



# Literature Review: Profile of Publications for the Patients with Stoma in Turkey

## Literatür İnceleme: Stomalı Bireylere Yönelik Yayınların Türkiye Profili

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### ABSTRACT

**Aim:** The aim of this literature review is to qualitatively and quantitatively evaluate research and publications on patients with stoma in Turkey and to contribute and improve the quality of care for patients with stoma by shedding light on new studies.

**Method:** Dokuz Eylül University electronic data base (n=71), ULAKBİM (Turkish Academic Network and Information Center), Pubmed, Council of Higher Education Thesis Center, Google Scholar, congress websites, accessible conference/symposium books and reference lists of articles were searched online.

**Results:** Two hundred and seventy-eight studies (between January 1981 and January 2016) were reached. These studies were 54% (n=100) research articles, 14% (n=27) thesis, 15% (n=28) review articles, 14% (n=27) case reports and 3% (n=6) qualitative research; Rate of studies being published in international journals was 7% (n=20). More than half, 65% (n=182) of the studies were in the form of full/summary text. Descriptive (retrospective, prospective, cross-sectional) research articles made up 80% (n=80), ampirical articles made up 8% (n=8) and methodological research made up 6% (n=6) of research articles; 58% (n=19) of the thesis was of master's, 11% (n=3) was of expertise in medicine, 18% (n=5) was PhD thesis; 15% (n=6) of thesis was published in a journal. It was found that out of 107 studies that were presented at the congress 71% (n=76) was original research, 18% (n=19) was case report and 9% (n=11) was review. Studies were on stoma complications (17%), life quality (12%), stoma surgery techniques and comparison of effectiveness (10%), patient follow-up results (6%), sexuality (6%), patient experience (4%), adaptation to ostomy (4%), body image (4%), self-esteem (3%), nurse/patient knowledge level about ostomy care (3%).

**Conclusion:** It was seen that most of the studies were descriptive and on stoma complications and quality of life. Moreover, the ratio of publications published in international journals were low. More interventional studies should be conducted on adaptation to life with stoma for the patients in Turkey; these studies should be presented in congress and published in national/international journals.

**Keywords:** Stoma, researches in Turkey, nursing, literature review

### ÖZ

**Amaç:** Ülkemizde stomalı bireylerle yapılan araştırmaların ve bu alandaki yayınların niceliksel ve niteliksel olarak incelemek ve yapılacak yeni çalışmalara ışık tutarak stomalı bireylere yönelik bakımın kalitesini arttırmaya katkı sağlanmasıdır.

**Yöntem:** Dokuz Eylül Üniversitesi abone elektronik veri tabanları (n=71), ULAKBİM (Ulusal Akademik Ağ ve Bilgi Merkezi) Ulusal Veri Tabanı, Pubmed, Ulusal Tez Merkezi, Google Akademik, kongre web siteleri, ulaşılabilen kongre/sempozyum kitapları ve makalelerin referans listeleri online tarandı.

**Bulgular:** Ocak 1981-Temmuz 2016 yılları arasında yapılmış 278 çalışmaya ulaşıldı. Çalışmaların %54'ünün (n=100) araştırma makalesi, %14'ünün (n=27) tez çalışması, %15'inin (n=28) derleme makale, %14'ünün (n=27) olgu sunumu ve %3'ünün (n=6) niteliksel araştırma olduğu; yurt dışı dergilerde yayınlananların oranının %7 (n=20) olduğu belirlendi. Çalışmaların %65'inin (n=182) tam/özet metnine ulaşıldı. Araştırma makalelerinin %80'inin (n=80) tanımlayıcı (retrospektif, prospektif, kesitsel), %8'inin (n=8) deneysel, %6'sının (n=6) metodolojik araştırmalar olduğu; tezlerin %70'inin (n=19) yüksek lisans, %11'inin (n=3) uzmanlık tezi, %18'inin (n=5) doktora tezi olduğu; %15'inin (n=6) bir dergide yayımlandığı; kongrelerde sunulan 107 çalışmanın %71'inin (n=76) orijinal araştırma, %18'inin (n=19) olgu sunumu, %9'unun (n=11) derleme olduğu belirlendi. Çalışmalar stoma komplikasyonları (%17), yaşam kalitesi (%12), stoma cerrahi teknik uygulamaları ve etkinliğinin karşılaştırılması (%10), izlem sonuçları (%6), cinsellik (%6), hasta deneyimleri (%4), ostomiye uyum (%4), beden algısı (%4), benlik saygısı (%3), hemşire/hastaların ostomi bakımı hakkındaki bilgi seviyesi (%3) konularında yapılmıştı.

**Sonuç:** Çalışmaların daha çok stoma komplikasyonları ve yaşam kalitesine yönelik tanımlayıcı çalışmalar olduğu; yurtdışı dergilerde yayınlanma oranının da düşük olduğu belirlendi. Ülkemizde stomalı bireylerin stomayla yaşama uyumlarını kolaylaştıracak daha fazla girişimsel çalışmaların yapılması; çalışmaların kongrelerde sunulmasının yanı sıra yurt içi/yurt dışı dergilerde yayınlanması önerilmektedir.

