

## Self Management Program for Mothers of Children with Stoma

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### **Abstract:**

**Background:** Adjusting to life with an ostomy ultimately allowed children to develop skills which were perceived to promote personal growth, positive self image, and better quality of life. The pediatric nurse can be the turning point in the life of children with stoma and his family. A child can regain his self-esteem if he receive care from his mother and learn self care like toilet habits

**Aim:** The aims were to assess mothers' knowledge and practices regarding stoma care of their children, and to evaluate the effectiveness of self management program about stoma care on mothers of children with stoma.

**Sample:** A purposeful sample consisted of 70 mothers of children with stoma, was recruited in this study.

**Design:** A pre/post quazi-experimental design was adopted in this study.

**Sitting:** The sitting was children specialized hospital at Benha city, in the pediatric surgical ward and pediatric surgery outpatient clinic.

**Tools:** Tools for data collection were two main parts; part one had three aspects, socio-demographic data of the mothers, socio-demographic data of children with stomas and medical history of the child. Part two was questionnaire sheet to assess mothers' knowledge and observational check list to assess mothers' practice regarding stoma care.

**Results:** Data results revealed that the mean age of the studied children was  $16.42 \pm 12.71$ , months, about two thirds of them (66.7%) was male. The studied mothers were house wives and illiterate (82%, 64% respectively). Less than two thirds of the studied children had colostomy for Hirshsprung disease, (62.2%), and had temporary colostomy 64.4%, while 35.6% had permanent colostomy.

**Conclusion:** The study concluded that mothers' knowledge and practice improved after exposure to the program

**Recommendations:** The study recommended that pediatric nurses' role is very crucial in helping mothers of children with stomas to adapt with self care activities.

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**Key words:** Self Management Program, mothers of children with stomas

## Introduction

Stoma is an opening in the body, or a surgical hole that is created in the abdominal wall such as the mouth. Purpose of stoma care in children and infants are to prevent skin breakdown at site, maintain integrity of stoma and peristomal skin, and prevent infection. In older children the maintenance of positive self-esteem and body image is very important issue so the self care is crucial and target goal (American Cancer Society, 2011). Children with the following conditions may require stoma as Necrotizing Enterocolitis(NEC),Hirschsprung disease, meconium ileus, imperforate anus, Intestinal malrotation, intestinal atresia, stenosis,Inflammatory bowel disease and other intestinal polyposis syndromes as typhlitis, intestinal pseudo-obstruction (Bowel Cancer Research Organization, 2011).

Parents of children who undergoing ostomy surgery are suffering from anxiety and depression that related to the magnitude and type of stoma and they are at emotional risk due to body image issues, of their child, periodic illness exacerbation, complications, daily care requirements, uncertainties, developmental concerns and stigma and they undergo psychosocial obstacles about surgery faced by children with stoma (James & Ashwill, 2007). Children with stoma have altered normal passage of elimination and facing deprivation of normal control and alteration in skin integrity and physical appearance can have profound psychological impact that can make ostomates avoid social contacts even with family and friends (Bonita, 2008 & Crozier, 2010).

Stomas affect quality of life such as social, sport and leisure activities and

difficulties with stoma cares. The presence of a megacolon for example, may restrict quality of life so successful adjustment via multiple and long term functional impairments that may increase intensity of worry and anxieties upon further difficulties still to come during future development (Noone, 2010). The individual's ability to take part in self-care is influenced by basic conditioning factors, these would include age, sex, developmental stage, sociocultural orientation, health care system dynamics, and family system dynamics, patterns of living, environmental issues, and resource adequacy and accessibility (Black et al, 2009, Hockenberry & Wilson, 2010)).

Attention is given to a caring relationship in which there is a dependent person in need of care and an individual who serves as that dependent person's agent of care (Beaumont, 2008). So children sometimes appeared to blame themselves for their parents' lack of time for healthy siblings. As an example, a child reflected on a hospitalization and placed responsibility upon himself for the deprivation of the healthy sibling's time with the parent (Aziz et al., 2009).

