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Development of the quality of Australian nursing documentation in aged care (QANDAC) instrument to measure paper-based and electronic resident records

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Abstract

Aim: To develop an Australian nursing documentation in aged care (Quality of Australian Nursing Documentation in Aged Care (QANDAC)) instrument to measure the quality of paper-based and electronic resident records. Methods: The instrument was based on the nursing process model and on three attributes of documentation quality identified in a systematic review. The development process involved five phases following approaches to designing criterion-referenced measures. The face and content validities and the inter-rater reliability of the instrument were estimated using a focus group approach and consensus model. Results: The instrument contains 34 questions in three sections: completion of nursing history and assessment, description of care process and meeting the requirements of data entry. Estimates of the validity and inter-rater reliability of the instrument gave satisfactory results. Conclusion: The QANDAC instrument has a potential as a useful audit tool for the purposes of quality improvement and research in aged care documentation.

Keywords

records, care, qandac, aged, resident, documentation, nursing, electronic, australian, quality, paper, development, measure, instrument

Disciplines

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Development of the quality of Australian nursing documentation in aged care (QANDAC) instrument to measure paper-based and electronic resident records

Abstract

Objective. To develop an Australian nursing documentation in aged care (QANDAC) instrument to measure the quality of paper-based and electronic resident records.

Methods. The instrument was based on the nursing process model and on three attributes of documentation quality identified in a systematic review. The development process involved five phases following approaches to designing criterion-referenced measures. The face and content validities and the inter-rater reliability of the instrument were estimated using a focus group approach and consensus model.

Results. The instrument contains 34 questions in three sections: completion of nursing history and assessment, description of care process and meeting the requirements of data entry. Estimates of the validity and inter-rater reliability of the instrument gave satisfactory results.

Conclusion. The QANDAC instrument has potential as a useful audit tool for the purposes of quality improvement and research in aged care documentation.

Key words: geriatric care, homes for the aged, nursing audit, nursing records, quality assurance

Introduction

In Australian residential aged care homes, the resident nursing record is a principal clinical information source [1]. It contains data recorded by nurses on a daily basis about residents' conditions, care planned and provided, and resident responses to the care [2,3]. The nursing process model, an internationally accepted concept for nursing practice and documentation, is the theoretical framework of nursing documentation in this setting [1]. It contains five steps: assessment, nursing problem/diagnosis, goal, intervention and evaluation [2]. Accordingly, nursing documentation in a resident record mainly consists of the person's background information (admission form), numerous assessment forms, nursing care plan and progress notes. These record the resident's data captured at the relevant steps of the nursing process.

Quality nursing documentation is able to improve care through facilitating effective communication between different care team members about clients and their care [4]. It is also important from a legal point of view, as well as in supporting health planning, quality assurance, nursing development and research [5- 7]. In aged care, quality nursing documentation is especially emphasized as it is required to establish funding needs, meet accreditation requirements and support and demonstrate quality of care [1, 8, 9].

Paper-based documentation has been recognized to be of poor quality as the records were usually incomplete, illegible, repetitive and missing signatures [10]. Electronic nursing documentation systems have been implemented in several aged care organizations for the purpose of improving documentation efficiency, quality communication and care service delivery [11]. Studies have suggested that these systems, in comparison to paper records, can increase caregivers' access to more

accurate and complete information; improve communication between the residents and care staff; and enhance the capacity of aged care homes to manage information (11- 13).

As part of a large project, a nursing documentation audit study was conducted to determine whether the electronic systems have achieved such performance and expectations. For that purpose a nursing documentation audit instrument was required to measure the quality of documentation in the paper-based and electronic resident records.

