Anxiety Experience and Preoperative Nursing Care Evaluation Among Postoperative Emergency Caesarian Section Patients in Two Selected Hospitals, Nairobi, Kenya

Lilian Omondi

Medical Surgical Thematic Unit, School of Nursing Sciences, University of Nairobi, Nairobi, Kenya
liliathis@gmail.com

Abstract: Emergency caesarean section poses obstetric, anesthetic and surgical risks to the mother and the unborn baby and exacerbates anxiety which is deleterious. Preoperative nursing care rendered during this period greatly influence patient's care perception, a concept underpinned in this study. Patients' pre- and postoperative anxiety levels and demographics informed by literature reviewed were evaluated. Demographics included age, the level of education, mode of hospital bill payment, history of major illness, previous surgeries, current medication, smoking and the condition of the newborn. A descriptive cross-sectional survey was conducted in a private and a public hospital among patients undergoing emergency caesarean section. Sixty participants were purposively and systematically sampled from the postnatal ward admission registers using inclusion criteria. A structured questionnaire was used to assess participants' demographics and care satisfaction. Anxiety levels were evaluated using Form Y-6. Ethical approval was obtained from the respective ethical review boards. Multivariate nonparametric statistical analyses using Statistical Package for Social Sciences (SPSS) version 17 computer software was used to analyze data alongside descriptive statistics. Significant finding observed regarding demographics were on the level of education and mode of hospital hill payment. The highest level of education attained was tertiary 22(73.3%) in private compared to secondary level 14 (46.7%) in the public hospital. The mode of hospital bill payment was through companies' medical schemes 24(80%) in private hospital and through National Health Insurance Fund (NHIF) 22(73.3%) in public. Mann-Whitney U test showed statistically significant differences in only two out of the six anxiety defining statements assessed postoperatively. Participants at the public hospital felt calmer ($z=-2.071$, $p=0.038<0.05$) and more relaxed ($z=-2.85$, $p=0.004<0.05$) than those at the private hospital. Wilcoxon rank test yielded significant results for only one out of the six care satisfaction defining statements. Participants at the public hospital were more satisfied with the information given by the nurse about what is expected before and after surgery ($z=-2.61$, $p=0.009<0.05$) compared to private. This study evidences nurses' ability to render satisfactory care to patients in emergency situations regardless of socio-patients' demographic profile and type of hospital. There is need to initiate and sustain such care surveillance for quality auditing.

To cite this article
[Omondi, L. (2017). Anxiety Experience and Preoperative Nursing Care Evaluation among Postoperative Emergency Caesarian Section Patients in two Selected Hospitals, Nairobi, Kenya. *The Journal of Middle East and North Africa Sciences*, 3(8), 1-7]. (P-ISSN 2412- 9763) - (e-ISSN 2412-8937). www.jomenas.org**. 1**

Keywords: Care satisfaction, emergency caesarean section, preoperative nursing care, pre-and postoperative anxiety, private hospital, public hospital.

1. Introduction:

In spite of lots of efforts that have been made to ensure safe surgical practices, there is still some degree of uncertainty and feeling of helplessness among patients that makes them feel scared and anxious before surgery (Varcarolis, 1994). Anxiety experience is worse in emergency surgery and worst when two lives are involved like in emergency caesarean section. The effect of which can adversely affect patients' care outcomes including care perception.

It is postulated that preoperative anxiety is a normal feeling for patients undergoing surgery because to be anxious in reaction to a situation is considered a normal human reaction (Leach et al. 2000; Lee and Gin, 2005). Empirical literature supports that patient undergoing surgery experience varying degrees of anxiety (Ismail et. al, 2007). Caumo et al. (2001), Cooke et al., (2005), Pritchard, (2009), Gunstream (2000) and Rosenberger et al. (2006) assert that high levels of anxiety are deleterious in surgery. Janis (2016) warns of dangers of very low levels as well especially in patients with underlying psychological problems.

Most surgical patients experience high levels of anxiety manifested by raised blood pressure, respiratory and heart rates (Caumo et al. 2001; Cooke et al., 2005; Pritchard, 2009). Sustained elevated anxiety levels in the body override the body feedback mechanism that controls the production of adrenal corticotropin hormone hence

elevated blood levels of cortisol. Unmanaged high cortisol levels can lead to protein breakdown causing decreased wound healing process, increased risk of infection, altered immune response and fluid and electrolyte imbalances (Gunstream, 2000 and Rosenberger et al. 2006).

