



RESEARCH ARTICLE

NURSES PERFORMANCE TOWARD PRE AND POSTOPERATIVE PSYCHOSOCIAL INTERVENTIONS  
FOR PATIENTS IN HOSPITALS, SANA'A CITY, YEMEN

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ABSTRACT

**Background:** It seems that the nurse is an important contact who provides care, information, and support, and also coordinates the patients' care before and after surgery, which may reducing the patients' feelings of insecurity and fear.

**Aim:** to assess the performance level of nurses working in the general surgical wards at selected hospitals in Yemen about psycho-social interventions for pre and post-operative patients and find out the association factors between demographic characteristics and performance.

**Methods:** A descriptive cross-sectional study was carried out in surgical wards of 6 hospitals in Sana'a city, Yemen. A self-administered questionnaire including 45 pre-postoperative psychosocial interventions was distributed to all general abdominal surgical nurses and collected between December 2014 and February 2015. The results were entered, analyzed and tabulated using the Statistical Package for Social Sciences Version 19.

**Results:** Out of 130 nurses, 88.2% of respondents had a moderate level of performance on pre-postoperative psychosocial interventions. Concerning each sub-dimension, the psychosocial, communication and spiritual performance were at a moderate level also, information provision performance was at moderate level and psycho-education were at low level. It is indicated that problems lacked performance regarding PSI in general and particular on psycho-education area among surgical nurses in Yemen. Yemeni surgical nurses were shown to be associated with better performance scores regarding psychosocial. Surgical nurses working in army and non-teaching hospitals were shown to be associated with better performance scores regarding psycho-education.

**Conclusion:** Performance of pre postoperative PSI is moderate level among nurses working in surgical wards.

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INTRODUCTION

Patients awaiting surgical procedures undoubtedly have a high level of stress and anxiety in anticipation of events, threat, and danger related to the surgery and hospital environment that are uncomfortable, uncertain, and that can have negative effects on patients' health status such as negative physiological manifestations and must be considered. (Scott, 2004; Perks *et al.*, 2009; Christóforo and Carvalho, 2009; Yilmaz *et al.*, 2011; Nigussie *et al.*, 2014) The incidence of preoperative anxiety accounts for 92% of patients in surgical wards (Perks *et al.*, 2009). In addition to that the preoperative period is highlighted since surgical patients (SP) are most vulnerable in their needs, both physiological and psychological, making them more vulnerable to emotional imbalance. (Tim and Smith, 2010) Therefore, nurses should provide accurate, complete, and

consistent information to help patients understand the full implications of the disease process. (Krumwiede and Krumwiede, 2012) Preparing the client emotionally and spiritually is as important as doing so physically. Psychosocial preparation and psychosocial support involve the culturally sensitive provision of psychological, social and spiritual care should begin as soon as the client is aware that surgery is necessary. (Tim and Smith, 2010; Hodgkinson, 2008) The literature contained convincing fragments in favor of nurses' assumption regarding the role of perioperative nursing intervention. The care activities that nurses provide at all stages of the perioperative period involve engagement with physical, psychological, social, cultural, or spiritual aspects of the human condition in order to improve patients' quality of life. (Mata *et al.*, 2013) It seems that the nurse is an important contact who provides care, information, and support, and also coordinates the patients' care before and after surgery, which may reducing the patients' feelings of insecurity and fear. (Jonsson *et al.*, 2010) Therefore, pre and post-operative patient psychosocial

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interventions (PSI) with ultimate effective management is one of the most important aspects of patient care and is relevant to all surgical nurses (SN). Since much of the responsibility for the patients' comfort rests with the nurses, they need to have a solid foundation of knowledge and skills about psychosocial preparation as well as positive attitude towards that aspect of care. This enables them to assess patients' condition and deliver individualized care to each patient so as to reduce anxiety, fear, and discomfort and enhance the quality of life. There has been no documented study in Yemen reporting nurses' performance related to pre and post-operative psychological interventions.

**Aim & Objective:** The aim of the study was to assess the level of nurses' performance toward pre and post-operative psychosocial interventions for patients admitted to hospitals, Sana'a city, Yemen.

