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## HEALTH RELATED QUALITY OF LIFE AMONG PATIENTS WITH AN OSTOMY IN PUNJAB

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### ABSTRACT

**Context:** Ostomy treats and reduces patient's pain and discomfort, but in many cases ostomy leads to intensified distress and suffering for the patient's. Adaptation to living with stoma is complex. Studies have shown that stoma creation has a great impact on patient's health related quality of life.<sup>18</sup>

**Aim:** The study aims to assess the health related quality of life among patients with an ostomy.

**Setting and Design:** A descriptive study was conducted on 100 ostomy subjects visiting surgery OPD of selected hospitals of Ludhiana, Punjab by convenience sampling technique using "Modified City of Hope National Medical Center Quality of Life Questionnaire For Patients With An Ostomy" 2003 to assess the quality of life of the ostomy patients. Data was collected by observation & interview method. **Statistical analysis used:** The quantitative data was analysed using descriptive statistics, Chi-square-test, ANOVA for significance

**Results:** All the subjects showed impairment in quality of life with mild to moderate impairment in the quality of life of ostomy patient's. The most affected domain was psychological followed by social domain, physical domain and spiritual domain was least affected ( $p=0.001$ ).

**Conclusion:** There is mild to moderate impairment in the quality of life of ostomy patient's with psychological domain as the most affected domain. Therefore it is recommended that counselling sessions should be focused to improve the quality of life of the patients with an ostomy.

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### INTRODUCTION

An ostomy is a surgically made opening from the inside of an organ to the outside. The stoma is the opening of the ostomy attached to the skin. A stoma bag is attached to the opening, in the case of colostomies, ileostomies and urostomies, so as to drain feces or urine drain into this bag.<sup>1</sup>

A colostomy is the surgical creation that can be created as a temporary or permanent fecal diversion. It allows the drainage or evacuation of colon contents to the outside of the body. An ileostomy is the surgical creation of an opening into the ileum or small intestine usually by means of an ileal stoma on the abdominal wall. It allows the drainage of fecal matter from the ileum to the outside of the body. The drainage is very mushy and occurs at frequent intervals.<sup>2</sup> The most frequent disorders leading to creation of a colostomy are trauma, congenital diseases, inflammatory diseases, tumors and intestinal cancer.<sup>3</sup> Stoma brings a major change in physical appearance and bodily function and patients with stoma are challenged with a number of quality of life (QOL) issues.<sup>4</sup> Occasionally, patients may experience odors and noises caused by gas and waste passing through the stoma. The ostomy bag may leak also if it is allowed to fill past capacity. It could be that the potentially stigmatizing reactions of others could present another difficulty in adapting to life with a colostomy and will affect

all the domains of life like physical, social, psychological and spiritual.<sup>5</sup> Both temporary and permanent intestinal ostomies results in changes in the user's life such as in gastrointestinal function, as well as psychosocial factors including self-esteem and body image.<sup>3</sup>

Therapeutic procedures may not only treat disease but also affect patient's quality of life. Colostomy/ileostomy procedure intended to decrease gastrointestinal symptoms and prevent disease progression, but the inevitable changes in physical appearance leads to disordered bodily function and disruption of a number of aspects of the patient's private lives.<sup>4</sup> An ostomy related concerns include impaired body image; fear of incontinence; fear of odor; limitations affecting social, travel related and leisure activities and impaired sexual function.<sup>12</sup>

Having an ileostomy, rather than a colostomy, was associated with higher severity of skin irritation, skin problems, leakage, and difficulty adjusting and predicted lower total quality of life scores and domains. The contents of the ileostomy are more acidic and liquid in nature, thus they came in contact with the skin more frequently and causes harm to the skin more than in colostomy patients.<sup>6</sup>

QOL is a multidimensional, dynamic, subjective and centered on patient construct, comprising physical, functional, emotional, and social/family well-being. Therefore, QOL is an

important outcome for evaluating the full impact of the disease on the individuals, their family and their community.<sup>14</sup>

