Assessment of Nurses 'knowledge and Practices Regarding Children Undergoing Gastrointestinal Surgery

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Abstract

Introduction: Gastrointestinal anomalies are structural defects and incomplete or abnormal development of digestive organs can cause blockages, vomiting and problems with bowel movements. Nurses identify problems and implement nursing care for children undergoing gastrointestinal surgeries. **The study** was aimed at assessing nurses' knowledge and practices towards caring of children undergoing gastrointestinal. **Design**: A descriptive design was utilized in conducting the study**. Settings**: This study was conducted at two different settings, surgical departments of a pediatric hospital affiliated to Ain- Shams University Hospitals, and Abou El -Resh EL- Monera hospital affiliated to Cairo University hospital **Subjects**: Purposive sample composed of all (60) available nurses in the previously mentioned settings. **Tools**, A questionnaire sheet, and observation checklists. **Results**: the study results illustrated that, less than two-thirds of the studied nurses had satisfactory total knowledge, while more than two-thirds of them had competent actual total practice regarding care of children undergoing gastrointestinal surgeries. **Conclusion**: Nurses' knowledge and practice regarding care of children undergoing gastrointestinal surgeries were satisfactory knowledge and competent practice by more of them half of the nurses. **Recommendation:** More continuous monitoring of research to assess nurses' knowledge and practice regarding care of children undergoing gastrointestinal surgeries.

Keywords: Children, pre-post-operative care, gastrointestinal surgeries, pediatric nursing

Introduction

The gastrointestinal system can be affected by a variety of congenital diseases. Cleft lip and cleft palate are common malformations of the upper gastrointestinal tract, esophageal atresia is an anomaly in which the esophagus does not open into the stomach. Anal atresia is characterized by the closed of an anus, which prevents defecation. Hirschsprung's disease is a condition affecting the nerves of the large intestine, leading to severe constipation. All of these conditions are treated by surgery **(Jencks, 2009).**

Hypertrophic pyloric stenosis 1 in every 500 live births.

Intussusceptions'' its estimated incidence is approximately 1 case per 2000 live births. In Great Britain, incidence varies from 1.6-4 cases per 1000 live births, **(Felix, 2013).**

Hirschsprung's disease (HD), although the exact worldwide incidence of HD is unknown, international studies have reported rates ranging from

approximately 1 in 1500 - 7000 live births. It is roughly 3 times more common among Asian-Americans.HD ffects approximately1 case per 5400-7200 newborns annually in the United States Imperforated anus it occurs in about 1 out of 5,000 infants. Imperforated anus it occurs in about 1 out of 5,000 infants**. (Justin & Wagner, 2015).**

The incidence of gastrointestinal surgery in Egypt is unknown. According to **(Pediatric Department Surgery Units repatriation forms Children's Hospital affiliated to Ain Shams University Hospitals during, 2015**) Cleft lip is (13.6 %) and palate(4.8%), tracheoesophageal fistula (2.4%) and pyloric stenosis(5.44%) , Hirschsprung's disease (5.4%) Imperforated anus (13.62 %).

In Abou El resh Pediatric Hospital affiliated to Cairo University Hospitals 2015. Cleft lip is (4.9%) and palate (2.4%) Tracheoesophageal fistula (9.8 %.) Esophageal replacement (4.9%). Diaphragmatic hernia (12.9%). Hypertrophic pyloric stenosis was (7.3%), Intussusceptions was (4.9%). Hirschsprung's' disease was (3.6%). Intestinal obstruction was (12%) Imperforate anus was (4, 9%) **(Pediatric Department Surgery Units repatriation forms Children's Hospital Cairo University Hospitals during, 2015.)**

Pediatric patients with congenital gastrointestinal diseases often complain of poor appetite, nausea, vomiting and heartburn, abdominal pain, constipation. As a result, normal growth and development may interrupted**.** Diagnostic studies include radiographic studies, renal and liver function manometry, breath testing, myoelectrical testing, and histologic evaluation **(Bruno, 2008).**

