

## Nurses' knowledge and performance regarding colostomy care among old age in Beni-Suef

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### Abstract

**Background** A colostomy is a surgery that makes a temporary or permanent opening called a stoma. A stoma is a path that goes from the large intestine to the outside of your abdomen. **Aim of study:** the study aimed to assess knowledge and performance of nurses about colostomy care among old age in Beni-Suef. **Subjects and methods:** A descriptive design was used to achieve the aim of the current study. The study was conducted in surgical departments male and female at Beni-Suef university hospital, Beni-Suef specialized hospital, and health insurance hospital. Convenient sample was used for this study; include all nurses (78 nurses) working in surgical departments at Beni-Suef university hospital (44 nurses), Beni-Suef specialized hospital (13 nurses), and health insurance hospital (21 nurses). Three tools for data collection were used to carry out the current study namely; socio-demographic questionnaire sheet, questionnaire sheet for nurses' knowledge regarding colostomy care, and ostomy care observation checklist. **Results:** More than half (57.7%) of studied nurses their ages were less than 30 years. More than two thirds (67.9%) of studied nurses are females. More than half (60.3%) of them had nursing health institute. **Conclusion and recommendations:** Nearly half of nurses had satisfactory level of total knowledge about colostomy care., more than one third of nurses had satisfactory level of total performance about colostomy care. Periodic assessment for knowledge of nurses about colostomy care among old age in Beni-Suef. Periodic assessment for performance of nurses about colostomy care among old age in Beni-Suef

**Keywords** Colostomy care, Knowledge, Nurses, Old age, Performance

Receive Date : 7/8/2021	Accept Date: 14/8/2021	Publish Date : 1/1/2022
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### Introduction

Old age comprises the later part of life; the period of life after youth and middle age, usually with reference to deterioration". At what age old age begins cannot be universally defined because it differs according to the context. The United Nations has agreed that 65+ years may be usually denoted as old age and this is the first attempt at an international definition of old age <sup>(1)</sup>

However, old age in, the World Health Organization (WHO) set 55 as the beginning of old age. At the same time, the WHO recognized that the developing world

often defines old age, not by years, but by new roles, loss of previous roles, or inability to make active contributions to society <sup>(2)</sup>.

Elderly people have normal development; this development includes; Cognitive Development, Emotional Development, Cultural and Social Development, and Physical Development. *Cognitive Development*: Older individuals can train specific, but not general, areas of cognition. Memory training, for instance, has been effective for adults in their 60s through 80s <sup>(3)</sup>. Physical training can also improve cognition in old age. Exercise can enhance brain function and delay brain atrophy. Despite general declines in cognitive performance in old age, reasoning as it applies to complex matters of daily life seems relatively unaffected by normal aging <sup>(4)</sup>.

Cognitive functions such as memory, spatial processing, and attention may decline at different rates among people and within individuals. The rate of decline of a particular function in one person is unlikely to match its rate of decline in another. Technology can help counter the effects of cognitive decline. For example, computer-aided sensors are being used in cars to detect rear obstructions that older people may have difficulty seeing <sup>(5)</sup>.

*Emotional Development*: Older more than younger adults are more likely to pursue emotionally meaningful goals. Younger adults tend to pursue goals that expand their horizons or generate new social contacts. As we age, our goals change to accommodate changes in our resources and in our physical selves. Views of the self during aging may influence the course of aging. people with strong, positive attitudes toward the aging self-tended to live, on average, 7.5 years longer than those with negative attitudes <sup>(6)</sup>.

*Cultural and Social Development*: As we age, our social networks tend to shrink and a larger proportion of one's social network becomes comprised of emotionally close partners. This change in social habits reflects emotional development in old age, where individuals begin prioritizing emotional goals <sup>(7)</sup>.

Physical development: Old age can be broken into three stages: young old (55–65 years of age), middle old (66–85), and old old (85 and older). The bones become more brittle as they lose calcium and other minerals. Similarly, joints become less flexible as the joints lose fluid and cartilage begins to rub together. Though the degree of vision impairment varies among individuals, almost everyone over fifty-five will need glasses at least part of the time. The most common visual difficulty at this age is focusing on things very close <sup>(8)</sup>.

In old age, sense of touch starts to decline. This decreased ability to detect vibration and pressure may result in injury. In fact, many older people have a reduced

sensitivity to pain. Older people are more susceptible to chronic diseases such as diabetes, lung disease, arthritis, hypertension, chronic disease with gastrointestinal tract that cause constipation and intestinal obstruction and elderly people need to colostomy care <sup>(9)</sup>.

