

Design of a Standardized Nurses Notes Format for Nursing Institutions in India

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Abstract

Nurses Notes (NN) is an important record maintained by nurses as part of the care provided to patients. It also serves as a legal document in the field of patient care. Generally nursing institutions in India use their own formats to maintain patient care records by their students, resulting into a variety of different NN formats across nursing institutions in India. This scenario indicates a research gap towards a standardization of NN format across India. This research addresses identified gap through the development of a standard NN format for nursing institutions in India.

Material and Methods: Researchers conducted a review of existing NN formats used by different nursing institutions across India. An initial draft of Comprehensive Nurses Notes (CNN) format was then prepared following synthesis research approach. CNN was then optimized as per feedback received from 17 experts (nursing teachers having minimum of 10 years of teaching experience) following purposive sampling method. The optimized CNN (OCNN) draft then used as a structured questionnaire administered through online method to collect feedback from 100 experts across India following random sampling method. This resulted into design of standardized NN format for nursing institutions across India. Approval was taken from institutional research review committee and informed consent was taken from the participants.

Result: CNN was optimized through Content Validity Ratio (CVR) analysis with 0.42 as critical value as per the size of expert panel, resulting into OCNN. Validity of OCNN analyzed through Content Validity (S-CVI/Ave as 0.88, S-CVI/UA as 0.964 and critical values as 0.78) and Face Validity. Its reliability was tested through using test-retest method.

Conclusion: The result provides a standardized Nurses Notes format for nursing institutions across India. It will help to bring uniformity in NN management leading to development of India specific NN protocol towards an electronic version of NN.

Keywords: Nurses Notes, Content Validity, Face Validity, Reliability

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INTRODUCTION

Nurses Note is one of the most important information about the patient and is used by the shift nurses to make themselves aware about the patient condition and their related progress. These notes are also in the matter of patient safety, legal process, nursing audit, financial issues and nursing education. In the current scenario across India, every nursing institution uses their own developed formats to teach students pertaining

to nurses notes which makes the students as well as teachers to reorient themselves with the available pattern of nurses notes once they shift their job or change their college. On other hand manual writing of nurses have some problems including legibility and incompleteness. Studies have shown that illegible handwriting can cause 75% of nursing intervention errors¹.

This evidences made us to think to develop a standardized nurses note which can be followed across India and which may be used as a platform its electronic version in future.

LITERATURE REVIEW

A nursing note is a medical note that serves as a record of nursing care including evaluation, assessment, diagnosis, planning, delivery of care to a patient, and evaluation of such interventions. Such notes are documented by qualified nurses or other providers under the direction of a qualified nurse¹. The information included in a nursing note typically follows the nursing process, providing a framework for clinical reasoning and a systemic guide to patient-centered care with five steps: assessment, diagnosis, planning, implementation, and evaluation.² According to the American Nurses Association (ANA), the nursing process is the common thread uniting different types of nurses who work in varied areas [and is] the essential core of practice for the registered nurse to deliver holistic, patient-focused care². Documentation involved in nurse note is the written and legal recording of the interventions that concern the patient and it includes a sequence of processes. Documentation is established with the personal record of the patient, which constitutes a base of information on the situation of patient's health³

Research Problem

Generally nursing institutions in India use their own formats to maintain patient care records by their students, resulting into a variety of different NN formats across nursing institutions in India. This scenario indicates a research gap towards a standardization of NN format across India. This research addresses identified gap through the development of a standard NN format for nursing institutions in India.

Research Objectives

Study existing Nursing Notes formats used by nursing institutions across India

Synthesize existing NN formats into a comprehensive Nursing Notes format

Develop an optimized NN format specific to nursing institutions in India

Research Methodology

This study follows Design and Creation research methodology as per following details:

Synthesis: A systematic review of existing Nurses Notes (NN) formats used by nursing institutions across India with an objective to synthesize them into a Comprehensive Nursing Notes (CNN) format

Optimization of CNN format: Quantitative as well as qualitative methods were used for to optimize the CNN.