It has been observed that obstetric patients have a higher level of preoperative anxiety levels compared to general surgery (Jafar and Khan, 2009). Extreme anxiety adversely influences both induction of anesthesia and its recovery (Kindler et.al, 2000). In the caesarean section, increased consumption of anesthesia affects the mother and the baby as well (Maranets and Kain, 1999). Excess anxiety also exacerbates postoperative pain and increases vulnerability to depression (Carr et. al, 2005; Vaughn et al., 2007). Some patients experience nausea, fatigue, and discomfort (Montgomery and Bovbjerg, 2004). Some become nervous and apprehensive, an aspect that contributes to dissatisfaction with care rendered (Thomas et al., 1998).

According to Al Emadi et al., (2009), satisfaction is a psychological state elicited by the discrepancy between emotion surrounding disconfirmed expectations coupled with feelings elicited through experience during service consumption. Aragon and Gesell (2003) describes satisfaction as simply the degree of congruency between patient's expectations of actual care and patients' perception of the real care received. Allshouse (1993) further explains that patients' care satisfaction is influenced by actions like compassionate bedside skills, efficient attention to needs, provision of adequate information regarding their care and participation in decision-making.

Nursing care is a key determinant of patients' care satisfaction. In addition, care satisfaction rating by the care recipients is considered as an important tool for evaluating clinical outcomes of a given treatment. It is argued that a satisfied patient is more likely to comply with treatment, attend follow-ups, and advocate the service rendered to others (Addisu and Solomon, 2011).

There are many factors that influence surgical anxiety. These include age, gender, the extent and type of surgery, previous hospital experiences, and susceptibility to and one's ability to cope with stressful experiences according to Boker et al., (2002) contributions among other reasons.

A study that was conducted about the expression of anxiety among women before cesarean section compared to other operations found the existence of a positive correlation between younger age, female gender, and higher educational status with anxiety unlike a prior visit to preoperative surgical clinics or previous surgical experiences. Viktorija and Loreta (2013) found out that highest preoperative anxiety was characteristic of women with incomplete secondary and vocational education. According to Cohen (1980), the urgency of operation was also found to influence the expression of anxiety among women. In the study region, incurring large hospital bill and payment issue is big enough a challenge to elicit anxiety at the thought of it, while considering socio-economic status.

There was no research found that addressed anxiety and care satisfaction among patients undergoing emergency caesarean section surgery in the study region yet these are high risk and vulnerable patients. Empirical literature supports that the variables under investigation are cross-cutting in public and private hospitals but the extent of similarities or contrasts in relation to the type of the clinical setting had not been established. It was envisaged that the study results would give insight to the quality of care rendered during such emergencies to inform practice.

2. Materials and Methodology

2.1. Design

A descriptive cross-sectional survey was conducted among patients' who had had an emergency caesarean section and recuperating in the postnatal wards.

2.2. Description of the study area

The survey was conducted in two selected hospitals in the urban areas in August 2013. One hospital was private and was used as the benchmark while the other was public. The two are tertiary level referral hospitals with large catchment areas and offer diagnostic, curative and consultative services for inpatients and outpatients. The maternity wings in both hospitals are located on the first floor with a serene background, adjacent to the operating theaters and newborn unit.

2.3. Sampling technique

The target population was patients who had undergone emergency cesarean section. The systematic sampling method was used to select every second patient in the postnatal ward admission registers. Consenting patients aged 18 years and above admitted in the post-natal wards with live babies post emergency caesarean section in the two selected hospitals were interviewed. The sample size determined using a formula was 60 with 30 participants from each hospital.

2.4. Variables

The dependent variable was the nursing care rendered and independent variables were surgery, the level of education, mode of hospital bill payment, history of major illness, previous surgeries, current medication, smoking and the condition of the newborn. Outcome variables were care satisfaction, pre-and postoperative anxiety levels.

2.5. Procedure

The participants were identified with the help of the ward nurse in-charges/ team leaders. The comfort of both the mother and the baby were considered. After disclosure

about the study, participants were given the opportunity to seek clarity and to ask questions pertaining to the study. Participation was voluntary and participants were allowed to retain copies of the signed formal informed consents.