**Anahtar Kelimeler:** Stoma, Türkiye'deki araştırmalar, hemşirelik, literatür inceleme



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the Congress of National Colon  
and Rectal Surgery

## Introduction

According to GLOBOCAN 2012 (estimated world cancer incidence, mortality, and prevalence), a project of International Agency for Research on Cancer (IARC), colorectal cancers are the 3<sup>rd</sup>, prostate cancers are the 2<sup>nd</sup>, and bladder cancers are the 7<sup>th</sup> most common cancers in men worldwide. In women, most frequent cancers worldwide are colorectal cancers in the 2<sup>nd</sup> ranking, and uterine cancers (cervix uteri at 3<sup>rd</sup> rank, and corpus uteri at 5<sup>th</sup> rank). More than half of the colorectal cancers (55%) are seen in developed countries.<sup>1</sup> According to the 2016 report of American Cancer Society (ACS), colorectal cancers are the 3<sup>rd</sup> most frequent cancers both in men and women.<sup>2</sup> According to 2016 data of Turkey cancer statistics, colorectal cancer is the 3<sup>rd</sup> most common cancer in both males and females. Stoma applications are rising in parallel with increasing numbers of surgeries due to increasing cancer incidences.<sup>3</sup> According to literature data, primary reasons for intestinal and urinary stomas are colorectal and bladder cancer, respectively.<sup>4,5,6,7,8</sup> Numbers of individuals continuing their life with a stoma are increasing due to particularly colorectal cancer, and other reasons. This increase is reflected to nursing care, and number of research on this subject is increasing rapidly by the advancing information and technology applications in nursing field. Qualitative and conceptual evaluation of entire studies will allow determination of the deficiencies in this field, and will crystalize new studies. Novel interventional studies will increase the quality of life of the individuals with stoma, will ease the adherence to life with stoma, and will help people to overcome the difficulties that they experience. Systematic reviews about patient education,<sup>9</sup> stoma and peristomal complications,<sup>10</sup> morbidity,<sup>11</sup> and stoma care and management<sup>12</sup> have been published before. But, a review that evaluated studies on individuals with

stoma qualitatively and quantitatively could not be found. With this aim, all available studies on individuals with stoma are reviewed qualitatively and quantitatively.

## Materials and Methods

Dokuz Eylül University electronic database, ULAKBİM (Turkish Academic Network and Information Center) National Database, National Dissertation Center, Pubmed, Google Scholar, and congress websites were scanned between December 2014 and July 2016. Following an online search, keywords stoma, ostomy, colostomy, ileostomy and urostomy were searched. Meeting/symposium proceedings and reference lists of the articles were also searched. Titles and abstracts of the manuscripts were assessed to prevent duplications. The scheme for manuscript search is presented in Figure 1.

## Findings

No systematic reviews or meta-analyses were found among publications on individuals with stoma. The ratio of publications at foreign journals was 7% (n=20).

From the all dissertations (both accessible, and not accessible) on this field, 61% were graduate theses (n=24), 17% were doctorate theses (n=7), and 20% were specialist theses (n=8). From these, 15% were published in a journal (n=6).

From the 107 studies that presented at meetings, 71% (n=76) were original research, 18% (n=19) were case reports, and 9% (n=11) were reviews.

From all reviews, 25% (n=7) were about sexuality, 17% (n=5) were about stoma care, and 57% (n=16) were about other issues (ethics, complications, diet, etc.) (Figure 2).

The data collection tools included many scales such as the ones that developed by the researchers (n=16), Short Form-36 (SF-36) Quality of Life Scale (n=8), Psychosocial