## MATERIALS AND METHODS

A descriptive cross-sectional study was carried out from December 2014 to February 2015 in the surgical wards at Sana, a city hospitals. Six hospitals were selected included 2 public hospitals, 2 army hospitals, and 2 private hospitals. These hospitals provide primary, secondary and tertiary services for patients and were identified as having the highest number of abdominal surgery. The target population was all surgical wards nurses who are working on adult general abdominal surgery at the above-mentioned settings. Out of the 130 nurses, 102 responded, a response rate was (78.4%). Participants were selected according to the following criteria: a nurse who was working in general abdominal surgical wards, with at least two years experiences, currently working full time, willing to participate voluntarily in the study. We exclude from this study those who have education level less than 3 years diploma degree in nursing, and those who are not directly involved in the bedside patient care such as nurse managers. Data were collected through self-administered questionnaire. The content of the questionnaire is developed by researcher after an extensive literature review of relevant studies, (Legg, 2011; Quesnel *et al.*, 2012; Mitchell, 2012; Mavros *et al.*, 2011; Liddle, 2012; Ting *et al.*, 2013; Aldossary, 2013) and consultation with experts in the field of psychology and surgical nursing in order to fit the purpose of the study. The questionnaire was reviewed and tested for its reliability and content validity through six pre and post-operative practical and academic experts, as a result of this phase one item was added.

A pilot study was conducted in 12nurses to test the clarity and validity of the study tool contents; approximately 25-30 min to complete the questionnaire. Cronbach alpha for the overall instrument was 0.88. The questionnaire consisted of two parts: The first part included the demographic data such as sex, age, the level of education, nationality, years of experience and place of work. The second part involved 45 items related to PSI which include; 15 items for psychosocial, communication and spiritual aspects; 15 items for information provision aspects; 15 items for psycho-education aspects, five points Likert scale was used; 1= never, 2= seldom, 3=sometimes, 4=often, and 5=very often. The total score on the structured performance activities for each sub-dimension ranges from 1-75 which was categorized into three levels: Low (15-35), Moderate (36-55) and High (56- 75). Permission to conduct this study was obtained from the ethics committee of Faculty

of Medicine and Health Sciences, Sana'a University. Litters were submitted from Faculty of Medicine and Health Sciences to managers of hospitals in order to obtain permission to conduct the study. Written informed consent was obtained from each participant after the purpose of the study and that their participation was voluntary had been fully explained. Data were analyzed by using SPSS for Windows, (version 19). The participants' demographic characteristics and role performance were analyzed using descriptive statistics, including number, percentage, mean and standard deviation. Analytical statistics, including independent t-test, ANOVA, and  $p$ -value< 0.05 was considered statistically significant.

## RESULTS

The demographic characteristics of the respondents are shown in Table 1. Out of the 130 nurses working in general surgical wards of 6 hospitals (2 public hospitals, 2 army, and 2 private hospitals) in Sana'a city, Yemen. Most respondents were females (52.9%), Yemeni nurses (69.6%), aged between 25 and 29 years, and had a diploma degree in nursing (69.6). Nearly half of them (46.1%) had working experience of fewer than 5 years and (49, 0%) of the nurses were worked in public hospitals, details are presented in Table 1.

**Table 1. Demographic characteristics of nurses**

Demographic characteristics	No	%
Sex		
• Male	48	47.1
• Female	54	52.9
Nationality		
• Yemeni	71	69.6
• Foreign	31	30.4
Age range		
• < 20 years	3	2.9
• 20-24 years	30	29.4
• 25-29 years	47	46.1
• ≥ 30 years	22	21.5
Level of education		
• Diploma	71	69.6
• Bachelor Degree.	31	30.4
Years of experiences		
• < 5	47	46.1
• 5-9	42	41.2
• 10-14	9	8.8
• ≥15	4	3.9
Type of hospital		
• Public	50	49
• Private	25	24.5
• Army	27	26.5

The results revealed that the level of nurses 'performance regarding pre and post-operative PSI was at a moderate level. Out of 102 SN 90 (88.2%) [Reported that their performance regarding pre-postoperative PSI was at a moderate level; 8 (7, 9%) were at a high level and 4 (3, 9%) were at a low level]. Concerning each sub-dimension, the psychosocial, communication and spiritual performance the majority (74,5%) of respondents were at moderate level; (16,7%) were at high level and (8,8%) were at low level ([MS]=47,4), and