Existing audit instruments of the quality of nursing documentation in relation to the nursing process were explored from a systematic review [14]. These instruments were developed for different study purposes and settings where specific documentation systems were used or standardized terminologies were required. They were concerned with documentation of each step of the nursing process. Both quantitative and qualitative approaches were used. Examples included the comprehensiveness in recording [6], Cat-ch-Ing [2], Quality of Diagnoses, Interventions and Outcomes (Q-DIO) [15] and D-Catch [16]. None of these reviewed instruments were considered to be suitable for use in our study setting where a standardized nursing terminology is not required, nor were they adequate to reflect the overall quality of paper-based and electronic resident records in Australian aged care homes.

Therefore, we developed a new audit instrument by synthesizing relevant approaches from the previous studies and customizing them to our problem domain. The requirement for this instrument was its ability to judge the capability of a documentation system to adequately serve the practical needs of record keeping for aged care service delivery and management.

Methods

Approaches to designing criterion-referenced measures [15, 17] were followed for development of the audit instrument. These involved five phases: identification of attributes of nursing documentation quality; specifying quality criteria; constructing an audit instrument; developing means for measuring quality indicators; and testing the instrument.

Identification of attributes of nursing documentation quality

The quality of nursing documentation is a multidimensional concept. Its two key elements are its characteristics and the requirements that they fulfill. The systematic review of nursing documentation audit studies in different settings [14] identified the following relevant quality characteristics of nursing documentation in aged care homes:

- Quality of documentation structure and format: relates to constructive features and physical presentation of records such as quantity, completeness, legibility, readability, redundancy and the use of abbreviations.
- Quality of documentation process: the procedural issues of capturing patient data such as nurse's signature and designation, date, chronological order, timeliness, regularity of documentation and concordance between documentation and reality.
- Quality of documentation content: refers to the message from data about a care process. It is concerned with the comprehensiveness, appropriateness and the relationship of the five steps of the nursing process. The care issue recorded at each step is also considered.

Because these characteristics determine whether the records are accessible, reliable and usable for the communication of care and management of aged care services, they are essential attributes of a documentation system and thus have to be audited.

Specifying quality criteria

To derive quality criteria to measure nursing documentation, relevant local requirements were prioritized, with consideration given to international perspectives from the literature.

The World Health Organization (WHO) specifics that medical records and clinical documentation need to be clear, concise, complete, contemporary, confidential, consecutive, correct, comprehensive, collaborative and patient-centred [18]. These principles have been integrated into several professional guidelines for documentation recommended by different state nursing boards in Australia [19-21]. These requirements were considered as the general standards for our instrument.

Specific requirements on nursing documentation in aged care were explored, including those of the federal government [22-25] and relevant professional guidelines [19-21]. In addition, documentation policies and audit tools of aged care organizations were reviewed, and some criteria for documentation structure and format, process and content used in previous audit studies [14] were adopted.

Construction of an audit instrument

The construction of the audit instrument involved three steps: determining instrument structure, formulating measurement questions and specifying observable indicators.

It was decided that the instrument would follow the five steps of the nursing process, providing a structure that was consistent with the documentation process in the participating aged care homes.

Considering different components of a resident record, it was decided that for resident admission and assessment forms, the instrument would only address the completeness and process characteristics of the documentation, without considering their content. This was because the items that determine the content of these forms were predefined in both paper-based and electronic forms. Their completion status should adequately define the capacity of the systems in capturing data to meet requirements. Also nursing assessment can cover a wide range of care issues. It was not feasible to use a single instrument to assess the quality of content of assessment forms in relation to various care issues.

For the nursing care plans, the instrument would focus on the content of documentation. Both quantitative and qualitative questions were formulated to address whether and how nurses describe resident problems, goals, interventions and evaluation in the relevant sections of the care plan.

In order to assess the overall structure, format and process characteristics of documentation in the paper-based and electronic systems, a separate section was set up with a number of questions focusing on data presentation and issues with data capture based on common requirements for documentation. A further section was built to evaluate compliance of the documentation with accreditation requirements.

