

Orlando's nursing process application on anxiety levels of patients undergoing endoscopy examination

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ABSTRACT

Background and aims: Anxiety is a common reaction when people encounter new problems where they do not know what expect. The nurses are responsible for assessing the patient and helping them with the procedure of endoscopy. This study investigates differences in anxiety level of patients who receive nursing process of Orlando's theory prior to endoscopy examination compared to a control group.

Methods: A Quasi -experimental research design was used in this study. Samples were 60 adult patients who were randomly assigned to two groups (30 patients each). Patients in the study group receive nursing process of Orlando's theory by the researcher plus the routine hospital intervention, while the control group only received the routine hospital intervention. The Spielberger State-Trait Anxiety Inventory (STAI scale) is administering to both groups before and after endoscopy examination. STAI, a self-reporting psychometric test, is used to assess state anxiety levels. STAI has demonstrated reliability and validity in previous studies.

Results: Statistically significant difference was evident between the 2 groups regarding the mean of anxiety level of patients after the intervention. Before the intervention, the mean of anxiety level in the control and study groups were 47 ± 9 and 58 ± 11 and after the intervention were: 41 ± 7 , 35 ± 7 , respectively.

Conclusion: Intervention groups have the lower mean of anxiety level after the intervention. Female patients in this study experienced low level anxiety compared to male patients after Orlando nursing process. The data suggest that endoscopy unit personnel and the referring physician should consider the patient's perception of the procedure. Detailed information on the procedure and training in relaxation techniques should be given. Positive re-appraisal and information on sensations to be anticipated, rather than procedural details, will be more successful in alleviating stress and anxiety.

Keywords: Orlando's theory, Anxiety levels, Endoscopy examination.

INTRODUCTION

Ida Jean Orlando was one of the first researchers that introduced “effective nursing

theory.” The Orlando, patient needs and if these needs are met of reducing distress,

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improving the health and well-being competent or he will achieve. The patient needs, including the need for complying with medical treatment and other essential needs (natural). When the patient needs to be able to adapt because they need help, distress and feeling desperate. Needed patients express verbal or non-verbal behaviors in ways and nurse will react to determine the cause and what factors alleviated the distress and disease. Finally, nursing activities are also carried out to reduce stress.

Orlando introduced nursing as a dynamic interaction between nurse and patient that the actions and reactions are influenced by nurses and patients. According to this view, the aim of nursing to patients in order to meet their needs and in this context, nurses, physical and non-verbal reactions should be given to the patients. The main purpose of nursing care is patient needs and reducing distress. In this model, nurse behaviors are obliged to observe, report, record, and action.² Patients data is collected through observation. In view, Orlando emphasized on patient-nurse interaction that occurs in a place and time.³ Using this approach can help organize and classify the information needed by patients in hospitals. Nursing care is to reduce distress and loneliness, and increase her comfort.⁴ When nurse-patient relationship is dynamic; patients are able to better meet the needs. Effective interaction and nursing process increases patient comfort and decrease stress to him. In this theory, emphasizing nursing care of patients who are suffering from distress and the care with regard to perception, thought and felt sick and nursing is done through strategic measures.⁵

In this model during the month of nursing is direct and indirect measures. The direct action of nurses to patients in order to identify behaviors associated with distress in the patient. Nurse ascertain required, to

reduce patient distress equipment. Indirect action includes any activity that could satisfy the needs of patients in order to help (to provide physical comfort and mental patients as possible at a time when medical treatment or monitoring.⁶

Including indirect measures includes training, advice, directions, explaining, informing, asking, ask, wise decision for the patient, the patient's physical care, prescription medication or changing environment. Numerous studies show that patients who underwent diagnostic procedures performed, such as the imaging, biopsy and endoscopy are multiple reasons including lack of awareness of how and necessary procedure, duration and how to perform the procedure, unfamiliar with the devices and hospital environments, as well as uncertainty about actions required prior, during and after diagnostic procedures are anxious from moderate to very severe.⁶

In a similar study that was conducted by Selim on patients undergoing magnetic imaging results showed that 50% of women and 13.3% of male patients had severe anxiety sir.⁷ Also Research shows that teaching relaxation techniques and deep breathing techniques can play a role in reducing anxiety in patients before the diagnostic and therapeutic strategies. Also communicateing with patients before and after diagnostic procedures can have a key role in reducing patient anxiety, Since the nursing process and factors increase patient comfort and less stress. Also, he needs the other patients during endoscopy nursing interaction and effective measures to reduce the anxiety and distress of their own.

