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Validating preoperative assessment tool for per operative nursing

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Abstract
Preoperative patient assessment practice by per operative nurses is widely varied and requires standardization to eliminate gaps associated with the discrepancies.
Aim: *To develop a preoperative assessment tool to facilitate preoperative nursing assessment.*
Design: *Triangulated*
Study population: *per operative nurses*
Sampling method and size: *purposive, 8 per operative nurses.*
Method*: An assessment tool succinct to perioperative nursing was developed through a focus group discussion with perioperative nurses. The tool was peer reviewed, pretested and implemented.* ***Study tools****: Interview guide for group discussion and questionnaires for peer reviewing the tool.*
Data analysis: *Content analysis of qualitative data was done using themes and subthemes. The peer reviewers rated the tool using percentages.*
Results: *A tool for per operative nursing assessment was developed.*
Conclusion and recommendations: *The rigor used to develop the tool and the clinical evidence obtained by testing the tool (referenced in this report) validates the tool for clinical use.*

Key words –elective surgery; preoperative assessment practice; preoperative assessment tool; per operative nurses

Introduction

Preoperative assessment practice by Perioperative nurses is experiencing lots of challenges. The challenges are attributed to the busy theatre schedules, shortage of perioperative nurses and dynamisms in surgery

(Torrance & Serginson, 1997) among other factors. Nurses are compelled to conduct preoperative assessment when patients are already in theatre implying that the nursing care plans are informed by the theatre lists. These are written operation schedule availed in theatre within 48 hours before planned surgery. As a matter of fact, perioperative nurses should not rely on theatre lists alone to plan patients' carebecause patients' are individuals with different needs (Quinn, 2000) that cannot be realized from the theatre lists(Pudner, 2005). Pre-surgical assessment clinics have been established in developing countries to overcome these challenges (Oakley, 2005). However, these clinics are far from being realized in developing countries like the study setting because of other priority health care needs still pending considerations. Hence the need for a tool that will facilitate the assessment amidst the challenges faced.

Methodology and tools

A tape recorded focus group discussion with per operative nurses was conducted. Consenting registered and licensed perioperative nurses possessing Bachelor of Science Degree in Nursing and had worked in theatre for more than a year were purposively sampled. A list of 13 such nurses meeting the inclusion criteria and their contacts was obtained for the nursing regulatory body registers. Participants enrolment to the study was done on phone after study disclosure and obtaining informed consents.

During the discussion, participants were assigned numbers for anonymity and formal informed consents were obtained. The group was heterogeneous and the researcher facilitated the discussion by creating a non-evaluative environment in which group members felt free to express their opinions (Stewart, Shamdasani, & Rook, 2007).The facilitator encouraged participants'to express diverse points of view (Morgan, 1988) and applied skills to probe and pace the group to enhance effective discussion (Bender &Ewbank, 1994). The discussion took about an hour and participants shared their views until no more new opinions were being generated.

The development of the assessment tool was informed by holistic care approach (NATN, 1996), principles of preoperative assessment (Bramhall, 2002), documentedhumanistic patient focus approach (Takahashi & Bever, 1989) incorporating nursing care models which form framework for quality practice (Barnett, 2005). The researcher considered synchronizing best practices with the local practiceusing information obtained from the focus group discussion to develop the tool. The designed tool has six sections: section one, for reviewing patients' history significance to surgery; section two,for walking the patient through the surgical preparation already done by the ward nurse to avoid ward nurses role duplication; section three, for probing the patient into discussion to allow forexpression of fears and worries about surgery to allay anxiety and identify knowledge gapsand reinforce health information; section four, for identifypatients' spiritual and emotional needs; section five, for documenting care collaborationsmade regarding the unmet needs identified during the assessment; and finally section six for summarizing the findings and giving recommendation regarding patients' preparedness to undergo surgery. In addition, the person conducting the assessment is expected to sign the assessment form and append the initials of the assessor'snames for accountability as practiced in nursing documentation.

The tool was peer reviewed by the nurses who participated in the group discussion. The reviewers gave comment regarding tool usinga Likert Scale. The tool was critiqued and rated for construct and face validity, specificity to perioperative nursing, and simplicity in terms of usage.

Data analysis

The tape recorded data was transcribed and back translated several times to fill in inaudible phrases or gaps experienced during recording. Contextualized data including poignant details i.e. the emotions expressed by informants, key

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phrases, and explanations captured during the off the cuff session also included (Miles &Huberman, 1984). Coding of the data was done using the content contained in the interview guide. An independent social scientist also intercoded the data. Comparison of themes and subthemes was done during content analysis (Rusell & Ryan, 2010).Some themes were further subdividedinto subthemes while some subthemes were merged through careful iteration. Data was scrutinized for credibility, transferability and dependability and presented in narratives. All ethical principles were observed.