Based on these considerations, a preliminary instrument was drafted with a series of questions in four sections: A: Completion of nursing history and assessment, B: Description of care process, C: Meeting requirements of data entry and D: Meeting

accreditation requirements. A measurable indicator was specified for each of the questions (see Table 1).

Developing means to measure the indicators

Given the nature of the study, we used an ordinal scale of measurement, with scores assigned in rank order for particular attributes [17]. The instrument used a five-point Likert scale from zero to four for each of the items, except for two binary items that used yes/no options. These two items could be given either zero for a "no" or four points for a "yes" answer. A higher score represented better quality. A summative scoring method was used to record the quality of a nursing record. In order to accurately interpret the study results, the scoring standards were set up in a user manual with detailed instructions about the meaning of each question and how to score it precisely, specifically and consistently. An example of the standards set up in the manual is as follows:

A2. Is the resident's assessment on admission complete?

This item assesses the completeness of initial assessment for a resident following his/her admission. A five-point scale is used to measure the completeness of each assessment form:

- *Fully – 100% of items are completed – scored 4;*
- *Mostly – above 66%, but less than 100% of items are completed – scored 3;*
- *Partly – between 33% and 66% of items are completed – scored 2;*
- *Occasionally – more than 0%, but less than 33% of items are completed – scored 1;*
- *Missing - blank form – scored 0.*

The final score for this item is calculated using the following formula:

$$\text{Score} = \frac{\Sigma \text{ score (assessment form1, 2….. n)}}{\text{Number of assessment forms (n)}}$$

In regards to Section C - requirements for data entry, with seven questions, a full score of 4 could be given to electronic records. For example, with questions C1 and C5 regarding legibility, black ink and resident identification, a full score should be generally applicable to all electronic records. With question C4 concerning the use of 24hr clock, the score could be given to an electronic record if the system has been designed in such a way. With questions C6 and C7 about errors and spaces within entries in progress notes, if an electronic system did not allow nurses to change an entry afterwards, a full score could be given. With question C10 about signature with date, designation and printed name, if an electronic system did not allow the nurses to sign, but required login with a password and automatically generated date and nurse's name, a score of 4 could be given.

Validation of the instrument

In depth discussions between the two authors with a nursing qualification were carried out to determine whether the instrument items adequately represented content domains of documentation quality and whether each item was relevant and appropriate for the purpose of measurement.

The face validity was estimated using a focus group approach with five aged care home managers (RNs) and one IT project manager in a meeting at an aged care organization. This was immediately followed by individual discussions with three clinical nursing experts in three homes to determine the relevance of the instrument. Consultations with two experienced researchers in the aged care field were also

undertaken via a telephone conference. The instrument was continuously revised following each of these validation processes. As a result, the number of items was reduced from 55 to 44.

The content validity of the instrument was formally tested using a consensus approach [26] in a meeting with five nursing managers in another organization. Inclusion of five panelists was considered adequate to judge the content validity [27]. These managers were asked to tick or cross each item based on their judgment about whether the item was essential. The Content Validity Ratio (CVR) was computed using the formula: CVR = (ne - N/2) / (N/2), where 'ne' was the number of panelists who agreed with the item and 'N' was the total number of panelists participating in the assessment.

Negative values of CVR were obtained for a section concerning accreditation requirements. The nursing managers suggested that the items in this section were already covered in other parts of the instrument. Consequently, the section was removed, leaving 34 items in the final version.

A pilot study was conducted to validate the reliability of the instrument. Consent was obtained from the residents or their representatives to use the residents' records for this purpose. The testing of inter- rater reliability was conducted on two occasions, each involving three raters. On the first occasion, the first author and two registered nurses graded a convenience sample of 20 electronic records by the instrument questions in sections A and B. On the second occasion, the questions in section C were tested on 20 paper records which were also conveniently selected, by the first author and two persons with advanced qualifications and research experience. On both occasions, the three auditors started by discussing how to grade each record and

methods of resolving any disagreements. Once consensus was reached, the rest of records were independently assessed by each auditor.