Accordingly it was modified as per expert feedback with an objective to optimize it. Content Validity Ratio (CVR) analysis used to provide an optimized CNN (OCNN).

Evaluate the feasibility of this study: Conduction of pilot study to assess the feasibility of this study on various parameters (economic, time, social and technology feasibility)

Feedback from Experts: Collection of expert feedback through primary data collection mode using an online questionnaire tool based on OCNN

Design a standardized format for Nurses Notes: Assess the content and face validity of OCNN along with its reliability

Synthesis of Existing Nurses Notes (NN) into a Comprehensive Nursing Notes (CNN):

There are many nurses notes format which nursing institutions use across India to teach students and to maintain patient record in it. In majority of the places nurse notes include patient's basic profile such as name, age, gender, diagnosis, ward in which the patient is admitted along with patient's health status, medication going on etc. But the patterns of the nurses notes, its sequence and organization differ from place to place. Based on the available templates and reviews the structured questionnaire was prepared to gather the opinion of the experts from different nursing institution across India. There are 1900+ nursing institution in India running at least B.Sc. Nursing programme. Out of these institutions, 600+ nursing institutions also offer PG programme as per Indian Nursing Council data for 2021-2022. After exploratory analysis of different nurses notes formats across India, we designed a comprehensive Nurses Notes (CNN) format consisting of 17 items detailing patient information like age, gender, registration number, date of admission, time of report etc. It also included patient's subjective data, objectives parameters (vital signs) and SPADE (Sleep, Personal hygiene, Activity, Diet and Elimination) data. Nursing care was included under patient care information with focus on care given.

Optimization of CNN Format

A four step procedure was used for CNN optimization:

A structured validation form was designed based on CNN.

A panel of experts comprising of 17 professionals from nursing domain (nursing teacher having minimum of ten years of teaching experience) was selected using purposive sampling methodology.

Feedback from experts was collected through face-to-face approach using offline validation form method as well as non-face-to-face approach using online validation form method.

Optimization of CNN was performed using Content Validation Ratio (CVR) analysis.

A three point scale was used to measure the relevance for optimization (0 = Not Relevant, 1 = Needs Modification, 2 = Relevant). CVR was calculated using the formula $CVR = (N_e - N/2) / (N/2)$; where N_e is the number of experts indicating essentials and N is the total number of experts on panel. Critical value of 0.42 was used as there are 17 panellist (between 13 and 20) on expert panel. Initial CNN comprised of 17 items. Two items were dropped as their CVR value was much less (<0.3) than critical value of 0.42. One border line item (0.41) was decided to maintain after discussion with the experts. These observations were used to design an optimized CNN (OCNN) consisting of 15 items for further study.

Pilot Study

The current study was assessed for its economic, time, social and technology feasibility. A convenient sample of 10 experts was selected for this purpose and found that the study is feasible in all respects.

Collection of Expert Feedbacks on OCNN

The nurses from nursing education institutions across India were considered as population for this study. The total population of nurses in India as per the study done in 2019 is 2,108,919 which includes Auxiliary Nursing Midwifery (ANM), General Nursing and Midwifery (GNM), graduate, postgraduate and doctoral nurses (source: Ministry of Health and Family Welfare, Government of India - July 2, 2019)⁴. Non probability purposive sampling was used to select the participants from given population considering the feasibility in terms of availability of nursing experts and time constraints. Accordingly 100 nursing experts were selected from nursing institution across India having minimum 10 years of teaching experience with minimum M.Sc. qualification. A questionnaire based on OCNN was used to collect the feedback on OCNN from the participants. Items specific to respondents such as education qualification, years of experience etc. were kept under demographic information section separate from 15 items

grouped under three major headings: Patient Identification Information (PII), Patient Health Assessment Data (PHAD) and Patient Care Information (PCI). Non-face-to-face approach was used for data collection using online mode. Written consent was also taken from all participants through e-mail. The period of actual data collection was between January 1, 2022 to May 30, 2022.

