

Effectiveness of Self-care Education on Patients with Stomas

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Abstract:

The aim of this study is to evaluate the effect of self-care education on knowledge and self-care agency of patients with colostomies and ileostomies.

Methods: This intervention study was carried out with 64 stoma patients 32 of whom were intervention group and 32 of whom were control group at one university research hospital and two state hospitals at Eskisehir in Turkey. After stoma surgery, planned self-care education was given to intervention group, and control group had routine service care. After surgery, personal data collection form and Self-Care Agency Scale (SCAS) were filled by both intervention and control groups at 1 and 3 weeks later.

Results: It was found that self-care agency scores increased in both intervention and control groups 3 weeks later and the increasing extent in the intervention group was higher than the control group ($p < 0.001$). Also there was found a positive correlation between self-care agency and stoma knowledge scores ($r = 0.466$, $p < 0.01$) of intervention group. Education may assist on self-care agency and stoma knowledge of patients with stoma.

Practice Implications: Education has an important part in development of self-care agency, independence and adaptation of the individuals to the diseases. By the way self-care is an important part for the adaptation of patients with stomas after surgery so that planned self-care education should be given to patients before their discharge.

Keywords: self-care agency, self-care, education, nursing, stoma

I. Introduction

Depending on stoma surgery, not only excretion form of individuals but also individuality, self-respect, sense of independence, sexual life, nutritional status, social life, working life, dressing cases, self-care learning and functional abilities are affected [1,2]. Gas and odor, fecal leakage, skin problems, fatigue, loss of appetite, indigestion, nausea, diarrhea, constipation, hernia, pain [2,3,4], stool leakage, bad smell, the independence of the reduction due to depression, anxiety [5,6], peristomal skin irritation and infections [2,3], social isolation [6,7], reduction in the frequency of social activity [8], problems in sexual life [4,9,10], business life problems [11], travel difficulties and body image problems [4] are most common experienced stoma problems by individuals. These psycho-social conditions, anxiety, depression, leisure activities, determining the business case, professional roles and functional status of the characteristics of individuals are the basic contents of quality of life [12] and it's indicated in studies that stoma surgery affect the quality of life [4,6,13,14,15,16]. Accordingly, conditions that affect the quality of life is closely related supplying self-care needs [12,15]. Self-care is defined as performing necessary activities that are basic needs of the individual and self-care ability is defined as the ability to perform these activities [17,18,19]. By the way self-care is an important part for the adaptation of patients with stomas [20,21,22,23] and healthy behaviours [24] after surgery.

Education has an important part in development of self-care agency, independence and adaptation of the individuals to the disease [18,25,26]. In addition, individuals want to be informed about how life will be in the early period after stoma surgery [27,28,29]. It's pointed out that stoma management, planning of health and self-care adequacy is at III.rd level of evidence and patient focused education is at IVth level of evidence in RNAO (Registered Nurses' Association of Ontario) Stoma Care and Management Guideline [30]. In Turkey, owing to absence of stoma care nurses, clinical nurses have major duties and responsibilities about education of patients in process of getting used to living with stomas [7,31]. These duties and responsibilities are giving self-care education about technical skills related to wound care and incontinence (skin cleansing, bag / adapter replacement, changing dressings, making the proper position etc.), giving encourage to individuals in taking decisions related treatment and care, organizing training programs for daily activities to ensure compliance with the social life of patients, developing training materials, teaching support systems and so on [32].

II. Methods

2.1.Design and sampling

This intervention study was carried out to examine the effectiveness of self-care education on knowledge and the self-care agency of the patients with colostomy and ileostomy after stoma surgery at a university medical school hospital and two state hospitals.

The study population was composed of colostomy or ileostomy patients who were followed up in surgery clinics of hospitals between 1st of January 2013-1st of November 2013. The samples of the study were composed of 64 patients (of whom 32 were intervention group and 32 were control group). We included the patients without psychological illness and communication problems, permanent colostomy and ileostomy, between 18-65 years of age and who agreed to participate in the study.

2.2.Ethical consideration

Written permissions from the institutions as well as the ethics committee approvals were obtained in order to carry out the research. Oral and written informed consents of patients were also obtained by informing them about the aim of the study. In line with their permission an education was also given to the patients and their families who don't provide study criterias. The findings of these patients were not included in the study.