The inter-rater reliability was estimated by calculating the percentage agreement between the three auditors for each of the instrument questions. Use of Fleiss's Kappa to provide comparative estimates was considered but proved unsuitable as it gave low values for Kappa, or could not be calculated, when the distribution of ratings for an item on the 20 records was skewed. Percentage agreement was calculated from the number of ratings with agreement on the 20 records, divided by the total number of ratings, following Mokkink et al. [28]. For each instrument item, agreement meant that either two or three of the auditors gave the same rating to the 20 records. A percentage agreement above 80% was considered appropriate to indicate reliability.

Results

The final version of the instrument was named Quality of Australian Nursing Documentation in Aged Care (QANDAC) instrument. It consisted of three sections with 34 questions: completion of nursing history and assessment (six questions), description of care process (18 questions) and meeting requirements of data entry (10 questions). Both quantitative and qualitative questions were used to address the quality of structure, format, process and content of nursing documentation. Detailed instrument structure, quality criteria, measurement questions and measurable indicators are shown in Table 1. A complete instrument is presented as Appendix 1.

Validity The CVRs of the instrument questions ranged from 0.2 to 1.0 for the responses from the five panelists. There was a full agreement on 23 questions. Ten questions had a CVR of 0.6 (agreed by 4 of the 5 panelists) and one had a CVR of 0.2 (agreed by 3 of the 5 panelists). Detailed results are presented in Table 2.

Reliability The percentage agreements by the three raters with the 34 instrument questions on the 20 records ranged from 81% to 100%. Details about the results of testing are shown in Table 2.

Discussion

To our knowledge, the QANDAC instrument is the first that has been developed to assess the quality of nursing documentation in residential aged care homes. This multi-concept approach not only considers the documentation content pertinent to the nursing process, but pays attention to documentation structure, format and process. This should reflect the characteristics of paper-based and electronic system in generating quality documentation. The broad scope and detail of the instrument will enable residential aged care staff and management to clearly identify and measure quality aspects of either type of documentation system. The instrument was developed based on an extensive review of literature and relevant local requirements and was further strengthened through rigorous validation processes.

The study yielded favorable results about the validity and reliability of the instrument. It was valuable to test the face validity of the instrument with a group of nursing managers before studying its content validity. Discussions with the peer experts to obtain their input and judgment on the instrument criteria helped refine the initial draft instrument. The credibility of the instrument was then confirmed during the formal study of the content validity where high agreement was obtained. Assessment of inter-rater reliability showed high percentages of agreement by the three auditors for all the instrument questions.

There were some limitations with the instrument. It has been suggested that a certain degree of subjectivity always exists in auditing records [29]. Inevitably, our

instrument possesses this inherent weakness. There may be variability in compliance with instructions and also judgments have to be made in assigning scores for some questions. To minimize the effects of subjectivity, explicit quantitative scoring standards have been established in an instrument user manual. However, it was difficult to establish standards for some questions such as those regarding the legibility of records and succinctness and objectiveness of language. Thus, it is proposed that more than one auditor should examine and report on such questions. Also the auditors should be calibrated to one another before proceeding with the audit.

The 20 records conveniently selected for instrument testing on the two occasions might not be representative of the whole population of nursing records across all aged care settings. Also, this relatively small sample size was inadequate for the investigation of other aspects of validity and reliability such as construct validity and internal consistency. Further studies are needed to test the instrument with a large sample size from a wider range of settings.

Conclusion

The QANDAC instrument was developed following established theories, including the nursing process model and the three quality characteristics of nursing documentation: documentation structure and format, process and content identified in a systematic literature review. The instrument can be used for a thorough appraisal of nursing documentation to address issues with a range of resident records as required. It is applicable to both paper-based and electronic documentation to reflect the capability of the systems in record keeping. Identification of flaws with nursing documentation using the QANDAC instrument may lead to improvement in aged care documentation.