Nurse plays an important role in stoma care as pre-operative education and counseling, pre and postoperative teaching and emotional support. In addition empty and change pouching system, describe diet and fluid guidelines, recognize signs of potential complications, as well monitor medications, manage gas and odor, teach patient to seek assistance if experiencing the changes in output, skin complications, and stoma complications (Pillitteri, 2010). The roles of pediatric nurse also include discharge planning, outpatient follow up and ongoing rehabilitation care to

children and their families (El-Sebaie et al., 2005 & Black et al., 2009).

According to Deanna, (2011) nurse can help patient and his/her family to find coping abilities to adjust with stoma. Support will be very much necessary for parents as they face the implications of having a baby who looks different from the perfect infant. Discrepancies between the parent's view of normal body image and elimination methods and reality for their baby are often difficult for them to accept. So the stoma care in children must be at all times to increase the confidence of the parents and the child to cope with the situation so the child will be able to live as a normal life as possible. Reassurance to parents, promotion of independence and development of a healthy self-image in child and attitudes of the family members; are strongly influence the child's self concept. Written home care instructions to parents, ostomy doll-programme as self care teaching tool, and playmates are vital for the socialization (Strode & Debbie, 2009).

Support for parents is very important to be able to find help and support. Whether parents need emotional support or help managing the household duties, they must not hesitate to consult health care provider or hospital about resources in the community (Bennett, 2011, & Hampton, 2012). Nurse can be the turning point in the life of an ostomate especially when he/ she is under severe strain and depression, with compassionate understanding and guidance from the nurse. A child can not only regain his self-esteem because of changes in lifestyle like toilet habits (urinary/bowel) and economical issues, social acceptance because of odor noise and appearance of the appliance/pouch under the clothing (Peter & Colin, 2009).

## **Significance of the study**

The number of children admitted to specialized hospital of children at Benha city according to hospital records in 2011 were about 140-160 cases from 2011-2012. The quality of secondary and tertiary care can be improved by increasing the number of training sessions and meetings with parents of children with stoma. There are many mothers don't know how to take care of their children. Parents should know how to deal with the stoma and communicates with the child and cope with problems of everyday life. Parents' motivation, argumentation, abilities to learn and transfer information are also essential. So the aims of the current study were to; assess mothers' knowledge, and practices regarding their children' stomas, as well as to evaluate the effect of self management program on mothers' knowledge and practices regarding their children' stoma.

## **Aim of the study**

### ***The study aims to:***

1. Assess mothers' knowledge and practices regarding their children' stomas.
2. Evaluate the effectiveness of self management program on mothers' knowledge and practices regarding their children' stoma

## **Research Hypothesis**

1. Mothers' knowledge will be improved after exposure to the self management program regarding stoma care.
2. Mothers' practice will be improved after exposure to the self management program regarding stoma care.

## **Subjects and methods:**

### *Participants:*

A convenient sample of 70 mothers of children with stoma were included in the study, the study sample was collected over 7 months from April 2012 to October 2012

### *Research design:-*

Pre/ post quasi experimental research design was utilized in the current study.

### *Setting*

This study was conducted in pediatric surgery departments and out patients' pediatric surgery clinics at Children Specialized Hospital at Benha City.

### *Inclusion criteria for children*

1. Children with any type of stoma
2. Both gender
3. Age ranges from one month – 5 years

### *Exclusion criteria*

1. High risk neonates
2. Children in Pediatric Intensive Care Unit (PICU)

### *Tools of data collection:*

The following tools were designed and used by the researchers after reviewing the related literature.

#### *1- A questionnaire sheet*

It included the following;

Part I: Containing three areas:

- A. Socio-demographic data of mothers of children with stoma as age, occupation, level of education, address, and number of children in the family.

- B. Socio-demographic data of the child included child's age, sex and birth order, body weight
- C. Medical history of the child such as previous hospitalization causes for stoma, investigation, type of stoma.....etc.

### **Part II:**

- A. Structured interview sheet about mothers' knowledge regarding the stoma such as definition, types, causes, and knowledge about care of child with stoma (30 questions).
- B. An observational check lists about the stoma care, diaper care, skin care, breast feeding, washing colostomy bag as well as diet and nutrition of the child with stoma etc.....(20 sub- items).