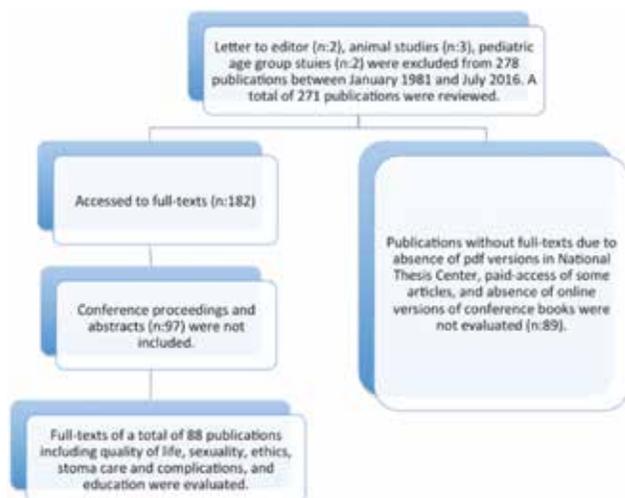


Figure 1. Study flowchart

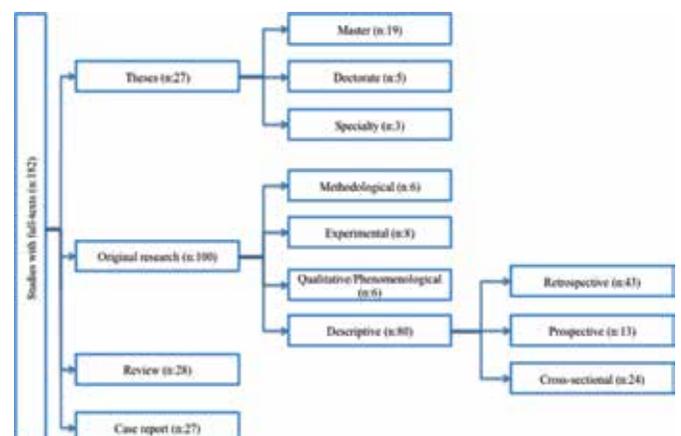


Figure 2. Types of publications with full-text accessibility

Adjustment to Illness Scale (PAIS-SR) (n=4), European Organisation for Research and Treatment of Cancer Quality of Life Cancer (EORTC QLQ-C30) (n=4), European Organisation for Research and Treatment of Cancer Quality of Life Colorectal Cancer (EORTC QLQ-CR29) (n=4), Stoma Quality of Life Scale (n=5), Body Image Scale (n=4), Golombok Rust Inventory of Sexual Satisfaction (GRISS) (n=4), Beck Depression Inventory (BDI) (n=3), Digestive disease quality of life instrument (DDQ-15) (n=2), The City of Hope-Quality of Life-Ostomy Questionnaire (COH-QOL) (n=2), Coopersmith Self-Esteem Inventory (CSEI) (n=2), Arizona Sexual Experience Scale (n=2), Ostomy Adjustment Inventory-23 (OAI-23)(n=2), Female Sexual Function Index (FSFI), International Index of Erectile Function (IIEF), Beck Anxiety Inventory, Peristomal Skin Lesions Assessment instrument (SACS), Subjective Global Evaluation Form (SGE), Nutrition Risk Screening 2002 (NRS 2002), Self-Care Agency Scale (SCAS), The Religious Orientation Scale (ROS), The Scale of Coping with Stress, Zarit Burden Interview, Daily Life Activities Form, Hamilton Depression Rating Scale, State-Trait Anxiety Inventory STAI, State Anxiety Inventory (STAI-I), Structured Clinical Interview for DSM Disorders (SCID-I) Depression and Prevalent Anxiety Sections, SCID-I Outpatient Scale, Katz Index of Independence in Activities of Daily Living, Rosenberg Self-Esteem Scale, and Body Person Relationship Test.

Discussions included various topics such as stoma complications (17%), quality of life (12%), comparisons of technical applications and efficiencies of stoma surgeries (10%), patient outcomes (6%), sexuality (6%), patient experiences (4%), adherence to ostomy (4%), body perception (4%), self-respect (3%), knowledge levels of nurses/patients of ostomy care (3%), psychological adherence, colostomy irrigation, utilization of nursing models, planned group education/interaction, depression, anxiety, validity and reliability of scales, mortality and morbidity, effects of stoma on worship, nursing/stoma care,

evaluation of spouses, information to patients, localization of stomas, ethical concepts, coping with stress, caregiving burden, stoma supply problems, discharge training, self-care power, optimal nutrition, urostomy care, and plug use.

## Discussion

### Quantitative Evaluation of the Publications

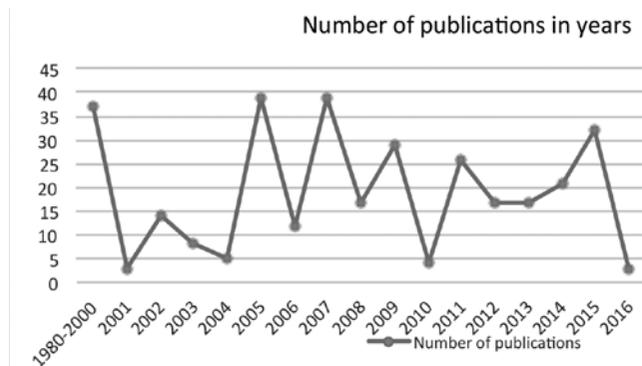
This section assessed 88 publications qualitatively (Table 1). The number of publications on individuals with stoma prior to 2000 is low, but the numbers are increasing today (Graphic 1). Particularly in odd years, number of publications increase due to the meetings in these years. Number of descriptive studies was high in prior years, but interventional studies are increasing minimally in recent years. But this increase is thought to be inadequate.

Inaccessibility to full-texts of manuscripts prevents entire information to be disseminated. As a consequence, utilization of information into application, share of knowledge globally, and development of literature on this topic is limited.

The studies about stomas are conducted to cover all aspects of individuals (physical health, psychological health, spiritual health, sexual health, etc.), but number of these studies is low, samples sizes are limited, and these studies are generally descriptive studies. Planning more studies that are interventional and prospective should be beneficial to improve postoperative compliance and quality of life of the patients with stoma. Also, systematic reviews and meta-analyses are needed in our country to obtain evidence-based knowledge to be used in more qualified counseling in stomatherapy nursing, and application of surgical techniques. But conducting these systematic reviews and meta-analyses are bound with increasing the numbers of randomized controlled studies on this area.

In recent years, numbers of dissertation theses on patients with stoma are increasing, but these studies are rarely published as research articles in national and international journals. Publication of theses and abstracts that presented in scientific meetings in national-international indexed journals will enrich the literature on stoma, and will provide basis for evidence based scientific data that can be used in stoma-care applications. Also, these can provide new aspects to healthcare teams working in stoma field.