Demographic Analysis about Participants

57 participants were having the highest qualification of M.Sc. Nursing and 43 were having the highest qualification of PhD in Nursing. Majority (52%) of the participants were having 10 years of teaching experience, 35% of participants were having 15 years of teaching experience and 13% were having the experience of 20 years.

Opinion Analysis about the Content of OCNN

Under Patient Identification Information (PII), 100% respondents have given their agreement on this section which includes age, gender, registration number, date of admission and reporting time. In Patient Health Assessment Data (PHAD) section majority respondents ($>90\%$) mentioned to include patient's objective data about vital parameters (temperature, pulse, respiration etc.) along with subjective data such as skin-colour. Majority of respondents ($>90\%$) also asked to include information pertaining to SPADE. 13% participants responded that other information regarding patient health need not be in general. Under Patient Care Information (PCI) section all respondents (100%) agreed to include "nurses care to be given" and "actual nursing care given" along with signature of the student nurse. 27% respondents mentioned that separate monitoring for patient need not to be included as every patient requires constant monitoring. In qualitative feedback, majority of experts expressed need for more focus on nursing rather than for medical interventions like prescribed medications as it can be written separately on medication cards. This analysis resulted into a proposed design of a standardized Nurses Notes format consisting of total 23 items for nursing institutions in India (table 1).

Table 1: A Standardized Nurses Notes Format for Nursing Institutions in India)

<i>Part-I: Patient Identification Information (PID)</i>	
1	Name of the Patient
2	Medical Diagnosis
3	Age
4	Gender
5	Registration Number
6	Date of the Report
7	Time of the Report
Part-II: Patient Health Assessment Data (PHAD)	
Objective Data (what you see and observe)	
8	Temperature (in o F)
9	Pulse (heart-beats/minute)
10	Respiration (breaths/minute)
11	Blood Pressure (in mm of Hg)
12	Skin Colour
13	Additional information pertaining to existing problem
Subjective Data (what you hear from patient's mouth)	
14	Sleep (adequate/inadequate)
15	Personal Hygiene (maintained/not maintained)
16	Activity (ambulatory/partially-ambulatory/bedridden)
17	Diet (oral/parenteral/Ryel's Tube/NBM)
18	Elimination (regular/irregular)
19	Any other information regarding patient's health
Part-III: Patient Care Information (PCI)	
20	Nursing care to be provided (as per the need identified)
21	Nursing care given (as per important findings)
22	Monitoring required
23	Date and name and signature of the nurse

Assessment of Proposed Standardized Nurses Notes Format

Content and Face validity of the format was conducted through a panel consisting of 20 experts using purposive sampling method. I-CVI of each item was calculated and based on that S-CVI using average method (S-CVI/Ave) and S-CVI using universal agreement method (S-CVI/UA) were calculated. S-CVI/Ave was found to be 0.88 and S-CVI/UA as 0.964. Both the values found to be acceptable as per number of experts constituting the panel (> 0.78). Face validity was assessed through suggestions received from the experts and found to be acceptable. Also the reliability of proposed format was verified using test-retest method.

CONCLUSION

Multiple Nursing Notes formats were synthesized into a comprehensive NN (CNN) consisting of 17 items. This CNN was then optimized through Content Validity Ratio (CVR) analysis to design an optimized CNN (OCNN) consisting of 15 items. Respondents' feedback was used to update the OCNN resulting into 23 item format. Its validity was analysed through Content Validity (using I-CVI, S-CVI/Ave and S-CVI/UA) and Face Validity. Its reliability was tested using test-retest method. The final design of Nurses Notes format found to be valid as both S-CVI/Ave and S-CVI/UA

scores found acceptable, followed by experts' agreement on its Face Validity. It also found to be reliable using test-retest method. These findings suggest its usage by nursing

institutions across India as it provides a standardized nurses notes format for nursing institutions across India. It will help to bring uniformity in management of these documents leading to development of India specific protocol towards its electronic version.

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