### *Scoring system*

A total score of knowledge was "120" divided into three levels, where mothers who had knowledge scores less than 60 (50%) considered unsatisfactory, while score 60 to 80 (50 %- 65%) was considered as fair level and those who got more than 80 (>65 %) were on good level of knowledge. Meanwhile, the total score of practice was 80 scores, mothers' practice score of less than 48(60%) was considered poor, scores from 48-52 was considered fair, and mothers who had practice score more than 55 (68%) were considered on the good level of practice

### *Self management program Arabic handout*

It was constructed by the researchers after reviewing the related

literature which based on mothers' knowledge and practice according to deficit needs about stoma and care of children with stoma.

1. Preparatory phase:

A review of the current and past local and international related books, magazines and periodicals to get acquainted with various aspects related to stoma definition, its causes, types, complications, its impact on the child and his family, role of the nurse and then to develop the study tools and content of the program.

2. Program construction

The program was constructed based on the actual results that obtained from preprogram assessment using the interviewing questionnaire, practice checklist as well as literature review which aimed to satisfy the studied mothers deficit knowledge and practice regarding to care of their children with stoma. It was designed in English and translated into Arabic. The content of the program included, simple and clear information about stoma.

3. Program implementation:

Implementation of the program was carried out at the previously mentioned setting. The subject material used has been collected by interviewing each mother individually. The interview for mother and her child was conducted in one day through the week. The researcher assessed the mothers' knowledge and practice regarding care of their children' stoma, then sessions are held.

4. Program evaluation

Before the implementation of the program, pre test was done to the mothers and their children as regard knowledge and practice. After the implementation of

the program, the post test was done to the mothers regarding knowledge and practice to evaluate the effectiveness of the program; this was done immediately after the program and after two months during outpatient follows up care.

*Tool validity:*

Five specialists from pediatric nursing and pediatrics had an agreement on the face and content validity of the constructed tools.

*Reliability Test:*

The Pearson correlation coefficient test was used to ensure the reliability of the tools used 0.9 (P. < 0.001)

*Data Collection Procedure:*

An official permission to carry out the study obtained from the official personnel in Children Specialized Hospital at Benha City, and from the chairpersons of the surgical ward. An explanation was given to mothers about the nature of the study, its aims, benefits and study tools. Data collection was started from April 2012 to October 2012 (over 7 months) one day per week in the morning and afternoon shift to prevent work interruption. Each mother was interviewed individually, assessment of mothers' knowledge and practice regarding stoma care for their children. Teaching and demonstration about stoma care was conducted in the child's room in the surgical ward.

*Pilot study:*

It was carried out on 10 % of the mothers and their children, for the purpose of modification and clarification. The designed tool was tested on those mothers and their children, who fulfilled the inclusion criteria to evaluate the content of the tools and to estimate the

time required to fill in the sheets. Unclear items were clarified, unnecessary items were omitted and new variables were added.

#### *Statistical design:*

The data obtained were reviewed, prepared for computer entry, coded, analyzed and tabulated. Data entry and analysis were done using SPSS 17.0 statistical software package. Data were expressed as mean, SD and number, percentage. Using Manwhitiny test to determine significant for numeric variable using Chi. Square to determine significance for non-parametric variable. Using paired T test for comparison between pre, post and follow up. Using person's correlation for numeric variable in the same group.

P > 0.05 no significant

P < 0.05 significant

P < 0.01 moderate significant

P < 0.001 highly significant

#### **Ethical consideration:**

Each mother was informed with the nature, process and expected outcomes of the study. The researcher explained to the mothers the purpose of the study and that all data will be confidential and used only for research purpose. All rights were given to the subjects to complete or withdraw from the study at any stage. The study's proposal was approved by the ethical committee at Benha nursing college.

#### **Results**

The findings of the current study were presented in the following tables and figures.

