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RESEARCH ARTICLE

KNOWLEDGE OF NURSES ON ACUTE PAIN ASSESSMENT AND DIAGNOSIS AMONG POST-OPERATIVE PATIENTS IN FEDERAL MEDICAL CENTRE, OWO, ONDO STATE, NIGERIA.

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Abstract

Pain is one of the commonest reasons why individuals visit various hospitals for treatment. It gives people capability to be aware of tissue trauma. Despite enormous technological advances and substantial research in the area of pain management in recent years, numerous studies indicate that post-operative pain is not relieved in most patients. The target population was nurses involved in the care of post-operative patients. Ninety- three nurses that consented in surgical wards in the study setting filled the questionnaire while seventeen out of them were involved in in-depth interview and they were analyzed using descriptive and inferential statistics. Results showed that a very low percentage of the respondents (18.3%) had adequate knowledge of pain and its assessment. In conclusion, it was demonstrated that there was no significant association between nurses' educational qualification and knowledge of acute pain. Likewise, there was no significant association between nurses' years of experience and knowledge of acute pain as well. It is therefore of high importance that nurses update their knowledge especially on assessment and diagnosis of acute pain this is one of the major reasons while many individuals are hospitalized. It is also necessary to be able to bridge the gap between theory and practice.

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Introduction:-

Pain is a diverse set of perpetual events that are characterized by their unpleasant or distressing nature (NANDA, 2006). Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage (International Association for the Study of pain, 2015). It is not a discrete sensory experience that is switched on by a particular or identifiable set of pain pathway to elicit an invariant sensation. Although, from our everyday experience, we tend to associate pain only with an intense or noxious peripheral stimuli in most patients, pain arises either in the apparent absence of any peripheral input (spontaneous pain) or in

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response to low intensity or innocuous stimuli that are usually not associated with pain. Pain is a subjective experience, and no objective tests exist to measure it (American Pain Society, 2006). Acute pain has strong cognitive and emotional components, though it is still poorly understood (Woolf, 2001; Abiodun, Olaogun, Adereti & Ayeni, 2016). It is a highly subjective state in which a variety of unpleasant situations and a wide range of distressing factors may be experienced by the sufferer (Herdman, 2012).

Knowledge of these features may assist in diagnostic accuracy. Advances in knowledge and use of the nursing process have driven the construction of standardized terminologies (for the elements of nursing practice diagnosis, intervention and outcomes) to enable the classification and organization of these elements into coherent units of cross referenced information. These classification systems facilitate the communication and encoding of information for entry into computer databases and provide other major benefits to clinical practice, teaching and research in nursing (Almeida, Lukena, Franzen & Laurent, 2011; Abiodun, Olaogun, Adereti & Ayeni, 2016).

Anecdotal observations have it that there are many potentially successful approaches available for pain management yet there is still a shortage of knowledge about the strategies used by health professionals especially how reliable the strategies are. The fact that patients often undergo a deal of suffering from pain and lack of adequate relief may be considered as an indicator for shortage of knowledge (Abiodun, Olaogun, Adereti & Ayeni, 2016).

Despite advances in technology and medications, unrelieved post-operative pain continues to be problematic for surgical patients and the claimed vast amount of current knowledge still puts uncontrolled post-operative pain percentage in patients at approximately 50% (Craig, 2014). Clinical studies from different parts of the world reveal that the incidence of post-operative pain reported is still high with about 75% reporting moderate pain and additional 15% severe pain. A national study was done in United State of America among surgical patients, it was reported that 80% had moderate to severe pain with more patients experiencing pain after discharge than before discharge (International Association for the Study of Pain, 2000). Establishment of the nursing diagnosis of acute pain in post-operative patients requires nurses to conduct a careful assessment by observing and noting the defining characteristics during assessment. Valid and reliable assessment of pain is essential for both clinical trials and effective pain management. The nature of pain makes objective measurement impossible. Acute pain can be reliably assessed, both at rest (important for comfort) and during movement (important for function and risk of post-operative complication) (Breivik et al, 2008) by identifying its indicators. In developing countries like Nigeria where there are so many challenges in the management of pain. A study was done in a teaching hospital, it was revealed that analgesia was not prescribed in 45% of post-operative cases and that even when post-operative analgesia were provided, they were inadequate in the majority of patients (American Pain Society, 2006). Pain assessment, accurate diagnosis and management are therefore clinical problems that health workers have to deal with. Kolcaba's Theory of Comfort served as the conceptual framework for this study. Comfort Theory is a nursing theory developed in the 1990s by Katharine Kolcaba (Kolcaba, 1992; Craig, 2014). In Comfort Theory, human needs are addressed as existing in three characteristics: relief, ease, and transcendence. (Craig, 2014) The study's objectives aimed at evaluating the knowledge of nurses on pain assessment and diagnosis.

