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Stoma Care for Children having Colostomy in Menoufia University Hospital

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Abstract: Background: A stoma is a common procedure performed in children; mostly Colostomy in infancy and childhood is usually performed for benign disease and is of a temporary nature. Children are a high risk group for complications related to the stoma opening. The main reason for the development of such complications is a lack of knowledge and skills related to stoma care therefore requires skilled care by the patient and or his parents.

Purpose: The purpose of this study was to assess caregivers' knowledge and practices regarding stoma care of their children in Menoufia University Hospital. **Methods:** A descriptive research design was conducted at Menoufia University hospital sampling: sixty primary caregivers and their children were included. The data was collected using knowledge and practice forms regarding stoma care. **Results:** The findings revealed that all of caregivers (100%) had poor level of knowledge regarding colostomy and the maximum mean scores (14.63 ±5.7). Also, all of caregivers (100%) had poor practice level (M±SD=1.67 ±1.03).

Conclusion: Caregivers' knowledge and practice regarding stoma care of children having colostomy in Menoufia University Hospital are at on poor level. **Recommendations:** The results show that there is a need for the development of caregivers' knowledge and practice levels in relation to colostomy care.

Key Words: Colostomy, Stoma care, Caregivers.

Introduction

Intestinal stoma (IS) has been one of the most commonly performed life-saving surgical procedures worldwide and plays an important role in the management of congenital or acquired gastrointestinal conditions. It may be performed under elective or emergency conditions from small or large bowel and can be temporary or permanent (Abbas et al., 2019).

Stoma is considered a surgical intervention with the function of facilitating the communication between internal organ and the external environment. It can be made in both the small intestine (ileostomy) and the large intestine (colostomy). A surgical incision is done to connect the small or large intestine to the abdominal wall to allow intestinal emptying (Maia & Assis, 2019). There are many further conditions which require the stoma surgical incision in order to help children to survive. These conditions are malformation of the intestines, HD, ARM, Inflammatory bowel disease, Crohn's disease, necrotizing enterocolitis (NEC), Trauma and Colon Cancer (Massenga et al., 2019). Colostomies in children are frequently performed to relieve colonic obstructions

resulting from congenital anomalies such as colon atresia and imperforate anus, and occasionally for pelvic and perianal tumors and instances of rectal perforation. The commonly performed ostomies in surgical practice include colostomy and ileostomy, however, there are many other variations such as the rare jejunostomy that can be created to decompress, lavage, and divert gut contents (Ahmad, et al., 2018)

Even with careful surgical intervention, children having stomas may suffer from many complications as peristomal dermatitis, parastomal hernia, colostomy prolapse, stenosis, retraction and stoma dysfunction (Chanchlani and Shrivastava, 2019). However, all these complications are preventable with good surgical technique and proper nursing care, this high quality of care is required because colostomy results in dramatic change in elimination pattern; which is accompanied by the need to adjust to a new way of life (World Health Organization, 2016)

Children are a high risk group in terms of complications related to the stoma opening (Ahmed., 2016). The main reasons for the development of such complications is poor

selection of the stoma area before the operation, surgical technique, other diseases that the child suffers from, an unsuitable adapter-bag system for the stoma, and a lack of knowledge and skills related to stoma care on the part of the individual with the stoma or their caregivers (Hatton, 2019). The main objective of stoma management is to prevent stoma complications by using team collaboration and evidence-based nursing. The criteria necessary for this are suitable stoma care, including preparation of a care plan, and monitoring the training and practices of health care professionals (Wongs, 2015). Therefore, assessment of caregiver's and skills and knowledge regarding the stoma is important. The care of the children with colostomy is a complex, challenging and lengthy process, though colostomy in a child is often temporary. However, since it alters the external appearance of the child, the psychological impact on the child and the family at times is profound. Sometimes the attitudes of the family strongly influence adjustment to surgery the child needs to be provided all the care by the parents after discharge from the hospital (Abd AL-magid, 2017).

With the changes that have occurred in healthcare in the last decade, family members have become an integral part of the long-term care. Provision of long-term care can place family members under significant emotional, financial, and physical stress and burden. Although a number of services are available to family caregivers, the dissemination of this information is sometimes poor. As a result, many families are not able to take advantage of the resources available for respite, support groups, and financial aid. The family member or caregiver's quality of life may be improved if he/ she is educated about potential sources of stress (Butler, 2019).

Purpose

The purpose of this study was to assess caregivers' knowledge and practices regarding stoma care of their children in Menoufia University Hospital.

