ARAŞTIRMA / RESEARCH

# The effect of phone counselling service on adaptation to stoma and quality of life among patients with intestinal stoma: a randomized controlled trial

Telefonla danışmanlık hizmetinin bağırsak stomalı hastalarda stomaya uyum ve yaşam kalitesi üzerindeki etkisi: randomize kontrollü bir çalışma

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**Abstract**

**Purpose:** Stoma is a surgical intervention that negatively affects the quality of life and adaptation to social life. The problems experienced by patients with stoma negatively affect the quality of life especially in the postoperative first weeks. Many kinds of nursing interventions to ensure adaptation to social life and to increase the quality of life. The aim of this study was to determine the effect of phone counselling service on adaptation to stoma and quality of life among patients with intestinal stoma

**Materials and Methods:** The study was conducted on patients with intestinal stoma followed up in stoma therapy outpatient clinic of a university hospital. A total of 60 patients (30 in the control group and 30 in the test group) were assigned to two groups by making randomization via computer through "simple randomization method". "Informed Consent Form, Questionnaire for Individuals with Intestinal Stoma, Ostomy Adjustment Inventory and Adaptation of Quality Life Scale" were filled in. The scales were re-applied in both groups in the stoma therapy outpatient clinic in the postoperative 6th and 10th weeks.

**Results:** Phone counselling was effective in increasing the adjustment to stoma and quality of life among patients with stoma in the first 10 weeks after the operation.

**Conclusion:** The test group had higher levels of life quality and social adaptation and also had more responsibilities for self-care.

**Keywords:**. Counselling, colostomy, adaptation, stoma care, quality of life

**Öz**

**Amaç:** Stoma, yaşam kalitesini ve sosyal yaşama uyumu olumsuz etkileyen cerrahi bir müdahaledir. Stomalı hastaların yaşadığı sorunlar özellikle ameliyat sonrası ilk haftalarda yaşam kalitesini olumsuz etkilemektedir. Sosyal yaşama uyumu sağlamak ve yaşam kalitesini arttırmak için birçok türde hemşirelik müdahalesi. Bu çalışmanın amacı, bağırsak stomalı hastalarda telefonla danışmanlık hizmetinin stomaya uyum ve yaşam kalitesine etkisini belirlemektir.

**Gereç ve Yöntem**: Çalışma bir üniversite hastanesinin stoma tedavisi polikliniğinde takip edilen bağırsak stomalı hastalar üzerinde yapıldı. Bilgisayarla "basit randomizasyon yöntemi" ile randomizasyon yapılarak toplam 60 hasta (kontrol grubunda 30, test grubunda 30) iki gruba ayrıldı. "Bilgilendirilmiş Onam Formu, Bağırsak Stomalı Bireyler Anketi, Ostomi Uyum Envanteri ve Yaşam Kalitesi Uyarlama Ölçeği" dolduruldu. Ölçekler her iki gruba da stoma tedavi polikliniğinde ameliyat sonrası 6. ve 10. haftalarda tekrar uygulandı.

**Bulgular:** Telefon danışmanlığı, operasyon sonrası ilk 10 hafta stomalı hastalarda stomaya uyum ve yaşam kalitesinin artmasında etkili oldu.

**Sonuç:** Test grubu, daha yüksek yaşam kalitesi ve sosyal uyum düzeylerine sahipti ve ayrıca öz bakım için daha fazla sorumluluğu vardı.

**Anahtar kelimeler**: Danışmanlık, kolostomi, adaptasyon, stoma bakımı, yaşam kalitesi

## INTRODUCTION

Stoma is a surgical intervention that negatively affects the quality of life, resulting in changes in the activities of daily living and the adopted life habits[1,2]. Patients with stoma go through problems with adaptation to stoma and thus they have difficulty in accepting their illnesses[3]. Patients with stoma experience some social, emotional, physical, sexual, and functional problems[4-7].

It has been found in the studies that 30-59% of patients with stoma could not perform at least one preoperative activity in the postoperative period, experience problems in meeting new people, are less involved in entertainment activities, used public transportation less, and had problems with intimacy with the opposite sex[7,8]. The problems experienced by patients with stoma negatively affect the quality of life especially in the postoperative first weeks. In the study by Ito et al., it was found that patients who had high life quality scores before colostomy surgery had lower life quality scores in the postoperative 2nd week; however, the life quality scores reached the high preoperative scores again in the 12th week[9]. In the study by Carlsson et al. the life quality scores of patients were high before the operation; whereas, their life quality scores were lower in the postoperative 1st week and their life quality scores reached the high preoperative scores in the 6th week. In the same study, it was found that patients experienced stoma-related adaptation problems in the first weeks and these problems affected their life quality negatively[10]. Therefore, patients need the counselling more in this period.