Table 1: Participants' demographic characteristics

Characteristic	Frequency	Percentage
Gender		
Male	4	50%
Female	4	50%
Age		
30 – 40 years	5	62.5%
40-50 years	3	37.5%
Institution		
Private	3	37.5%
public	5	62.5%
Professional qualifications		
KRN/KRCHN,	8	100%
ORN	8	100%
Academic qualifications		
BScN degree	8	100%
Masters degree/ training	8	100%

RCHN: Registered Community Health Nurse, RN: Registered nurse, ORN: peri-Operative Registered Nurse

Participants were probed to discuss why preoperative patient assessment by perioperative nurses should be done and how it is done. The responses have been summarized in Table 2.

Table 2: How preoperative patient assessment should be done.

Main responses
Theme : practice;
Subthemes:Nurses:
All theatre nurses should conduct the assessment as assigned depending on the institutional protocols.
Subtheme:Surgeons and anaesthetists each conduct assessments related to their disciplines
Theme:*Reasons for Assessment:*
Subtheme: nurse;
Nurses conductassessment to allay patients' anxiety, to provide health education e.g. reinforcing post operative careand ensuring timely availability of recourses e.g.the right prosthesis.
Theme: how should the assessment be done
Subtheme: nurses; The assessment should be done regularly during working hours and incorporated in the daily theatre routine which has not been the case.
Theme: patient needs assessment:
subthemes:
Physiological needs; These are the patients' basic that can be achieved by directly enquiring from the patient e.g. have you voided, open bowels etc.*Physical needs;* These are patients' personal needs and those needs that are related to the environment that can be realized through verification of the physical preparation appropriate to the type of surgery to be done. Significant findings like preparation omissions should be communicated appropriately to help sort out the omission.
Physiological needs; can be viewed as disease related or patients' need related e.g. patients may have anxiety related to the nature of the disease and that relating to the surgery as a procedure. Acquaintance with the patient during ward visits and sharing pertinent information empowers patients' with knowledge related to their surgery and disease thus helps to allay anxiety.
Emotional needs: should be approached carefully after assessing patients' psychologically and through families support. Both patients and relatives should be involved in the surgical care being provided e.g. allowing them to stay with the patients in theatre waiting bay as the patients waits to be taken in for surgery.
*Spiritual need;*This is a sensitive area which is most of the time not addressed but has impact on how patients perceive surgery. Institutions should employ spiritual/ religious persons e.g. Imams and Reverends to facilitate spiritual care.

The participants' responses to the "reason why preoperative assessment should be done' was that the assessment enhancessurgical care proficiency and patients' safety.

> There was a scenario whereby a patient with burn injury came to theatre and thereafter could not take any more of the repeat surgeries as was required. Any time the patient was required to go to theatre, the patient went into depression and eventuallydied. Nobody

knew why or understood what happened and what the patient went through. So talking to patients can enable us to get to know what actually happens or what patientsactuallygo through (Participant No. 6).

Some of the problems the patients encounter post operatively could be because of care deficiencies. For example, in Ear Nose and Throat surgeries (ENT) it is important to reinforce postoperatively that the patient should not blow their nose because this can complicate the surgery (Participant No. 1.).

The participants' discussed that the assessment should entail assessing patients' physiological, physical, psychological, socio-cultural, spiritual and emotional needs congruent with holistic care approach according to standards of perioperative practices (NATN, 1996). According to the participants, assessing physical needs can be approached in two ways i.e. physical needs directly concerning the patient as a person and those that are related to surgery.

Normally physical preparation is achieved through a review of patients' physical preparation by the ward nurses. Physiological needs can basically be assessed by directly enquiring from the patient regarding their preparation e.g. have you passed urine, have you gone to the toilet etc. (Participant No. 8).

Psychological needs assessment is one of the assessment aspects usually forgotten.

Visiting the patients in the wards when in theatre attires takes care a bit of their psychological needs and even the emotional needs. It is recommended that when you interact with patients;empower them with the required information but tailored to each patients' needs. Through that interaction process patients, express all their fears about surgery and may even request you to explain to them what the doctor had explained earlier but was not well understood (Participant No. 1.).

It is good to explain to the patients the kind of procedures they will undergo, the estimated time surgery will take and how the patient is expected to behave before going to theatre, while in theatre and after surgery while in the recovery ward. Psychological care aspect is likely to be overlooked especially for patients taken to theatre just after arrival to the ward. Such patients may not be very sure about what is expected of them (Participant No. 3).

The emotion aspect deviates from the psychological aspect especially on how we tie surgery with the patients' family. Many patients coming to theatre are not given enough time to discuss with their family members. We (perioperative nurses) are so used to surgeries until we forget that surgery can be a big issue to these patients and their families, especially if it is being done for the first time. To these patients and their families,there is no surgery that is minor or major, (participant No. 7).