Methods:-

The study utilized explorative descriptive design (mixed method) and was conducted in a tertiary hospital setting (Federal Medical Centre, Owo) which is located in Owo Local Government Area in Ondo-State, Nigeria. Owo is located in Ondo North Senatorial district and belongs to Owo/Ose Federal Constituency. It is a tertiary health institution that was established in November, 1994. The Centre is a major referral health facility in the state. There are 19 wards in all out of which 7 are surgical wards. The Centre is 303 bedded out of which 114 beds are in surgical wards. There are 371 Nurses in the Centre at large while 97 of them were in the surgical wards as at the time of this study.

The scope of the study spanned over clinically assessing and identifying acute pain in post-operative patients by nurses and measuring their knowledge level. Nurses in the following wards participated in the study; male surgical, female surgical, obstetrics, gynaecology, male orthopaedic, female orthopaedic and burns unit. Five research assistants and the principal researcher administered the questionnaires which was the major research tool used. Data collection took about two and a half months.

The target population for the study was nurses who work in the male surgical, female surgical, male orthopaedic, female orthopaedic, obstetrics, gynaecological and burns wards in Federal Medical Centre in Owo. A census of the

all the nurses in the male and female surgical wards, male and female orthopaedic wards, obstetrics and gynaecology wards and burns unit was done and the total was 97. Hence, all the nurses who consented in the wards (93) participated in the study. In-depth interview was done for 17 out of the 93 nurses. The interview session was held with only 17 because the last few participants responded almost the same way (Saturation point) hence, the interview session was stopped. Two different samples were obtained for the study. Purposive sampling technique was used. This consists of a sample of all nurses who work in surgical wards. Two instruments were used for the study:

1. **Questionnaire:-**

The questionnaire had two sections; section A has 9 items on socio – demographic data while section B has 10 items on knowledge of acute pain and its assessment. It took about 25-30 minutes to administer each questionnaire.

2. **In – depth interview for nurses:-**

This is a self – developed instrument by the principal researcher. It has two sections. It was modified by the researcher's supervisor and other experts in pain management. Section A had the socio-demographic/professional characteristics. Section B had four open ended questions on pain, question 5 was an open-ended item seeking for defining characteristics of pain that the nurses know while item 6 is seeking for the defining characteristics that the nurses observe in post-operative patients on their wards. Items 7-11 were open-ended questions on pain assessment, diagnosis, how pain is managed and the influence of culture and education on pain perception. The interview sessions were done one on one and they took place at pre-agreed places and times. Each interview session took about 40 minutes. The sessions were audio-recorded and written down verbatim before analysis.

The socio-demographic characteristics were analyzed using descriptive statistics such as frequency tables, mean, mode, median and standard deviation. Responses from the other sections of the questionnaires were also presented using descriptive statistics i.e. frequency distribution, mean, mode, median, variance, standard deviation, Cronbach's alpha reliability test and Chi - square were used to describe relationships between variables. SPSS version 17 package was used in testing the various hypotheses generated to guide the study. Responses from the interview sessions were analyzed using typical verbatim reports.

Results:-

Table I:-Socio-demographic characteristics of respondents' that filled the questionnaire.