Nursing assessment refers to the collecting of data, identifying problems. It is essential that a comprehensive history is taken from their family to serve as a baseline for assessment. Observation for non-verbal indications of discomfort or distress, and measuring through use of tools of assessment, e.g. pain assessment chart. care planning, the generalized pre- and postoperative management for child undergoing gastrointestinal surgery, assess vital signs, monitor fluid intake and output, parent education concerning use and care of the nasogastric and colostomy care, wound dressing, monitor signs of wound infection **(Still, 2007).**

Surgical intervention may be needed to diagnose or cure a specific disease process, correct a deformity, restore a functional process or reduce the level of dysfunction. Although surgery is life-threating conditions can arise, requiring emergency intervention.

Nurses have a variety of roles and functions associated with the patient's surgical management. Nurses provide care for patients before, during, and after surgical operation; this is collectively called as preoperative care nursing. It is a specialized nursing area where in a registered nurse works as a team member of other surgical health care professionals. Limitation of preoperative preparation and teaching increases the need for postoperative support in addition to managing underlying medical conditions **(Matt, 2014)**.

Undergoing gastrointestinal surgeries are at great risk of problems such as metabolic, respiratory disorders, growth retardation that can be associated with high rates of mortality and morbidity. The knowledgeable and qualified nurse can help such children by providing

quality care. So it was important to carry out this study to assess nurses' knowledge and practice regarding care of children GIT surgeries **(Anyanwu et al., 2015).**

Subjects and Methods

This study aims at- -Assessing the nurses' Knowledge and practices

Toward caring of children undergoing gastrointestinal Surgeries.

Research Questions:

- Do nurses have satisfactory knowledge about care for children undergoing gastro-intestinal surgeries?

- Do nurses have adequate practice about care for children undergoing gastrointestinal surgeries?

- What are the correlation between characteristics of nurses and their knowledge for care of children undergoing gastro-intestinal surgeries?

- What are the correlation between characteristics of nurses and their practices for care of children undergoing gastro-intestinal surgeries?

- What are the correlation between nurses' knowledge and their practices for care of children undergoing gastro-intestinal surgeries?

Subjects and methods of the current study will be discussed under the following main topics:

I-Technical design
II-Operational design
III-Administrative design
IV-Statistical design

1- Research design:

A descriptive design used in conducting of this study.

a. Research settings:

This study was conducted at two different settings, surgical departments of pediatric hospital affiliated to Ain- Shams University Hospitals, and Abou El -Resh EL- Monera hospital affiliated to Cairo University hospitals.

b. Research subjects:

Purposive sample, the subjects of this study were composed of all available nurses (60) working in the previously mentioned settings, (24) from pediatric hospital affiliated to Ain- Shams University and (36) from Abou El -Resh EL- Monera hospital affiliated to Cairo University regardless of their age, years of experience, qualification, and studied children composed of all available children who are undergoing gastrointestinal surgeries at previously mentioned settings

I-Technical design

Tools of data collection:

Data collection obtained by used the following tools:

1. A predesigned questionnaire sheet:

A questionnaire designed by the researcher and written in simple Arabic language based on scientific literature review to assess data about the following:

Part (1):

Characteristic of nurses including age, years of experiences, qualification and place of work.

Part (2):

Knowledge of nurses about gastrointestinal surgeries such as definition of disease, signs and symptoms, pre-immediate and postoperative care, complication, nursing management.

❖ **Scoring system for knowledge:**

The right answers were scored as single point, and those wrong were scored as a zero, these scores were summed up and converted into a percent score. Nurses showed a satisfactory answer if the percent score was 70 % or more and unsatisfactory answer if less than 70 %.

Observational checklists:

It was adopted to assess the nurse's performance (pre-immediate and postoperative care). Which was adopted from related references **Vyas &Vasconez, (2014)** Colostomy care. **Kim et al., (2014)** Wound dressing. **David, (2011)** Care of suction. **Taylor et al., (2011**) Tracheotomy suction.