2.6. Data collection tools

Structured questionnaires and anxiety assessment tool were self- administered. Participants were given time read through and to complete the questionnaires. The researcher scrutinized the questionnaires for completeness before collection, taking cognizant that the participants were at liberty to respond to the questions as they desired. The questionnaires were stored under key and lock before data entry which was done concurrently with the data collection process. The questionnaires were serialized, coded and remained anonymous to protect participants' identity and confidentiality. This means that no questionnaire could be directly linked to any particular participant.

2.7. Data analysis

Data was entered into the computer and the soft copies and individual folders were protected with passwords to limit access to information. Only authorized persons, i.e. the researcher and the biostatistician were permitted to access the raw data. Data was analyzed using SPSS version 17. Participants' demographic data was summarized in percentage. Mann-Whitney U test and Wilcoxon W test was used to analyze significant differences between the two groups of participants regarding anxiety levels and care satisfaction rating respectively.

2.8. Ethics

All the ethical principles were observed including engaging and interviewing participants after 24 hours of recuperation from surgery according to the anesthesiologists' recommendations. The timing of the interviews was guided by the date and time surgery was done. The administration of questionnaires was done after careful assessment to rule out participants' discomfort related to surgical and anesthesia or any other complication including incisional pain and after ascertaining the welfare and comfort of the baby. Participants were informed about the study, risks and benefits, anonymity, confidentiality, voluntary participation and freedom to withdraw from the study at any point without consequences. Contacts for the ethical review board secretariats and that of the hospitals' administrations were provided for channeling any concerns or misconduct.

2.9. Limitations

Participants were required to use recall method to describe their preoperative anxiety levels which could not be assessed before surgery owing to the emergency situation. The study results are limited to the two study settings selected.

3. Results and Discussions

Participants' response rate was 100% including response to all the questions asked.

3.1. Participants' Socio- demographic characteristics

Significant findings regarding participants' demographic profile showed that majority 22 (73.3%) of the participants in the private hospital were educated up to tertiary level compared to 14 (46.7%) in the public hospital where the highest level of education was secondary. The mode of hospital bill payment in the public hospital was mainly through National Health Insurance Fund (NHIF) 22(73.3%) while in private the medical schemes 24 (80%) from the employers complemented the NHIF (Table 1).

The differences observed in the variations of the level of education and mode of hospital bill repayment were mainly as a result of the differences between the two surgical settings, one being public and the other private. This finding is congruent with a study done in the same region which identified women's household wealth and education as strong correlates for a place of delivery (Fotso et al., 2009). On the other hand, the study results contradicted finding that the highest preoperative anxiety was characteristic of women with incomplete secondary and vocational education as asserted by (Caumo et al., 2001; Viktorija and Loreta, 2013; Valenzuela Millán et al., 2010).

Table 1: *Descriptive analysis of Participants' demographic profile.*

Characteristics	Public (n=30)	Private (n=30)	Total No. (n=60)
Age (Years)			
Below 25	6 (20%)	4 (13.3%)	10
25-29	9 (30%)	13 (43.3%)	22
30-34	13 (43.3%)	8 (26.7%)	21
35-39	2 (6.7%)	4 (13.3%)	6
40 and above	0	1 (3.3%)	1
Parity			
Primigravida	4 (13.3%)	1 (3.3%)	5
Para 1+	18 (60%)	8 (33.3%)	26
Para 2+	3 (10%)	9 (37.5%)	12
Para 3+	6 (20%)	7 (29.2%)	13
Para 4+	4 (13.3%)	0	4
Level of Education			
Primary	4 (13.3%)	1 (3.3%)	5
Secondary	14 (46.7%)	7 (23.3%)	21
Tertiary	12 (40%)	22 (73.3%)	34
Mode of hospital bill repayment			
Company	3(10%)	24(80%)	27
NHIF	22(73.3%)	2 (6.7%)	24
Self	5(16.6%)	4 (13.3%)	9
History of previous surgery			
Yes	11 (36.7%)	10 (33.3%)	21
No	19 (63.3%)	20 (66.7%)	39