**Table 2. Distribution of nurses performance and its sub-dimensions toward pre-post-operative psychosocial interventions (N=102)**

Variables	Mean± SD	Level
• Psychosocial, communication aspects	47.4±7.8	Moderate
• Information provision aspects	49.9±9.4	Moderate
• Psycho education aspects	33.7±5.9	Low
Total performance	131±17.9	Moderate

**Table 3. Distribution of nurses performance toward psychosocial, communication and Spiritual aspects by domain items (N=102)**

Nursing activities (Domain items)	Never n (%)	Seldom n (%)	Some times n (%)	Often n (%)	Very often n (%)
Protecting confidentiality and privacy of SP	0(0)	7(6.9)	21(20.6)	39(38.2)	35(34.3)
Using terms easily understood (avoid using the medical jargon) with SP and his/her family.	10(9.8)	15(14.7)	42(41.2)	30(29.4)	5(4.9)
Discussing with SP & his/her family regarding planned care	19(18.6)	41(40.2)	22(21.6)	14(13.6)	6(5.9)
Assessing the SP's psychological needs	10(9.8)	15(14.7)	48(47.1)	25(24.5)	4(3.9)
Assisting SP to clarify misconceptions concerning reasons of fear & anxiety & reassuring him	24(23.5)	11(10.8)	30(29.4)	26(25.5)	11(10.8)
Encouraging SP & his/her family verbalization of feelings, perceptions, and fears during pre-postoperative care & reassuring them	27(26.5)	6(5.9)	28(27.5)	30(29.4)	11(10.8)
Answering SP & his/her family questions thoroughly during pre-postoperative care	0(0)	16(15.7)	36(35.3)	47(46.1)	3(2.9)
Assessing the coping mechanisms used by SP in the face of stress/fear/anxiety	7(6.9)	10(9.8)	45(44.1)	34(33.3)	6(5.9)
Helping SP to identify and use his or her own resources, strengths and abilities	7(6.9)	14(13.7)	41(40.2)	29(28.4)	11(10.8)
Modifying the environment to improve relaxation	3(2.9)	11(10.8)	32(31.4)	39(38.2)	17(16.7)
Communicating about SP's care with other healthcare team members	33(32.4)	27(26.5)	23(22.5)	11(10.8)	8(7.8)
Assessing SP 's spiritual, religious & cultural needs & help to find meaning in his/her suffering	33(32.4)	22(21.6)	21(20.6)	18(17.6)	8(7.8)
Using, touch, speak, listen actively, provide enough time, etc. as a nursing intervention during pre-postoperative care	18(17.6)	10(9.8)	46(45.1)	16(15.7)	12(11.8)
Showing respect for SP' cultural differences, spiritual and religious beliefs	0(0.0)	12(11.8)	30(29.4)	49(48.0)	11(10.8)
Helping SP to continue their daily spiritual practices	0(0)	15(14.7)	25(24.5)	42(41.2)	20(19.6)

**Table 4. Distribution of respondents performance regarding information provisions by domain items (N=102)**

Nursing activities	Never n (%)	Seldom n (%)	Sometimes n (%)	Often n (%)	Very often n (%)
Assessing SP*** knowledge level regarding reasons, purpose & management of surgery prior to providing information	6(5.9)	18(17.6)	38(37.3)	37(36.3)	3(2.9)
• The hospital daily routines (e.g. times of visiting for family & friends	5(4.9)	3(2.9)	30(29.4)	47(46.1)	17(16.7)
• Surgical ward environment, services& personnel who working in	7(9.6)	11(10.8)	30(29.4)	38(37.3)	16(15.7)
• Hospitalization staying& cost expected	8(7.8)	13(12.7)	36(35.3)	31(30.4)	14(13.7)
• Operating theater environment including time & duration of operation	2(2.0)	9(8.8)	24(23.5)	48(47.1)	19(18.6)
• Preoperative preparation (procedures & investigations )	2(2.0)	12(11.8)	20(19.6)	46(45.1)	22(21.6)
• Surgical procedures	7(6.9)	20(19.6)	24(23.5)	38(37.3)	13(12.7)
• Anesthesia	9(8.8)	25(24.5)	30(29.4)	35(34.3)	3(2.9)
• Recovery expected outcomes	11(10.8)	23(22.5)	48(47.1)	21(20.6)	4(3.9)
• Postoperative pain management expected	3(2.9)	21(20.6)	48(47.1)	21(20.6)	9(8.8)
• Postoperative care related to incision, drainage, manage for breathing, etc.	6(5.9)	9(8.8)	23(22.5)	46(45.1)	18(17.6)
• Postoperative patient self-care	2(2.0)	9(8.8)	25(24.5)	48(47.1)	18(17.6)
• Post discharge management	6(5.9)	3(2.9)	35(34.3)	40(39.2)	18(17.6)
• The purpose of each clinical procedure to SP before intervention during the hospitalization period	2(2.0)	10(9.8)	47(46.1)	29(28.4)	14(13.7)
Providing adequate information to SP according to his/her need	22(21.6)	37(36.3)	21(20.6)	16(15.7)	6(5.9)