Despite efforts to maintain the intestinal tissue and treat gastrointestinal disease earlier, a large number of patients undergo ostomy surgery each year. Stoma reduces the patient's quality of life (QOL) greatly.<sup>7</sup> Quality of life is increasingly becoming an important outcome measure in surgery. It is a multidimensional construct, representing an individual's subjective perception of physical, social and psychological well-being, as well as satisfaction with the balance between disease control and adverse effects of treatment.<sup>4</sup> Assessing QOL of stoma patients and its determinants will lead to better understanding & improvement in patient's QOL pattern.<sup>5</sup> In addition to the profound changes arising of ostomy, the person has to cope with the physical, psychosocial, social & spiritual impact of the underlying disorder.<sup>3</sup>

Overall physical functioning with a colostomy can be nearly unimpaired. Most patients learn to empty and clean their appliance, and maintain care of their stoma, etc. The appliance itself is typically easily hidden under clothing, and physical activity is generally not severely hampered, although there may be restrictions on lifting heavy weights.<sup>5</sup> When a patient receives a stoma, patient begins to face many changes in his/her daily life that occur not only on the physical level, but also on psychological, emotional and social levels. This has its consequences like suffering, pain, deterioration, uncertainty about the future and fear of rejection by others.<sup>8</sup>

The loss of social status was observed due to the isolation imposed by the ostomized individual by himself or herself and by the society. It is noticed that, after an ostomy, individuals thus experience moments of emotional or psychological change that is affecting the quality of life, self-esteem, body image and even their sexuality and thus can generate anxiety and even depression.<sup>8</sup>

Several authors have pointed out that a permanent ostomy has an impact on everyday life.<sup>9</sup> Univariate analyses showed that age, income, employment, preoperative care (stoma site marking and education), having a partner, ostomy type, reason for ostomy, time since surgery, total quality-of-life scores and scores on all 4 domains of quality of life were related to the severity of these ostomy complications.<sup>6</sup> Therefore, one of the current challenge in the life of ostomy patient is to provide assistance and care for to the individuals to meet their needs with a great competence and autonomy of the nursing professional specialized in stomal therapy, concerning leadership and work quality of the interdisciplinary work and proven cost-use relationship, based on "the practical, ethnic, empirical and social-political knowledge based on evidences."<sup>10</sup> Having a preoperative ostomy education was associated with less severe problems with skin irritation and leakage.<sup>4</sup>

Health professionals, including the Wound, Ostomy and Continence Nurse (WOCN), play a decisive role in the physiological, functional, and psychosocial adaptation of patients and their families that make them learn to manage and cope with an intestinal ostomy on a global basis. Optimal management uses a holistic approach, incorporating psychological support, education about the ostomy, and development of the ability for self-care interventions such as managing a pouching system, along with counseling patients living with a stoma. Therefore an interdisciplinary approach

that defines the patient as an integrated is indicated when caring for persons learning to cope with a colostomy.<sup>3</sup>

The adaptation to these changes requires specialized nursing care, which is anticipated to be life-long for the person living with a permanent ostomy. Psychosocial responses during the immediate postoperative period include fatigue or weakness, a sense of mutilation or violation, grief, revolt and depression. The characteristics and severity of these psychosocial responses vary from person to person. Several studies point out that support from both professional health care and family or lay caregivers enhances recovery following stoma surgery and adaptation to the new life situation resulting from a new ostomy.<sup>3</sup>

The quality of life and well-being encompass the observations needed to the research on ostomized patients, referring to the person's physical health, level of independence, social relationships, psychological state, personal beliefs and relationship with key aspects of the environment, which may cause changes in self-esteem and self-image, triggering anxiety and depression.<sup>8</sup> Therefore the project is selected to assess the health related quality of life so that the researcher can find the overall impairment in the quality of life related to four domains of life i.e physical, psychological, social and spiritual.

## SUBJECTS AND METHODS

A descriptive research design was used on 100 Ostomy patients who had undergone either colostomy or ileostomy were selected by convenience sampling technique in surgical OPD of a tertiary care hospital in Ludhiana. Patients who were more than 18 years of age and had ostomy for more than 2 months were included in the study while patients with urinary diversion and other chronic illness were excluded.