History of major illness			
Yes	1 (3.3%)	0	1
No	29 (96.7%)	30 (100%)	59
Whether currently on medication			
Yes	2 (6.6%)	2 (6.7%)	4
No	29 (96.7%)	27 (93.4%)	56
Whether currently a smoker			
Yes	0	0	0
No	30 (100%)	30 (100%)	60
APGAR Score of baby after birth			
Stillbirth	0	0	0
Good	30 (100%)	29 (96.7%)	59
Poor/bad	0	1(3.3%)	1

3.2. Participants' preoperative and postoperative anxiety levels.

Form Y-6 with no right or wrong answers was used. According to the form, Participants' were required not to spend too much time on any one statement, give answers which seemed to describe their present feelings best and were to answer all the questions as follows:

	Not at all	Somewhat	Moderately	Very Much
I feel calm	1	2	3	4
I am tense	1	2	3	4
I feel upset	1	2	3	4
I am relaxed	1	2	3	4
I feel content	1	2	3	4
I am worried	1	2	3	4

Source: Theresa M. Marteau and Hilary Bekker, British Journal of Clinical Psychology (1992), 31,301-306 © 1992. The British Psychological Society. Used with permission.

3.3. Comparison of Participants' preoperative and postoperative anxiety levels

Preoperatively, there were no significant differences in participants' anxiety levels. The p-values for each of the z-scores of the aspects of pre-operative anxiety were all above 0.05. Postoperatively, there were only two aspects of anxiety with significant differences. Participants at the public hospital felt calmer (z=-2.071, p=0.038<0.05) and more relaxed (z=-2.85, p=004<0.05) than those at the private hospital, (Table 3).

These results correspond with the findings of Ismail and colleagues (2007) that supports that all patients experience some degree of anxiety before surgery preoperatively. According to Cohen (1980), Jafar and Khan (2009), anxiety experienced preoperatively is exacerbated by the nature and type of surgery to be performed. Post-operatively, all the participants recorded reduced levels of anxiety. These results are in agreement with the fact that surgical anxiety is highest before surgery and decreases immediately after surgery but may increase again postoperatively (Nijkamp et. al, 2004). The fact that participants in the public hospital felt calmer and more relaxed compared to those at the private hospital can be attributed to the differences between the two hospitals.

Table 2*: Participants' preoperative and postoperative anxiety levels.*

Statement	Preoperative Anxiety			Postoperative Anxiety		
	Public (n=30)	Private (n=30)	Total (n=60)	Public (n=30)	Private (n=30)	Total (n=60)
Felt calm						
Not at all	15 (50%)	19 (63.3%)	34	1 (3.3%)	7 (23.3%)	8
Somewhat	5 (16.7%)	2 (6.7%)	7	3 (10%)	5 (16.7%)	8
Moderately	4 (13.3%)	4 (13.3%)	8	6 (20%)	4 (13.3%)	10
Very much	6 (20%)	5 (16.7%)	11	20 (66.7%)	14 (46.7%)	34
Felt tense						
Not at all	10 (33.3%)	8 (26.7%)	18	24 (80%)	23 (76.7%)	47
Somewhat	13 (43.3%)	11 (36.7%)	24	4 (13.3%)	3 (10%)	7
Moderately	2 (6.7%)	6 (20%)	8	1 (3.3%)	3 (10%)	4
Very much	5 (16.7%)	5 (16.7%)	10	1 (3.3%)	1 (3.3%)	2
Felt upset						
Not at all	21 (70%)	24 (80%)	45	28 (93.3%)	26 (86.7%)	54
Somewhat	7 (23.3%)	5 (16.7%)	12	1 (3.3%)	0	1
Moderately	0	0	0	1 (3.3%)	2 (6.7%)	3
Very much	2 (6.7%)	1 (3.3%)	3	0	2 (6.7%)	2
Felt relaxed						
Not at all	15 (50%)	15 (50%)	30	0	5 (16.7%)	5
Somewhat	7 (23.3%)	5 (16.7%)	12	4 (13.3%)	9 (30%)	13
Moderately	5 (16.7%)	2 (6.7%)	7	6 (20%)	5 (16.7%)	11
Very much	3 (10%)	8 (26.7%)	11	20 (66.7%)	11 (36.7%)	31
Felt contented						
Not at all	11 (36.7%)	5 (16.7%)	16	2 (6.7%)	4 (13.3%)	6
Somewhat	10 (33.3%)	18 (60%)	28	7 (23.3%)	7 (23.3%)	14
Moderately	5 (16.7%)	1 (3.3%)	6	4 (13.3%)	2 (6.7%)	6
Very much	4 (13.3%)	6 (20%)	10	17 (56.7%)	17 (56.7%)	34