Table (1) showed the socio-demographic data of children, where the

mean age was (16.42 ± 12.71) months. Regarding the children sex, this table illustrates that about two thirds of children (67.14%) were males. In relation to child's current weight, this table reflects that the mean weight of them is (8.72±2.35), and noted that about two thirds(64.28%) of children' weight ranged from 6-8 kg, while 42.85% of children birth; weight ranged from 3-3.75 kg. As regard gestational age of children it was noted that half of children (50.0%) their gestational age ranged from 39-40 wks.

Table (2) described characteristics of studied mothers where their mean age was (28.84 ± 6.16) years, more than one third of the mothers' age ranged from 25-29 years. Regarding mother's job the highest percent (81.42%) of them was house wife and 18.57% of mothers were Employers. As regard the level of education, less than two thirds (64.28%) of mothers were illiterate and (5.71%) of mothers had university education. As regard family income, this table shows that less than two thirds (62.85%) of mothers had insufficient family income and 37.14% of them had sufficient family income.

Figure (1) shows that less than two thirds (62.0 %) of the children' diagnosis was congenital megacolon, while 33 % & 5% of them had imperforated anus and necrotizing enterocolitis respectively.

Figure (2) illustrated that less than two thirds (64.4 %) of children had temporary stoma and more than one third (35.6%) had permanent stoma.

More than half of the children (55.71 %) suffered from peristomal skin inflammation followed by bleeding (17%).

Tables (3) pointed out that there is an improvement in mothers' post program knowledge as compared to pre-program

knowledge in relation to type of diet, prescribed food, type of skin application and precaution to be followed during food intake (100%), while after two months these ratios are decreased. There is a highly statistical significance difference between pre and post program implementation in relation to the studied mothers' knowledge regarding stoma P- value of <0.000. There was no significant difference between mothers' knowledge regarding definition of stoma. Regarding mothers' source of previous knowledge, about their children's stoma, more than forty percent (42.85%) reported that both doctors and nurses were their source of knowledge followed by more than one third (35.7) reported that the nurses are their source of knowledge.

The study's results pointed out that mothers' total knowledge mean scores during pre, immediate post and after two months was changed. A highly statistical significant difference ( $P < 0.000$ ) was indicated between mothers' knowledge as pre and post program implementation. The total knowledge mean score in pre program, immediate post program and after two months were;  $5.68 \pm 0.69$ ,  $66.17 \pm 3.10$  and  $64.04 \pm 8.64$  respectively.

Tables (4,5) indicated that there were statistical significant differences in mothers' reported practice regarding preparation stage and actual stoma care as pre/immediate post and after two months discharge guide program implementation,

## Discussion

An ostomy is an artificial opening in the body for the purpose of eliminating excretions from a working organ or for providing nourishment (Deitz & Gates 2010). Artificial openings may be from the stomach, intestine, urinary bladder, kidney or trachea (Breckman, 2012). An ostomy may be the best and safest form of treatment for number of conditions such as cancer of colon and rectum, trauma,

where there was a highly statistical significant difference ( $P = 0.000$ ) as regard preparation of equipment, and actual stoma care. There was a statistical significant difference ( $P = 0.04$ ) in using clean gauze in care of stoma.

- The study's results showed that there was no statistical significant difference between mothers' knowledge and practice as regarding to their age.
- There was no significant correlation between mothers' job and total knowledge score, (P. value 0.343) a statistical significant correlation (P. value 0.02) was found between mothers' job and total practice' scores.
- As regarding mother's level of education, a highly statistical significant correlation ( $< 0.002$ ) was found between mother's level of education and total knowledge scores. While no statistical significant difference was found between mother's level of education and total practice.
- There was a statistical significant correlation ( $< 0.01$ ) between family income and total knowledge' scores of the mothers as well as the total practice scores

obstruction of the bowel, complications of diverticulosis, and Grohn's disease (Peña et al., 2008).