It is stated in the literature that the quality of life of patients with intestinal stoma is low. However, there is information that various supportive approaches such as planned group meetings, telephone follow-up, use of various new stoma materials, and planned home monitoring can improve the quality of life[11-15]. In parallel with science and technological advancements, it cannot be denied that the positive effect of technology in adaptation to stoma among individuals with intestinal stoma is very important. Telephone counselling service, which is one of the important technological developments that helps in solving the problems, is an effective approach to increase the quality of life of individuals by positively affecting their adaptation to their stomata. In an experimental study in which patients with stoma care nurses were supported and the effects of their social adaptation to social life were evaluated via telephone monitoring of stoma care nurses[14] and patients with stoma were followed for at least three months, and within this period, 20, A quasi-experimental study was found in which three phone calls were made on the 40th and 70th days and the quality of life was evaluated[16]. However, no experimental study was found in which the effects of telephone counseling on quality of life were evaluated in the first trimester after surgery, when patients with intestinal stoma mostly experienced stoma adjustment problems, and patients received telephone counseling service whenever they had problems or needed.

This study was conducted to determine the effect of phone counselling service on adaptation to stoma and quality of life among patients with intestinal stoma with the idea that phone counselling is one of the important technological advancements in the solution of problems experienced by stoma patients and it may affect the patients' adaptation to stoma and quality of life positively.

## MATERIALS AND METHODS

This study was conducted as a randomized, controlled, and experimental design to examine the effects of phone counselling method on the social adaptation and quality of life of individuals with intestinal stoma.

The study was organized according to the Helsinki criteria and ethics committee approval was received from Çukurova University Medicine Faculty Ethics Committee before the study was conducted. (Meeting date: November 6, 2015; Number of meetings: 47; Decision No: 16). Written informed consent was obtained from the participants. The authors declare that have they no conflict of interests.

### Sample

The study was conducted between 26.11.2015 and 18.04.2016 in Cukurova University Stoma Therapy clinic. The clinic operates between 8am and 5 pm on weekdays and two stoma education nurses work there. It serves individuals with bowel stoma from other clinics of the hospital where the study was conducted as well as people and families coming from other centres. Wound, fistula and incontinence care is performed as well. Approximately 80-100 stoma patients are followed up annually in the clinic.

As a result of the Power analysis conducted based on

a similar study; sample size was determined as minimum 9 individuals for each group. Considering the suggestion that 30 individuals should be included in each group in order to conduct the study with an 80% power in a standard study [17], the sample size was determined 30 in the control group and 30 in the test group. The patients were randomly divided into two groups. A computer program generating random numbers from 1 to 2 was used for randomization. The randomization was provided by dividing the patients into two groups as test group and control group. Single Blind trial method was used in randomization.

## Procedure

The first interview was conducted with the patients in the stoma therapy outpatient clinic on the days 7-15 after the discharge, the second interview in the postoperative 6th week, and the 3rd interview in the postoperative 10th week. The interviews were held in a quiet room for the patients to feel comfortable.

First meeting; To meet, to inform about the study, to obtain informed consent in writing, to provide education about life with stoma, to fill in the "Question Form for Individuals with Intestinal Stoma" and "Stoma Assessment Form", to make a general assessment of the stoma, to use the " Ostomy Adjustment Inventory " It consisted of the application processes of " Adaptation of Quality Life Scale " forms. By giving a separate phone number to the experimental group, it was assured that the phone would always be on, a call and message leaving system would take place on the phone, and that every call and message would be recorded and answered. The experimental group was called the next day and encouraged to call for all questions about stoma, it was informed that if a call left, it would be returned to it, that the necessary support would be provided by inviting to the stomatherapy outpatient clinic for problems that could not be solved by phone, and that patients who could not come to the Stomatherapy Polyclinic control could be informed and cared at home.

Second meeting; It was held in the Stomatherapy Policlinic in the 6th week after the operation. It consisted of answering the questions asked by the patients by talking about their experiences after stoma was opened and applying the "Ostomy Adjustment Inventory" and "Adaptation of Quality Life Scale" forms. The experimental group was

informed that the phone calls would continue in the same way.