Nurses were observed three times for each procedure and the average was obtained additionally each procedure used by nurses consumed of 5 to 15 minutes and evaluated continuously during their ctual care.

❖ **Scoring system for nurses' actual practice:**

✓ Incompetent practice was 0 < 80%

✓ Competent practice was 80≥100

Content and face validity and reliability:

-It was ascertained by a group of 5 experts in pediatric nursing field.

-Their elicited their opinions regarding the format, layout, consistency, accuracy and relevancy of the tools.

-Reliability: Was tested by Cronbach alpha test (7.0)

II-Operational design:

1-Preparatory Phase:

This phase was involved reviewing of the available local and international current related literature to get acquainted with the various aspects of the research problem and also to develop the study tools.

2-Pilot study:

The pilot study was carried out on 10% of the study subjects to test the content validity, feasibility and the applicability of the study tools, and time consumed to complete the study tools. According to the results of the pilot study, the necessary modifications were done. Nurses included in the pilot study were included from the study the sample.

Ethical consideration:

The researcher clarified the objectives and aim of the study to nurses included in the study before starting. Nurses were informed that they are allowed to choose to participate or not in

the study and they have the right to withdraw from the study at any time.

III-Administrative design

Approval was obtained from the dean of Faculty of Nursing of Ain Shams University and directors of study settings and the nurses as well to conduct the study at the previously mentioned settings. Meanwhile, the aim and expected outcomes of study were explained by the researcher.

Field work:

To carry out the study, an approval was obtained from the medical and nursing directors of the mentioned hospitals. An official letter was issued to them from the faculty of Nursing, Ain-Shams University; the aim of the study was explained in order to obtain their permission and cooperation.

Data was collected in six months, from the first week of the November 2014 till the end of April 2015.The researcher first met with the nurses who worked in the previously mentioned settings and explained the purpose of study after introducing herself and was available 3 days/week at the morning shift to collect data.

Questionnaire filled in by nurses consumed of 15 to 20 minutes.

The nurses were assured that the information collected would be treated confidentially, and it would be used only for the purpose of the research. Then and individual interviewing was done after obtaining nurses consent to participate.

IV-Statistical design

The collected data were organized, revised, tabulated and analyzed. Statistical analysis was done by computer using statistical package of social science (SPSS) program. The suitable statistical tests were used to determine whether there was a significant statistical difference between variables of the study as the following. When $p>0.05$, there is no statistically significant difference When $p<0.05$, there is statistically significant difference. When $p<0.01$, there is highly statistically Significant.

Results:

Table (1): This table shows that less than half (45.0 % and 43.3%) of the studied nurses were in the age group 20 > 25 years and have 10 ≥15 years and more of experience respectively. Meanwhile, less than two thirds (63.3%) of them held bachelor's degree of nursing science.

Table (2): This table reveals that less than two thirds (61.7 %) of the studied nurses had satisfactory total knowledge about gastrointestinal diseases in children.

Table (3): This table reveals that, more than two thirds (66.7%) of the studied nurses had competent actual practice related to care of children undergoing gastrointestinal surgeries. While one third (33.3%) of them had incompetent actual practice.

Table (4): It is obvious from this table that, there is a strong positive correlation (r=0.86) between nurses' total knowledge and their total actual practice regarding care of children undergoing gastrointestinal.

Table (5): This table illustrates that there is a strong positive correlation (r =0.81) between nurses' age and their total knowledge regarding care of children undergoing gastrointestinal surgeries. Where less than half (46.0%) of nurses who aged 35< 40years had satisfactory knowledge, compared with less than two thirds (60.9%) of nurses who aged 20 <25 years had unsatisfactory knowledge regarding care of children undergoing gastrointestinal surgeries.