The spiritual aspect is a sensitive area which most of the time is skipped. Much as the general public may not believe it, in our Hospital, we have an Imam and a Reverend on duty throughout the week. Every morning before elective surgery, their work is to go to the wards and pray for the patients if necessary. In emergency situation, if requested, they go the theatre receiving area and share out prayer with the patient. The practice has had positive impact to the patients and in a great way (Participant No.2).

The assessment feedback should be communicated to inform other nurses and care givers.

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> Whoever does the assessment should disseminate the assessment information to the entire team dealing with the patient to help them give quality care (Participant no.8).
>
> At the end of the day, it is the responsibility of the nurse who goes to the ward, to disseminate the information to enable other nurses make individualized care plans (Participant no. 4)

When asked how often the assessment should be done, the participants responded that:

> Entrenching focusedassessment practice in the institutional policies would ensure that the practice is done regularly because the assessment will be integrated in the regularly theatre activities in such a way that it will not be dependent on time availability within the busy theatre schedules (participant No.5).
>
> There should be time allowance, which is not the case in my Hospital, for ward visiting so that it is not done in a hurry like we are doing it at 4.30pm when at 5.00pm you in a rush to go home. The timing should be in such a way that one has like 30 minutes to brief the theatre manager of the findings since the in-charge is likely to be in theatre the following day since most of us work in shifts. The manager should be told what to expect and the gaps identified so as to sort out them out administratively if need bebefore surgery. We have seen patients' being cancelled in theatre prior to surgery because of gaps which could have been easily sorted out during the assessment. That's where your assessment tool will be held with high esteem by institutions if it can help to bridge such gaps (participant no. 3).
>
> It is real that the numbers of nurses in hospitals are very few and it is difficult to release nurses for preoperative visit. In private setups and not in public, it may be possible to release a nurse because assessment is considered part of duty. Once the assessment is integrated in the system, it will have to be done somehow,(participant No. 2).

The participants were probedon how they would ensure effective preoperative assessment and the response was as shown in Table 3.

Table 3: How to ensure effective assessment

Main response
Theme: Frameworks: *subthemes tools/models;* There are no preoperative assessment tools and the use of models is not well understood because of knowledge gaps. An assessment tool specific to perioperative nursing need to be crafted to incorporate nursing care model that cuts across preoperative, intraoperative and postoperative phases of surgical care e.g. Calister Roy Adaptation Model *Theme: assessment data usage:* Communication of assessment findings should be fostered especially among perioperative nurses as well as other collaborators if need be to enhance surgical proficiency. However this doesn't happen always. *Theme: benefit of the assessment:* *subtheme; institution;* The assessment facilitates formulation of comprehensive patients' care plans for quality and proficiency e.g. ensuring availability of the right prosthesis before commencing surgery *Patient:*The assessment empowers patients with information regarding their conditions and surgeries in order to reduce their anxiety levels. *Nurses:* The assessment enhances professional practice in preoperative patient care. *Theme: recommendations:* The tool should be:- 1. Institutionalized and entrenched in the institutional polices to facilitate implementation. 2. Comprehensive but simply to use. 3. Comprehensive regarding perioperative issues 4. Careful crafted to avoid duplication of the ward nurses' role 5. Explored for you feasibility of use in emergency situations.

The participants' suggested various nursing theoretical models to be entrenched in the tool. The models proposed included Florence nightingale's environmental model, Dorothea

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Orem's theory of self care deficit and Calister Roy's Adaptation Model.

> In Florence Nightingale's model, manipulating the environment takes upper hand and we are looking at the patients' physical need when we properly address environmental issues (Participant No.6).
>
> I believe when the environment is conducive for instance if lighting and hygiene is okay, as a patient I will feel psychologically settled. I will be even able to connect with the supernatural... (Participant No. 5).
>
> …to prevent surgical site infection. I feel Orem's theory is important because am thinking of a situation for instance, a street boy who has come to the hospital and has not been observing personal hygiene. You (theatre nurse) have to ensure that he is clean and ready for surgery (Participant no.3).
>
> In Roys' model, adaptation is usually in response to a stimulus (surgery) and one can adapt in three ways i.e. complete adaption, compensation or integration. The type of surgery undertaken will dictate patients' mode of adaptation e.g. Limb amputation will requires complete adaption to replace the function of the lost limb (Participant no.8).