The theses and research are presented in national-international scientific meetings in low numbers. Presenting results of the studies at events like conferences and symposiums, which have high attendance from clinical practitioners, is important to incorporate theoretical information into application. As a consequence, presenting research in national-international scientific events will



Graphic 1. Number of publications according to years

contribute to share the findings at a global scale, will pioneer the transdisciplinary-multicultural research, and will contribute to reflect the novel findings to patient care.

Reviews were generally written on sexuality. This was thought to be related with attracting the attentions to the sexual problems of the patients with stoma and importance of nursing-care to overcome these problems, because sexuality is a taboo in society, patients hesitate to express their sexual problems, and healthcare providers ignore the sexual problems of patients. But, interventional studies on sexuality are absent. Writing reviews on subjects other than sexuality like evidence based stoma care, legal and ethical considerations about stoma, nutrition of patients with stoma, stoma and surgical complications, educational methods targeting individuals with stoma and their families, interventions for changes in body image and self-respect of patients with stoma, and interventions for improving stomatherapy nursing will contribute healthcare teams working in this area to access new information.

Data collection tools/questionnaires that developed by researchers are used in majority of the studies. Using these kind of forms in studies are thought to decrease the reliability and generalizability of the results. Using data collection tools and scales that have validity and reliability studies will increase the reliability and validity of the results of the studies.

Most common studies in individuals with stoma are about stoma complications and quality of life of the patients. Various education methods should be used to prevent complications. Support groups to increase adherence to stoma, positive body image, and self-respect should be established. Trainings for increasing the knowledge levels of clinical nurses about stoma care should be delivered. Patient counseling is needed to solve problems and to ease coping with these problems. Focus groups targeting patients/relatives (spouses, family members) for psychosocial problems should be planned. Interventional prospective studies with large number of samples that utilizes concepts and theories of nursing are needed to increase nursing care of individuals with stoma.

This section includes qualitative evaluation of publications (Table 1). The topics covered in the studies were evaluated, and subjects were identified as "Stoma complications, Stoma care, Stoma and psychosocial life, Stoma and social life, Stoma and sexual life, Stoma and religious life, Stoma and ethical approach, Quality of life of individuals with stoma, Stomatherapy nursing, Scale validity and reliability studies".

#### Stoma Complications

Most common reason for stoma application is colorectal cancer. But it is preferred in diseases like colon obstruction, and Fournier gangrene to facilitate healing.<sup>4,13,14,15</sup>

Most common stoma complications are skin problems, peristomal infection, mucocutaneous separation, stenosis, ischemia, stomal prolapses, parastomal hernia, retraction, anastomosis leakage, and acute renal failure.<sup>13,15,16,17,18,19,20,21,22,23,24</sup> Most common complications following stoma closure are wound site infection, postoperative ileus, and anastomosis leakage.<sup>25</sup> In a multicenter study by Baykara et al.<sup>13</sup> stomal/peristomal complications were reported in 248 patients. Most common complications were parastomal skin problems (136, 49%), mucocutaneous separation (52, 18%), and retraction (31, 11%), respectively. Peristomal skin problems are more frequent in ileostomies. Complication rates were higher in patients with unmarked stoma localization than marked ones. A Stoma-Care Nurse or a surgeon marked stoma localizations in 287 patients (38%).<sup>13</sup> In the study of Karabulut et al.<sup>19</sup> (n=201), complications related with stoma are most frequently observed in terminal colostomies. Forty-three percent of stomas could not be closed for several reasons, and most common cause was death of the patients. Thirty percent of patients with closed stomas had complications. In the study of Senol Celik et al.<sup>26</sup> constipation (82.4%, n=14), incision-site problems (leakage, pain, bleeding, wound dehiscence) (64.7%, n=11), fatigue (58.8%, n=10), myalgia, movement restriction, and difficulty to change stoma bag (52.9%, n=9) were observed in patients with urostomy.

Individuals with stoma were found to have an anxiety prior to opening of stoma due to obscurity and a significant change that negatively affects their quality of life after stoma and discharge, decreased quality of life, and significant changes in their lifestyles regarding emotional, physical, sexual, and psychosocial aspects.<sup>26,27,28</sup> People reported that they had difficulties in their stoma cares, and their dressing style, sleep pattern, and eating and bathing habit had changed.<sup>29</sup>

#### Stoma Care

All individuals took training for stoma care, but majority of the patients with stoma did not prefer self-care, and wanted their spouses or relatives to take their care.<sup>30</sup> In the study of Senol Celik et al.,<sup>26</sup> 64.7% of the individuals took help from their spouses (n=11), 11.8% from their sons (n=2) and from their spouses/sons (n=2).