Table (6): This table illustrates that, there is a strong positive correlation (r =0.92) between the studied nurses' qualification and their total knowledge regarding care of children undergoing gastrointestinal surgeries. Where more than three quarters (81.1%) of nurses who Bachelor nursing science had satisfactory knowledge, compared with more than two fifth (43.5%) of nurses who had diplom nurse had unsatisfactory knowledge.

Table (7): As observe from that table there is a positive correlation (r =0.71) between studied nurses' age and their total actual practice regarding care of children undergoing gastrointestinal surgeries. Where more than one third (42.5%) of nurses who aged 20 >25years had competent actual practice, while the rest of them (50 %) had incompetent actual practice.

Table (8): Observe from that table there is a strong positive correlation (r =0.85) between the studied nurses' years of experience and their total actual practice regarding care of children undergoing gastrointestinal surgeries. Where half (50%) of nurses who had 10 ≥15 years of experience had competent practice, compared with less than three quarters (70%) of nurses who had 3>5 years of experience had incompetent practice.

Table (9): This table illustrates that, there is correlation (r = 0.48) between the studied nurses' qualification and their total practice regarding care of children undergoing gastrointestinal surgeries. Where more than half (60%) of nurses who had Bachelor of Nursing Science had competent practice, compared with fifth (20%) of nurses who had diplom nurse had incompetent practice.

Table (1): Distribution of studied nurses according to their characteristics (n= 60).

Items	No	%
Age		
20 >25	27	45.0
25>35	10	16.7
35>40	23	38.3
Mean ±SD	29.3±9.2	
Years of experience:		
>5	23	38.4
5>10	11	18.3
10≥15	26	43.3
Mean ±SD	7.8±4.5	
Qualification:		
Bachelor	38	63.3
Technical institution	8	13.3
Diplom nurse	14	23.4
Place of work		
•Ain shams	24	40
•Abo el resh	36	60

Table (2): Distribution of studied nurses according to their total knowledge about gastrointestinal diseases.

Total nurses knowledge about gastrointestinal diseases	N=60	
	No	%
Satisfactory (≥70)	37	**61.7**
Unsatisfactory (≤70)	23	38.3

Table (3): Distribution of the studied nurses according to their total actual practice regarding care of children undergoing gastrointestinal surgeries (n= 60).

Nurses' total actual practice	No.	%
competent (≥80)	40	**66.7**
incompetent (<80)	20	**33.3**

Table (4): Correlation between total knowledge of studied nurses and their total Practice regarding care of children undergoing gastrointestinal surgeries

Total knowledge	Level of nurses practices				r- test
	Competent n=(40)		Incompetent n=(20)		
	No	%	No	%	
Satisfied>70	31	77.5	6	30	0.86*
Unsatisfied<70	9	22.5	14	70	

Table (5): Correlation between the studied nurses' age and their total knowledge regarding care of children undergoing gastrointestinal surgeries (n= 60).

Age in years	the total level of nurses' knowledge				r-test
	Satisfactory (n=37)		Unsatisfactory (n=23)		
	No.	%	No.	%	
20 <25	13	35.1	14	**60.9**	
25<35	7	18.9	3	13.0	
35< 40	17	**46.0**	6	26.1	

Table (6): Correlation between the studied nurses' Qualification and their total knowledge regarding Care of children undergoing gastrointestinal Surgeries (n= 60).

Nurses' qualification	Nurses' total knowledge				r- test
	Satisfactory n=37		Unsatisfactory=23		
	No.%		No.	%	
bachelor of N,S.	30	**81.1**	8	34.8	0.92*
technical Nurses institution	3	8.1	5	21.7	
Diplom Nurse.	4	10.8	10	**43.5**	

Table (7): Correlation between studied nurses' age and their total practice regarding care of children undergoing gastrointestinal surgeries.