### Research tools

"Modified City of Hope National Medical Center Quality Of Life Questionnaire For Patients With An Ostomy"<sup>2003</sup> was used to assess the quality of life of ostomy patients. The tool was divided into 2 parts:

Part A- This part of the tool includes 47 items related to the socio-demographic profile of the subjects. The items were related to age, gender, religion, occupation, marital status, disease profile of the patient (type of ostomy, diagnosis for ostomy, type of cancer, duration of ostomy). Other included items were related to work, health insurance, sexual activity, psychological support, clothing and diet. Each item has a response as "Yes", "No" and "Not applicable".

Part B- It contains questions related to 4 domains of life i.e Physical (1-11 items), Psychological (12-24 items), Social (25-36 items) and Spiritual (37-43 items). Subjects were asked to respond to each item with a score of 1-10. A high score indicate a better quality of life and low score indicate the worst. The level of Quality of life was categorized as per the scores into Very severe- (0-25%), Severe- (26-50%), Moderate- (51-75%) and Mild- (>75%). Reliability of the tool of standardized tool was predetermined. Informed consent was taken from the subjects before filling the Questionnaire. Ethical clearance was obtained from institutional ethical committee of DMC & Hospital, Ludhiana.

### Procedure

The permission was taken from the ethical committee of the institute to carry out the study. A sampling frame was made

from the records and files of the patients who have undergone colostomy for more than two months. On the basis of inclusion and exclusion criteria the patients were conveniently selected from the sampling frame. The subjects were interviewed at the time of their follow up visit in the surgery OPD. Each identified patient was individually contacted and before collecting the data the subjects were informed about the purpose and objectives of the research study. Written consent was taken from each subject. Those who consented to participate in the study were finally selected for the assessment of health related quality of life. Full autonomy was given to participate in research and withdraw at any time. Complete data was collected from the subjects by administering the research tools in three versions- English, Hindi and Punjabi as per the requirements of the subjects. The methods used for data collection were records and reports, observation and interviewing the subjects. The "Modified City of Hope National Medical Centre Quality Of Life Questionnaire For Patients With An Ostomy" 2003 was translated into Hindi and Punjabi with the help of the experts from their respective field and tested for validity. The reliability of the tool was verified by conducting a pilot study. The collected data was carefully coded and analyzed.

**Statistical Analysis**

Analysis of the data was done in accordance with the objectives of the study. Calculations were carried out with the help of Microsoft excel and SPSS. The various statistical measures used for analysis were frequency distribution, measures of central tendency (mean), measures of dispersion (standard deviation), chi square, t-test and ANOVA test applied to find out the statistical significance. The bar diagrams were drawn accordingly.  $p < 0.05$  was considered as significant.

**Table 1** Sociodemographic profile of ostomy patient

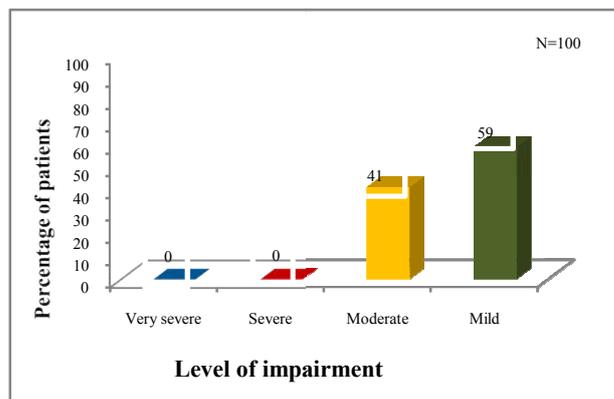
N=100	
Socio-Demographic Variables	f (%)
<i>Age (in years)</i>	
18-40	26
41-60	51
61-80	23
<i>Gender</i>	
Male	57
Female	43
<i>Height</i>	
5'5"-5'6"	41
5'6"-6'	59
<i>Weight (in kg)</i>	
40-50	08
51-60	21
61-70	30
71-80	30
81-90	11
<i>Religion</i>	
Sikh	66
Hindu	33
Muslims	01
<i>Occupation</i>	
Working*	57
Not working	43
<i>Marital status before surgery</i>	
Single	07
Married	82
Widowed	11
<i>Marital status after surgery</i>	
Single	07
Married	81
Widowed	12