As regards the characteristics of the studied children, the results of the current study revealed that the mean age of them was ( $16.42 \pm 12.71$ ) months. More than forty percent of the children' age ranged between 12 -23 months. This study is supported by Al-Basrah, (2009) who found that children of any age can

develop a stoma, and typically children are between the ages of 1-48 months. More than two thirds of the studied children were males; these results goes in the same way with the study conducted by Williams, (2008) who found that there were 66 male and 36 females of different ages with stoma. These results also agreed with the study conducted by Luizet al., (2009) who indicated that a total of 23 children (16 males, 7 females) have stoma in his study. In addition many studies of congenital megacolon and other congenital anomalies are linked with male gender for unexplained reasons.

As regards mothers' characteristics, the finding of the present study revealed that the mean age of the studied mothers was  $(28.84 \pm 6.16)$  years, more than one third of the mothers' age was 25-29 years and about two thirds of them were illiterate. The majority of them were house wives. These results are agreed with the result of Hoebeke et al., (2011) who studied the Quality of life of children with stomas the children and mothers' point of view and found that mothers have incomplete elementary education. In The present study we found that more than sixty percent of the studied mothers had low family income. This result is in agreement with the result of Ali, (2007) who found that the parents had difficult financial status on the part those parents unable to pay for definitive surgery to care for children with stoma. The result also was supported by Simone et al., (2009) who stated that the family's income of children with stoma was lower than one minimum salary.

Regarding the diagnosis associated with children stoma the present study illustrated that about two thirds of children had Hirschsprung disease with colostomy, while the minority of them had enterocolitis. This result is in agreement with the result of

Waller, (2009) who discussed that colostomy was the commonest procedure and congenital anorectal anomalies were the most common indications for stoma surgery. This result is also in agreement with the result of Bray & Sanders, (2006) who found that the commonest indication seen in 90% of children followed by congenital abnormalities. An old study conducted by Bison et al., (1997) concluded that congenital megacolon was about (15%) and imperforated anus was (14%), this result goes inconsistent with our study, the researchers' opinion is that it is a warning signs for increasing ratio of congenital anomalies.

In the present study's results more than half of children had peristomal skin inflammation as complication of stoma this result almost related to the lack of facility to use colostomy bags which require hospital policy attention, so some families had financial problems. This result is supported by Nicholas et al., (2008) and Mollitt et al., (2008) who discussed peristomal skin inflammation was the most common complication in children with stoma, also it was in agreement with Justin (2006), Al-Basrah, (2009) and Lister et al., (2010) who found that skin irritation is common and can be caused by various factors in the stoma. In the same context Goldberg et al., (2010) found that complications of infection and granulation tissue occur frequently and likely are a cause of stress and increased burden of care for children with stoma and their families. Furthermore Olejnik et al., (2005) found that skin changes (33%) were the most common complications in case of stoma, which could encounter for inappropriate care. Other complications included hemorrhage (20%), prolapse (13%), and stoma narrowing (10%).

As regard types of stoma, the present study revealed that the less than two thirds of children had temporary



stoma and more than one third of them had permanent stoma. This result was in agreement with the result of Hampton, (2012) who mentioned that anorectal diseases for which temporary colostomy performed to deal with the primary cause later on and protect surgical anastomosis distal to colostomy. This result also supported by Waller, (2009) who found that most intestinal stomas were constructed as emergency and of temporary measures, in addition Chandramouli, (2009) concluded that colostomy represented the second most common type of stoma which was due mainly to infants and children for whom were constructed as temporary diverting stomas for treatment of congenital colorectal disorders. On the other hand this result was disagreed with Frojd et al., (2007) who stated that stomas were mostly indicated for permanent diversion.

In the present study it was found that knowledge deficit about disease, diet, stoma care, and follow up, before program. this may be related to that most of the caregivers felt it is more difficult to take care of a child with stoma than to take care of a generally sick child. The majority of the subjects appreciated the help and intervention from nurses' side and 91.7% of them thought the systematic nursing intervention helpful for them in doing home care (Deitz & Gates, 2010).