**Table 5. Distribution of respondents performance regarding psycho-education by domain items (N=102)**

Nursing activities	Never n (%)	Seldom n (%)	Some times n (%)	Often n (%)	Very often n (%)
Assessing SP*** readiness to learn	15(14.7)	27(26.5)	47(46.1)	11(10.8)	2(2.0)
Providing appropriate education to SP according to his/her type of surgery	15(14.7)	26(25.5)	43(42.2)	17(16.7)	1(1.0)
Explaining to SP about what to expect in the ensuing hours and days until SP discharge	8(7.8)	26(25.5)	32(31.4)	34(33.3)	2(2.0)
Educating SP on use of pain tool measurement	33(32.4)	20(19.6)	39(38.2)	6(5.9)	4(3.9)
Educating SP on the use of music, distraction, etc. as methods to reduce his/her anxiety & pain	42(41.2)	28(27.5)	17(16.7)	7(6.9)	8(7.8)
Educating SP on the use of relaxation techniques such as:					
• Progressive muscle relaxation	65(63.7)	15(14.7)	14(13.7)	6(5.9)	2(2.0)
• Guided imagery	62(60.8)	18(17.6)	11(10.8)	6(5.9)	5(4.9)
• Cognitive reframing technique	87(85.3)	4(3.9)	11(10.8)	0(0)	0(0)
• Taking a deep and rhythmic breath	13(12.7)	19(18.6)	35(34.3)	27(26.5)	8(7.8)
• Meditation	75(73.5)	12(11.8)	11(10.8)	4(3.9)	0(0)
• Physical exercise	11(10.8)	17(16.7)	37(36.3)	28(27.5)	9(8.8)
Communicating the information & education to SP through use of:					
• Verbal explanation (oral)	0(0)	2(2.0)	25(24.5)	44(43.1)	31(30.4)
• Verbal explanation with pictures	62(60.8)	13(12.7)	11(10.8)	12(11.8)	4(3.9)
• Pamphlets (written)	61(59.8)	16(15.7)	19(18.6)	4(3.9)	2(2.0)
• Video	84(82.4)	7(6.9)	11(10.8)	0(0)	0(0)