\*Working status: Business (18%), farmer (17%), engineer (8%), teacher (7%) and bank (7%).  
 \*\*Mean age  $\pm$  SD: 49.05  $\pm$  13.59

**RESULTS**

**Socio-demographic profile**

Table 1 depicts the socio demographic variables of the ostomy patients Majority of the subjects were male in age group 41-60 years with mean age 49.05  $\pm$  13.59. The height of the majority of the subjects (59%) was between 5'6"- 6' and 30% had weight of 61-80 kg. The majority of the subjects belonged to Sikh religion (66%). In case of occupation 57% of the subjects were working. 82% subjects before ostomy were married which remain almost unchanged (81%) after ostomy.



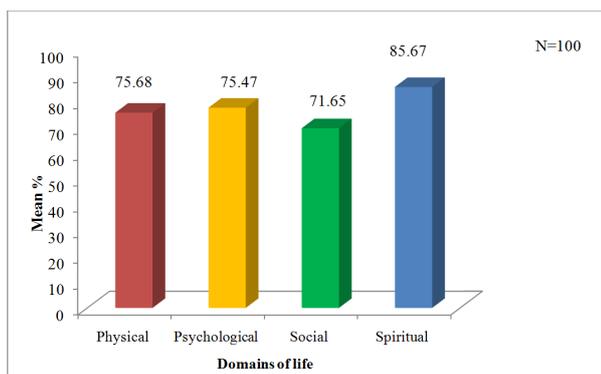
**Figure 1** Quality of life impairment among ostomy patients

**Clinical profile**

Table 2 depicts disease profile of patients. The cause of the ostomy in patients was intestinal obstruction (25%) followed by ulcerative colitis (18%), peritonitis (15%), intestinal damage/Trauma (13%), pancreatitis (13%), cancer (11%), peritonitis (11%) and rectal bleed (5%). Out of 11% subjects with cancer, most of the subjects suffered with rectal cancer (6%) and the others suffers with colon cancer (5%). 58% of the subjects had colostomy and 42% of the subjects were having ileostomy. As per the type of ostomy majority of the patients were having temporary ostomy (90%). The duration of the ostomy of the maximum patients was 2-6 months (80%)

**Table 2** Disease profile of ostomy patients

N=100	
Disease profile	f (%)
<i>Cause of ostomy</i>	
Cancer	11
Rectal bleed	05
Ulcerative colitis	18
Intestinal damage/Trauma	13
Intestinal obstruction	25
Pancreatitis	13
Peritonitis	15
<i>Type of cancer</i>	
Colon cancer	05
Rectal	06
<i>Type of ostomy</i>	
Colostomy	58
Ileostomy	42
<i>Kind of ostomy</i>	
Permanent	10
Temporary	90
<i>Duration of ostomy</i>	
2-6 months	80
7-12 months	12
1-2 years	07
3-4 years	01



**Figure 2** Mean quality of life of ostomy patients according to different domains

**Quality of life**

Figure 3 and table 3 depicts the distribution of the ostomy patients as per the level of quality of life. The maximum number of ostomy patients 59% had mild quality of life impairment with mean score  $344.7 \pm 13.85$  and mean percentage 70.09%, whereas 41% of ostomy patients had moderate quality of life impairment with mean score  $301.4 \pm 28.60$  and mean percentage 80.02%, and the overall mean score was  $326.9 \pm 29.99$  and mean percentage 76.02%. Therefore the subjects were having mild to moderate quality of life impairment while none of them have severe and very severe quality of life impairment.