The present study's results revealed that, there was a highly statistical significance improved in all area of knowledge between pre and post program implementation regarding mothers' knowledge about stoma P- value of <0.000. It could be due to the entire motivation and needs of mothers who were willing to get more information to help their children. These results are in agreement with the results of who stated

that knowledge of mothers related to managing their children have a major influence on health status. Meanwhile, poor knowledge, skills and lack of self efficacy lead to improper decision about disease management which resulted in delayed care

Regarding stoma care it was found that there was significant difference ( $P= 0.000$ ) as regard practice including equipment preparation and procedure of stoma care during pre/ immediate post and after two months discharge guide program implementation. This can be interpreted as mothers need to adapted care strategy to help their children especially those of permanent colostomy.

In the current study mothers' age was negatively correlated with their knowledge and practice at post program implementation ( $P=0.283, 0.824$  respectively). The current study showed that mothers' education was positively correlated with their knowledge at post program implementation ( $P= <0.002$ ) meanwhile, there was negatively correlation between mothers' education and practice at post program implementation ( $P=0.941$ ). in addition it was found that family income was positively correlated with their knowledge at post program implementation ( $P< 0.01$ ) meanwhile, there was negatively correlation between their family income and practice at post program implementation ( $P=0.689$ ). In this approach in the same context Williams, (2008) and Noone, (2010) concluded that stoma formation also has an impact on the well - being and lifestyle of the children and their family whatever their age. Quality of life can deteriorated following a stoma procedure and specialist support during the first few weeks post-stoma is vital issue.

Regarding correlations between mothers' knowledge and practice throughout program phases the study's results revealed that the correlation was positively correlated at post program

## Conclusion

The study concluded that promoting self-care in children with stoma may be a helpful way to reduce infection, prolepses, hospitalization and other complications, and could reduce the physical, emotional burdens of the disease. Learning practical skills to nurse a child with stoma is very important in managing the child with colostomy. The quality of care can be improved by increasing the number of training

## Recommendations

Based on the findings of the current study, the following recommendations are proposed:

- Assessment of mothers of children with stoma performance, knowledge and quality of life during first six months after operation considered as evidence to his educational needs and concern.
- Provide child and parents with developmentally appropriate verbal and written instructions regarding stoma care.

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implementation ( $P=0.005$ ).this reflected the idea that knowledge is a crucial aspect or prerequisite for skill mastering

sessions and meetings of parents of children with stoma.

The present study suggested that children's knowledge and self care performance can be assessed, as they changes over the time, so specialist, ostomy care nurses is particularly important during the first 3 to 6 months following surgery to identify potential concerns that can be addressed to help improved care.

- Provide verbal and written instructions about administration of medications and encourage parents to participate in the care of their children' stoma.
- Provide a combined inpatient-outpatient program regarding colostomy care that has resulted in improved management mothers regarding their children' colostomies. The physician, parent, nurse, and enterostomal therapist are all intimately involved in the program.

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Part I: Sociodemographic characteristics of mothers and their children with stoma

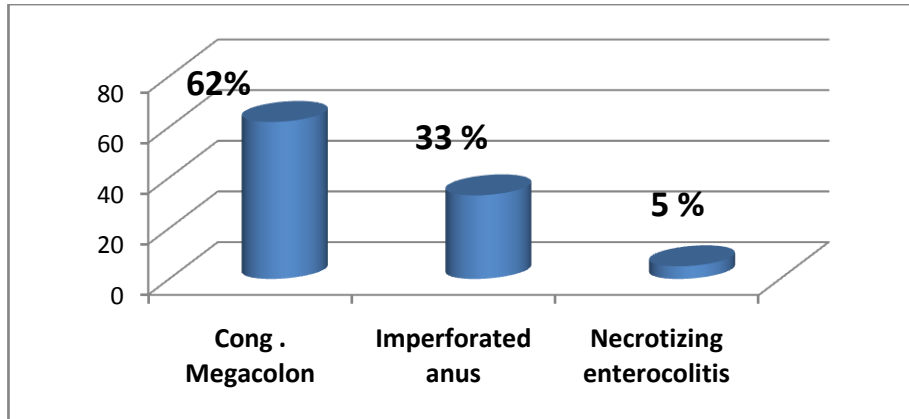
Table (1): Percentage distribution of children with stoma according to their socio demographic characteristics (N=70)