The researcher decided to reduce anxiety Orlando effect of the nursing process endoscopy evaluate.^{8,9} This study investigates differences in anxiety level of patients who receive nursing process of Orlando's theory prior to the endoscopy examination compared to the control group.

METHODS

A Quasi experimental research design was used in this study. Years of the study was 2014-2015. Patients are randomly assigned to two groups (30 patients each). The sample included both male and female adults, and conscious patients. Patients in the study group received nursing process of Orlando's theory by the researcher plus the routine hospital intervention, while the control group receives the routine hospital intervention only. The following selection criteria are established to increase the homogeneity of the sample: No previous history of endoscopy examination; No concomitant invasive procedure performed on the patients.

Exclusion criteria were: Have history of psychological disorder. The patients were randomly assigned to two equal groups. The study groups (30 patients) received the designed nursing process of Orlando's theory before endoscopy examination, while the control group (30 patients) did not receive any intervention prior to endoscopy examination other than the routine hospital instructions. Researcher during the nursing process of Orlando's theory provides patients with information about the nature and sequence of the examination and about the endoscopy unit and its structure, features and principle of operation.⁸⁻¹⁰ In addition, the instructions included a description and discussion of relaxation techniques, e.g. blinding, imaginative visualization and breathing techniques that might be useful to the patient in managing anxiety during the examination. The total time required for the intervention ranged from 10 to 15 minutes for each patient. Each patient individually completed the questionnaire before they began the intervention as well as before beginning the procedure of endoscopy examination. Patients who could not read or

write were helped by the researcher to fill out the sheet.

The Spielberger State-Trait Anxiety Inventory (STAI scale) is administered to both groups before and after endoscopy examination. STAI, a self-reporting psychometric test, is used to assess state anxiety levels. STAI has demonstrated reliability and validity in previous studies.¹¹⁻¹³ A valid and reliable Persian version of STAI is used.¹¹⁻¹³ It consists of two separated 20-item self-reporting scales, one for measuring state of anxiety and one for traiting anxiety. Only the state anxiety inventory form is used in the present study. It requires patients to quantify their current anxiety levels by indicating their agreement or disagreement with a set of statements, such as "I am tense; I feel nervous or I feel frightened." Agreement and disagreement are plotted along a four-point scale. Total possible anxiety scores range from 20 to 80 (higher scores indicate higher anxiety levels).¹¹⁻¹³ The anxiety level is assessed immediately after the procedure of endoscopy.

RESULTS

The age of the patients ranged from 20 years to 70 years with a mean age \pm standard deviation of 45.2 ± 19 years in intervention group and 45.5 ± 19 in the control group. In this study, anxiety was with a mean age \pm standard deviation of 58 ± 11 in the intervention group and 47 ± 9 in the control group pre-test and with a mean age \pm standard deviation of 35 ± 7 in intervention group and with a mean age \pm standard deviation of 41 ± 7 . Pre-post difference in anxiety level in intervention group was with a mean age \pm standard deviation of -22.9 ± 11 and with a mean age \pm standard deviation of -5.6 ± 10 (Table 1).