**Table 3** Quality of life impairment among ostomy patients

N=100

Level of quality of life	f (%)	Mean $\pm$ S.D	Mean %
Very severe	-	-	-
Severe	-	-	-
Moderate	41	$301.4 \pm 28.60$	70.09
Mild	59	$344.7 \pm 13.85$	80.02

Maximum score=430 \*Mean  $\pm$  SD=  $326.9 \pm 29.99$   
 Minimum score=00 \*Mean %=76.02

**Domains of Quality of Life**

Table 4 shows the mean quality of life among ostomy patients as per the different domains i.e physical domain, psychological domain, social domain, and spiritual domain. The mean percentage was highest for spiritual domain (85.67%) with mean score ( $8.56 \pm 1.63$ ), followed by physical domain with mean percentage (75.68%) with a mean score ( $7.57 \pm 2.41$ ), followed by social domain with mean percentage (75.47%) and mean score ( $7.55 \pm 2.51$ ), followed by psychological domain with mean percentage (71.65%) with mean score ( $7.17 \pm 2.21$ ) respectively (figure 4). Therefore, it can be concluded that among the ostomy patients spiritual domain is was the least affected and the most affected is psychological domain.

**Table 4** Mean quality of life among ostomy patients as per the different domains

N=100

Domains of quality of life	Mean $\pm$ S.D	Mean%	Rank
Physical domain	$7.57 \pm 2.41$	75.68	3
Psychological domain	$7.17 \pm 2.21$	71.65	1
Social domain	$7.55 \pm 2.51$	75.47	2
Spiritual domain	$8.56 \pm 1.63$	85.67	4

Total maximum score=10 Mean  $\pm$  SD =  $7.60 \pm 2.31$   
 Minimum score=00 Mean %= 76.02

\*Higher the score better the quality of life

**Association of quality of life with levels of impairment**

Table 5 depicts association of different domains of quality of life with levels of impairment. In the physical domain 53% of the patients were having mild and 47% with moderate quality of life. In social domain 37% of the patients had mild, 60% had moderate and 3% had severe quality of life impairment. In social domain 53% of the patients had mild and 47% had moderate quality of life impairment. In spiritual domain 86% of the patients had mild, 11% had moderate and 3% had severe quality of life impairment. Also, it has been found that the association between domains of quality of life and level of impairment was found to be statistically significant at  $p=0.001$ .

**Table 5** Association of different domains of quality of life with levels of impairment

N=100

Domains of Quality of life	Level of impairment			$\chi^2$
	Mild	Moderate	Severe	
Physical	53	47	-	$\chi^2=60.54$ df=6 p=0.001*
Psychological	37	60	03	
Social	53	47	-	
Spiritual	86	11	03	

\*Significant at  $p < 0.05$

**Impairment in quality of life as per the domains**

**Physical domain**

Table 6 reveals that as per physical domain the most affected was the leakage from the pouch ( $4.14 \pm 2.33$ ) followed by an effect on overall physical well-being ( $6.64 \pm 1.50$ ) followed by odor ( $6.69 \pm 2.66$ ). The fourth effected was physical strength of ostomy patients ( $7.09 \pm 1.26$ ) followed by effect on skin surrounding an ostomy ( $7.33 \pm 2.37$ ). The sixth effected in physical domain was fatigue ( $7.58 \pm 1.34$ ), followed by the gas ( $8.53 \pm 1.70$ ), followed by aches or pain ( $8.58 \pm 1.94$ ) followed by diarrhea ( $8.60 \pm 2.52$ ), the next affected was constipation ( $8.95 \pm 2.24$ ) followed by sleep disorders which is the least affected part ( $9.12 \pm 1.15$ ). The overall mean quality of life score of the physical domain was  $7.57 \pm 2.41$  with mean percentage 75.68%.

**Table 6** Mean quality of life of the patients on the basis of physical domain

N=100

Domain of Quality of life	Mean $\pm$ SD	Mean %	Rank
Physical			
Leaking from the pouch	$4.14 \pm 2.33$	41.4	1
Overall physical well-being	$6.64 \pm 1.50$	66.4	2
Odor	$6.69 \pm 2.66$	66.9	3
Physical strength	$7.09 \pm 1.26$	70.9	4
Skin surrounding an ostomy	$7.33 \pm 2.37$	73.3	5
Fatigue	$7.58 \pm 1.34$	75.8	6
Gas	$8.53 \pm 1.70$	85.3	7
Aches or pains	$8.58 \pm 1.94$	85.8	8
Diarrhea	$8.60 \pm 2.52$	86.0	9
Constipation	$8.95 \pm 2.24$	89.5	10
Sleep disorders	$9.12 \pm 1.15$	91.2	11