Research questions

1. What is caregivers' knowledge level regarding colostomy care?
2. What is caregivers' practice level regarding colostomy care?

Methods

Research Design: A descriptive research design was used in this study.

Setting: The study was conducted in general surgical departments in Menoufia university

hospital. In Menoufia University Hospital, there were no special surgical departments for pediatrics children. Therefore, pediatric children occupied the same surgical department for adults in the 2nd floor and the capacity of the department was 75 beds, the surgical department was divided into 2 sections (one for males and one for females) The male section contains 6 rooms (adults mixed with children) and the females one contains 5 rooms (adults mixed with children) Each section contained a special room for pediatrics children.

Sample

A purposive sample of 60 children and their primary caregiver (58 mothers and 2 fathers) were obtained from the above mentioned settings.

- **Inclusion criteria:** All primary caregivers of children who were scheduled for temporary or permanent stoma surgeries were invited to participate in the study regardless of the age of their children or caregivers level of education.
- **Exclusion criteria:** All primary caregivers who had any disability (cognitive or others) which might block communication were excluded.

Instruments

Three instruments were used for data collection:

Instrument one: Social Characteristics Structured Questionnaire:

It is Structured Interview Questionnaire. It was developed by the researcher in simple Arabic language based on review of related literature. It was divided into three parts:

- **Part one:** Characteristic of children. It included questions about age, sex and birth order.
- **Part two:** Demographic characteristics of primary caregivers. It included questions about age, education, occupation, residency and telephone number.
- **Part three:** Medical history of the child. It included question about diagnosis, previous hospitalization, causes of hospital admission, site and type of stoma either permanent or temporary

Instrument two: Structured Interviewing Questionnaire: -

It is Structured Interviewing Questionnaire. It is a multiple choice questions that was adopted from Mohey El Din (2014) then modified by the researcher after a review of literature used to assess knowledge of primary caregivers

regarding the stoma, it was divided into four parts ($\alpha = .984$) :

- **Part one:** Knowledge about stoma, it included 14 items about definition, causes, types, etc.
- **Part two:** knowledge about stoma care, it contained 6 items about stoma care, care of stoma during bathing, etc.
- **Part three:** knowledge about proper nutrition, it included 8 item about nutrition after stoma surgery, foods recommended after operation, foods that causes distention or bad odor and foods that cause diarrhea or constipation, etc.
- **Part four:** knowledge about follow-up and home care, it included importance of follow up and places that provide follow up visits.
- The Total Scoring System of Caregiver's Knowledge :

Level of knowledge	Score
Poor	< 50 %
Fair	50- 75%
Good	>75%

Instrument three: Stoma Care Checklist:

It was adopted from Ayed (2014) and modified by the researcher to assess the primary caregiver's practices related to stoma care. It was divided into two parts:

- **Part one:-** included three phases of stoma care ($\alpha = .973$).
 - ❖ **Phase one:** Preparatory phase It included 4 steps such as: Prepare the needed equipment, Place child on his/her back, Wash hands, etc.
 - ❖ **Phase two:** Performance phase (Applying the pouch): It included 12 steps they were wear gloves, support the skin and gently pull the barrier and bag away from the child, remove the used pouch and discard it, observe the stoma and the skin around it, etc.
 - ❖ **Phase three:** Follow-up phase: after the procedure it contained 3 steps they were remove waterproof sheet, return and clean the equipment then wash hands.
- **Part two:** - Reusing the old pouch: it include 10 steps they were put toilet paper on the toilet before evacuation, evacuate the pouch, clean the pouch with water (in/out),

rinse then dry the pouch and keep the pouch in clean place, etc.

- Total Scoring System of Caregivers Practice about Stoma :

Scoring items	Score
Not Done	< 50%
Done	>50%

Ethical considerations

Approval was obtained from the Ethics Committee of the Faculty of Nursing, Menoufia University. The privacy and confidentiality of data were maintained and assured by getting participants' consent to participate in the research before data collection. Anonymity of participants was granted.

Procedure

An official letter was sent from the Dean of the faculty of nursing Menoufia University to the director of Menoufia University Hospital explaining the purpose and method of data collection. Interview questionnaire was used to collect data from respondents. The investigator explained the aim of the study to every participant. The investigator was available for help to avoid any misinterpretations of questions. An oral consent was taken from each study subject. Data collection for this study was conducted for a period of 10 months extending from June 2018 to the end of March 2019. The questionnaires were distributed during pre-operative period. It took around 30 minutes from each study sample to fill in the questionnaire.