Age	total practice					r test
	Competent n=40		Incompetent n=20		Total No	
	No	%	No	%		
20>25	17	42.5	10	50	27	0.71*
25>35	7	17.5	3	15	10	
35>40	16	40	7	35	23	

Table (8): Correlation between studied nurses' year of experience and their total practice regarding care of children undergoing gastrointestinal surgeries

Year of experience	total practice about pre/postoperative care				r test
	Competent n=40		Incompetent n=20		
	No	%	No	%	
3>5	9	22.5	14	70	0.85*
5>10	11	27.5	0	0	
10≥15	20	50	6	30	

Table (9): Correlation between studied nurses' qualification and their total practice regarding care of children undergoing gastrointestinal surgeries.

qualification	total nurses level of practice about pre/postoperative care				r test
	Competent n=40		Incompetent n=20		
	No	%	No	%	0.48
Bachelor	24	60	14	70	
Technical institution	6	15	2	10	
Diplom nurse.	10	25	4	20	0.48

Discussion

Gastrointestinal motility disorders encompass a wide array of signs and symptoms that can occur anywhere throughout the luminal gastrointestinal tract. Motility disorders are often chronic in nature and dramatically affect pediatric patients' quality of life. These prevalent disorders cause a tremendous impact both on the pediatric patient and caregivers' nurses' health team. ***(Jane, 2019).***

Present study revealed that less than half 45.0% of the studied nurses' age was ranged from 20 < 25 years old **(table, 1)**. This result was in accordance with ***Mohamed (2015),*** who reported that ,less than half 30% of nurses aged 25>30 year in study under title (Effect of nursing intervention on short and long term health problems of suffering Hirschsprung's disease Ain Shams University)**.**

Regarding years of experience of nurses under study, the result showed that, less than half 43.0% of nurses had more than 10 ≥15years of experience. This result was in accordance with ***Raghieb (2006),*** who carried out a study under title" Assessment of aseptic technique knowledge and its relation to selected operation room skills among nurses in Banha University" who found that, the majority of nurses had almost the same years of experience**(table 1).**

The present study showed that less than two thirds 63.3% of the studied nurses had Bachelor degree of nursing science **(table, 1)**. This may be due to increase the number of the faculties of nursing graduates in Egypt. This finding was not in accordance with finding of ***Talbot (2012)*** who found that the highest percentage of nurses are having secondary school diploma in nursing. More over ***Morsy (2008)*** who carried out a study under title "Efficiency of postoperative care for children was having Hirschsprung's disease reported that most of bedside care was assigned for diplom nurses**.**

Concerning nurses' knowledge about total knowledge of gastrointestinal disease and surgical intervention the present study showed that less than two thirds had satisfactory knowledge **(table, 2).** These results agree with ***Amer (2015)*** in his study entitled Nurses Knowledge and Practice Regarding Gastrointestinal Endoscope and Suggested Nursing Guidelines, in Zigzag University that show that the more than three quarters of nurses had satisfactory level of total knowledge before, during and after gastrointestinal tract endoscope insertion and their knowledge about guideline was satisfactory.

The finding of the current study revealed that more than two-thirds of

nurses had competence in actual practice surgery about total GIT practice **(table, 3).** In the same line ***Verschuur et al., (2014,)*** mentioned that, In one esophagoscopy study, nurses tended to miss esophageal rings and in some of the flexible sigmoidoscopy studies, nurses had longer procedure times and slightly lower depth of insertions on balance, however, nurses demonstrated a degree of competence.

The study findings found that there is a strong positive correlation between nurses' total knowledge and their total actual practice regarding care of children undergoing gastrointestinal surgeries (table, 4). It could be related to the nurses' knowledge updated and equitable programs of technology improved nursing care for child with GIT surgery. Previous finding consistent with ***Roy and Jones (2007),*** in New York who stated that, the nursing knowledge can have an impact on practice issues today and improving nursing practice based on nursing knowledge.