2.3.Measures

The findings of the study was acquired by using Self-Care Agency Scale (SCAS) and a personal data collection form, prepared according to the literature [3,7,16,30,31].

SCAS was developed in 1979 by Kearney and Fleischer [In Turkey, Nahcıvan (2004) and Pınar (1993) performed the validity and reliability study and it was adapted into Turkish. There are 35 questions in the Turkish form and the self-care agency scale is used to determine the self-care abilities of individuals. Each item is given on a scale between 0 and 4. Out of these items, 8 of them are evaluated as negative (3,6,9,13,19,22,26,31) and scoring is reversed. As scores increase, self-care agencies increase. According to the validity and the reliability study results of the scale performed for the chronic diseases, reliability is 0.80 and internal consistency is 0.89 [17].

Personal data collection form is composed of two parts. In the first part; there are 35 questions regarding the socio-demographic characteristics of patients with stomas. In the second part; 20 questions are asked in order to determine the stoma knowledge. There are 'right', 'wrong' and 'I don't know' options. If the answer is 'right', it is worth '1 point'; if it is 'wrong' or 'I don't know', it is worth '0 point'.

2.4.Data collection and procedure

Before education, intervention group was informed and then SCAS and personal data collection forms were applied to them. In accordance with the information that was obtained from these forms education was given to patients in their rooms. The educational plans and the contents were prepared and applied based on the literature review in order to enhance the self-care agency of the individuals in the intervention group. Self-care education consisted of definition of stoma, causes of stoma surgery, life changes that individuals face after stoma surgery, general conducts, care of stoma bags, peristomal skin care, stoma care, care related to nutrition, hydration and elimination, psychological support, physical activity [32,33]. Education was provided by using slides, video displays and using question-answer method. Educational booklets, which contain same information of self-care education, were given to patients. The last meeting was planned 3 weeks later to ensure the behavioral changes in patients [2,5,35]. The second part of the personal data collection form and the SCAS were applied to the intervention group at 3 weeks later (Table 1).

Table 1. Research plan

| | Intervention group (n=32) | Control group (n=32) |
|---------------------------------|--|--|
| First meeting | <ol style="list-style-type: none"> 1. Informing group about research and applying SCAS and personal data collection forms 2. Self-care education 3. Giving educational booklets 4. Taking contact informations | <ol style="list-style-type: none"> 1. Informing group about research and applying SCAS and personal data collection forms 2. Taking contact informations |
| Last meeting (3 weeks later) | <ol style="list-style-type: none"> 1. Applying SCAS and only second part of personal data collection forms 2. Self-care education for requirements | <ol style="list-style-type: none"> 1. Applying SCAS and only second part of personal data collection forms 2. Giving education for requirements for ethical considerations 3. Giving educational booklets |

The study was explained to the control group and personal data collection forms and SCAS were applied at first meeting. The control group wasn't trained and they had routine service nursing care. 3 weeks later the second part of the personal data collection form and the SCAS were applied to the control group. In

order to be ethically appropriate, education and educational booklets were given with requests of the control group (Table 1).

2.5. Data analysis

The dates were analyzed using an IBM SPSS (version 21.0) statistics package programme; Mann-Whitney U test, one-way anova, independent samples t-test, paired t test were used during the analyses. The statistical significance level was accepted as being $p < 0.05$.

III. Results

Regarding the individuals of the study group, 22 of them were male (%68.8), 29 of them were married (%90.6), 28 of them had child or children (%87.5), 21 of them were graduated from high school (%65.6), 20 of them were retired (%62.5), 17 of them were residing in the province (%53.1) and the average age was 50.87 ± 7.19 . Regarding the individuals of the control group, 21 of them were male (%65.6), 27 of them were married (%84.4), 28 of them had child or children (% 87.5), 21 of them graduated from high school (%65.6), 16 of them were retired (%50.), 22 of them were residing in the province (%68.8) and the average age was 50.75 ± 6.47 . There was no difference between the socio-demographic findings of the study and control groups ($p > 0.05$).

The patients specified that there was no one who experienced stoma surgery in their families. The patients with chronic diseases are %43.8 of study group and %53.1 of control group. We included the equal number of patients in the study (16 patients with colostomy and 16 patients with ileostoma) in order to minimize the differences that can be due to the anatomically distinctive features of colostomy and ileostomy.

