81 (0.87)	
Variables	Category	Frequency (%)
Gender	Male	3 (14.3)
	Female	18 (85.7)
Educational Qualification	ANM	7 (33.3)
	GNM	11 (52.4)
	BSc Nursing	3 (14.3)
Cadre	DMHP Community Nurse	6 (28.6)
	DMHP Psychiatric Nurse	6 (28.6)
	Primary Health Care Officer	6 (28.6)
	Nursing Officer	3 (14.3)

The single measure two-way mixed absolute agreement ICC value was calculated (for 30 subjects) for the reliability test, and the ICC value was 0.97 with 95% CI (0.94, 0.99). As this ICC value is very close to 1, it indicates that the test-retest reliability of the developed questionnaire is very good.

Discussion

The study has developed the KSIM questionnaire, which helps to assess the knowledge level of the primary care nurse to screen, identify, refer, and follow up the person with mental health issues, especially particular focus on CMD, SMD, IDD, and substance use disorder (SUD).

The nurses are required to screen, assess, refer to, and follow up on mental illnesses in the community area.^[11-13] Although the majority of the nurses have pointed out that nurses have inadequate knowledge about screening and assessment. One of the reasons for the same is the unavailability of holistic tools.

The KSIM questionnaire is one of the first developed tools, which helps the primary care nurses working in the community setting to assess the knowledge on screening, identification, referring, and follow-up of a PMI. Unlike the previously designed questionnaire to screen depression or anxiety, the KSIM questionnaire is designed comprehensively to rapidly screen the mental health knowledge on CMD, SMD, IDD, and SUD in a primary care setting.

The KSIM questionnaire is tailor-made, based on the needs and suggestions of the nurses, and further refined by the experts from the multidisciplinary team. The major strength of the KSIM questionnaire was the qualitative strategy adopted for the development of the tool that took into consideration the needs

and requirements of the end users (nurses) as well as feedback on how to overcome the barriers while screening, identification and following up of a PMI in the community. Most of the studies conducted by undergraduate or postgraduate students or professionals use semi-structured or unstructured tools for assessment. Although the majority is unpublished literature, the non-availability of a structured questionnaire makes the study's replicability difficult in different populations and large-scale applications. Since the validity of those tools is not established, the reliability of a similar result will be difficult even in a similar population.^[11,13-15]

With any preliminary questionnaire, its design had some limitations. The study's limitations include 1) the potential lack of generalisability, 2) the risk of using a self-reported measure, and 3) the length of the questionnaire. The KSIM Questionnaire was designed for the primary care nurses working in the PHC and subcenters; their generalisability to other nurses in a different setting is unknown and must be tested. There is a risk of recall bias or inflated answers in the self-reported measures due to the high workload among the nurses. The KSIM questionnaire also takes about 15–30 minutes to complete. The KSIM questionnaire should be viewed as a knowledge booster rather than a competency enhancer in a therapeutic setting. Therefore, rather than focussing on the skill-improving effects of a clinical training program, the results of this paper should be viewed as translating the knowledge-enhancing effect in a clinical situation.

The present study can be used as a basis for the development of other related tools and for regular assessment of the nurses in the wards and community areas with either slight modification or as it is. The case vignettes given in the present studies can aid in the development of knowledge regarding psychiatric diagnosis and the easy identification of cases.

The next step is replication with a larger sample size to improve the clinical skill-based training of primary care nurses in the primary care settings with its acceptability by the primary care nurses who work in real-life community settings with the patients. The questionnaire should also be prepared in various local/regional languages for large utilization by primary care nurses. It will be a structured tool for other researchers to conduct similar studies in the future.

Conclusion

The KSIM questionnaire is an effective tool to assess the knowledge of primary care nurses in screening and identifying people with mental health issues at the primary care itself, thereby identifying the training needs

and training them may help prevent the delay for PMI in reaching mental health professionals. It is one of the first studies of its kind to develop a simple tool, which helps the nurses who work in the primary care setting to assess the knowledge of the primary care nurses and thereby helps them to screen, identify, refer, and do the follow-up of a person with mental health issues.

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Conflicts of interest

There are no conflicts of interest.

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