In the light of study findings, it showed that, there was a strong positive correlation between nurses' age and their total knowledge regarding care of children undergoing gastrointestinal surgeries, where less than half of nurses which aged more than 35years had satisfactory knowledge, compared with less than two thirds of nurses who aged less than 25 years had unsatisfactory knowledge **(table, 5)**. This may be due to nurses dealing with different surgical diagnosis, with large number of children in pediatric hospitals university and more age nurses enable to increased knowledge and practice about GIT.This finding were contradicted with the study done by ***Polly and Coran (2011),*** who conducted an intervention nursing program for care of children suffering gastrointestinal diseases who found that, there was no statistical significant difference between nurses' knowledge and their age.

In the light of study findings, there was a strong positive correlation between nurses' qualification and their total knowledge regarding care of children undergoing gastrointestinal surgeries where more than three quarters of nurses who had Bachelor of nursing science had satisfactory knowledge, compared with more than one thirds of nurses' knowledge who had diploma nurse had unsatisfactory knowledge **(table,6) .**These findings in agreement with finding of ***Bakker, et al (2012)***, who revealed that there were a considerable number of factors affected on the nurses level of knowledge towards pain management the factors included working experience, education level.

The result findings of present study showed a strong positive correlation between nurses' age and their total practice regarding care of children undergoing gastrointestinal surgeries, where more than one thirds of nurses who aged less than 25 years had competent practice, and the rest of them had incompetent practice **(table, 7).** This agree with ***Ali (2011),*** study entitled Knowledge and performance of health team about infection control in the neonatal intensive care units at Assiut and El Minia university hospitals. ***Assiut University,*** who stated that the young aged nurses, who is more active, initiative, has good physical fitness and creative in achieving the nursing performance.

The present study showed a strong positive correlation between years of experience of nurses and their practice regarding care of children undergoing

gastrointestinal surgeries where half of nurses who had 10 years & more of experience had competent actual practice, compared with less than three quarters of nurses who had more than 5 years of experience had incompetent practice **(table, 8).** These findings are similar **Abd-*Alfatah (2013)*,** study entitled assessment of nurses' knowledge and practice related to nursing care of children undergoing hemodialysis at Assiut University the results showed that there is statistical significant difference between the scores of nurses' practice and their years of experience.

In the light of study finding that there was correlation between nurses' qualification and total actual practice regarding care of children undergoing gastrointestinal surgeries, where more than half of nurses who had bachelor nursing science had competent practice, compared with fifth of nurses who had diploma nursing had incompetent actual practice **(table,9).**These findings are agreed with ***Ibrahim (2013),***

Study entitled Nurses 'knowledge and practiceregarding pre and Post-operative Nursing care Provided for Children with Intestinal obstruction, in Benha University who stated that, comparison between mean scores of nurses' practice and knowledge according to nurse job title, Bachelor nurses had the highest mean scores in practice and knowledge. This result was in accordance with ***Mohamed (2015),*** in Sudan, University of Khartoum, who conducted Nurses' Knowledge, Attitude and Practice of Oral Care for Intensive Care Unit Patients, the majority of diploma nursing holders practice was poor and the majority of bachelor nursing science holders practice was average.

Conclusion

Knowledge and practice regarding care of children undergoing gastrointestinal surgeries were satisfactory knowledge and competent practice by more them half of nurses

Recommendation

On the light of the study findings the following recommendations were suggested:

- More continuous monitoring of researches to assess nurses'knowledge and practice regarding care of children undergoing gastrointestinal surgeries.

-Providing practice instruction handout or leaflets for nurses that lead to improve their outcome of children conditions with GIT surgeries.