Third meeting; It consisted of talking about the experiences of the patients in the 10th week after the stoma was opened, answering the questions they asked, and applying the "Ostomy Adjustment Inventory " and "Adaptation of Quality Life Scale" forms.

## Measures

### Questionnaire for Individuals with Intestinal Stoma

The "Questionnaire for Individuals with Intestinal Stoma" developed by the researchers consists of two sections as descriptive characteristics and stoma-related data. The section of descriptive characteristics: It consists of 14 questions aimed at determining the introductory information of individuals such as age, gender, marital status, educational status, and income level. In the data section on stoma, there are a total of 10 questions regarding the type of stoma, the reason for the stoma opening, the duration of the stoma and the care of the stoma.

### Ostomy Adjustment Inventory (OAI)

This inventory is a 23-item self-assessment scale developed by Simmons, Smith and Maekawa, to determine the stoma adjustment level of individuals with stoma[18]. The scale has 4 sub-factors including acceptance, anxious preoccupation, social engagement and anger. In addition, 3 items are not included in any sub-factor. In the inventory, each item is evaluated in 4-point likert-type and high scores received from each item shows a higher level of adjustment. The scale's Turkish validity study was conducted by Karadag et al., in 2011 and its Cronbach's α value was determined as 0.88[19]. Cronbach's α value was found as 0.81 in this study.

### Adaptation of Quality Life Scale (AQLS)

The scale is a 21-item assessment scale developed by Baxter et al., to evaluate the life quality of patients with stoma [20]. The first two items are related to the individual's general satisfaction about life and are scored between 0 and 100 points (0: total dissatisfaction, 100: total satisfaction). The other items are grouped into three subscales. These subscales are respectively work/social function, sexuality/body image, and stoma function. There are also 1 item in the scale related to economic status and

1 item related to skin irritation that are not included in any subscale. Except for the first two items, the scale's other 19 items are 5-point likert type. The scale has a numerical scoring system developed by Baxter et al. Each subscale is rated over 100 points. The Turkish validity study of the scale was conducted by Karadag et al., in 2011 and the Cronbach's α value was found as 0.87 [21]. In the study, the Cronbach's α value was found as 0.78.

## Statistical analysis

The data were evaluated using statistical methods in computer environment. The results obtained in this study evaluating IBM SPSS Statistics 22 for statistical analysis (SPSS, IBM Turkey) program is used. While evaluating the study data, the suitability of the parameters to the normal distribution was evaluated with the Shapiro Wilks test and it was determined that the quantitative data were not suitable for the normal distribution. Descriptive statistical methods such as Mean, Standard deviation, median and Frequency were used in the study. Additionally, Mann Whitney U test was used to compare quantitative data between the two groups (control and test) to evaluate study data. The Kruskal-Wallis test was used to compare data between more than two groups. Mann Whitney U test was also used to determine the group that caused the difference. I., II. and III. The Wilcoxon Signed Ranks test was used to determine whether there was a significant difference between the interviews in terms of scale total subscale scores. Chi-Square test, Yates's Correction for Continuity and Fisher's Exact Chi-Square tests were used to compare the data.

## RESULTS

While the average age of the test group was 48.23 ± 16.00, the average age of the control group was 52.23 ± 13.46. 50% of the test group and 66.7% of the control group were male, 73.3% of the test groupwere married and 83.3% of the test grouphad children; 83.3% of the control group were married and 86.7% had children. 46.7% of the test group and 56.7% of the control group were primary school graduates. 36.7% of the test group were housewives, 53.3% of the control group were retired, 66.3% of the test group and 66.7% of the control group were not employed before the stoma opening, all patients in both groups were not employed after the stoma opening. 96.7% of the test and control groups similarly stated that their incomes were insufficient.

While 83.3% of the test group and 86.7% of the control group had temporary stoma, 56.7% of the test group and 70% of the control group underwent loop ileostomy. 80% of the control and test groups had stoma due to cancer. It was found that no statistically significant difference was found when comparing the data obtained for test and control groups in terms of all descriptive characteristics and stoma- related characteristics (p>0.05).

Test and control groups were found to have similar statuses of receiving chemotherapy and/or radiotherapy treatment ($\chi^2$=0.001 p=1.000; $\chi^2$=0.001 p=1.000). In both groups, those who did not implement stoma care by themselves had similar reasons for not implementing the care ($\chi^2$=2.366 p=0.669; $\chi^2$=2.797 p=0.592; $\chi^2$=0.958 p=0.811).