%56.52 of patients, informed before surgery, didn't find the information sufficient. This information was given mostly by doctors (%78.26) and only %21.73 of the nurses gave information to the patients. After the surgery, it was found out that information was given to patients respectively by firm personnels (%61.9), doctors (%23.81) and nurses (%14.28). Out of all patients, %75 of them expressed that the information was not enough. The topics of the information upon surgery were the evaluation of the stoma and its surrounding areas (%15.49), skin care (%14.08), drug use (%12.68), situations that require an open stoma (%11.27), nutrition (%11.27), stoma care products (%9.86), problems (%9.86), sexual life (%8.45), the functioning of the stoma, and the characteristics of the content that can come from the stoma (%7.04). All individuals stated that the sufficient information was not provided to them with respect to the daily activities. Most of the patients in the control group (%71.9) were informed before the surgery by mostly doctors (%73.91) and less by nurses (%26.08). The %73.91 of the individuals did not find this information enough. All patients in the control group (%100) were informed after the surgery respectively by firm personnels (%62.79) and doctors (%25.58). The majority of the individuals (%73.9) stated that this information was not sufficient enough. Upon surgery, individuals in the control group were informed about nutrition (%100), the functioning of the stoma and the characteristics of the content that can come from the stoma (%12.20), problems (%11.38), situations that require an open stoma (%11.38), daily activities (%9.76), drugs (%8.76), the evaluation of the stoma and its surrounding areas (%8.13), sexual life (%6.5), skin care (%4.88), stoma care products (%3.25). We have detected a statistically significant difference between the study and the control group regarding the issues such as situations that require stoma surgery, the functioning of the stoma and the characteristics of the content that come from the stoma, skin care, stoma care products, nutrition and the daily life activities ($p < 0.05$).

Patients mentioned that they received the social support from their families, relatives, friends and hospitals and there was no significant difference between the study and the control group individuals in this regard in the first and the last meetings ($p > 0.05$).

Table 2. Self-care agency and stoma knowledge scores of study group

| | Self-care agency score | | | Statistical analysis | Stoma knowledge score | | |
|----------------------|-------------------------------------|--------------------------------|---|----------------------|-------------------------------------|--------------------------------|----------------------|
| | Intervention group $\bar{X} \pm sd$ | Control group $\bar{X} \pm sd$ | | | Intervention group $\bar{X} \pm sd$ | Control group $\bar{X} \pm sd$ | Statistical analysis |
| First meeting | 71.50±1.78 | 72.07±1.35 | | U=498.00 | 4.00±0.78 | 5.00±0.70 | U=371.00 |
| Last meeting | 87.00±1.48 | 74.00±1.22 | | U=137.00 | 14.00±0.43 | 7.50±0.70 | U=209.00 |
| Statistical analysis | t =9.347 | t=5.35 | - | p<0.001 | t=9.208 | t=5.471 | - |
| | p<0.001 | p<0.01 | | | p<0.001 | p<0.01 | |

The self-care agency scores of the patients were given in Table 2. The self-care agency scores of the study group patients (87.00 ± 1.48) were higher when compared with the self-care agency scores of the control group patients (74.00 ± 1.22) in the last meeting. A highly significant difference was found between two groups ($p < 0.001$).

The self-care agency of the study group patients who had an additional chronic disease was found as lower compared with the ones who did not suffer from chronic disease. There was a significant difference between these patients groups ($p < 0.05$). In the control group, there was no significant difference between the two group of patients with/without chronic disease ($p > 0.05$) (Table 3). Colostomy and ileostomy techniques were performed due to cancer/tumor or infection. In our study, we did not detect a significant difference between the study and the control group regarding the self-care agency scores according to the type of the surgery ($p > 0.05$).

In the last meeting, self-care agency score of the patients who stated that they received information from nurses (87.45 ± 3.58) was higher according to the patients who learned necessary information from directly doctors (83.71 ± 2.45) or firm personnels (83.09 ± 1.22). However, there was no significant difference between these groups ($p > 0.05$).

Self-care agency scores of the study and control group who received support from the hospital were higher than the ones who did not receive a support. However, the difference was not significant between these groups ($p > 0.05$). Individuals in the study group who got support from their families had higher self-care agency scores whereas the control group patients who received the support from their friends had higher self-care agency scores. However, there was found no significant difference between groups ($p > 0.05$) (Table 3).