Table 1: Comparison of total anxiety scores in intervention and control group before/ after endoscopy

Anxiety level	Intervention group		Control group		Total	
	Before endoscopy/ After endoscopy		Before endoscopy/ After endoscopy		Before endoscopy/ After endoscopy	
	Female (%)	Male (%)	Female (%)	Male (%)	Intervention group	Control group
No (0-19)	0.0	0/0	0/0	0/0	0/0	0/0
Mild (20-39)	0.80	7.1/85.7	7.1/28.6	37/56.2	3.4/82.8	23.3/43.3
Moderate (40-59)	26.7/20	64.3/14.3	78.6/64.3	62/43.8	44.8/17.2	70/53.3
Severe (60-80)	73.3/0	28.6/0	14.3/7.1	0/0	51.7/0	6.7/3.3
Total	100/100	100/100	100/100	100/100	100/100	100/100

The results of paired t-test showed that there is a significant difference in anxiety level before and after endoscopy between the intervention and control group ($P < 0.001$) (table). Also paired t-test showed that there is a significant difference in anxiety level pre and post endoscopy in intervention group ($P < 0.001$). Furthermore, results showed that there is a significant difference in anxiety level before and after endoscopy in control group ($P < 0.009$), but anxiety level in control was more than intervention group after intervention program.

Related to anxiety level based on sex, findings showed that average of anxiety level before endoscopy in control group in female patients was higher than male patients, but anxiety level was reduced in female patients post endoscopy. Paired t-test indicated that there was significant differences in anxiety level between female and male patients before endoscopy ($P < 0.007$), and average of anxiety level was higher in female. Although after endoscopy, the level of anxiety reduced 27 scores in female patients and 20 scores in male

patients, but there were not significant differences in anxiety level score in female and male patients post endoscopy ($P < 0.1$).

Anxiety level in control group in female patients was more than male patients, whereas 73.3% of female and 28.6% male patients had severe anxiety. Findings showed that aside from 20% of female patients, others did not experience anxiety. In intervention group, 51.7% of patients suffer from severe anxiety, but after intervention there was no patients with severe anxiety. In control group 7.1% female patients suffered from severe anxiety and 43.8% male patients had moderate anxiety, but in intervention group 14.3% male patients had moderate anxiety after endoscopy.

The highest percentage of anxiety was in the age group of less than 29 years in before and after endoscopy in intervention group, but in the control group highest percentage of anxiety was in age less than 29 years in before endoscopy and in the age group of 40 years after endoscopy. ANOVA test showed that there were significant differences between level of education and

anxiety scores in two groups before and after endoscopy. But there was not anxiety in patients with undergraduate and higher levels of education before and after endoscopy. The highest percentage of patients reporting sever level of anxiety was found among unread and primary educated patients.

Findings related to blood pressure and pulse rate changes showed that that systole blood pressure 113 ± 16.85 in intervention group before endoscopy and 106 ± 15.86 in control group. There were not significant differences of systole blood pressure in two groups before endoscopy ($P < 0.09$), but significant differences found after endoscopy ($P < 0.05$). Paired t-test showed that there were not significant difference of systole blood pressure pre and posttest in intervention and control group. Mean diastole blood pressure \pm standard deviation was 71 ± 9.69 in intervention group before endoscopy and 66 ± 14.35 in control group. Also, it was in intervention group 71 ± 9.69 and 66 ± 14.35 in control group. There were not significant differences of diastole blood pressure before endoscopy ($P < 0.07$) and after endoscopy ($P < 0.09$). Also, significant differences of diastole pressure was not found pre and post-test ($P < 0.01$).

Mean pulse rate \pm standard deviation was 79 ± 6 in intervention group and 80 ± 9 before endoscopy and 79 ± 6 in intervention group and 81 ± 9 in control group posttest.