Demographic characteristics	Frequency (N = 93)	Percent
Gender:		
Male	21	22.6
Female	72	77.4
TOTAL	93	100%
Age (in years):		
Below 30	14	15.1
30 – 35	31	33.3
36 – 40	26	28.0
Above 40	22	23.7
TOTAL	93	100%
Mean age: 36years old (Approx. Value)		
St. deviation = 7.35, Min. = 22, Max. = 53		
Highest Educational Qualification:		
Diploma (RN,RM)	56	60.2
BNSc.	37	39.8
TOTAL	93	100%
Years of Experience:		
2 – 5years	20	21.5
6 – 9years	30	32.2
10 – 13years	25	26.9
14 – 17years	7	7.5
18+years	11	11.8
TOTAL	93	100%

Position:		
Nursing Officer II	20	21.5
Nursing Officer I	30	32.3
Senior Nursing Officer	24	25.8
Principal Nursing Officer	8	8.6
Assistant Chief Nursing Officer	3	3.2
Chief Nursing Officer	8	8.6
TOTAL	93	100%
No. of Seminars Attended Related to the study:		
Never attended	18	19.4
Attended Once	25	26.9
Attended Twice	19	20.4
Attended More Than Thrice	21	10.8
TOTAL	93	100%

Table I shows that the number of female nurses were significantly more (77%) than their male counterparts (23%). Their ages range from 22 to 53years with a mean of approximately 36 and standard deviation 7.35. Over 60% had their education in hospital based Schools of Nursing. Only (21.5%) had 2 - 5years of experience, 59.2 had 6 – 13years of experience while (19.3%) had 14years and above years of experience. Over 20% were from principal Nursing officer to Chief Nursing officer. Other indices are as shown on the table.

Table II:-Socio – demographic characteristics of respondents that participated in the in – depth interview

Socio – demographic characteristics	Frequency	Percent
Gender:		
Male Nurses	0	0.0
Female Nurses	17	100.0
Age (in years):		
31 – 35	10	58.8
36 – 40	5	29.4
41 – 45	1	5.9
46 – 48	1	5.9
Mean age: 36 (Approx. Value)		
Highest Education Level:		
Diploma	13	76.5
BNSc.	4	23.5
Years of Experience:		
2 – 5years	3	17.6
6 – 9years	6	35.3
10 – 13years	8	47.1
14 – 17years	0	0
18 and above	0	0
Position:		
NO II	2	11.8
NO I	8	47.1
SNO	6	35.3
PNO	1	5.9
No. of Seminars Attended Related to the Study:		
Never attended	13	76.5
Attended Once	4	23.5
TOTAL	17	100.0

Table II shows that only females were involved in the in-depth interview (100%). The age range of majority is between age 31 and 35years (58.8%) while the mean age is 36years. Majority of them have diploma in nursing (76.5%) while only (23.3%) has BNSc. About one – third (35.3%) have 6 – 9years of working experience. Almost

half are Nursing Officer I (47.1%) while only (5.9%) is Principal Nursing Officer. Majority of the respondents have never attended any seminar (76.5%) while just (23.5%) have attended seminars at once.

Table III:-Frequency distribution of knowledge of Nurses on Pain and Pain Assessment

Level	Frequency (N = 93)	Percent
Poor Knowledge	6	6.5
Fair Knowledge	70	75.3
Adequate Knowledge	17	18.3
TOTAL	93	100.0

Table III shows that 6.5% of the nurses had poor knowledge, 75.3% had fair knowledge while the remaining 18.3% had adequate knowledge of pain and its assessment.

Table IV:-Respondents' knowledge on pain and its assessment

S/N	Knowledge Items	True		False	
		Freq.	%	Freq.	%
1.	Pain is subjective in nature	81	87.1	12	12.9
2.	Most post – operative patients experience severe pain	74	79.6	19	20.4
3.	The pain experienced by most post – operative patients is neither mild nor severe but moderate	39	41.9	54	58.1
4.	Surgical incisions make post-operative patients to experience more pain after surgery than before	54	58.1	39	41.9
5.	Most nurses hardly recognize or diagnose correctly post – operative pain in patients	9	9.7	84	90.3
6.	Attending to post- operative patients promptly when they report pain is very important.	78	83.9	15	16.1
7.	Using pain scale is important in pain assessment	87	93.5	6	6.5
8.	NANDA– I approach helps to manage post – operative pain very well	78	83.9	15	16.1
9.	Availability of NANDA – I textbooks in this hospital will help to manage post – operative pain	83	89.2	10	10.8
10.	Cultural and educational background affect individuals' reaction and perception to pain	83	89.2	10	10.8