Key Points

- The QANDAC instrument was developed to measure the quality of paper-based and electronic documentation used in residential aged care homes.
- The instrument includes questions on completion of nursing history and assessment, description of care process and meeting requirements of data entry.
- Validity and inter-rater reliability of the instrument were shown to be satisfactory.
- The instrument can be used for a thorough appraisal of nursing documentation for quality improvement purposes.

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Appendix I. Quality of Aged Care Nursing Documentation Audit Instrument (QANDAI)

Record ID: _______ Facility ID: __________ Name of Auditor: _______ Date: _________

Care unit: high care / low care / dementia/respite Documentation type: Paper/electronic

Admission Date _________

(Please circle the number on the descriptive scale based on your professional judgment)

Section A. Completion of Nursing History and Nursing Assessment

(Refers to the resident's admission form and assessment forms)

		Always	Usually	Neutrally	Sometimes	Never
A1	Is the resident's nursing history complete?	4	3	2	1	0
A2	Is the resident's admission assessment complete?	4	3	2	1	0
A3	Is the resident's ongoing assessment complete?	4	3	2	1	0
A4	Are the assessments carried out by appropriate staff (RN)?	4	3	2	1	0
A5	Are those assessment forms completed in a timely fashion according to the residential aged care home's defined protocol?	4	3	2	1	0
A.6	Are the assessments conducted using assessment tools?	4	3	2	1	0
		Score (section A) = Sum (A1 – A6) = ( )				

Section B. Description of Nursing Process

(Refers to nursing care plan and progress notes)

		Always	Usually	Neutrally	Sometimes	Never
B1a	Is/are nursing problem(s) identified?	4	3	2	1	0
B1b	Is/are there clear nursing problem statement(s) describing the type and nature of the resident's current and/or potential problem(s)/risk(s)/care needs?	4	3	2	1	0
B1c	Is/are nursing problem(s)/risk(s)/care needs identified consistent with the findings of assessment?	4	3	2	1	0
B1d	Does/do the statement(s)/risk(s)/care needs indicate one or more contributing factors?	4	3	2	1	0
B1e	Is/are sign(s) and/or symptom(s) stated in relation to the nursing problem(s) identified?	4	3	2	1	0
B2a	Is/are goal(s) set up in relation to the problem(s)/risk(s)/care needs?	4	3	2	1	0
B2b	Is/are the goal(s) resident- centred?	4	3	2	1	0
B2c	Is/are the goal(s) measurable or observable?	4	3	2	1	0
B3a	Is/are nursing intervention(s) planned to address the nursing problem(s)/risk(s) identified?	4	3	2	1	0
B3b	Is/are nursing interventions appropriate or suitable to the goals?	4	3	2	1	0
B3c	Is/are the intervention(s) specific and	4	3	2	1	0

	detailed?					
B4	Has/have intervention(s) been implemented?	4	3	2	1	0
B5a	Is/are there nursing evaluation(s) conducted in relation to planned care?	4	3	2	1	0
B5b	Is/ are resident outcomes in relation to planned care documented in the care plan?	4	3	2	1	0
B5c	Does/do evaluation(s) show the effectiveness of care provided in terms of achieving the goals?	4	3	2	1	0
B5d	Is/are nursing evaluation(s) conducted regularly?	4	3	2	1	0
B6	Is/are care plan(s) made by an appropriate nurse?	4	3	2	1	0
B7	Is/are the resident's temporary problem(s) or condition change(s) noticed in progress notes addressed by a care process as documented?	4	3	2	1	0

Score (section B) = Sum (B1 – B7) = (   )

Section C. Meeting Requirements of Data Entry

(Refers to resident assessment forms, nursing care plan and progress notes)

		Excellent	Sound	Neutral	Less good	Poor
C1	Is the writing of all records legible?	4	3	2	1	0
C2	Are statements made by nurses using clear and succinct language?	4	3	2	1	0