Maximum score=10 Minimum score=00  
 Mean  $\pm$  SD=  $7.57 \pm 2.41$

Thus the data concluded that the highly affected part in the physical domain was leakage from the pouch, effect on overall physical well being, odor and physical strength, skin surrounding an ostomy, fatigue and gas

**Psychological domain**

Table 7 depicts the mean quality of life of the ostomy patients on the basis of the psychological domain. Highly affected component in the psychological domain was presence of depressed feelings (4.81 ± 2.15), followed by the fear that disease will come back 4.87 ± 2.43, further the subjects expressed difficulty in taking care for ostomy 5.61 ± 1.74, followed by feeling of anxiety 6.40 ± 2.06 and difficulty to adjust to ostomy 6.33 ± 1.73. The least affected area was that how is your ability to remember things 9.37 ± 1.07. The overall mean quality of life of the psychological domain was 7.17 ± 2.21 with mean percentage 71.65%.

**Table 7** Mean quality of life of the patients on the basis of psychological domain

N=100			
Domain of quality of life	Mean ± SD	Mean %	Rank
Psychological			
How much depression do you have	4.81 ± 2.15	48.1	1
Are you fearful that your disease will come back	4.87 ± 2.43	48.7	2
How difficult is it for you to care for your ostomy	5.61 ± 1.74	56.1	3
How much anxiety do you have	6.40 ± 2.06	64.0	4
How difficult has been for you to adjust to your ostomy	6.33 ± 1.73	63.3	5
How good is your overall quality of life	7.00 ± 1.53	70.0	6
How much satisfaction in life do you feel	7.22 ± 1.46	72.2	7
How satisfied are you with your appearance	7.74 ± 1.57	77.4	8
How useful do you feel	8.05 ± 1.38	80.5	9
Do you feel like you are in control of things in your life	8.06 ± 1.33	80.6	10
How difficult is it to look at your ostomy	8.36 ± 1.63	83.6	11
How much are you embarrassed by your ostomy	9.33 ± 1.21	93.3	12
How is your ability to remember things	9.37 ± 1.07	93.7	13

Maximum score=10 Mean ± SD= 7.17 ± 2.21  
 Minimum score=00 Mean percentage=71.65

**Social domain**

Table 8 depicts the mean quality of life of the patients on the basis of social domain. The affected aspect of social domain was feeling distressed with illness for ostomy 2.40 ± 1.75, financial burden resulted from treatment 6.39 ± 2.44, interference of ostomy with social activities 6.82 ± 1.29, recreational activities 6.83 ± 1.32, ability to intimate 6.98 ± 2.95, further followed by difficulty meeting new people 7.08 ± 1.67. The least affected aspect was support from friends & family sufficient to meet needs 9.80 ± 0.80. The overall mean quality of life of the psychological domain was 7.55 ± 2.51 with mean percentage 75.47%.

**Table 8** Mean quality of life of the patients on the basis of social domain

N=100			
Domain	Mean ± SD	Mean %	Rank
Social			
How distressing has your illness for your ostomy	2.40 ± 1.75	24.0	1
How much financial burden resulted from treatment	6.39 ± 2.44	63.9	2
Has your ostomy interfered with social activities	6.82 ± 1.29	68.2	3
Has your ostomy interfered with recreational activities	6.83 ± 1.32	68.3	4
Has your ostomy interfered with your ability to intimate	6.98 ± 2.95	69.8	5
Do you have difficulty meeting new people	7.08 ± 1.67	70.8	6
Has your ostomy interfered with personal relationship	7.96 ± 1.07	79.6	7
How much your ostomy interfere with ability to travel	7.99 ± 0.98	79.9	8
Do you have enough privacy at home for ostomy care	9.32 ± 1.30	93.2	9
How much uncertainty do you feel about your future	9.39 ± 0.97	93.9	10
How much isolation is caused by your ostomy	9.61 ± 0.87	96.1	11
Is support from friends & family sufficient to meet needs	9.80 ± 0.80	98.0	12