The scores range from 10 to 47 with mean of 31.2 and a standard deviation of ± 5.59 :-

Table IV shows the frequency of responses to each of the 10 items. Majority (87.1%) of the respondents submitted that pain is subjective in nature, this was corroborated by this statement in the in-depth interview: "Acute pain is the pain that a patient experience secondary to surgery...and it is subjective (Participant 1, BNSC)". Majority (79.6%) also submitted that the second item; most post-operative patients experience severe pain is true. A little below half (41.9%) of the respondents submitted that the pain experienced by most post-operative patients is neither mild nor severe but moderate is true while more than half (58.1%) submitted that surgical incisions make post-operative patients to experience more pain after surgery than before is true, this was also corroborated by this statement in the in-depth interview: "Incisions...make patients experience more pain after surgery (Participant 10, RN, RM)". Majority (90.3%) of the respondents submitted that most nurses hardly recognize or diagnose correctly post-operative pain in patients is false, this was supported by this response during the in-depth interview: "I diagnose pain in my patients immediately through their verbal reports and signs shown (Participant 12, RN, RM)". Attending to post- operative patients promptly when they report pain is very important was marked as true by 83.9% of the respondents, this was also corroborated by this statement in the in-depth interview: "I reassure patients, inform managing teams and give analgesics when they report pain, (Participant 3, RN,RM)". Most of the respondents (93.5%) submitted that using a pain scale is important in pain assessment is true, it was corroborated ed by this response during the in-depth interview: "I use a scale of 0-10 in assessing pain (Participant 1, BNSC)". The next item; NANDA– I approach helps to manage post-operative pain very well was marked true by (83.9%) of the

respondents, this was also corroborated by this in the in-depth interview: “I use NANDA-I approach ... (Participant 5, RN, RM)”. Availability of NANDA – I textbooks in the hospital will help to manage post-operative pain was marked as true by majority (89.2%) of the respondents. Cultural and educational background affect individuals’ reaction and perception to pain was also marked true by majority of the respondents (89.2%), this was also corroborated in the in-depth interview: “Yes, some people shout when they have pain while some don’t because of their culture, highly educated people normally complain of pain while illiterates do not disturb (Participant 11, RN, RM)”.

Discussion:-

Adequate knowledge of nurses is very important in effective pain management as well as early recovery and prevention of complications (Abiodun, Olaogun, Adereti & Ayeni, 2016). The care given by nurses cannot be effective if pains are not adequately relieved, this is only possible through acquisition of adequate knowledge on the subject matter. This study revealed that a very low percentage of the respondents (18.3%) had adequate knowledge of pain and its assessment. This is in line with the findings of Craig (2014) which revealed that nurses have poor knowledge of pain management and line with the works of Maman et al, (2012) and Idang, Ojong-Alasia and Nlumanze (2014) as well that were done in two secondary health facilities in Cross – River State and the Niamey National Hospital respectively both found out that nurses assessment methods were inappropriate, this was also confirmed by the in- depth interview sessions as only three of the participants each reported that they assess for pain by “asking the patients how they really feel” , “Use the NANDA-I approach and Nursing diagnosis”. Only one participant was using pain scale. Also about half of the participants reported that they assess for pain before treating patients. The use of NANDA-I approach in pain management was also not popular as only three said it was in use on their wards.

Implications for Practice and Research:-

There is need for nurses to update their knowledge as they practice so as to bridge the gap between their educational qualification, years of experience and their knowledge in clinical practice. This is otherwise saying that the gaps between theory and practice should be closed so that patients who are direct recipients of care can have regular relief from their pains.

More research should be done in different settings and geographical locations on the subject matter among nurses so that there will be all-round improvement as research has a lot of influence on practice.

Conclusion:-

The study demonstrated that there was no significant association between nurses’ educational qualification and identification of the defining characteristics of acute pain. Likewise, there was no significant association between nurses’ years of experience and identification of the defining characteristics. It is therefore of high importance that nurses, whatever their status is need to update their knowledge as they practice so as to bridge the gap between their educational qualification, years of experience and their knowledge in clinical practice in order to maintain their relevance in care of patients.

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