#### Stoma and Psychosocial Life

Individuals with stoma experience embarrassment, dependence to their relatives for their care, fear of leakage and skin problems from stoma in social life, and stress for being unable to control leakage from stoma.<sup>31</sup> They were found to have altered body image, changes in their mood, continuous worries, sadness, anxiety, and decreased self-

**Table 1. Data of publications that quantitatively and qualitatively evaluated in this study (n=88)**

Year; Author	Study type	n	Used scale
2016; Sütsünbuloğlu <sup>4</sup>	Master thesis	n=100	Golombok Rust Inventory of Sexual Satisfaction (GRISS) Female Sexual Function Index International Index of Erectile Functio
2016; Vural et al.** <sup>41</sup>	Phenomenological	n=14	
2016; Akgül and Karadağ** <sup>48</sup>	Descriptive study	n=150	Questionnaire for worship
2015; Bahayi <sup>94</sup>	Master thesis	n=50	Beck Depression Inventory Beck Anxiety Inventory Quality of life form Arizona Sexual Experience Scale Golombok Rust Inventory of Sexual Satisfaction (GRISS) Body Image Scale Body Person Relationship Test
2015; Ohri <sup>91</sup>	Specialty thesis	n=22	
2015; Ay and Bulut** <sup>75</sup>	Methodological study	n=100	Peristomal Skin Lesions Assessment instrument
2014; Harputlu <sup>59</sup>	Doctorate thesis	n=35	Peristomal Skin Lesions Assessment instrument Stoma-QOL Scale
2014; Akgül <sup>6</sup>	Master thesis	n=150	Questionnaire for worship
2014; Karaveli <sup>60</sup>	Master thesis	n=60	Complication evaluation form City of Hope-Quality of Life-Ostomy Questionnaire (COH-QOL)) State-Trait Anxiety Inventory Katz Daily Living Activities Index
2014; Alp <sup>7</sup>	Master thesis	n=70	Daily Life Activities Form
2014; Vatansever <sup>52</sup>	Master thesis	n=50	Rosenberg Self-Esteem Scale Body Image Scale
2014; Başbüyük <sup>95</sup>	Master thesis	n=120	State-Trait Anxiety Inventory (STAI I-II)
2014; Çulha <sup>5</sup>	Master thesis	n=64	Self-Care Agency Scale (SCAS)
2014; Karayurt et al.** <sup>73</sup>	Methodological study	n=100	Body Image Scale
2014; Yücel et al.** <sup>16</sup>	Case report		
2014; Senol Celik et al.** <sup>26</sup>	Cross-sectional study	n=19	Post-discharge Problem Form, SF 36
2014; Kargin et al. <sup>17</sup>	Retrospective study	n=19	
2014; Karabulut et al.** <sup>76</sup>	Experimental study	n=50	Ostomy Adjustment Inventory-23 (OAI-23) Psychosocial Adjustment to Illness Scale
2014; Baykara et al.** <sup>13</sup>	Retrospective study	n=748	
2014; Karaveli et al. <sup>31</sup>	Phenomenological study	n=20	Semi-structured Interview Form
2014; Ayaz <sup>45</sup>	Review		Sexuality, stoma, nursing
2013; Ay <sup>74</sup>	Master thesis	n=100	Peristomal Skin Lesions Assessment instrument
2013; Aktaş <sup>32</sup>	Master thesis	n=60	Data collection form for individuals with stoma Data collection form for spouses of individuals with stoma
2013; Dorum <sup>27</sup>	Master thesis	n=19	Unstructured Interview Form
2013; Eray et al.** <sup>14</sup>	Comparative, descriptive study	n=48	

2013; Özaydın et al. <sup>15</sup>	Retrospective study	n=96	
2013; Cavdar et al. <sup>**49</sup>	Cross-sectional study	n=66	Questionnaire
2013; Duruk and Uçar <sup>65</sup>	Cross-sectional study	n=100	Questionnaire
2013; Soyder and Özgün <sup>**79</sup>	Retrospective study	n=23	
2013; Altuntas et al. <sup>**78</sup>	Prospective study	n=56	EORTC QLQ-C30 EORTC QLQ-CR29 The Religious Orientation Scale
2013; Vural and Erol <sup>53</sup>	Review		Quality of life, stoma, nursing
2013; Koç et al. <sup>20</sup>	Case report		
2013; Alp et al. <sup>77</sup>	Case report		
2012; Yıldız <sup>28</sup>	Master thesis	n=60	EORTC QLQ-C30 EORTC QLQ-CR38 Ways of Coping with Stress Scale Psychosocial Adjustment to Illness Scale
2012; Korkut <sup>29</sup>	Doctorate thesis	n=50	Ostomy Adjustment Inventory-23 (OAI-23) Psychosocial Adjustment to Illness Scale
2012; Altuntas et al. <sup>**18</sup>	Descriptive, cross-sectional study	n=72	SF 36
2012; Karabulut et al. <sup>19</sup>	Retrospective study	n=201	
2012; Dorum and Vural <sup>42</sup>	Review		
2012; Akgün and Yoldaş <sup>80</sup>	Review		
2012; Üstün et al. <sup>50</sup>	Review		
2012; Erol and Vural <sup>71</sup>	Methodological study		City of Hope-Quality of Life-Ostomy Questionnaire
2011; Karadağ et al. <sup>69</sup>	Methodological study	n=70	Stoma Quality of Life Scale
2011; Karadağ et al. <sup>70</sup>	Methodological study	n=100	Ostomy Adjustment Inventory-23 (OAI-23)
2011; Harputlu et al. <sup>68</sup>	Methodological study	n=105	Stoma Quality of Life Scale
2011; Erol <sup>72</sup>	Master thesis	n=153	City of Hope-Quality of Life-Ostomy Questionnaire
2011; Tari <sup>8</sup>	Master thesis	n=69	EORTC QLQ C-30 EORTC CR-38
2011; Akbulut <sup>81</sup>	Review		
2011; Neşşar et al. <sup>97</sup>	Case report		
2011; Yıldız <sup>89</sup>	Case report		
2010; Cakmak et al. <sup>30</sup>	Phenomenological study	56 Couple	Quality of life questionnaire
2010; Karadağ ve Korkut <sup>21</sup>	Review		
2009; Dizer <sup>61</sup>	Doctorate thesis	n=31	Anthropometric and biochemical analyses, Subjective Global Evaluation Nutrition Risk Screening 2002 Stoma Quality of Life Scale
2009; Kurt et al. <sup>22</sup>	Retrospective study	n=85	
2009; Çelik Şenol <sup>92</sup>	Review		
2009; Karadağ and Baykara <sup>**62</sup>	Case report		
2009; Ayaz <sup>**46</sup>	Review		
2008; Ayaz and Kubilay <sup>**44</sup>	Experimental study	n=60	Golombok Rust Inventory of Sexual Satisfaction (GRISS)
2009; Akcan et al. <sup>82</sup>	Retrospective study	n=37	
2008; Korkmaz et al. <sup>23</sup>	Retrospective study	n=12	