C3	Are statements factual and objective?	4	3	2	1	0
		Always	Usually	Neutrally	Sometimes	Never
C4	Do all entries us 24hr clock?	4	3	2	1	0
C5	Are all entries written in black ink?	4	3	2	1	0
C6	Is/are error(s) crossed out with a single line and signed?	4	3	2	1	0
C7	Are all spaces between entries in progress notes crossed out with a single line?	4	3	2	1	0
C8	Are abbreviations officially recognized?	4	3	2	1	0
C9	Are all pages labelled with the resident's identification?	4	3	2	1	0
C10	Are all documents signed and dated with printed name and designation?	4	3	2	1	0
			Score (section C) = Sum (C1 - C10) = ( )			

Total score = Sum (section A - C) = ( )

Table 1. Formulation of the QANDAC instrument

Structure	Quality criteria	Quality characteristics	Instrument questions	Observable indicators	Scale
Section 1. Completion of nursing history and assessment					
Nursing history	Complete nursing history	Structure	A1. Is nursing history completed? (quantity)	A1. Percentage of completed items of resident background information form	5-Likert
Nursing assessment	Complete nursing assessment	Structure	A2. Is the admission assessment completed? (quantity)	A2. Percentage of completed items of admission assessment forms	5-Likert
			A3. Is the ongoing assessment form completed? (quantity)	A3. Percentage of completed items of ongoing assessment form	
	Proper conduction of assessment	Process	A4. Are those assessments carried out by appropriate staff (RN)? (quality)	A4. Percentage of assessment forms which are completed by a RN	5-Likert
			A5. Were those assessments completed timely as per home protocol? (quality)	A5. Percentage of assessment forms which are completed timely according to the requirements of the home	
			A6. Is the nursing assessment conducted using assessment tool or predefined forms? (quality)	A6. Percentage of assessment forms which are predefined assessment tool	
Section 2. Description of care process					
Nursing problem	Identification of nursing problem	Content	B1a. Is/are nursing problem(s identified (quantity)?	B1a. Presence of nursing problem for which care plan is created.	Yes – 4; No - 0
			B1b. Is/are there clear nursing problem statement describing the type and nature of the resident's current and/or potential problem(s)/risk(s)/care	B1b. Presence of proper problem statement	

			needs? (quality)		
	Precise nursing problem statement	Process and content	B1c. Is/are nursing problem(s)/risk(s) identified in care plans consistent with the findings of assessment? (quality)	B1c. Percentage of problems, which are consistent with assessment.	5-Likert
			B1d. Does/do the statement(s) of problem(s)/ risk(s) indicate one or more contributing factors? (quality)	B1d. Percentage of problem statements which indicate one or more contributing factors.	
			B1e. Is/are sign(s) and/or symptom(s) stated in relation to the problem(s) identified? (quality)	B1e. percentage of problem (s) with sign(s) and/or symptom(s)	
Nursing goal	Setting up of nursing goals	Content	B2a. Is/are goal(s) set up in relation to the problem(s)/risk(s) identified? (quantity)	B2a. Percentage of care plan domains which have nursing goals set up.	5-Likert
	Appropriate nursing goal	Content	B2b. Is/are the goal(s) resident- centred?	B2b. Percentage of goals which are resident-centred.	5-Likert
			B2c. Is/are the goal(s) measurable or observable? (quantity)	B2c Percentage of goals which are measurable or observable.	
Nursing intervention	Planning of nursing intervention	Content	B3a. Is/are nursing intervention(s) planned to address the nursing problem(s)/risk(s) identified? (quantity)	B3a. Percentage of care plan domains which have nursing interventions planned.	5-Likert
	Appropriate nursing intervention	Content	B3b. Is/are nursing interventions appropriate or suitable to the goals? (quality)	B3b. Percentage of interventions which are suitable to the goals.	5-Likert
			B3c. Is/are the intervention(s) specific and detailed? (quality)	B3c Percentage of interventions, which are specific and detailed	
			B4. Has/have intervention(s) been implemented?	B4. Percentage of interventions, which have	