Stoma is surgically created opening that connects a portion of a body cavity to the external environment. Parts of the gastrointestinal tract (GIT) which could be involved in the creation of a stoma are the esophagus, stomach, duodenum, small bowel and colon. The visible portion of the ostomy is called a stoma <sup>(10)</sup>. Stoma is an opening in your belly's wall that a surgeon makes in order for waste to leave body if old age can't have a bowel movement through rectum. Might get one if old age have surgery to remove or bypass part of large intestine (colon and rectum) and can't have bowel movements the usual way <sup>(11)</sup>.

The most common indications for stoma surgery are inflammatory bowel diseases (ulcerative colitis or Crohn's disease) that interfere with gastrointestinal or genitourinary tract infection. There are two peaks for formation of stoma. There are several types of stomas performed in the abdominal wall, some are temporary and the others are permanent <sup>(12)</sup>.

Stomas from the colon are named by the part of the colon in which stomas are constructed such as sigmoid, descending, and transverse, colon stomas are called colostomies. Stomas from small intestine are called jejunostoma , or ileostoma . Stoma performed to drainage of urine called urostomies, stoma performed to feed the patient through the stomach called gastrostomy <sup>(13)</sup>.

In Egypt during a 5-year period from October 2018 through September 2020, 38 old age admitted to surgical unit at Tanta university hospital with intermediate anorectal malformation to undergo colostomy operation. Each type of stoma has its own list of possible complications based upon its specific location and function <sup>(14)</sup>.

Complications specific to stoma surgery stoma necrosis, retraction , stenosis , prolapse , mucocutaneous separation , peritonitis , skin complications. The most commonly used definition for evidence-based practice is, “the conscientious, explicit, and judicious use of the current best evidence in making decisions about the care of individual patients” <sup>(15)</sup>.

Nursing is the professionalization of care, resulting from the acquisition of scientific knowledge and technical skills that constitute its existential genesis, allowing sharing actions, ideas and experiences in caring. Nursing care presupposes a comprehensive view, with a view to promotion, prevention and rehabilitation, seeking to value basic human needs and achieve balance in the bio psychosocial sphere <sup>(16)</sup>.

Therefore, nursing needs to transcend the technical work related to health-disease, bringing people who care and the beings who are cared for closer together, as it constitutes an encounter of subjectivities that enables a bond of trust and commitment. Humanization of care is the product of technical activities, scientific knowledge and the expressive involvement of professionals in care actions and interpersonal relationships present in this process <sup>(17)</sup>.

In order to care for people who experience ostomy, it is essential that they be guided by a holistic view that contemplates humanism in care actions and consider the specificities necessary for their adaptation and rehabilitation. Therefore, it is intended to emphasize the essence of care as an interactive process, which adds to the technical and scientific aspects and constitutes the knowledge and practices that guide the profession<sup>(18)</sup>.

Nurses were understood to caring for ostomates are recurrent in national and international literature; however, there is a need, from our insertion within care, to reiterate investigations related to nursing knowledge and practices, given the difficulties still perceived in caring for these people. Ostomy consists of intervention for the construction of the stoma, which refers to the mouth or opening a hole that allows the communication of a hollow organ with the external environment. Ostomy is commonly performed in the intestine or bladder, when there is a need to divert effluent elimination. It is a procedure that contributes to the survival of patients, being performed as a therapy for different pathologies that affect the gastrointestinal and urinary tract <sup>(19)</sup>.

Nursing care for patients who experience the adversities of the repercussions of the stoma, regardless of the pre-surgical or postoperative phase, is complex. It involves care that needs to be initiated at the time of diagnosis and subsequent surgical indication. In this phase, nursing care aims to reduce fears, desires and the various doubts emerging in this period, favoring adaptation and autonomy <sup>(19)</sup>.

Thus, care must include, in addition to aspects related to body and stoma care, social support and emotional support actions, with a view to overcoming the technical activities that guide nursing care, resulting in factors that enhance coping with difficulties that may arise <sup>(20)</sup>.

### **Significance of the study**

Colostomy for elderly people affects the quality of life, and cause adverse effects on body form, function and clinical outcome. It is more common and increasing in the older population. it was necessary to guide stoma's elderly people by specialist nurses. Nursing can provide patients by guidance and caring to complete their life. Studies in developed countries found that up 100.000 cases suffer from colostomy.