2008; Yaşan et al. <sup>54</sup>	Descriptive, cross-sectional study	n=53	Hamilton Depression Rating Scale State-Trait Anxiety Inventory Structured Clinical Interview for DSM Disorders (SCID-I)'s Depression and Prevalent Anxiety Sections Quality of life scale
2008; Karadağ et al. <sup>66</sup>	Case report		
2008; Karadağ <sup>96</sup>	Review		
2008; Ayaz <sup>34</sup>	Review		
2008; Ayaz <sup>33</sup>	Review		Body Image, self respect, nursing education
2007; Ayaz <sup>43</sup>	Doctorate thesis	n=60	Golombok Rust Inventory of Sexual Satisfaction (GRISS)
2007; Duruk <sup>93</sup>	Master thesis	n=100	Questionnaire
2007; Tüzer <sup>51</sup>	Master thesis	n=78	Questionnaire
2007; Kan <sup>25</sup>	Specialty thesis	n=147	
2007; Mutlu <sup>55</sup>	Master thesis	n=58	Patient interview form SF 36
2007; Kılıç et al. <sup>39</sup>	Descriptive, cross-sectional study	n=40	Body Image Scale Rosenberg Self-Esteem Scale Dydic Adjustment Scale Golombok Rust Inventory of Sexual Satisfaction (GRISS)
2007; Üstündağ et al. <sup>35</sup>	Descriptive, cross-sectional study	n=45	Body Image Scale Coopersmith Self-Esteem Inventory (CSEI)
2007; Harputlu et al. <sup>36</sup>	Descriptive, cross-sectional study	n pre=93 n post=18	Coopersmith Self-Esteem Inventory (CSEI)
2007; Göçmen et al. <sup>37</sup>	Phenomenological study	n=26	Structured data collection form
2007; Akcan et al. <sup>83</sup>	Retrospective study	n=112	
2007; Ayaz <sup>84</sup>	Review		
2007; Karadağ <sup>67</sup>	Review		
2007; Karadağ <sup>**63</sup>	Experimental study	n=14	
2005; Karadağ et al. <sup>**64</sup>	Experimental study	n=35	SF 36 Digestive disease quality of life instrument
2005; Dalkılıç et al. <sup>85</sup>	Retrospective study	n=102	
2005; Çavdar and Özbaş <sup>40</sup>	Review		
2003; Karadağ et al. <sup>**56</sup>	Experimental study	n=43	Digestive disease quality of life instrument GUSO questionnaire
2003; Ersöz and Şimşir Atalay <sup>86</sup>	Case report		
2002; Kuzu et al. <sup>**47</sup>	Retrospective study	n=178	SF 35 Questionnaire
2000; Korkut et al. <sup>87</sup>	Prospective study	n=56	
2000; Kumcağız et al. <sup>24</sup>	Review		
1999; Çavdar <sup>58</sup>	Doctorate thesis	n=30	Patient Interview Form Psychosocial Adjustment to Illness Scale Disease Evaluation Scale
1998; Sucu <sup>57</sup>	Master thesis	n=100	Stanley Coopersmith Self-Esteem Inventory (CSEI)
1994; Can <sup>88</sup>	Master thesis	n=139	Questionnaire

respect.<sup>29,32,33,34,35,36</sup> Diagnosis that caused stoma, stoma type, physical and psychosocial problems, thought of spouses for stoma, contribution of spouses to care, inter-spouse relationships, and perceptions of spouses regarding body images of individuals with stoma were found to affect the self-perceptions of individuals with stoma for their own bodies.<sup>32</sup> Individuals with stoma were found to have significantly poorer psychosocial compliance, and more compliance problems in their family and psychological life than the ones without stoma.<sup>28</sup> Patients reported their difficulties regarding stoma as need for emptying the ostomy bag out of their homes, involuntary gas and stool output, limitation of social life, and being dependent. Patients also declared that they experience feelings like trouble, discomfort, and despair, but they felt joy, happiness, excitement, and satisfaction just before and following the stoma closure.<sup>37</sup>

In the study of Senol Celik et al.,<sup>26</sup> the ways of individuals' for coping with their problems were found as asking to a doctor (n=3), seeking help from company representative (n=2), and doing nothing for solving their problems (n=4).