Table 6. Relationship between nurses' characteristics and their performance

Demographic data		Relationship between nurses' characteristics and their performance					
		Psychosocial, communication aspects		information provision aspects		psycho-educational aspects	
Population's Character	N (%)	Mean (SD)	P-Value	Mean (SD)	P-Value	Mean (SD)	P-Value
Total sample	102(100)	47.5(7.8)		49.9 (9.4)		33.6(5.9)	
Sex			$p < .54$		$p < .63$		$p < .48$
Male	48(47.1)	47.9 (7.2)		49.3 (1.6)		33.2(6.1)	
Female	54(52.9)	47.0 (8.3)		50.7 (9.1)		34.0(5.7)	
Nationality			$p < .000$		$p < .24$		$p < .71$
Yemeni	71(69.6)	49.2 (7.2)		50.6 (8.6)		33.8(5.8)	
Foreign	31(30.4)	43.3 (7.7)		48.3(10.4)		33.3(6.2)	
Age			$p < .772$		$p < .05$		$p < .256$
≤ 20 years	3(2.9)	50.6 (9.2)		49.3 (1.5)		28.6(2.0)	
20-24 years	30(29.4)	46.3 (7.2)		48.3 (8.5)		34.3(5.5)	
25-29 years	47(46.1)	47.4 (8.9)		50.7 (9.1)		34.1(6.4)	
30-34 years	14(13.7)	47.6 (6.7)		45.8(11.0)		33.5(5.6)	
35-39 years	4(3.9)	49.2 (4.7)		58.7(10.5)		28.0(1.8)	
≥ 40 years	4(3.9)	51.7 (2.0)		58.5 (5.6)		33.2(2.8)	
Level of education			$p < .02$		$p < .25$		$p < .004$
Diploma	71(69.6)	46.2 (7.8)		50.6 (8.7)		32.5(5.3)	
Bachelor	31(30.4)	50.1 (7.1)		48.3(10.7)		36.1(6.3)	
Years of experiences			$p < .34$		$p < .20$		$p < .37$
≤ 5	47(46.1)	47.1 (8.0)		48.8 (8.1)		33.1(5.3)	
5-9	42(41.2)	46.8 (7.4)		50.3 (8.8)		34.8(6.4)	
10-14	9(8.8)	48.7 (9.3)		49.4(16.6)		31.7(7.0)	
15≥	4(3.9)	54.0 (2.8)		59.2 (4.1)		32.0(1.4)	
Type of hospital			$p < .681$		$p < .157$		$p < .001$
Public (n=2)	50 (49)	46.9 (7.7)		50.9(7.5)		31.7(5.1)	
Private (n=2)	25(24.5)	48.6 (8.7)		46.8(12.0)		34.0(6.2)	
Army (n=2)	27(26.5)	47.2 (7.2)		51.0 (9.6)		36.8(5.6)	

information provision performance the majority (65,7%) of respondents were at moderate level; (27,5%) were at high level and (6,9%) were at low level (MS=49.9), and psycho-education the majority (65,7%) of respondents were at low level and (34,3%) were at moderate level (MS=33,7), table 2. In reference to Table 3, nurses' performance regarding the psychosocial, communication and spiritual aspects, the results revealed that the highest percentage was found in the item of "protecting confidentiality and privacy of SP (72.5%) were rated that often or very often performance it". While the lowest percentage (9.8%) presented in items of "discussing with SP & his/her family regarding planned care were reported that they often & very often discussed it". In the area of spiritual care, the results depicted that the lowest percentage presented in the item of "Assessing SP's spiritual, religious & cultural needs & help to find meaning in his/her suffering", more than half of respondents (54.0%) were rated their performance never and seldom assessed it". In reference to Table 4, surgical nurses' performance regarding information provision, the results revealed that the highest percentage was found in item of providing appropriate information to SP and his/her family about "pre-operative preparation procedures & investigations, the majority of respondents (66.7%) were rated that often or very often provided it". While the lowest percentage presented in the item of "Providing adequate information to SP according to his/her need, the majority of respondents (59.9%) reported

that they never or seldom provided it". In relation to psycho-education Table 5, the results revealed that the lowest percentage presented in item of "Using music, distraction, etc. as a methods to reduce SP anxiety & pain" most of the respondents (68.7%) were rated their performance either never or seldom used it" and "Educating SP on use of pain tool measurement" 53 of respondents(52.0%) were rated their performance never and seldom educated it" Related to relaxation technique, the majority of respondents (85.3%) reported they never educating SP on the use of cognitive reframing technique;( 73.5%) reported that they never use of meditation; (63.7%) reported that they never use of progressive muscle relaxation and also guided imagery (60.8%) respectively. Regarding the method of education and information provision, the highest percentage was found in an item of communicating the information & education to SP through the use of verbal explanation (oral), the majority of respondents (73.5%) were rated that either often or very often used it. While the lowest percentage presented in items of using of video, the majority of respondents (82.4%) reported that they never used it.; (59.8%) reported that they never use pamphlets (written) and (60.8%) reported that they never use verbal explanation with pictures.

There was no association between demographic variables and overall performance scores regarding pre and post-operative

PSI. whereas, age, nationality, the level of education and type of hospital were found to have a significant and independent effect on the performance of surgical nurses' towards sub-dimension of pre and post-operative PSI, while, sex and years of experience were not significantly associated at a  $p$ -value of  $\leq 0.05$  Table 6.