<b>Characteristicsof children</b>	<b>No.</b>	<b>%</b>
<b>Age (months):</b>		
- 1-11	14	20.00
- 12-23	29	41.42
- 24-35	18	25.71
- 36-48	9	12.85
<b>Mean± SD16.42 ± 12.71</b>		
<b>Sex:</b>		
- Male	47	67.14
- Female	23	32.85
<b>Current weight (3.50 kg – 12.0kg)</b>		
- 2 - 4 kg	5	7.14
- 4-6 kg	7	10.0
- 6-8 kg	45	64.28
- >8 kg	13	18.57
<b>Mean± SD8.72±2.35</b>		
<b>Gestational age of child at birth:</b>		
- < 38 wks.	15	21.42
- 38-39 wks.	20	28.57
- 39 – 40 wks.	35	50.0

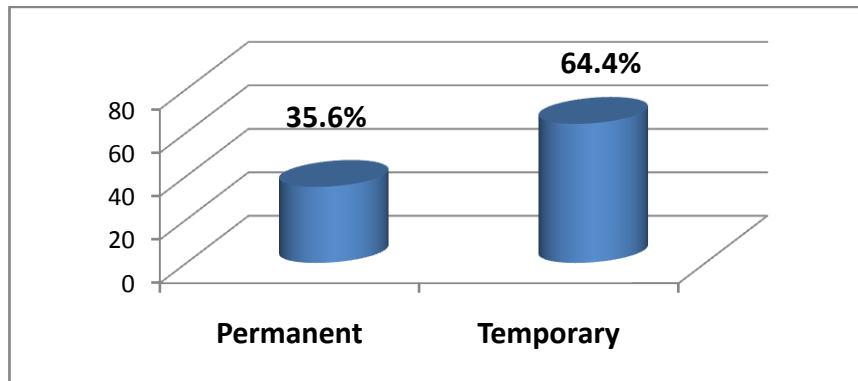
**Table (2): Percentage distribution of the studied mothers by their socio-demographic characteristics(N=70)**

<b>Characteristicsof mothers</b>	<b>No.</b>	<b>%</b>
<b>Age (years):</b>		
- 20– 24	18	25.71
- 25–29	26	37.14
- 30–34	15	21.42
- 35–40	11	15.71
<b>Mean± SD</b>		28.84 ± 6.16
<b>Mothers' job:</b>		
- House wife	57	81.42
- Employer	13	18.57
- Specialist	0	0.0
<b>Mothers' education:</b>		
- Illiterate	45	64.28
- Read & write	9	12.85
- Primary education	8	11.42
- Preparatory education	0	0.0
- Secondary education	4	5.71
- University education	4	5.71
<b>Family income:</b>		
- Enough and more	0	0.0
- Sufficient	26	37.14
- Insufficient	44	62.85

**Figure (1): Distribution of children's stoma concerning the cause**



**Figure (2): Distribution of children's colostomy concerning the type of stoma**





**Part II: Mothers' Knowledge and Practices Regarding Care of their children with Stoma (Tables 3,4,5)**

**Table (3): Mother's knowledge regarding to stoma during pre/ immediate post and after two months discharge guide program implementation (N=70)**