### Stoma and Social Life

Individuals with stoma were found to meet with their relatives and friends less frequently, had decreased leisure time and social activities, could not find adequate time and environment for stoma care in workplaces, left their jobs for worries regarding gas-smell-leakage, and decreased work efficiency.<sup>29</sup> Spouses of individuals with stoma were found to return normal social life after 6 months, and decreased entertainment activities, journeys, vacations, and family visits.<sup>30</sup>

### Stoma and Sexual Life

Men experience impotence, premature ejaculation, erection disorder, orgasmic dysfunction, ejaculation failure, and sterility; and women experience physiological problems like dyspareunia, vaginismus, touching, avoiding from sexual intercourse, and psychological problems like altered body image, embarrassment, and hate due to stoma surgery.<sup>4,38,39,40,41</sup> Individuals with stoma declared that their sexual attraction is decreased, they find themselves ugly, their spouses became distant, and they had problems in their sex life. They also declared their worries in their sex life regarding psychological thoughts of giving harm to stoma, opening of stoma bag, and leakage/smell during sexual intercourse.<sup>29</sup> In the study of Sütüsbüloğlu<sup>4</sup> 60.5% of men (n=46) had severe erectile dysfunction, 21.1% (n=15) had moderate erectile dysfunction, and 10.5% had mild % moderate erectile dysfunction. Seventy-nine

percent of individuals with stoma were found that they did not take information about potential sexual problems, 28 of individuals with sexual problems (n=62) were found to share their problems with their spouses, 9 with their physicians, and 20 with nobody.<sup>4</sup> Individuals feel that their attraction decreases due to physical damage, getting ugly, decreased body functions, alterations in personal hygiene, and they can feel inadequacy in their sex life. Individuals with stoma experience difficulties for sharing these problems and asking questions to health professionals. The sexuality, which is also ignored by nurses, can significantly affect the life of individuals with stoma. It is known that physiological problems can decrease with appropriate care, education and counseling, but sexual problems continue due to ignorance. As a consequence, sexual problems due to stoma should be regarded as priority problems in individuals with stoma.<sup>4,42,43,44</sup> Nurses can utilize PLISSIT model and can plan their nursing interventions in this direction for the sexual problems of individuals with stoma.<sup>45,46</sup>

Spouses with an active sex life prior to surgery were found to have inactive sex life after surgery, spouses with active sex life had decreased number of sexual intercourse, and majority of the couples did not have sexual relationship after stoma opening.<sup>4,30,47</sup>

### Stoma and Religious Life

Individuals were found to have decreases in worship due to stoma surgery.<sup>48</sup> In the study of Cavdar et al.<sup>49</sup> 81.8% of the individuals (n=66) declared that they did not take information regarding fasting and worship after stoma surgery. 74.9% (n=49) of individuals had regular worship prior to stoma surgery, and this decreased to 53% (n=35) after the stoma surgery. Sixty-nine percent of individuals that left fasting after surgery declared that they left due to fear of giving harm to stoma. And, 71.4% of individuals that left worship declared that they left because they did not feel clear. 71.4% (n=21) of individuals that continued fasting were found that they did not have any complaint.<sup>49</sup> In the study of Tari,<sup>8</sup> 46.4% were found to perform prayer, and 71% were found that could not fast. In the study of Altuntas et al.<sup>18</sup> (n=56), albumin and general health status were found to be higher in individuals that fast than the ones that do not fast. Many individuals that fast declared that they would feel sorry if they cannot fast. Urea, creatinine and BUN levels were not found to be different between pre/post fasting, prealbumin levels were decreased, but nutrition and general health status were not negatively affected and renal functions were maintained in fasting individuals. It was also found that fasting did not affect quality of life, but gas output and fecal incontinence was found to be improved.<sup>18</sup>

## Stoma and Ethical Approach

Individuals with stoma may experience family, social and vocational problems. There may be social risks of marital conflicts and domestic violence, divorcements, suicidal attempts, or ethical dilemmas like euthanasia requests. For these reasons, complete and accurate informing of patients in preoperative period, protecting the privacy of patient, determining need for operation and localization of stoma, and also asking for patient preference for bag/adaptor are important. Stoma care nurse should take role in patient care in accordance with ethical considerations, should inform patient during preoperative, postoperative and home care periods after discharge, and should intervene patient to increase quality of life.<sup>50</sup>

In the study of Çulha,<sup>5</sup> individuals declared that sales representatives of companies about the stoma-care product most frequently informed them in postoperative period (62.35%). Nurses informed 23.9% of individuals before operation, and 12.94% after operation. 46.9% and 75.0% of individuals declared that informing was inadequate in preoperative, and postoperative periods, respectively. In another study, 60.3% of individuals declared that they took training and counseling after discharge, and 61.7% declared that they took training from company representatives.<sup>51</sup> And in another study, 64.7% of individuals (n=11) declared that they did not take discharge training.<sup>26</sup>