Felt worried						
Not at all	7 (23.3%)	4 (10%)	11	25 (83.3%)	22 (73.3%)	47
Somewhat	13 (43.3%)	6 (20%)	19	2 (6.7%)	0	2
Moderately	5 (16.7%)	5 (16.7%)	10	2 (6.7%)	5 (16.7%)	7
Very much	14 (46.7%)	6 (20%)	20	1 (3.3%)	3 (10%)	4

Table 3: *Participants' preoperative and postoperative anxiety levels*

Anxiety parameters	Test Statistics [a]		
	Mann-Whitney U Test	Z - value	P- value (0.05)
Preoperative Anxiety feelings			
Calm	400.5	-0.814	0.416
Tense	397.0	-0.825	0.409
Upset	403.0	-0.910	0.363
Relaxed	418.5	-0.510	0.610
Content	393.0	-0.901	0.367
Worried	352.0	-1.612	0.107
Postoperative Anxiety feelings			
Calm	789.0	-2.071	0.038*
Tense	896.0	-0.390	0.696
Upset	882.0	-0.397	0.349
Relaxed	738.0	-2.846	0.004*
Content	895.0	-0.330	0.742
Worried	861.5	-1.099	0.272

Key: a. Grouping Variable: group of respondents * level of significance p=0.05

3.4. Participants' care satisfaction rating.

Care satisfaction rating was assessed using five predetermined care satisfaction description statements on a Likert scale, 1. Strongly agree, 2. Agree fairly, 3. Agree 4. Disagree and 5. Strongly disagree, (Table 4).

Table 4*: Participants' care satisfaction rating*

Surgical experience	Satisfaction rating	Health facility: Public (n=30)	Health facility: Private (n=30)
The nurse who prepared me for theater gave satisfactory information about my operation.	Strongly agree	14 (45.2%)	8 (26.7%)
	Agree fairly	3 (9.7%)	3 (10%)
	Agree	9 (29%)	11 (36.7%)
	Disagree	3 (9.7%)	6 (20%)
	Strongly disagree	2 (6.5%)	3 (13.3%)
My questions regarding theater were well answered by the nurse	Strongly agree	11 (35.5%)	13 (43.3%)
	Agree fairly	5 (16.1%)	3 (10%)
	Agree	10 (32.3%)	7 (23.3%)
	Disagree	4 (12.9%)	4 (13.3%)
	Strongly disagree	1 (3.2%)	3 (10%)
I was given enough information about what is expected of me before and after surgery by the nurse	Strongly agree	7 (22.6%)	6 (20%)
	Agree fairly	7 (22.6%)	3 (10%)
	Agree	6 (19.4%)	1 (3.3%)
	Disagree	9 (29%)	5 (16.7%)
	Strongly disagree	2 (6.5%)	15 (50%)
I was able to manage pain very well post-operatively	Strongly agree	5 (16.1%)	6 (20%)
	Agree fairly	6 (19.4%)	5 (16.7%)
	Agree	13 (41.9%)	8 (26.7%)
	Disagree	6 (19.4%)	5 (16.7%)
	Strongly disagree	1 (3.2%)	4 (20%)
I can say my surgical experience was very good	Strongly agree	7 (22.6%)	8 (26.7%)
	Agree fairly	5 (16.1%)	7 (23.3%)
	Agree	15 (48.4%)	11 (36.7%)
	Disagree	3 (9.7%)	2 (6.7%)
	Strongly disagree	1 (3.2%)	2 (6.7%)
Do you think a nurse from theater should visit you before surgery?	Strongly agree	20 (64.5%)	28 (93.3%)
	Agree fairly	2 (6.5%)	
	Agree	7 (22.6%)	0
	Disagree	2 (6.5%)	1 (3.3%)
	Strongly disagree	0	1 (3.3%)

3.5. Comparison of Participants' care satisfaction rating.

Wilcoxon W Test yielded statistically significant results for only one aspect of satisfaction. Participants at the public hospital were more satisfied with the information given by the nurse about what is expected before and after surgery (z=-2.61, p=0.009) compared to a

private hospital. All the other aspects of care satisfaction had p-values of greater than 0.05, meaning that there were no significant differences, (Table 5).