Stoma knowledge scores of patients were given in Table 2. In the first meeting, the stoma knowledge scores of the study and the control group patients were not significantly different between each other ($p > 0.05$). In the last meeting, it has been determined that the stoma knowledge scores of the study group individuals (14.00 ± 0.43) were significantly higher than the scores of the control group individuals (7.50 ± 0.70) ($p < 0.001$).

In the last meeting, we have detected a significant difference between the stoma knowledge scores of patients in the study and the control groups according to their different educational levels ($p < 0.001$). However, there was no significant difference between groups related to having the chronic disease, the type of the surgery (colostomy and ileostomy opening) and receiving information prior to surgery ($p > 0.05$) (Table 3).

Regarding the correlation between self-care agency and stoma knowledge scores of the patients, there was no significant difference in the first meeting ($r = -0.05$, $p > 0.05$) whereas we detected a highly significant relationship between self-care agency and stoma knowledge scores in the last meeting ($r = 0.466$, $p < 0.01$).

Table 3. Self-care agency scores according to some characteristics of study group

| | First meeting | | Last meeting | |
|---|--------------------|------------------|--------------------|------------------|
| | Intervention group | Control group | Intervention group | Control group |
| | $\bar{X} \pm sd$ | $\bar{X} \pm sd$ | $\bar{X} \pm sd$ | $\bar{X} \pm sd$ |
| Gender | | | | |
| Female | 72.00±4.89 | 77.2±7.81 | 86.10±5.98 | 80.54±7.51 |
| Male | 75.81±11.60 | 71.57±7.01 | 90.68±9.05 | 75.04±5.92 |
| Statistical analysis | t=-0.994, p>0.05 | t=0.427, p>0.05 | t=-1.094, p>0.05 | t=0.63, p>0.05 |
| Education level | | | | |
| Secondary school | 70.66±5.88 | 72.57±10.96 | 84.71±8.84 | 76.16±3.68 |
| High school | 71.95±11.65 | 76.33±4.92 | 89.38±5.39 | 75.28±9.27 |
| University | 83.60±2.06 | 69.25±5.81 | 96.50±5.90 | 84.8±3.31 |
| Statistical analysis | F=1.018, p>0.05 | F=1.03, p>0.05 | F=2.805, p>0.05 | F=2.866, p>0.05 |
| Chronic disease | | | | |
| Yes | 77.57±12.63 | 73.52±7.24 | 79.21±10.16 | 76.11±6.89 |
| No | 72.33±7.08 | 73.53±8.40 | 89.27±7.05 | 77.86±7.06 |
| Statistical analysis | t=1.488, p>0.05 | t=1.114, p>0.05 | t=9.35, p<0.05 | t=-0.21, p>0.05 |
| Pre-operative information | | | | |
| Yes | 75.73±11.32 | 73.04±7.79 | 88.21±8.44 | 76.26±7.21 |
| No | 71.77±5.28 | 74.77±7.69 | 91.88±8.16 | 78.66±6.12 |
| Statistical analysis | t=1.000, p>0.05 | t=0.447, p>0.05 | t=-1.116, p>0.05 | t=-1.113, p>0.05 |
| Social supporter individuals | | | | |
| Family | 74.62±10.07 | 73.53±7.68 | 89.25±8.40 | 76.93±6.91 |
| Relatives | 83.25±10.17 | 71.50±9.38 | 87.50±8.38 | 75.12±7.10 |
| Friend | 76.55±8.97 | 75.33±7.22 | 83.88±3.14 | 78.00±6.90 |
| Statistical analysis | F=1.230, p>0.05 | F=3.131, p>0.05 | F=1.335, p>0.05 | F=2.291, p>0.05 |
| Institution/organization supporter | | | | |
| Evet | 74.76±10.43 | 76.50±7.61 | 90.00±8.12 | 79.50±7.34 |
| Hayır | 74.14±9.40 | 68.58±4.83 | 86.57±9.48 | 72.66±3.14 |
| Statistical analysis | t=0.141, p>0.05 | t=2.064, p>0.05 | t=0.953, p>0.05 | t=2.973, p>0.05 |

IV. Discussion

It has been known that informing the patient about the medical interventions and training the patients about the processes have effective roles in the acceptance of the disease, deciding about herself/himself and performing the self-care [3,25,36]. In our study, the %71.9 of the study and control group patients mentioned that they were not informed before the surgery. Besides, the %34.78 of the patients who were informed stated that the information was not sufficient. In the study performed by Cavdar (1999), %80.0 of the patients with stoma mentioned that they were informed and these percentages were higher than ours. Additionally, out of these patients, %10.0 of them stated that 'very little information was given'. Findings of insufficient information was given to patients support our findings [28,37].