Colostomy is the stoma can be difficult as there is a change to the person's body and thus, their body image <sup>(21)</sup>.

Nurses carry out work responsibilities to provide elderly people with appropriate care about colostomy. The researcher noticed that nurses haven't enough knowledge regarding colostomy care for elderly people. So, the purpose of the current study is to assess knowledge and performance of nurses about colostomy care among old age.

## **Aim of the study**

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The aim of this study is to assess knowledge and performance of nurses about colostomy care among old age in Beni-Suef

### **Research questions:**

- What is the level of knowledge of nurses about colostomy care among old age?
- What is the level of performance of nurses about colostomy care among old age?

## **Subjects and Methods**

### **Research design:**

Descriptive research design was used in carrying out the current study.

### **Setting:**

The current study was conducted in surgical departments male and female at Beni-Suef university hospital, Beni-Suef specialized hospital, and health insurance hospital.

### **Subjects:**

A convenient sample of all nurses (78 nurses) working in surgical departments at Beni-Suef university hospital (44 nurses), Beni-Suef specialized hospital (13 nurses), and health insurance hospital (21 nurses).

### **Data collection tools:**

Three tools for data collection was used to carry out the current study namely; socio-demographic questionnaire sheet, questionnaire sheet for nurses' knowledge regarding colostomy care, and ostomy care observation checklist

**Tool I: Socio-demographic questionnaire sheet**

This tool was developed by the researcher to collect data about nurses' socio-demographic characteristics and includes: age, gender, educational level, and years of experience.

**Tool II: Questionnaire sheet for nurses' knowledge regarding colostomy care**

This tool was developed by the researcher to collect data about their knowledge regarding care of elderly people with colostomy

**Scoring system:**

Each question was assigned a score of (one) for the correct answer and (zero) for the incorrect answer. The scores of the items were summed up and the total divided by the number of items, giving a mean score for the part. These scores were converted to percent score. Total score of nurses' knowledge considered satisfactory if total percent score was 60% or more and unsatisfactory if the total percent score was less than 60% (Ebrahem, 2015).

**Tool III: Ostomy care observation checklist**

It was developed by researcher based on Taylor et al. (2011) after reviewing the national and international related literature.

**Scoring system:**

Practice scores were "done" and "not done" which scored one and zero respectively. The scores of the items were summed up and the total divided by the number of items, giving a mean score for the part. These scores were converted to percent score. Total score of nurses' practice considered satisfactory if total percent score was 60% or more and unsatisfactory if the total percent score was less than 60% (Taylor et al., 2011).

**Tools validity:**

Validity of the study tools was assessed by jury group consisted of three experts in nursing from faculties of nursing. Jury group members judge tools for comprehensiveness, accuracy and clarity in language. Based on their recommendations correction, addition and / or omission of some items were done.

**Tools Reliability:**

The study tool was tested for its internal consistency using Cronbach's Alpha. 0.863 for questionnaire sheet for nurses' knowledge regarding colostomy care and 0.781 for ostomy care observation checklist.

**Pilot study:**

Pilot study was carried out on 10% of the total study sample (8nurses) to evaluate the applicability, efficiency, clarity of tools, assessment of feasibility of field work, beside to detect any possible obstacles that might face the investigator and interfere with data collection. Necessary modifications were done based on the pilot study findings such as (omission of some questions from tool) in order to strengthen their contents or for more simplicity and clarity. The pilot sample was excluded from the main study sample.

**Field work:**

Data collections of the study take four months. Data collection of the study was started at the beginning of September 2020, and completed by the end of December 2020. The investigator attended in surgical departments at Beni-Suef university hospital, Beni-Suef specialized hospital, and health insurance hospital. Three days per week from 9am to 2pm for nurses. Each hospital one day every weak

The investigator first explained the aim of the study to the nurses and reassures them that information collected was treated confidentiality and that it was used only for the purpose of the research. The investigator meted nurses in surgical departments at Beni-Suef university hospital, Beni-Suef specialized hospital, and health insurance hospital. Nurses complete knowledge questionnaire sheet and each nurse take from 15:20 minutes for knowledge questionnaire sheet and the investigator observe nurses' performance during their work, the investigator evaluates each nurse and each nurse take from 15: 20 minutes for observation checklist.

**Administrative Design:**

An official letter requesting permission to conduct the study was directed from the dean of the faculty of nursing Beni-Suef University to Beni-Suef university hospital, Beni-Suef specialized hospital, and health insurance hospital.to obtain their approval to carry out this study. This letter included the aim the study and photocopy from data collection tools in order to get their permission and help for collection of data.