In the interview I, those in the test and control groups had similar stoma-related problems ($\chi^2$=0.001 p=1.000). In the interviews II and III, the test group experienced less problems than the control group; problems decreased in both groups in the interview III and the difference was statistically significant ($\chi^2$=16.148 p=0.001; $\chi^2$=9.075 p=0.003).

When it was examined by whom the stoma care was performed in the test and control groups, it was found in the interviews II and III that more patients in the test groupperformed their stoma care by themselves compared to the control group and the difference was statistically significant ($\chi^2$=19.148 p=0.001; $\chi^2$=29.490 p=0.001).

When all the subscale and total scores of the Ostomy Adjustment Inventory in the interviews I, II, and III were compared in the test and control groups, it was observed that there was no difference in the first interview. In the interviews II and III; the acceptance, social engagement and total scores had differences. The acceptance, social engagement and total adjustment scores were higher in the test groupcompared to the control group; however, they experienced anger and anxious preoccupation feelings more intensely (Table 1).

When Adaptation of Quality Life Scale scores were compared in the interviews I, II and III in the test and control groups; no difference was found in the interview I. In the interviews II and III; the difference observed in all subscale scores of the scale in the test groupwas significantly higher than the control group. Stoma quality of life enhanced in time in both groups (Table 2).

In the weeks 1-6 in the test group, it was determined that the patients called the line 3.57±0.86 (2-5) times on average to receive counselling on stoma care.

Between the weeks 7-10 in the test group, the patients called the line 1.97±0.56 (1-3) times on average to receive counselling on stoma care (Table 3).

**Table 1. Ostomy Adjustment İnventory Score Averages**

| | | Test (n=30) Mean±SD (Median) | Control (n=30) Mean±SD (Median) | Z | [1]p |
|---|---|---|---|---|---|
| Acceptance | I. Interview | 16.67±3.71 (16) | 15.43±4.26 (15.5) | -0.883 | 0.377 |
| | II. Interview | 24.60±3.47 (25) | 16.73±3.87 (16.5) | -5.848 | 0.001 |
| | III. Interview | 27.47±2.91 (27) | 20.63±2.72 (20) | -6.188 | 0.001 |
| | $\chi^2$ | 45.867 | 28.218 | | |
| | [2]p | 0.001 | 0.001 | | |
| Anxious preoccupation | I. Interview | 9.70±3.50 (9) | 9.60±3.08 (9.5) | -0.082 | 0.934 |
| | II. Interview | 12.00±3.03 (12.5) | 6.63±2.94 (6) | -5.237 | 0.001 |
| | III. Interview | 11.47±2.62 (11) | 8.37±2.24 (8) | -4.306 | 0.001 |
| | $\chi^2$ | 7.436 | 13.207 | | |
| | [2]p | 0.024 | 0.001 | | |
| Social engagement | I. Interview | 7.27±2.86 (7) | 6.93±2.53 (6.5) | -0.351 | 0.726 |
| | II. Interview | 6.77±1.81 (7) | 3.87±1.28 (4) | -5.517 | 0.001 |
| | III. Interview | 8.37±1.59 (8.5) | 5.00±1.23 (5) | -5.736 | 0.001 |
| | $\chi^2$ | 11.679 | 26.694 | | |
| | [2]p | 0.003 | 0.001 | | |
| Anger | I. Interview | 3.93±1.76 (4) | 3.70±1.70 (4) | -0.442 | 0.658 |
| | II. Interview | 3.70±1.09 (4) | 2.57±1.07 (2.5) | -3.595 | 0.001 |
| | III. Interview | 4.67±1.47 (4) | 3.27±0.58 (3) | -4.118 | 0.001 |
| | $\chi^2$ | 6.884 | 4.056 | | |
| | [2]p | 0.032 | 0.132 | | |
| Total | I. Interview | 43.67±10.52 (40.5) | 41.50±8.34 (40) | -0.555 | 0.579 |
| | II. Interview | 52.57±7.71 (55) | 34.10±9.05 (33) | -5.859 | 0.001 |
| | III. Interview | 59.30±5.88 (58.5) | 43.50±4.70 (42) | -6.447 | 0.001 |
| | $\chi^2$ | 26.690 | 19.109 | | |
| | [2]p | 0.001 | 0.001 | | |

[1]Mann Whitney U Test ,[2]Friedman Te, *p<0,05, **p<0,01; Results are presented as Mean ± SD (Median).