Maximum score=10 Mean ± SD=7.55 ± 2.51  
 Minimum score=00 Mean percentage=75.47

**Spiritual domain**

Table 9 indicates the mean quality of life of the patients on the basis of spiritual domain. The highly affected element in the spiritual domain was feeling of sense of inner peace 7.52 ± 1.51, feeling of uncertainty about your future 7.82 ± 1.78 and feeling hopeful 7.93 ± 1.53. The next affected element was having an ostomy made positive changes in life cycle 8.20 ± 1.57. Further affected element was support received from personal spiritual activities 9.40 ± 1.33 followed by a sense of reason for being alive, support received from religious activities sufficient to meet their needs 9.53 ± 1.18. The overall mean quality of life of the psychological domain was 8.56 ± 1.63 with mean percentage 85.67%.

**Association of QOL with socio demographic data**

Table 10 reveals that there was no significant association between the health related quality of life and selected socio-demographic variables like age, gender, height, weight, occupation, marital status and religion (p>0.05).

**DISCUSSION**

Adapting to life with a colostomy presents challenges. Occasionally, patients may experience odors and noises caused by gas and waste passing through the stoma. There is also the chance that the colostomy bag may leak if it is allowed to fill past capacity. Fundamental to our purpose, even a well-functioning colostomy appliance requires closer contact with fecal matter than is required with normal bowel functioning. In addition, people with colostomies may experience, or at least imagine, disgust reactions from other people. It could be that the potentially stigmatizing reactions of others could present another difficulty in adapting to life with a colostomy.<sup>3</sup> These problems can further lead to the impairment in the Quality of life and thus affecting the domains of life.

The present study shows that 58% of the patients had colostomy and 42% patients had ileostomy and majority of the patient's i.e 90% had temporary ostomy and only 10% have permanent ostomy. The duration of the ostomy was 2-6 months in 80% of patients.<sup>16</sup>

Mumtaz Ahmad Khan *et al* (2011) reported similar findings in which 97% stomas were temporary and 3% stomas were permanent.<sup>4</sup> Paul Erwin-Toth *et al.* (2012) in North America also affirms that more than half of the participant (52.5%) had a colostomy and (47.1%) had an ileostomy.

**Table 9** Mean quality of life of the patients on the basis of spiritual domain N=100

Domain	Mean ± SD	Mean %	Rank
Spiritual	7.52 ± 1.51	75.2	1
Do you have a sense of inner peace	7.82 ± 1.78	78.2	2
How much uncertainty do you feel about your future	7.93 ± 1.53	79.3	3
How hopeful do you feel	8.20 ± 1.57	82.0	4
Has having an ostomy made positive changes in your life cycle			
Is support you receive from personal spiritual activities sufficient to meet your needs	9.40 ± 1.33	94.0	5
Do you sense a reason for being alive	9.52 ± 0.82	95.2	6
Is support you receive from religious activities sufficient to meet your needs	9.53 ± 1.18	95.3	7

Maximum score=10 Mean ± SD= 8.56 ± 1.63  
 Minimum score=00 Mean percentage=85.67

**Table 10** Association of Quality of life among ostomy patients with socio-demographic variables

N=100

Socio-Demographic Variables	n	Mean±SD	F/t Value	p value
<i>Age (in years)</i>				
18 – 40	26	327.08 ± 32.34		
41 – 60	51	327.69 ± 28.14	0.04	0.95 <sup>NS</sup>
61 – 80	23	325.35 ± 32.48		
<i>Gender</i>				
Male	63	328.03 ± 30.78	1.06	0.29 <sup>NS</sup>
Female	37	329.02 ± 28.53		
<i>Weight (in kg)</i>				
40 – 50	08	315.45 ± 43.51		
51 – 60	21	320.16 ± 40.00		
61 – 70	30	325.36 ± 28.09	1.08	0.36 <sup>NS</sup>
71 – 80	30	333.52 ± 21.66		
81 – 90	11	333.10 ± 18.47		
<i>Height (in inches)</i>				
5-5'5"	41	321.63 ± 32.40	0.40	0.52 <sup>NS</sup>
5'6"-6	59	330.71 ± 27.87		
<i>Religion</i>				
Sikh	66	328.68 ± 29.79		
Hindu	33	323.70 ± 31.03	0.30	0.73 <sup>NS</sup>
Muslims	01	324.00 ± 0.00		
<i>Occupation</i>				
Working	57	326.52 ± 22.64		
Not working	40	312.33 ± 20.51	0.22	0.53 <sup>NS</sup>
<i>Marital status before ostomy</i>				
Single	07	332.43 ± 29.23		
Married	82	326.46 ± 30.43	0.12	0.88 <sup>NS</sup>
Widowed	11	327.45 ± 29.44		
<i>Marital status after ostomy</i>				
Single	07	332.43 ± 29.23		
Married	81	326.60 ± 30.60	0.12	0.88 <sup>NS</sup>
Widowed	12	326.42 ± 28.30		