**Ethical Considerations:**

Prior study conduction, ethical approval was obtained from the scientific research ethical committee of the faculty of nursing, Beni- Suef University. The researcher met director of previous mentioned settings to clarify the aim of the study and take their approval. The researcher also met the staff nurses to explain the purpose of the study and obtain their approval to participate in the study. They were reassured about the anonymity and confidentiality of the collected data, which was used only for the purpose of scientific research. The subjects' right to withdraw from the study at any time was assured.

**Statistical analysis:**

Data entry and statistical analysis were done using (SPSS) statistical software package. Quality control was at the stage of coding and data entry. Data were presented using descriptive statistics in the form of frequencies and percentage for qualitative variables; mean and standard deviation for quantitative variable. Qualitative categorical variables were compared Chi-square (X<sup>2</sup>) test; the hypothesis that the row and column variables are independent, without indicating strength or direction of the relationship, Analysis of variance (ANOVA) test. Statistical significance was considered at (P-value <0.05).

**Results:**

Table 1: shows the percentage distribution of demographic characteristics of the studied nurses, the data revealed that 57.7% of studied nurses their ages were less than 30 years with mean age (30.19 ± 7.45). 67.9% of studied nurses are females, 60.3% of them has nursing health institute. 44.9% of studied nurses has experiences less than 5 years. 65.4 % of studied nurses aren't attending training courses, 48.2% of them has training courses about colostomy care, and 70.4% of them has moderate degree of beneficence of the training courses

**Table (1) Percentage distribution of demographic characteristics of the studied nurses (n=78).**

	Demographic characteristics	No.	%
1. Age	- <30 years	45	57.7
	- 30-<40 years	21	26.9
	- 40-<50 years	12	15.4
	Mean ± SD	30.19 ± 7.45	
2. Gender	- Male	25	32.1
	- Female	53	67.9
3. Qualification	- Nursing diploma	18	23.1
	- Nursing health institute	47	60.3
	- Bachelor of nursing	13	16.7
	- Postgraduate degree	0	0
4. Years of experience	- < 5 years	35	44.9
	- 5-10 years	12	15.4
	- >10 years	31	39.7
5. Attending training courses	- Yes	27	34.6
	- No	51	65.4
6. Topic of the training course (n=27)	- Colostomy care	13	48.2
	- Psychological rehabilitation of elderly with colostomy	7	25.9
	- Infection control of elderly with colostomy	7	25.9
7. Degree of beneficence of the training courses (n=27)	- Weak	4	14.8
	- Moderate	19	70.4
	- Good	4	14.8



Table 2: reveals that 46.2% of nurses has satisfactory level of total knowledge about colostomy care. While, 53.8% of nurses has unsatisfactory level of total knowledge about colostomy care

**Table (2) Percentage distribution of nurses' total knowledge (n=78).**

	Nurses' total knowledge	
	NO	%
Satisfactory	36	46.2
Unsatisfactory	42	53.8

Table 3: reveals that 42.3% of nurses has satisfactory level of total performance about colostomy care. While, 57.7% of nurses has unsatisfactory total performance about colostomy care.

**Table (3) Percentage distribution of nurses' total performance (n=78).**

	Nurses' total performance	
	NO	%
Satisfactory	33	42.3
Unsatisfactory	45	57.7

Table 4: clarifies that there is a highly statistically significant relation between total knowledge and their ages ( $p < 0.01$ ). Also, there is a statistically significant relation between total knowledge and their qualifications ( $p < 0.05$ ). While, there is no statistically significant relation between total knowledge and their gender, years of experience, and attending training courses.

Table (4) The relation between nurses' demographic characteristics and their total knowledge (n=78).

Demographic characteristics	NO	Satisfactory knowledge		Unsatisfactory knowledge		X <sup>2</sup>	P-Value
		NO	%	NO	%		
<b>Age</b>						12.8	.000**
-<30 years	45	26	33.3	19	24.4		
-30-<40 years	21	10	12.8	11	14.1		
-40-<50 years	12	0	0	12	14.4		
<b>Gender</b>						2.9	.069
-Male	25	8	10.2	17	21.8		
-Female	53	28	35.9	25	32.1		
<b>Qualification</b>						6.1	.044*
-Nursing diploma	18	5	6.4	13	16.7		
-Nursing health institute	47	27	34.6	20	25.6		
-Bachelor of nursing	13	4	5.1	9	11.5		
-Postgraduate degree	0	0	0	0	0		
<b>Years of experience</b>						5.2	.074
-< 5 years	35	21	26.9	14	18		
-5-10 years	12	5	6.4	7	8.9		
->10 years	31	10	12.9	21	26.9		
<b>Attending training courses</b>						1.4	.175
-Yes	27	10	12.9	17	21.8		
-No	51	26	33.3	25	32		