DISCUSSION

Finding indicated that patients in intervention group had a lower state anxiety score compared to control group before and after endoscopy. Although anxiety level

reduced in two groups after endoscopy, but anxiety score reduced more in comparison to control group after endoscopy. It was very important to have information on the procedure and this caused reducing anxiety score.¹⁴ Seda et al noted that the patients in the verbal information group responded more accurately to the questions related to the procedure. These patients experienced less pain, breathing difficulties and regret. Furthermore, they felt better during the procedure, were more satisfied, and evaluated the procedure as less difficult ($P < 0.05$). The mean anxiety score of the patients in the verbal information group was significantly lower than of patients in the other groups ($P < 0.05$). Compliance with the procedure was better in these patients than in the other groups, and the difference was statistically significant ($P < 0.05$).¹⁴

Ylinen et al showed that previous pain experiences and high state anxiety level decreased patients' perceptions of colonoscopy. Non-drug interventions, such as peaceful talk and, explanation of the reason for pain and guidance helped both anxious and non-anxious patients to ease the pain.¹⁵ Hoya et al confirmed results of this study that the score for self-assessed anxiety level just before gastroscopy was significantly higher than that on arrival at the hospital, but returned to baseline after gastroscopy in the control group, whereas the score did not increase before starting gastroscopy in the optimal soothing environment group. Systolic blood pressure measurements just before and after gastroscopy were significantly higher than those on arrival at the hospital and the baseline values in the control group,

whereas it was not increased before starting gastroscopy in the optimal soothing environment group.^{16,17}

Female patients in this study experienced low level anxiety compared to male patients after Orlando nursing process. A confirmatory study indicated that modest but significant increase was detected in anxiety state prior to upper gastrointestinal endoscopy and colonoscopy, but no change was detected in trait anxiety in either group.

Anxiety levels were not related with the type of endoscopic procedure. State anxiety scores increased from 36.9 to 45.7 ($P=0.001$) in patients undergoing upper gastrointestinal endoscopy and from 36.2 to 44.8 ($P=0.001$) in patients undergoing colonoscopy. Females had higher anxiety levels than males in both groups.¹⁸ Also, Van Zuuren et al indicated that all experimental subjects, except one, fully read the brochure. Those receiving the brochure experienced less anxiety before the gastroscopy and, afterwards. They reported greater satisfaction with the preparation for it. With regard to coping style there were some small moderating effects into the direction expected: Low blunters (those not seeking distraction under impending threat) as compared to high blunters showed extra reduced anxiety after reading the brochure. They also tended to read the brochure more often.

High monitors (those seeking information under impending threat) receiving the brochure showed reduced anxiety during the gastroscopy as compared to low monitors (tendency).^{19,20} El-Hassan et al in the clinical trial study showed that at baseline, anxiety levels were not influenced by age or procedure: Gastroscopy, flexible

sigmoidoscopy/colonoscopy.²¹ No difference was found in anxiety scores in the control group at baseline and immediately pre-endoscopy, but music led to a significant reduction in anxiety scores, which was maintained for all age groups irrespective of procedure ($P<0.0001$). Jones et al in the contradictory study noted diagnostic outpatient endoscopy is associated with modest increases in anxiety state that are not significantly influenced by age, sex, procedure type, indication, or referral source. Endoscopists' ability to estimate patient anxiety is poor, but this may reflect the generally mild increases in anxiety state which were encountered.²²

CONCLUSION

Intervention groups have the lower mean of anxiety level after the intervention. Female patients in this study experienced low level anxiety compared to male patients after Orlando nursing process. The data suggest that endoscopy unit personnel and the referring physician should consider the patient's perception of the procedure.

Detailed information on the procedure and training in relaxation techniques should be given. Positive re-appraisal and information on sensations to be anticipated, rather than procedural details, will be more successful in alleviating stress and anxiety. During the study, the researchers found, explaining and reassuring the endoscopic procedure in patients who already have done endoscopy, has been very effective in reducing stress in patients and comforting them. It is recommended that a study with the aim of investigating the effect of the

patients' experiences on the anxiety level before endoscopy is performed.

It is also proposed various methods of learning such as educational pamphlets and endoscopy sectors film and broadcast interviews with seeing the procedure in patients experienced the anxiety post endoscopic investigated in a comparative study. It is also proposed that various methods of learning such as educational pamphlets and endoscopy sectors film and broadcast interviews with patients who experienced post endoscopic anxiety be investigated in a comparative study.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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