## DISCUSSION

Findings of this study indicated that SN had a moderate level of performance regarding pre-and postoperative PSI which was higher compared to study conducted to investigate Jordanian nurses' perceptions of their role in clinical practice which revealed that practical nurses were not perceived to play any role in the psychosocial and communication domain of nursing. (Shurique *et al.*, 2008) and approximately in the line with the result of a study done in Saudi Arabia who concluded that patient care management, with unclear evidence of role legitimacy regarding the psychosocial and communication aspects of patient care. (Aldossary, 2013) This finding could be due to several factors that influence the moderate level of performance. The first factor is the study respondents who had a diploma degree in nursing since the low level of education might affect the performance. So data analysis showed that holding bachelor level were shown to be associated with better performance scores regarding psychosocial ( $p < 0.02$ ) and psycho-education ( $p < 0.004$ ) than holding diploma level. This result was expected, as respondents' education level increased, their level of performance also increased. In Yemen, the curriculum of a bachelor degree is more credit hours of teaching in both theory and practicum in surgical nursing care areas than diploma degree. (Sana'a University, 2009) The second possible explanation for this might be that (30.4%) of the participants were non-Yemeni staff nurses who have been spoken different languages and that may consider as a hinder influence on patient-centered communication. These findings are supported by another previous study that revealed that culturally diverse groups have a greater potential to generate more conflict and miscommunication than do homogeneous groups. (Pesut *et al.*, 2008) Moreover, cultural differences are often cited as a barrier to effective communication, leading to poor adherence, dissatisfaction with care, and adverse health outcomes. (Teal and Street, 2009) Therefore, finding confirmed that Yemeni respondents were shown to be associated with better performance scores regarding psychosocial ( $p < 0.000$ ) than others.

A third explanation may be due to the high sensitivity of the questionnaire of pre and post-operative PSI in this study. Because most of the items were required more technically and intellectually to perform them and the most of the respondents were holding diploma degree in nursing would be one factor might relate to their moderate level. Data analysis showed that there was no significant difference in performance between respondent's years of experience. This might be because of the fact that nursing education in Yemen, curriculum in both diploma and a bachelor degree in nursing included general principles of PSI. Therefore no specific contents of pre-postoperative PSI would be one factor might relate to their moderate level. Finally, in reality, there are many factors influencing surgical nurses' performance such as nurses' time availability, language barriers, and tight operation schedules, 36 inadequate nurses to patient ratio, shortage of nurses and high workload. (Legg, 2011) Consideration was given to lowest mean score ( $\leq 50\%$ ) to each item analysis of performance

regarding pre and post-operative PSI in this study. It was shown that only a few (9, 8%) of surgical nurses often and very often "discussing with SP & his/her family regarding planned nursing care". This result in contrary, with the study conducted in five European countries that reported that nurses believed that they engaged their patients in their care decision making. (Suhonen *et al.*, 2003) A possible explanation was respondents of our study had been never using practical guide in clinical practice and the absence of policies. Findings also indicated that assessing spirituality needs for surgical patients were found to be the lowest performance among surgical nurses. This finding may be not seen as a priority in the surgical system within which they work. This finding is concurrent with another study which reported that nurses' spiritual care practices are inadequate, (Baldacchino, 2006; Narayanasamy, 2003). On other hand, more than half of respondents (58.8%) reported that they often or very often showing respect for SP' cultural differences, spiritual and religious beliefs and most of theres pondents (60.8%) reported that they often or very often helping SP to continue their daily spiritual practices (e.g., rituals, prayer, meditation, reading the Holy Koran & listening to music). One possible explanation for the significant finding could be due to Yemeni people and staff nurses' great value and belief toward the principle of religious practice among them. So, they practice it every day as human attitude toward others without consciousness. In these regard findings from others studies, (Narayanasamy, 2006; McEwen, 2005) indicated that nurses who are religious are mostly likely to respond to patients' spirituality. Also respecting and addressing patient's spirituality and religious practices are expected of staff nurses. (Hodge, 2006; Cavendish *et al.*, 2007) Further, another study, (Lundmark, 2006) reported that survey respondents with a nominated religion and those who engaged in activities such as meditation, praying or reading religious materials, were more likely to report positive attitudes towards spiritual care. In addition to that fact presented by are cent study, (Nixon *et al.*, 2013) reported that some nurses may only be practicing spiritual care on an unconscious level.