In our study, it has been noticed that mostly the doctors (%76.08) informed the patients whereas nurses (%23.91) shared the information about the surgery comparatively at lower rates. These results can be thought as negatively in case of nurses. Mutlu (2006) have stated that all of the individuals got information (only %79.3 of them received information) from doctors (%100) before the surgery [16]. This result supports our study and show that doctors are more efficient. As different Lim et al. (2015) found nurses were more effective at giving information [28]. Furthermore, Mutlu (2006) has shown that all of the patients were informed about the stoma and this was beneficial for them [16]. Anyway, most of the patients (%75.0) mentioned that they did not get sufficient information after the surgery and this finding is thought-provoking. Gürkan et al. (1999) have indicated that the %91.1 of the patients received information after the surgery and this rate was close to our data[38]. On the other hand, Mutlu (2006) have stated that only %60.3 of the patients got the information about the stoma [16]. The causes of different results regarding the post-surgical information rates can be the in the distribution of the health professionals, the stoma care/inadequacy and uncertainty in the distribution of the professionals regarding the treatments, unwillingness to take responsibility for stoma care and different perspectives of health professionals. The %62.35 of the patients was informed by firm personnels after surgery and this rate was higher compared to the rates of the doctors and nurses. Mutlu (2006) have shown that %11.4 of the patients were informed by doctors, %88.6 of them got the information from firm personnels whereas there was no patient who received information from nurses after the surgery[16]. Tüzer (2007) have stated that %61.7 of the patients who received support from stomatherapy unit mentioned that they were informed by firm personnels [31]. This supports our study and shows that patients do not receive enough counseling from stomatherapy units and the nurses. Unlike this study, Karadag et al. (2003) majority of the individuals with stoma (%49.2) were informed by nurses and %36.1 of them got the information from firm personnels [39]. The reasons for these different rates depend on the alterations in the study universe and the absence/presence of the stomatherapy nurses.

According to our results, when the self-care agency scores of the patients in the study group were examined, even though the self-care agency scores of the patients who graduated from university were higher than others, there was no significant difference ($p>0.05$). Similarly, there have been some studies showed that the education level did not affect the self-care agency [40,41]. Bakoglu and Yetkin (2000), Kao and Ku (1997) have detected that as the education level increased, the self-care agencies also increased. The findings of this study support our results [17,42]. According to these results, we can support the idea that the well educated individuals perceived their health better.

Social support is needed for the individual in order to maintain the health status and to develop the coping mechanisms for diseases [23,27,28]. Kao and Ku (1997) stated that social support had positive effects on self-care agency [42]. In our study, self-care agency of patients in the study group who received support from their families was found to be higher. The study performed by Gao (2012) support our study [27]. In our study, in the last meeting, the self-care agency of the study and control group individuals who mentioned that they got support from hospital was shown to be higher than the ones who did not get support from any of the institutions. However, there was no study related to these findings.

In the last meeting with study group patients, the self-care agency of patients who did not have chronic diseases was higher compared to ones with chronic diseases and this difference was significant ($p<0.05$). The study performed by Yaman (2008) also support our findings[43]. Chronic diseases can have negative impacts on the self-care agency because they affect the life style and daily activities of patients and lead to alterations in the level of self-care.

There are papers that indicated the individuals gain positive self-care behaviours about stomas after education [25,36,44]. In our study, self-care agency scores increased in both intervention and control groups 3 weeks later and the increasing extent in the intervention group was higher than the control group and this finding was consistent with other studies [18,26,45,46,47].

In this study, it has been shown that the stoma knowledge scores of the intervention group were higher than the control group and this was an expected result. Lo et al. (2011) and Cheng et al. (2012) have stated that the stoma knowledge scores of individuals increased upon the training and this finding supported our study[20,25]. These results have shown that the informatory trainings were important and necessary to increase

the knowledge of the patients about their stomas.

According to our results, it is possible to state that as the stoma knowledge scores of the patients in the study group increase, their self-care agency scores also increase. Studies state that enough knowledge about disease provides successful self-care [25, 28].

V. Conclusion

Conclusively, it can be possible to support the idea that the individual who receives the sufficient information about the disease have enough self-care agency and the favorable self-care behaviours can be improved.

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