Items	No.=70 100%						P- value N.S
	Pre-program		Immediate-post program		After two months program		
	No.	%	No.	%	No.	%	
<b>1-Definition of stoma</b>							
- Know	70	100	70	100	70	100	
- Don't know	0	0	0	0	0	0	
<b>2-Types of stoma</b>	No.	%	No.	%	No.	%	
- Permanent	70	100	0	0	0	0	.000
- Temporary	0	0	70	100	70	100	
- Others	0	0	0	0	0	0	
<b>3-Causes of stoma</b>	No.	%	No.	%	No.	%	
- Congenital anomalies	70	100	0	0	0	0	.000
- Colon cancer	0	0	9	12.85	6	8.57	
- Hereditary	0	0	0	0	18	25.71	
- Imperforated anus	0	0	3	4.2%	6	8.57	
- Urinary incontinence	0	0	58	82.85	40	57.14	
- Others	0	0	0	0	0	0	
<b>4- Indications of stoma</b>	No.	%	No.	%	No.	%	
- Don't know	70	100	0	0	0	0	.000
- Input stoma	0	0	0	0	28	40	
- Output stoma	0	0	70	100	14	20	
- Others	0	0	0	0	28	40	
<b>5- Complications</b>	No.	%	No.	%	No.	%	
- Don't know	70	100	5	7.1	14	20	.000
- Hemorrhage	0	0	10	14.3	39	55.7	
- Prolapse	0	0	45	64.3	11	15.7	
- Edema	0	0	10	14.3	6	8.6	
<b>6-Types of diet</b>	No.	%	No.	%	No.	%	
- Don't know	70	100	0	0	0	0	.000
- Easily digested	0	0	61	87.14	11	15.7	
- warm food	0	0	2	2.86	25	35.7	
- balanced diet	0	0	7	10	34	48.6	
<b>7-Types of clothes should wear</b>							
-Don't Know	60	85.7	0	0	28	40	.000
-Cotton clothes	10	14.3	70	100	42	60	

<b>8-Types of skin application</b> -Don't Know -Soft, non irritant	70 0	100 0	0 70	0 100	14 56	20 80	.000
<b>9- Prescribed food</b> -Don't Know -Balanced & easy digested	70 0	100 0	0 70	0 100	9 61	12.9 87.1	.000
<b>10-Precaution should follow during food intake?</b> -Don't Know -Know	70 0	100 0	0 70	0 100	9 61	12.9 87.1	.000
<b>Knowledge pre, immediate and post program (Mean± SD)</b>	1.00 ± 0.00		47.28 ± 1.63		43.26±3.83		<0.000
<b>Source of mother's knowledge about stoma care:</b>	No.				%		
- No knowledge	5				7.14%		
- Doctor& nurse	30				42.85%		
- Only nurse	25				35.71%		
- Only doctor	10				14.28%		

**Table (4): Mothers' preparation for stoma care pre/immediate post and after two months discharge guide program implementation (N=70)**

Preparation for stoma care	No.=70 100%						P-value
	Pre-program		Immediate-post program		After two months program		
	No.	%	No.	%	No.	%	
-Tray and warm water	0	0.0	70	100	70	100	0.000 ***
- Tray and clean water	70	100	70	100	70	100	0.000 ***
- Wash cloth	3	4.28	70	100	64	91.4	0.000 ***
- Clean pouch	0	0.0	40	57.14	14	20.0	0.000 ***
- Gloves	0	0.0	58	82.85	36	51.4	0.000 ***
- Oxide zinc ointment	0	0.0	50	71.4	60	85.7	0.000
- Clean gauze	70	100	70	100	64	91.4	0.04*
- Adherent tap	0	0.0	25	35.7	8	11.4	0.000 ***

**Table (5): Mothers' actual stoma care pre/immediate post and after two months discharge guide program implementation (N=70)**

Item							P-value
	Pre-program		Immediate-post program		After two months program		
	No.	%	No.	%	No.	%	
1-Hand washing	44	62.8	70	100	70	100	0.000 ***
2- Wear gloves	0	0.0	50	71.4	45	64.2	0.000 ***
3- Close windows	6	8.5	70	100	64	91.4	0.000 ***
4- Observe stoma site and signs of infection	6	8.5	70	100	70	100	0.000 ***
5- Put child in comfortable position	16	22.8	56	80	70	100	0.000 ***
6- Put equipments in a tray	0	0.0	28	40.0	14	20.0	0.002 **
7- Put waterproof under child	0	0.0	45	64.2	34	48.5	0.000
8- assess the stoma output	3	4.28	70	100	70	100	0.000 ***
9-Gently clean skin around stoma with warm water	70	100	70	100	70	100	---
10-assess skin around stoma	40	57.14	70	100	70	100	0.000 ***
11- Clean skin with gauzes	51	72.8	70	100	70	100	0.000 ***
12-Empty pouch	0	0.0	0	0.0	0	0.0	---