References

Abd-Alfatah(2013): Assessment of Nurses' knowledge and Related to Nursing Care of Children Undergoing Hemodialysis at Assiut**,** Department of Pediatric Nursing, Unpublished Master Thesis, Faculty Nursing, Assiut University**,** Egypt **.**Pp**.**98-100

Ali, As. (2011): Knowledge and performance of Heath team About Infection control in the Neonatal Intensive Care units at Assiut and El Minia University Hospitals. Unpublished doctoral thesis. Faculty of Nursing, Pediatric nursing department, Assiut University,p.113

Amer, **M**. **(2015):** Nurses Knowledge and Practice Regarding Gastrointestinal Endoscopy and

Suggested Nursing Guidelines, Master Thesis, Faculty of Nursing, Zigzag University .Afro-Egypt J Infect Endem Dis; 5(2): 115-130 http://mis.zu.edu.eg/ajied/home.aspx

Anyanwu LJC, Danborno B,HammanWO.(2015): Prevalence of overt Congenital Anomalies in Kano Metropolis the. Unit J Pub Health. 2015; 3(2):89–96. doi: 10.13189/ ujph.2015. 030206.

Bakker, D., Conlon, M., Fitch, M., Green, E., Butler, L., Olson, K., (2012): Nurse Work Environments Part II. Nursing Leadership; Hirschsprung's Disease in the of England: prevalence, associated anomalies, and survival. Birth Defects Res A CL Mol Teratol. Jun; 94(6): 477-88

Bruno,m., (2008): Pediatric Gastrointestinal Motility Disorders: Challenges and a Clinical Update4(2),p:140-8 http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3088841

Felix, **J**. **F**. (**2013):** Chromosomal Anomalies in the Aetiology of Oesophageal Atresia and Tracheo-oesophageal Fistula. Eur J Med Genet. 2013; 50: 163–175.

Ibrahim, H. (2013): Nurses' knowledge and

practice regarding pre and post-operative nursing care provided for children with intestinal obstruction, Master Thesis. Faculty of Nursing.

Benha University.

Jane, N (2019): Management and outcomes of gastrointestinal congenital anomalies in low, middle and high income countries, Journal List BMJ open (9) 8:PMC6731898

Jencks, **S**. **F**. **(2009):** Prehospitalization Among Patients in the Medicare fee-for-Service program. N Engl J Med, 360(14): 1418–1428.

Justin, P ., Wagner, MD., (2015): Hirschsprung Disease work up, Medscape, Aug, 18(11): 2281-8

Mark. R. (2015): Epidemiology of Congenital Diaphragmatic Hernia in Europe An international peer-reviewed journal for health Professionals and Researchers Covering Eeonatal, (100): 2,12

Matt, V. (2014): Nursing Care Plane, 13 surgery preoperative nursing care plane, Journal of pediatric Surgery march 1(9):4, p;50

Mohamed,S.(2015): Nurses' Attitude and Practice of Oral Care for Intensive Care Unit Patients Open Journal of Stomatology,5(7)Article ID:57972,7 pages 10.4236/ojst.2015.57023

Morsy, M. (2008): Efficiency of postoperative care for Children having Hirshsprung's Disease. Master Thesis. Faculty of Nursing. Cairo University P; 140

Pediatric Department Surgery Units repots-ration forms Children's Hospital affiliated to Ain Shams University Hospitals during, 2015

Pediatric Department Surgery Units repots-ration forms Children's

Hospital Cairo University Hospitals during, 2015.

Polly, T. and Coran, A. (**2011):** Gastrointestinal Disease the infant .Pediatric Surgery Intensive Care 1(8): pp 100-103

Raghieb, **M**. **M**. (2006): Assessment of Aseptic technique Knowledge and its Relation to Select Operation Room Skills among Nurses in Banha University Hospital. Master Thesis, IN, Banha University P. 96

-Roy, A. & Jones, D. (2007): the Nature of Theoretical Thinking in Nursing, third edition. New York, springer, chap1, pp: 29

-Still, C., (2007): before and after Surgery the Team Approach to Management, Supplement to OGB Management 19 (4), 15–2

Talbot, **K**. (2012): Total colonic aganglionosis with small bowel involvement: an analysis of 137 patients' pediatric Surg (6)21, P; 319-22.

Taylor, C. R., Lillis, C., LeMone, P., Lynn, P. (2011): Fundamentals of nursing: The art and science of nursing care. Philadelphia, page 1382-1383, 1404 colostomy care