## Quality of Life of Individuals with Stoma

Stoma negatively affects social life, and psychological and physical status of patients, causes depression and anxiety, and decreases quality of life, regardless of being temporary or permanent.<sup>8,52,53,54,55,56,57,58,59,60</sup> Trainings given to individuals with stoma increases self-care power and knowledge about stoma care.<sup>5</sup> Participation to planned group sessions,<sup>19</sup> and taking social and professional support<sup>27</sup> were found to ease compliance to ostomy. In group sessions, individuals share their experiences and suggest solutions for problems to others experiencing similar problems in their daily life, which increases the quality of life,<sup>19,18,61</sup> and subsequently increases psychosocial compliance.<sup>28</sup> Nutrition programs decrease problems in nutrition of individuals with stoma,<sup>61</sup> colostomy irrigation helps Muslims to perform their worship comfortably and increases quality of life, and decreases in daily bag change and skin complications cause financial advantages.<sup>62,63,64</sup>

## Stomatherapy Nursing

In a previous study, knowledge levels of clinical nurses about ostomy care were found to be inadequate. Majority of the clinical nurses do not think that stoma care is their

responsibility. They declared that doctors and company representatives in clinics generally delivered stoma care and training. Nurses declared that stoma care is the responsibility of family, doctor, and stoma care nurse.<sup>65</sup> For prevention and treatment of complications in individuals with stoma, stomatherapy nursing that based on an integrated approach is important.<sup>66,67</sup>

## Scale Validity and Reliability Studies (Methodological Studies)

Turkish validity and reliability of scales like Body Image Scale, Stoma Quality of Life Scale, Ostomy Compliance Scale, City of Hope-Quality of Life-Ostomy Questionnaire, Quality of Life Scale of Patients with Stoma, and Peristomal Skin Lesions Assessment instrument (SACS) have been performed, and found to be useful in individuals with stoma in our country.<sup>68,69,70,71,72,73,74,75</sup>

## Contribution of Publications to Literature, and Their Suggestions

According to the results of evaluated studies, being careful during stoma opening, informing patients and relatives about its care and complications,<sup>20</sup> preferring primary anastomosis in lower gastrointestinal system surgery since stoma is a procedure with high complication rates, preferring diverting enterostomy in individuals that need stoma,<sup>76</sup> and requirement of nephrology follow-up in clinical evaluation of individuals with ileostomy<sup>77</sup> were recommended. Also, delivering detailed discharge training to patients and relatives before and after surgery,<sup>26,27</sup> counseling for increasing compliance of individuals with stoma and their spouses during home visits, presence of at least one Stomatherapy Unit and stoma care nurse in all hospitals in Turkey,<sup>26</sup> planning activities to improve body images of individuals with stoma in stomatherapy units and participation of spouses to these activities<sup>32</sup> were also recommended. Providing professional support to patients and families beginning from preoperative period to increase compliance during perioperative period, evaluating sexual problems and providing perioperative sexual counseling,<sup>4</sup> forming support groups that gather individuals with stoma who are compliant and have positive/negative experiences after surgery were also suggested.<sup>27</sup> Individuals with stoma should not be banned from fasting, but they should closely be monitored.<sup>78</sup> Since planned group interactions are effective in increasing social compliances of individuals with stoma, group interaction management should be incorporated in nursing care of these individuals,<sup>76</sup> and stomatherapy units/nurses should organize group educations to individuals with stoma and their families.<sup>18</sup>

This literature review was performed in care of individuals with urostomy, nutrition in individuals with stoma, diet,

various surgical techniques, and comparison of efficiency fields,<sup>79,80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97</sup> and there are still uncategorized studies.

### Limitation of Study

Full texts of some studies could not be accessed because some theses have limited access over ULAKBİM due to authors' decisions, some previous theses do not have pdf versions in National Thesis Center, some manuscripts have paid access, and not all of conference books have online version/accession.

### Conclusion

The evaluated studies were found to be generally descriptive studies that assessed problems of individuals with stoma, and how these problems affect their life. Publication rate of studies in international journals to increase international sharing of patient outcomes were found to be low.

Conducting interventional studies, systematic reviews, and meta-analyses in our country to ease compliance of individuals to stoma and increase quality of life, and presenting these studies in national/international scientific meetings and publishing these in national/international journals are suggested.

Interventional studies should target applications of clinical nurses and stoma nurses, and increasing patient outcomes. Providing continuous counseling to individuals with stoma and their families, utilizing novel education methods like web-based trainings, and conducting interventional studies for forming social support programs are thought to be useful. Additionally, publishing scientific meeting presentations and theses as original articles should contribute to enrich scientific literature about stoma, and should guide novel transdisciplinary-multicultural research to facilitate professionals in this field to adapt knowledge into application.

### Ethics

Peer-review: External and Internal peer-reviewed.

### Authorship Contributions

Concept: Fatma Vural, Emel Sütüsbüoğlu, Deniz Şelimen, Design: Fatma Vural, Emel Sütüsbüoğlu, Deniz Şelimen, Data Collection or Processing: Fatma Vural, Emel Sütüsbüoğlu, Deniz Şelimen, Analysis or Interpretation: Fatma Vural, Emel Sütüsbüoğlu, Deniz Şelimen, Literature Search: Fatma Vural, Emel Sütüsbüoğlu, Deniz Şelimen, Writing: Fatma Vural, Emel Sütüsbüoğlu, Deniz Şelimen.

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