			(quality)	been implemented as documented.	
Nursing evaluation	Documenting nursing evaluation	Content	B5a. Is/are there nursing evaluation(s) conducted in relation to planned care? (quantity)	B5a. Percentage of care plan domains with evaluation documented	5-Likert
	Appropriate nursing evaluation	Content	B5b. Is/ are resident outcomes in relation to planned care documented in the care plan? (quality) B5c. Does/do evaluation(s) show the effectiveness of care provided in terms of achieving the goals? (quality) B5d. Is/are nursing evaluation(s) conducted regularly? (quantity)	B5b. Percentage of evaluations with resident outcomes documented. B5c. Percentage of evaluations indicating the effectiveness of planned interventions. B5d. Percentage of care plan domains with regular evaluations	5-Likert
Others	Proper formulation of care plan	Process	B6. Is/are care plan(s) made by an appropriate nurse? (quality)	B6. Designation of nurse is RNs in the care plan	5-Likert
	Documentation of care process for temporary nursing problem(s)/care needs	Content	B7. Is/are the resident condition changes noticed in progress notes addressed by a care process? (quantity)	B7. Percentage of temporary problems which are addressed by a care process as documented in the progress notes	5-Likert
Section c. Meeting requirements of data entry					

Presentation of nursing data	Clear documentation structure and format and appropriate data capturing	Structure and format	C1. Is the writing of all records is legible? (quality) C2. Are statements made by nurses using clear and succinct languages? (quality) C3. Are statements factual and objective? (quality) C4. Are all entries written in black ink? (quality) C5. Are all entries using 24hr clock? (quality) C6. Is/are error(s) crossed out with a single line and signed? (quality) C7. Are all spaces between entries in progress notes crossed out with a single line? C8. Is/are abbreviation(s) officially recognized? (quantity) C9. Are all pages labelled with the resident's identification? (quality)	C1. Perceived level of legibility of the records C2. Perceived level of clearness and succinctness of languages C3. Perceived level of objectiveness of languages. C4. Perceived level of use of black ink. C5. Percentage of entries using 24hr clock. C6. Perceived level of appropriate correction of errors with a single line and signed C7. Perceived level of spaces between entries which are crossed with a single line. C8. Perceived level of appropriate use of abbreviations according to the list of abbreviations required by the home C9. Percentage of pages labelled with the resident's deification	5-Likert
		Process	C10. Are all documents (quantity) • Signed? • Dated?	C10. Presence of signature, date and printed name and designation of the nurse.	Yes -4, No-0 (1 point for each sub-item

- With printed name of the nurse?
- With designation of the nurse?

Table 2. Content Validity Ratio (CVR) (n=5 panellists) and inter-rater agreement (n=3 auditors) of the instrument questions

Instrument item	CVR	Percentage of agreement	Instrument question	CVR	Percentage of agreement
A1	1.0	100%	B4	0.6	100%
A2	0.6	100%	B5a	0.6	98%
A3	1.0	98%	B5b	0.6	90%
A4	1.0	93%	B5c	1.0	100%
A5	1.0	98%	B5d	1.0	100%
A6	1.0	100%	B6	1.0	100%
B1a	1.0	100%	B7	1.0	81%
B1b	0.6	93%	C1	0.6	88%
B1c	1.0	97%	C2	0.6	87%
B1d	1.0	92%	C3	0.6	87%
B1e	1.0	1.0	C4	1.0	92%
B2a	1.0	88%	C5	1.0	100%
B2b	1.0	93%	C6	0.6	97%
B2c	0.2	90%	C7	0.6	85%
B3a	1.0	98%	C8	1.0	95%
B3b	1.0	92%	C9	1.0	90%
B3c	1.0	88%	C10	1.0	98%