Table 5*: Comparison of participants' care satisfaction rating*

Care satisfaction statements	Test Statistics		
	Wilcoxon W Test	Z-statistics	Sig. (2-tailed)
1. The nurse who prepared me for theater gave satisfactory information about my operation.	337.000	-1.932	0.053
2. My questions regarding theater were well answered	462.500	-0.038	0.970
3. I was given enough information of what is expected of me before and after surgery by the nurse	288.000	-2.619	0.009*
4. I was able to manage pain very well post-operatively	417.000	-0.714	0.475
5. I can say my surgical experience was very good	427.000	-0.578	0.563
6. Do you think a nurse from theater should visit you pre-operatively	369.000	-1.937	0.053

a. Grouping Variable: Health facility
** level of significance at p=0.05*

Overall, all participants were satisfied with the care rendered thus reflecting on the quality of care rendered according to (Al Emadi et al., 2009). Mitchell (2008) argues that 'Patient interaction with the nurse and anesthetist prior to surgery is vital as [he or she] frequently seeks answers to a number of questions'. Although in the case of this study, the emergency situation barely allowed for enough interaction between the nurses and the patients. However, from the researcher's experience in public and private hospitals, the differences may be attributed to the hospital differences. This is because nurses in private setting discuss with their patients discreetly with respect to the disclosures by the patients' private doctors compared to patients in public hospitals who are attended to by general doctors.

Conclusion:

Patients undergoing emergency caesarean section under the study were satisfied with the preoperative nursing care rendered despite being very anxious especially in the preoperative phase and regardless of demographic characteristics and the type of the hospital where care was delivered.

Recommendation

There is a need for continuous evaluation of nursing care in emergency surgeries for quality audits.

There is need to explore and to develop a protocol for critical information to be skillfully shared out with patients during emergency surgery within the limited time available in order to further allay anxiety and further enhance care satisfaction.

Conflicts of Interest:

The author declares no conflict of interest.

Acknowledgement

I wish to express my gratitude to the participants from the two hospitals who made this study a success through their responses. I thank all the nurses in the two hospitals for their unrelenting support

Corresponding Author:
Lilian Omondi, Ph.D., MScN., RN.
Medical Surgical Thematic Unit, School of Nursing Sciences, University of Nairobi, Kenya.
E-mail: liliathis@gmail.com

References:

1. Addisu, Z., & Solomon, B. (2011). Patients' preoperative expectation and outcome of cataract surgery at Jimma University Specialized Hospital-Department of Ophthalmology. *Ethiopian Journal of Health Sciences*, *21*(1), 47-56.
2. Al Emadi, N., Falamarzi, S., Al-Kuwari, M. G., & Al-Ansari, A. (2009). Patients' satisfaction with primary health care services in Qatar. *Middle East Journal of Family Medicine*, *7*(9), 4-9.
3. Allshouse, K., D. (1993) Treating patients as individuals. In: Through the Patient's eyes: Understanding and promoting patient-centered care (2nd). Gerteis, M., Edgman-Levitan, S., Daley, J., Delbanco, T., L. (Eds), San Francisco, California, Jossey-Bass Publishers, 19-44.
4. Aragon, S. J., & Gesell, S. B. (2003). A patient satisfaction theory and its robustness across gender in emergency departments: a multigroup structural equation modeling investigation. *American Journal of Medical Quality*, *18*(6), 229-241.
5. Boker, A., Brownell, L., & Donen, N. (2002). The Amsterdam preoperative anxiety and information scale provide a simple and reliable measure of