Critically examining the nursing models and theories suggested, the researcher found Nightingales' model not suitable for surgical setting because the focus was mainly on the environment while Orem's focused mainly on the patient. Nursing as a profession is founded on four fundamental concepts i.e. the patient/client who is the recipient of care and the core of nursing, the nurse who is the primary care provider, the environment where the care is being executed and nursing in entirety as the process of care provision. The researcher adopted Roy's Adaptation model because the model is able to address all the three phases of surgery, even though not explicitly compared with other models. According to Roy, adaption is influenced by the environmental, self concept, interdependence and role function. The environmental could be physical like wards or theatrse or abstract like the patients' mind encompassing psychological and emotions care aspects. Self concept is how an individual perceives self especially when challenged with a life threatening situation like surgery. Interdependence connotes the relationship between perioperative nurses, patient and other care givers (surgical team) also known as care collaborators. Role function refers to what the patient can do for himself regarding his/her care (Alligood & Tomey, 2006). The significant of the nursing assessment is to assist patients holistically adapt to surgery.

The draft preoperative assessment tool was peer reviewed by eight perioperative nurses who also participated in the focus group discussion. The reviewers were required to rate the tool using a four Likert scale as follows: 1= No; 2 = Not sure; 3 = somewhat and 4 = Yes. Nine questions guiding the rating were:

1. Is the history review significance to surgery?
2. How do you rate psychological assessment?
3. How do you rate emotional assessment?
4. How do you rate physical assessment verification?
5. How do you rate collaborative intervention through the ward nurse?
6. Is provision for comments necessary?
7. How do you rate the simplicity of the tool?
8. How do you rate the clarity of the tool?
9. Is the role of theatre nurse distinct from that of the ward nurse?

Table 4: Reviewers' responses

Questions	Reviwer 1	Reviwer.2	Reviwer 3	Reviwer 4	Reviwer 5	Reviwer 6	Reviwer 7	Reviwer 8	Total scores	Percentage
1	4	4	4	4	4	4	4	4	32	100
2	4	4	4	4	3	4	4	4	31	96.9
3	4	4	4	4	4	4	3	4	31	96.9
4	4	4	4	4	4	4	4	4	32	100

5	4	4	4	4	4	4	4	4	32	100
6	4	4	4	4	4	4	4	4	32	100
7	4	4	4	4	4	4	4	2	30	93.8
8	4	2	4	4	4	4	4	4	30	93.8
9	4	4	4	2	4	4	4	4	30	93.8

Note: The numbers on the left corresponds to the questions while numbers at the top represent the reviewers.

Conclusion and recommendation

Quality patients' assessment is critical for surgical nursing care proficiency hence requires a validated framework such as the study tool. The tool is not only pertinent to perioperative nursing but also providesa better way of documenting the assessment factually evidencing the practice. The tool was implemented in a clinical trial in a study "determining the influence of nursing assessment on patients' surgical outcomes and anxiety" and proved effective. The tool is copy righted and can be availed through requestfor clinical use adoption (attached as appendix).

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Appendix: © Assessment tool

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PREOPERATIVE ASSESSMENT TOOL

Name :……

Inpatient No……..

Instructions: Tick (√) or (×) as applicable and comment on the spaces provided

001: overview of history significant to theatre

- ☐ 1. Surgical
- ☐ 2. Medical
- ☐ 3. Family social
- ☐ 4. Medicine
- ☐ 5. Smoking
- ☐ 6. Alcohol

Comments .....

.....

002: Psychological assessment (interview patient)

- ☐ 1. Informed consent
- ☐ 2. Special permit
- ☐ 3. Medical cover
- ☐ 4. Impact on sexuality
- ☐ 5. Surgery impact on key roles
- ☐ 6. Sleep/rest disturbance
- ☐ 7. Premedication
- ☐ 8. Verbalizes anxiety
- ☐ 9. Reports visits by relatives/ friends
- ☐ 10. Needs physical orientation to theatre

Comments.....

.....

003:Emotional assessment (interview)

- ☐ 1. Strong self perception
- ☐ 2. Stress coping established
- ☐ 3. Positive surgical beliefs
- ☐ 4. Needs for spiritual service

Comments.....

.....

004:Physical assessment (verify)

- ☐ 1. Vital signs acceptable
- ☐ 2. Conscious
- ☐ 3. Cognitive orientation
- ☐ 4. Skin integrity
- ☐ 5. Nil per oral orders
- ☐ 6. Full range of motion
- ☐ 7. Basic surgical preparation
- ☐ 8. Special considerations
- ☐ 9. Requires urinary catheter
- 10. Normal bowel opening

Comments.....

☐.....

005:Collaborative intervention (report significant findings to relevant persons through ward nurse)

- ☐ 1. Surgical ward nurse
- ☐ 2. Surgeon
- ☐ 3. Anesthetist
- ☐ 4. Technical assistance
- ☐ 5. Social services
- ☐ 6. Spiritual services
- ☐ 7. Theatre nurses
- ☐ 8. Family/ kinsmen

Comments.....

.....

Recommendations

.....

.....

Signature of assessor.....

Initials.....