Regarding information provision, results show that respondents who aged  $\geq 35$  years old were shown to be associated with better performance scores regarding information provisions with younger groups of age ( $p < 0.05$ ). The reason might be respondents with greater age group have more chance to work with different professionals in the surgical ward for prolonged period so, that they have a greater chance to acquired experience how to provide information as compared to those who have less age group. In this study, the majority of respondents (59.9%) reported never or seldom provided adequate information to surgical patients according to patient's need. This finding is similar to what was noted in other studies, (Mordiffi *et al.*, 2003; Gilmartin and Wright, 2008; Williams, 2008) and reflects that surgical patients who have undergone abdominal surgery report being irritated by not being given sufficient or clear pre-operative information based on their needs or being given inconsistent information by different health care providers. So, there is a need to develop strategies that assist nurses to evaluate the information requirements of each patient. In relation to psycho-education, most of the respondents 65.7% rated their performance at a low level. The less than optimal psycho-education performance in SN, this might be because of the fact that psycho-education training program offered to nurses in both diploma and a bachelor degree in Yemen might not particularly focus on the pre and post-operative, this is necessary for the further improvement of

this training program. The finding of this study depicted that surgical nurses working in army hospitals were shown to be associated with better performance scores regarding psycho-education than surgical nurses working in other non-armed hospitals ( $p < 0.001$ ). This may attribute to the presence of guide of practice; managerial efficiencies and organized at surgical ward or surgical nurses in these hospitals might be better oriented to PSI than other hospitals. Furthermore, SN working in non-teaching hospitals were shown to be associated with better performance scores regarding psycho-education than SN working in teaching hospitals ( $p < 0.001$ ). A possible explanation for the significant finding could be due to the presence of one army and two private hospitals within non-teaching hospitals suggesting that the decentralized nature of the private sector may be placing more responsibility on the individual practitioner and therefore promoting accountability and maintenance of competence. (Shuriquie *et al.*, 2008) However, the lowest mean score of performance was found in some items such as using music, distraction, etc, as methods to reduce SP anxiety & pain; educating SP on the use of pain tool measurement and educating SP on the use relaxation technique. This might be due to the lack of education resources, most respondents' low level of education and fewer years of experience. Support for this finding by another previous study that revealed that surgical nurses may not have educational skills that can be used on a formal level within an educational framework. (Fitzpatrick and Hyde, 2006) In addition to that other recent study noted that surgical nurses were not identified as educators in the preoperative phase. (Mata *et al.*, 2013) Furthermore, another study was concluded that pre-operative patient teaching was not fully achieved by surgical nurses. (Lee and Lee, 2013)

On the other hands, a study done in Ireland reported that verbal communication is the most common method and perhaps is the only way for nurses to deliver information to their patients in current practice. (Fitzpatrick and Hyde, 2005) This result was congruent with the current study. Also in line with the findings reported by the previous study in which 91% of the nurses preferred to use face-to-face oral explanations as a method of information delivery and seldom used other teaching methods. (Tse and So, 2008) This indicated that surgical nurses have limited resources in communicating the information & education to SP; therefore, it is needed to provide update skills to surgical nurses in these areas.

## Conclusion

In conclusion, the performance of pre and post-operative PSI is moderate level among nurses working in Yemeni surgical wards. Concerning each sub-dimension, the psychosocial, communication and spiritual performance were at a moderate level also, information provision performance was at a moderate level and psycho-education were at low level.

## Recommendations

We recommended that the urgent need to evaluate, revise and update the education and training program including the guidelines and policies in pre-postoperative PSI for all nurses in surgical wards through nursing schools, colleges, hospitals and nursing council, to get abreast with the new trends to improve their' performance in pre and post-operative PSI. Further, studies to be conducted in a more representative sample for better understanding and improving generalization.

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## Authors Contribution

**MA:** Study concept, Study designing, Data collection, analysis, Manuscript writing;

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