Statistical analysis

Data was coded and transformed into specially designed form to be suitable for computer entry process. Data was entered and analyzed by using SPSS (Statistical Package for Social Science) statistical package version 20.

Results

Table 1: Represented percentage distribution of studied children according to their demographic characteristics. The table showed that about one third of studied children (33.3%) were in the age group of 1-12 months. Regarding children's gender, more than half of studied children were boys. In relation to developmental stages, approximately one third (33.3%) were in the infant stage in the study group.

Table 1. Percentage distribution of studied children according to their demographic characteristics (N=60)

Demographic characteristics	No	%
Age (years)		
Birth- one month.	12	20.0%
1-12 month.	20	33.3%
12month.->3 years	12	20.0%
3- > 5years	8	13.3%
5-10 years	8	13.3%
Gender		
Boy	42	70.0%
Girl	18	30.0%
Developmental stages		
Neonate	12	20.0%
Infant stage	20	33.3%
Toddler stage	12	20.0%
Preschool stage	8	13.3%
School stage	8	13.3%
Total	60	100

Table 2: Percentage distribution of primary caregivers according to their demographic characteristics (N=60). It was found that the majority of caregivers were mothers (90.0%). Concerning the age of the parents, the results illustrated that more than one third of studied

caregivers were in the age group of 30-34years. In relation to caregiver's education, more than half of caregivers had middle education (53.3%).

Table 2. Percentage distribution of studied caregivers according to their demographic

Demographic characteristics	No	%
Participant		
Mother	54	90.0%
Father	6	10.0%
Age of parent		
20-24y	10	16.7%
25-29y	20	33.3%
30-34y	22	36.7%
35 y – or more	8	13.3%
Education		
Illiterate	1	3.3%
Primary education	0	0.0%
Secondary education	2	6.7%
Middle education	16	53.3%
High education	11	36.7%
Total	60	100

characteristics (N=60)

Table 3 demonstrated distribution of studied children according to their present medical history. As shown in the table about one third (33.3 %) of children were diagnosed with Hirshsprunge disease. while, children who had intestinal obstruction, Congenital colon

anomalies and Imperforated Anus were (30. % 16.7%, & 10.0% respectively). Concerning the site of stoma, the majority of children had colon stoma (83.3%) and the majority of them had temporary colostomy (86.7. %), while (13.3%) had permanent colostomy.

Table 3 :- Distribution of Studied Children According to Their Present Medical History.

Present Medical History	No	%
Reasons for doing operation		
Congenital colon anomalies	10	16.7%
Cancer colon	2	3.3%
Intestinal obstruction	18	30.0%
Imperforated anus	3	10.0%
Hirshsprunge	20	33.3%
Cohn's disease	4	6.7%
Types of Stoma:-		
Temporary	52	86.7%
Permanent	8	13.3%
Site of Stoma		
Colon	50	83.3%
Ileum	10	16.7%
Total	60	100

Table 4 illustrated level of total caregiver's knowledge about stoma. This table revealed

that all caregivers had poor level of knowledge regarding the stoma (100.0%)

Table 4. Level of Total Caregivers Knowledge about Stoma.

Knowledge items (Each item scored 0-2)	N	%
Poor	60	100.0%
Fair	0	0.0%
Good	0	0.0%
Total	60	100.0%

Table 5 illustrated distribution of caregivers according to their performance of stoma care.

It was clear that all caregivers had poor practices regarding care of the stoma (100.0%)

Table 5: Distribution of Caregivers According to Their Performance of Stoma Care

Practices items	N	%
Poor Practice	60	100.0%
Good Practice	0	0.0%
Total	60	100.0%

DISCUSSION

Parents of infants and children with ostomies are generally very upset by the idea that their child needs a stoma and frightened at the thought of ostomy care. With appropriate teaching and emotional support, parents generally adapt well. Ensure that parents know how to obtain supplies and seek help when they have questions or concerns. Support and teaching by skilled nurses have a significant impact on the child's and family's adaptation to the stoma and ostomy car (Coyne, 2017) .