**Table 2. Adaptation of Quality Life Scale Score Averages**

| | | Test (n=30) Mean±SD (Median) | Control (n=30) Mean±SD (Median) | Z | [1]p |
|---|---|---|---|---|---|
| Current satisfaction | I. Interview | 34.61±17.33 (35.42) | 32.14±9.64 (32.17) | -1.747 | 0.062 |
| | II. Interview | 54.67±12.52 (60) | 38.67±10.74 (40) | -4.403 | 0.001 |
| | III. Interview | 72.33±11.35 (75) | 49.33±12.58 (50) | -5.518 | 0.001 |
| | $\chi^2$ | 57.220 | 59.051 | | |
| | [2]p | 0.001 | 0.001 | | |
| Satisfaction with the previous month | I. Interview | 41.00±21.23 (40) | 37.00±18.96 (40) | -0.584 | 0.559 |
| | II. Interview | 35.83±16.61 (40) | 23.33±10.61 (20) | -3.100 | 0.002 |
| | III. Interview | 50.67±13.37 (50) | 38.40±14.87 (40) | -3.070 | 0.002 |
| | $\chi^2$ | 21.049 | 20.411 | | |
| | [2]p | 0.001 | 0.001 | | |
| Work/Social Function | I. Interview | 25.56±22.76 (20.83) | 14.17±9.58 (12.5) | -2.043 | 0.041 |
| | II. Interview | 51.67±12.55 (50) | 24.86±6.52 (25) | -6.236 | 0.001 |
| | III. Interview | 52.92±8.70 (58.33) | 30.14±9.64 (29.17) | -6.086 | 0.001 |
| | $\chi^2$ | 22.354 | 27.534 | | |
| | [2]p | 0.001 | 0.001 | | |

| Sexuality/ Body Image | I. Interview | 41.00±20.20 (39) | 37.00±17.95 (39) | -0.574 | 0.549 |
|---|---|---|---|---|---|
| | II. Interview | 59.83±6.36 (60) | 49.83±7.71 (50) | -4.699 | 0.001 |
| | III. Interview | 64.83±11.33 (65) | 49.83±6.63 (50) | -5.131 | 0.001 |
| | $\chi^2$ | 25.491 | 41.646 | | |
| | $^2$p | 0.001 | 0.001 | | |
| Stoma Function | I. Interview | 38.61±17.33 | 30.14±9.64 (29.17) | -1.947 | 0.052 |
| | II. Interview | 55.14±9.26 (58.33) | 37.50±8.26 (37.5) | -5.543 | 0.001 |
| | III. Interview | 62.36±6.70 (62.5) | 39.58±8.60 (41.67) | -6.646 | 0.001 |
| | $\chi^2$ | 32.649 | 8.312 | | |
| | $^2$p | 0.001 | 0.016 | | |

1Mann Whitney U Test, 2Friedman Tes,      *p<0,05, **p<0,01; Results are presented as Mean ± SD (Median)

**Table 3. Distribution of Counseling Regarding Stomach Care between 1-6 Weeks and 7-10 Weeks of the Test Group (N = 30)**