(\*) statistically significant  $p < 0.05$     (\*\*) highly statistically significant  $p < 0.001$

Table 5: reveals that there is a highly statistically significant relation between total performance and their ages, and years of experience ( $p < 0.01$ ). Also, there is a statistically significant relation between total knowledge and their attending training courses ( $p < 0.05$ ). While, there is no statistically significant relation between total knowledge and their gender, and qualifications.

Table (5) The relation between nurses' demographic characteristics and their total performance (n=78).

Demographic characteristics	NO	Satisfactory performance		Unsatisfactory performance		X <sup>2</sup>	P-Value
		NO	%	NO	%		
<b>Age</b>						16.2	.000**
-<30 years	45	27		18			
-30-<40 years	21	6		15			
-40-<50 years	12	0		12			
<b>Gender</b>						.64	.316
-Male	25	9		16			
-Female	53	24		29			
<b>Qualification</b>						2.48	.281
-Nursing diploma	18	5		13			
-Nursing health institute	47	23		24			
-Bachelor of nursing	13	5		8			
-Postgraduate degree	0	0	0	0	0		
<b>Years of experience</b>						15.4	.000**
-< 5 years	35	22		13			
-5-10 years	12	0		12			
->10 years	31	11		20			
<b>Attending training courses</b>						4.8	.025*
-Yes	27	16		11			
-No	51	17		34			

(\*) statistically significant  $p < 0.05$     (\*\*) highly statistically significant  $p < 0.001$

Table 6: shows that there is a positive correlation between nurses' total knowledge and their total performance ( $p < 0.01$ ).

Table (6) Correlation between nurses' total knowledge and their total performance (n=78).

		Total knowledge	Total performance
Total knowledge	R	1	.486
	P	-	.000**
Total performance	R	.486	1
	P	.000**	-

(\*) statistically significant  $p < 0.05$     (\*\*) highly statistically significant  $p < 0.001$

R = Person correlation

## Discussion:

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Old age is a natural process which starts with intrauterine life, continues until death and is caused by irreversible degeneration of cells and systems. Old age is not a pathological process and it consists of physiological, psychological, sociological and chronological changes. The gastrointestinal system is less affected by aging than most other parts of the body. In some people, this slowing contributes to constipation. As a result, a problem is causing the colon to not work properly, or a disease is affecting a part of the colon and it needs to be removed. This problem needs a stoma surgery<sup>(20)</sup>.

A colostomy is a stoma created from a part of the colon. For this surgery, the surgeon brings the colon through the abdominal wall and makes a stoma. A colostomy is an opening in the belly (abdominal wall) that's made during surgery. It's usually needed because a problem is causing the colon to not work properly, or a disease is affecting a part of the colon and it needs to be removed. The end of the colon (large intestine) is brought through this opening in the skin to form a stoma. A colostomy may be temporary or permanent<sup>(23)</sup>.

So, the current study aimed to assess knowledge and performance of nurses about colostomy care among old age in Beni-Suef

Regarding demographic characteristics, the current study showed that more than half of participants had ages less than 30 years, more than two thirds of participants were female, more than half of them had nursing health institute. More than one third of participants had experiences less than 5 years. More than two thirds of participants weren't attending training courses, nearly half of them had training courses about colostomy care, and nearly three quarters of them had moderate degree of beneficence of the training courses

This result is in agreement with **Wang, et al., (2021)**<sup>(18)</sup> who conducted a study entitled "Effectiveness of a Multimedia Patient Education Intervention on Improving Self-care Knowledge and Skills in Patients with Colorectal Cancer after Enterostomy Surgery" and found that more than half of nurses were female, had technical nursing institute, and their ages from 20: 30 years. Conversely, this result is in disagreement

with **Bagheri, et al., (2017)** <sup>(24)</sup> who conducted a study entitled "Nurses' Knowledge About Fecal Intestinal Ostomies's Care" and found that half of nurses had experiences less than 5 years. More than two thirds of them had training courses about colostomy care

Regarding nurses' total knowledge, the current study revealed that nearly half of nurses had satisfactory total knowledge about colostomy care. From the researcher point of view, this result may be due to staff nurses had more information about their patients.