Regarding characteristics of studied children, this study illustrated that about one third of the children's age ranged between 1-12 months. This study is supported by Ayed, 2014 in a study about "Self-Management Program for Mothers of Children with Stoma, Data results revealed that more than forty percent of the children' age ranged between 1 -23 months. Concerning children's sex, the current study revealed that more than half of studied children were boys and one third were girls. This result

goes in the same way with the study conducted by (MacKeigan, & Cataldo, 2017) who reported in a study about "intestinal stomas: principles, techniques and management that there were 66 male and 36 females of different ages with stoma. This study was in accordance with the study conducted by Zaki (2016) who reported in a study about "Management Program for Mothers of Children with Stoma", the study found that 67.51% were males and 32.85% were females. Moreover, several studies revealed that congenital GIT anomalies are more prevalent in male than female and this result was confirmed during clinical observation.

Regards characteristics of the caregivers, the results of the present study revealed that the majority of caregivers mothers. This result was in agreement with Kadam & Shinde (2014) who stated in a study about "Effectiveness of structured education on caregiver's knowledge and attitude regarding colostomy care". That out of total 30 subjects 33.33% were male and 66.67% were female. From the researcher's point of view, mothers are usually assumed to be the caregiver in our culture, this results was supported by Northfield & Nebauer (2019) who founded in a study about "The caregiving journey for family members of relatives with cancer" that in the traditional countries, the female members of the family fell an obligation to provide physical care for the ill relatives. In relation to the age of caregivers, it was obvious that more than one third of them were in age group of 30-34years. This study come in the same line with Kadam, & Shinde (2014) who found that the majority (36.66 %) of respondents belonged to the age group of 31-40 years. In relation to caregiver's education, more than half of parents had middle education.

In relation to medical history for the child, the current study reflected that more than one third of children were diagnosed with Hirshsprunge disease. This finding was consistent with. This result in agreement with Kalia et al, (2017) who found in a study about "Educational aids for parents of children having colostomy". That the congenital malformations represent 60% of ostomies.

This study showed that the primary caregivers have some but not a great knowledge regarding the stoma; the findings revealed that total knowledge regarding stoma was poor. The reasons might be due to that the caregivers did not have background about colostomy. Thus caregivers should be tough about knowledge of stoma as early as possible.

The results show that minimum number 6.7% of caregiver's had knowledge regarding the

definition and types of stoma and the majority of them did not have knowledge regarding shape of stoma because the caregiver's may not know all aspects of stoma care. In this context, Hidalgo, et al., (2017) conducted a study about "Pressure ulcer care in Spain: caregiver's knowledge and clinical practice" the study reported that; knowledge could be acquired through basic and continuing education, training, personal experience, or in-service training.

Moreover, the results indicated that more than two third (66.7%) of caregiver's had incomplete knowledge about substance used for cleaning the stoma. Only four subjects (6.7%) had complete answer about method of skin care. Also the result indicated that (30%) of caregivers had incomplete knowledge about care during bathing.

Finally the result indicated that six subjects (10 %) had incomplete knowledge about the optimal nutrition and food recommended after operation but the majority of caregivers does not have knowledge regarding food that cause bad odor or distention, How to avoid abdominal distention. This result indicated that caregivers had poor knowledge in these areas.

The findings showed that total practice level regarding the colostomy care was poor level. This indicated that caregiver's were not providing good stoma care for children with colostomy and this may be due to that all caregivers didn't have enough information about it and the hospital did not provide them with supplies that needed to perform care for children with colostomy. Marquis and Huston (2019) reported that; each organization and profession must set standards and objectives to guide individuals and practitioners in performing safe and effective care.

Also the result indicated that only six subjects (10%) wash their hands before stoma care. Moreover, the present study result indicated that all caregiver's didn't perform good practice in performance phase of colostomy care in relation to (wearing the gloves , Support the skin , changing the pouch, Wash the stoma with clean water and make good assessment for stoma, These result indicated that caregivers lacked practice in these area. Finally the result indicated that the majority of caregivers didn't perform good practice in reusing the old colostomy bags.

Conclusion

Based on the result of present study, it can be concluded that caregivers' knowledge and practice regarding stoma care of children having colostomy in Menoufia University Hospital are at an poor level and need training

about standards of colostomy care to improve caregivers' knowledge and practice regarding colostomy care.

Recommendations

Based on study findings the following were recommended:

- Illustrated booklet and video about colostomy care should be available for parents in pediatric surgical units to be sure that all essential knowledge and practices needed are in their hands.
- The hospitals should provide mothers with the needed supplies required to demonstrate and implement proper colostomy care.
- Counseling room in the pediatric department should be established to provide children and their parents with the needed information to promote children health and referred them to appropriate places.
- Replication of study on a larger sample obtained from different geographical areas in Egypt.

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