preoperative anxiety. *Canadian Journal of Anesthesia*, *49*(8), 792-798.
6. Carr, E. C., Thomas, V. N., & Wilson-Barnet, J. (2005). Patient experiences of anxiety, depression and acute pain after surgery: a longitudinal perspective. *International Journal of Nursing Studies*, *42*(5), 521-530.
7. Caumo, W., Schmidt, A. P., Schneider, C. N., Bergmann, J., Iwamoto, C. W., Bandeira, D., & Ferreira, M. B. C. (2001). Risk factors for preoperative anxiety in adults. *Acta Anesthesiologic Scandinavica*, *45*(3), 298-307.
8. Cohen, F. L. (1980). Postsurgical pain relief: patients' status and nurses' medication choices. *Pain*, *9* (2), 265-274.
9. Cooke, M., Chaboyer, W., & Hiratos, M. A. (2005). Music and its effect on anxiety in short waiting periods: a critical appraisal. *Journal of Clinical Nursing*, *14*, 145–155.
10. Fotso, J. C., Ezeh, A. C., & Essendi, H. (2009). Maternal health in resource-poor urban settings: how does women's autonomy influence the utilization of obstetric care services? *Reproductive Health*, *6*(1), 9.
11. Gunstream, S. E. (2000). *Anatomy & Physiology with integrated study guide.* (2nd ed.). Boston, McGraw Hill.
12. Ismail, S., Khan, F. A., Ahmed, A., & Shah, K. A. (2007). Premedication in surgical day care patients. *JPMA. The Journal of the Pakistan Medical Association*, *57*(1), 37.
13. Jafar, M. F., & Khan, F. A. (2009). The frequency of preoperative anxiety in Pakistani surgical patients. *Journal of the Pakistan Medical Association*, *59*(6), 359.
14. Janis, I. L. (2016). *Psychological stress: Psychoanalytic and behavioral studies of surgical patients*. Academic Press.
15. Kindler, C. H., Harms, C., Amsler, F., Ihde-Scholl, T., & Scheidegger, D. (2000). The visual analog scale allows effective measurement of preoperative anxiety and detection of patients' anesthetic concerns. *Anesthesia & Analgesia*, *90*(3), 706-712.
16. Leach, M., Tanner, S., & Zernike, W. (2000). How anxious are surgical patients? *ACORN Journal: Official Journal of the Australian Confederation of Operating Room Nurses*, *13*(1), 28.
17. Lee, A., & Gin, T. (2005). Educating patients about anesthesia: effect of various modes of patients' knowledge, anxiety, and satisfaction. *Current Opinion in Anesthesiology*, *18*(2), 205-208.
18. Maranets, I., & Kain, Z. N. (1999). Preoperative anxiety and intraoperative anesthetic requirements. *Anesthesia & Analgesia*, *89*(6), 1346.
19. Mitchell, M. (2008). Conscious surgery: influence of the environment on patient anxiety. *Journal of Advanced Nursing*, *64*(3), 261-271.
20. Montgomery, G. H., & Bovbjerg, D. H. (2004). Presurgery distress and specific response expectancies predict post-surgery outcomes in surgery patients confronting breast cancer. *Health Psychology*, *23*(4), 381.
21. Nijkamp, M., Kenens, C., Dijker, A., Ruiter, R., Hiddema, F., & Nuijts, R. (2004). Determinants of surgery-related anxiety in cataract patients. *The British Journal of Ophthalmology*, *88* (10), 1310-1314.
22. Pritchard, M. J. (2009). Identifying and assessing anxiety in pre-operative patients. *Nursing Standard*, *23*(51), 35-40.
23. Rosenberger, P. H., Jokl, P., & Ickovics, J. (2006). Psychosocial factors and surgical outcomes: an evidence-based literature review. *Journal of the American Academy of Orthopaedic Surgeons*, *14*(7), 397-405.
24. Thomas, T., Robinson, C., Champion, D., McKell, M., & Pell, M. (1998). Prediction and assessment of the severity of postoperative pain and of satisfaction with management. *Pain*, *75*(2), 177-185.
25. Valenzuela Millán, J., Barrera Serrano, J. R., & Ornelas Aguirre, J. M. (2010). Anxiety in preoperative anesthetic procedures. *Cir Cir*, *78*(2), 147-51.
26. Varcarolis, E. (1994). Reducing stress and anxiety. *Foundation psychiatric mental health nursing. WB Saunders Company: Philadelphia, Pennsylvania, USA*, *343*, 1034.
27. Vaughn, F., Wichowski, H., & Bosworth, G. (2007). Does preoperative anxiety level predict postoperative pain? *AORN Journal*, *85*(3), 589-604.
28. Viktorija, P., Loreta, B. (2013). The expression of anxiety among women before the caesarean section and other operations. NERP 2013:104-10.

Received March 13, 2017; revised June 09, 2017; accepted June 14, 2017; published online August 01, 2017.