| | | 1-6 Weeks | | 7-10 Weeks | |
|---|---|---|---|---|---|
| | | Min-Maks | Mean±SD | Min-Maks | Mean±SD |
| Called(n) | | 2-5 | 3.57±0.86 | 1-3 | 1.97±0.56 |
| Counseling | | n | % | n | % |
| Pouch/ adapter system | No | 14 | 46.7 | 30 | 100.0 |
| | Yes | 16 | 53.3 | 0 | 0.0 |
| Stoma care products | No | 18 | 60.0 | 30 | 100.0 |
| | Yes | 12 | 40.0 | 0 | 0.0 |
| Sleeping Problem | No | 24 | 80.0 | 30 | 100.0 |
| | Yes | 6 | 20.0 | 0 | 0.0 |
| Taking a shower | No | 13 | 43.3 | 30 | 100.0 |
| | Yes | 17 | 56.7 | 0 | 0.0 |
| Nutrition | No | 12 | 40.0 | 30 | 100.0 |
| | Yes | 18 | 60.0 | 0 | 0.0 |
| Sexuality | No | 26 | 86.7 | 23 | 76.7 |
| | Yes | 4 | 13.3 | 7 | 23.3 |
| Gas and smell | No | 12 | 40.0 | 30 | 100.0 |
| | Yes | 18 | 60.0 | 0 | 0.0 |
| Skin ulceration | No | 15 | 50.0 | 30 | 100.0 |
| | Yes | 15 | 50.0 | 0 | 0.0 |
| Parastomal Hernia | No | 29 | 96.7 | 29 | 96.7 |
| | Yes | 1 | 3.3 | 1 | 3.3 |
| Mucocutaneous Separation | No | 29 | 96.7 | 29 | 96.7 |
| | Yes | 1 | 3.3 | 1 | 3.3 |
| Retraction | No | 29 | 96.7 | 30 | 100.0 |
| | Yes | 1 | 3.3 | 0 | 0.0 |
| Stoma prolapse | No | 29 | 96.7 | 30 | 100.0 |
| | Yes | 1 | 3.3 | 0 | 0.0 |
| Go chemotherapy | No | 30 | 100.0 | 9 | 30.0 |
| | Yes | 0 | 0.0 | 21 | 70.0 |
| Go out | No | 30 | 100.0 | 8 | 26.7 |
| | Yes | 0 | 0.0 | 22 | 73.3 |
| Worship | No | 30 | 100.0 | 25 | 83.3 |
| | Yes | 0 | 0.0 | 5 | 16.7 |
| Diarrhea | No | 30 | 100.0 | 26 | 86.7 |
| | Yes | 0 | 0.0 | 4 | 13.3 |
| Referred to Unit | No | 24 | 80.0 | 26 | 86.7 |
| | Yes Stoma Therapy | 4 | 13.3 | 4 | 13.3 |
| | Yes Operative physician | 2 | 6.7 | 0 | 0.00 |

## DISCUSSION

This study was conducted with the idea that telephone counseling would increase the social adaptation and quality of life of patients with intestinal stoma. Patients with stoma are more likely to have problems in stoma care especially in the first weeks after the discharge[22]. This suggests that patients' compliance with the stoma and their quality of life are more affected in the first weeks. The findings are also consistent with previous findings that specialist stoma nurses' support and education contributed significantly to positive adjustment in ostomy patients[14,23,24]. In the literature, there is an test study conducted by Zhang et al. in which patients were called and followed by stoma care nurses in the first three months after the stoma opening; however, there is no study in which no phone counselling service they could call any time they encounter a problem[14]. This study revealed the importance of phone counselling in patients with intestinal stoma after the discharge.

It is very important for patients to take the responsibility of stoma care not being dependent on someone else. Zhang et al., report that one of the most important criteria required to be questioned for post-discharge evaluation of stoma patients is whether or not they perform their stoma care themselves[14]. One of the most important results of the study is that the telephone counseling service positively affects the responsibility for self-care for stoma. Thus, the patients in the experimental group had more responsibility in performing their own stoma care.

Nursing interventions are very important in reducing problems of patients in adaptation to stoma. Zhang et al., indicated that phone follow-up is an important service in the life adjustment of patients after stoma surgery[14]. It is stated that both test and control groups showed improvement in time; however, although the test groupshowed higher adjustment in the first and third months, the difference is not statistically significant. In this study, Ostomy Adjustment Inventory total scores and acceptance and social engagement subscale mean scores of the patients with stoma were lower in the first interview but it increased between the interviews. Also, in this study, it was determined that improve adaptation to the stoma of telephone counseling. Silva et al., indicate that the adaptation strategies applied to patients may cause stress in some patients in difficult period after

the stoma surgery, patients would have increased levels of anxiety and concern under[25]. In this study, it was determined that the patients were found to experience the feelings of anxious preoccupation and anger constantly in the first three months following the stoma surgery. The study's results are similar to those of the study by Zhang et al., Taking the responsibility of care increases the level of stress in stoma patients; however, in time it can be asserted that they were higher at coping with negative feelings as their competence in stoma care increases[14].

It is stated that the quality of life of stoma patients is low in the first period when adaptation to stoma is the most difficult after stoma opening. In the studies, it is emphasized that the quality of life of stoma patients is low in the first periods following the stoma opening[7,26,27]. In the study by Tong et al., the quality of life and life satisfaction of stoma patients were reported to increase in the first 3 months[77]. However, in the studies of Ito et al., and Gervaz et al., it is pointed out that this process may prolong up to 12th month following the stoma opening[9,28]. In the study by Zhang et al., it was reported that although there was no difference between the satisfaction mean scores of the groups, there were statistically significant increases after the patient follow-ups performed by phone in the 1st and 3rd months[14]. It was observed in the study that the quality of life and life satisfaction levels of stoma patients were the lowest in the first weeks after the stoma opening, but these levels increased in time.