This result is accordance with **Kaplan, & Tüzer, (2020)** <sup>(25)</sup> who conducted a study entitled "Effect of web-assisted learning and peer learning on the stoma care-related knowledge and skills of nursing" and found that more than one third of nurses had satisfactory total knowledge about colostomy care. Conversely, this result is in disagreement with **Dalmolin, et al., (2020)** <sup>(26)</sup> who conducted a study entitled "Knowledge and practices of nursing professionals in caring for ostomates" and found that majority of participants had unsatisfactory total knowledge about colostomy care.

Regarding nurses' total performance, the current study reveals that more than one third of nurses had satisfactory total performance about colostomy care. From the researcher point of view, this result may be due to staff nurses learned patients how deal with disease and enhance adaptation of patients with their disease.

This result is supported with **Thomas, & Dhudum, (2021)** <sup>(27)</sup> who conducted a study entitled "A Study to Assess the Knowledge and Practices for Colostomy Care among Staff Nurses Working in Selected Hospitals of Pune" and found that more than one quarter of nurses had satisfactory total performance about colostomy care. Conversely, this result is in disagreement with **Park, et al., (2020)** <sup>(28)</sup> who conducted a study entitled "The effect of colostomy care for nurses" and found that more than two thirds of nurses had unsatisfactory total performance about colostomy care.

Regarding relation between nurses' demographic characteristics and their total knowledge, the current study clarifies that there is a highly statistically significant relation between total knowledge and their ages. Also, there is a statistically significant

relation between total knowledge and their qualifications. While, there is no statistically significant relation between total knowledge and their gender, years of experience, and attending training courses.

This result is accordance with **Sari, et al., (2021)** <sup>(29)</sup> who conducted a study entitled "Knowledge and Attitude of Community Nurses on Colostomy Care" and found that there is a highly statistically significant relation between total knowledge and their demographic characteristics. Also, this result is supported with **Simon, et al., (2018)** <sup>(30)</sup> who conducted a study entitled "Professional attention to the families of people with elimination stoma" and found that there is no statistically significant relation between total knowledge and their gender, and attending training courses.

Regarding relation between nurses' demographic characteristics and their total performance, the current study reveals that there is a highly statistically significant relation between total performance and their ages, and years of experience. Also, there is a statistically significant relation between total performance and their attending training courses. While, there is no statistically significant relation between total performance and their gender, and qualifications.

This result is in agreement with **Alhawri, et al., (2020)** <sup>(3)</sup> who conducted a study entitled "Knowledge, Attitude, Performance and Associated Factors towards Colostomy Care among Nurses in Public Hospitals" and found that there is a statistically significant relation between total performance and their demographic characteristics. Conversely, this result is in disagreement with **Wang, et al., (2021)** <sup>(18)</sup> who conducted a study entitled "Effectiveness of a Multimedia Patient Education Intervention on Improving Self-care Knowledge and Skills in Patients with Colorectal Cancer after Enterostomy Surgery" and found that there is no statistically significant relation between total performance and their demographic characteristics.

Regarding correlation between nurses' total knowledge and their total performance, the current study showed that there is a positive correlation between nurses' total knowledge and their total performance.

This result is accordance with **Kaplan, & Tüzer, (2020)** <sup>(25)</sup> who conducted a study entitled "Effect of web-assisted learning and peer learning on the stoma care-related knowledge and skills of nursing" and found that there is a positive correlation between nurses' total knowledge and their total performance. Conversely, this result is in disagreement with **Dalmolin, et al., (2020)** <sup>(26)</sup> who conducted a study entitled " Knowledge and practices of nursing professionals in caring for ostomates" and found that there is a negative correlation between nurses' total knowledge and their total performance.

## Conclusion

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The current study concluded that nearly half of nurses had satisfactory level of total knowledge about colostomy care. While; more than half of nurses had unsatisfactory level of total knowledge about colostomy care, more than one third of nurses had satisfactory level of total performance about colostomy care. While, more than half of nurses had unsatisfactory total performance about colostomy care

## Recommendation:

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**In the light of results of this study, the following recommendations were suggested:**

- Periodic assessment for knowledge of nurses about colostomy care among old age in Beni-Suef
- Periodic assessment for performance of nurses about colostomy care among old age in Beni-Suef
- Provide continuous training for nurses about colostomy care among old age in Beni-Suef
- Provide training for nurses with colostomy care among old age in Beni-Suef university hospital to support patients.

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