It is indicated that the problems of patients differ after stoma opening. It is stated in the literature that one of the most important problems experienced by individuals with stoma is the smell and patients also experience skin problems. In addition, studies have revealed that patients' bathing, nutrition, and sleep habits change and the problems they experience on this topic are emphasized[12-29]. In this study, in the weeks 1-6 individuals were observed to have mostly physiological problems such as leakage, skin ulcerations, gas and smell. In addition, it was determined that they had difficulty in performing their stoma care and using bag-adapters. The fact that patients indicated they needed support mostly for stoma care and physiological problems especially between weeks 1-6 after the stoma opening may be shown as a cause for them to experience isolation from social life and depressive emotions.

In addition to social problems, stoma patients are also reported to have severe sexual problems. In addition

to changes in the physical appearance of stoma patients, it is emphasized that the fear of the possibility of bag opening during sexual intercourse and leakage affects sexual life negatively[30].In this study, in the weeks 7-10, stoma patients were determined to be in need of counselling in terms of sexual life in the interviews.

Leyk et al., emphasized that stoma patients experienced diarrhea problems during chemotherapy periods and they need social support in this period[31]. In the weeks 7-10, the patients received counselling service mostly on social and sexual problems, their counselling demands for physiological problems decreased and they requested counselling mostly about the points to be taken into consideration while going out or receiving chemotherapy/radiotherapy sessions, they also asked for counselling about sexuality, worship and sports at the lower rate, and in addition to stoma-related problems, most of stoma patients also experienced problems related to cancer and its treatment intensely.

In their studies, Karabulut et al., reported that patients needed to change their bags and adapters frequently due to bag and adapter opening caused by leakage mostly due to ileostomy, and consequently skin ulceration increased[12,32]. The most common complication was also found to be skin ulceration in this study.

It is very important to establish the desired effect with phone counselling. It is emphasized in the literature that 2-4 phone counsellings made in the first one month after the discharge in different patient groups would be sufficient to create the desired effect[13,14,33]. In the study conducted by Zhang et al., on stoma patients it was reported that in the first one month patients called the line three times and therefore they reached the desired effect. In this study, it was found that the average number of phone counselling was $3.57\pm0.86$ (2-5) in weeks 1-6, and $1.97\pm0.56$ (1-3) in weeks 7-10 and the number of phone counselling service decreased as long as patients adapted to living with stoma.

It is necessary and important to guide patients through the problems that cannot be solved with phone counselling to maintain their treatment/care, to refer them to relevant units, and provide counselling to solve such problems. In their phone follow-up study conducted with stoma patients, Zhang et al., reported that they referred patients to stoma therapy outpatient clinic, their own doctors

and emergency department[14]. In a similar manner with the study of Zhang et al., 2 patients were directed to the surgeons, 4 patients were directed to stoma therapy outpatient clinic in the weeks 1-6, and 4 patients were directed to stoma therapy outpatient clinic in the weeks 7-10.

Patients received telephone counseling on issues they experienced problems. Patients were guided to solve their problems by being supported on their problems. Therefore, with telephone counseling, patients have managed to solve problems and cope with their problems and to take precautions before the problems become complications. Patients who are supported to cope with their problems have increased their compliance and stoma life quality.

The limitation of the study is that it cannot be generalized to the whole universe since the study was conducted in only one center.

It was determined that the test groupreceiving phone counselling service accepted stoma more easily and their social adjustments and quality of life levels were higher. It was determined that both groups severely and constantly experienced feelings of anxiety and anger, the patients in the test grouptook more responsibilities for their stoma care than those in the control group, they experienced feelings of anxiety and anger more often in this stressful period, and these negative feelings decreased in the interview III. Patients mostly experienced stoma care and physiological problems between weeks 1-6 following the stoma opening and social problems between weeks 7-10, and they were in need of support for these problems. In accordance with these results, it is recommended that phone counselling service should be included and extended in nursing care practices for the care and training of stoma patients and similar studies aiming to identify the effect of phone counselling on social adjustment and life quality levels of stoma patients should be conducted with larger populations.

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