Maximum score=430 NS= Non Significant  
 Minimum score=00

But there was a contradictory study finding which shows that 92.2% patient's had permanent ostomy and 7.7% patient had temporary ostomy.<sup>23</sup>

The present study showed that 25% of the patients had ostomy because of intestinal obstruction, 18% with ulcerative colitis, 15% with peritonitis, 13% with pancreatitis, 13% intestinal damage/Trauma, 11% with cancer and 6 patients were suffering with rectal cancer. It was stated by Mumtaz Ahmad Khan *et al* (2011) in Islamabad depicting that majority of stomas were due to infective causes (80%), while 12% for trauma and 8% due to malignant disease. Permanent stoma was fashioned in only 3 for malignant disease.<sup>15</sup>

The present study shows that there was mild to moderate impairment in the quality of life with a mean ± SD (326.9 ± 29.99) & mean percentage 76.02%. Robert Krouse *et al*. (2007) stated that the non-cancer patients were having scores that reflect a moderate to severe quality of life impact as compared to only 32% of the cancer patients (P = 0.01).

The cancerous patients had mild to moderate quality of life impact.<sup>20</sup>

The present study shows that the mean score of overall quality of life of the patients with an ostomy was 7.60 ± 2.31 with mean percentage 76.02%. The highly affected domain was psychological domain followed by social, physical and spiritual domain. The main component affected in the psychological domain was the feelings of depression. Anaraki Farkhrialsadat *et al*. (2012) stated a similar finding that overall QOL for stoma patients was 7.48 ± 0.9. 70%. More than half of them reported feelings of depression following stoma surgery.<sup>7</sup>

The present study shows that the most affected part in the physical domain was leaking from the pouch with a mean score 4.41 ± 2.33, followed by overall physical well-being with mean score 6.64 ± 1.50, odor with mean score 6.69 ± 2.66, physical strength 7.09 ± 1.26, skin surrounding an ostomy with mean score 7.33 ± 2.37 and the least affected part

was sleep disorders with mean  $\pm$  SD  $9.12 \pm 1.15$ . A contradictory study was stated by Repic G (2014) in Serbia. The results showed that the most affected part in physical domain is physical strength with mean score  $3.21 \pm 3.62$ , followed by sleep disorders with mean score  $1.25 \pm 2.34$ , gas with mean score  $0.97 \pm 1.47$ , odor with mean score  $0.67 \pm 0.77$ .<sup>28</sup>

The present study shows that the most of the patients had reported feelings of depression with a mean score  $4.81 \pm 2.15$  and the least affected was that how is your ability to remember things with mean score  $9.37 \pm 1.07$ . The findings of the present study confirm the observation stated earlier Salome GM (2014) ostomy patients feel suffering, pain, deterioration, uncertainty about the future and fear of rejection, feel shame and embarrassment, feelings that can get them to isolate themselves and to a life full of anxiety. The main affected area in the life of the ostomy patients was having depression, anxiety and having uncertainty about the future.<sup>8</sup>

The present study shows that the most affected part in the social domain was that how distressing has your illness for your ostomy, financial burden, social functioning, recreational activities and personal relationships and the least affected part was that is support from friends & family sufficient to meet needs with a mean score. Robert Krouse *et al.* (2007) conducted a study in California that depicts low social QOL score. Multivariate analysis showed QOL scores in the areas of social functioning personal relationships, interpersonal support and financial burden from colostomy were all statistically significantly and were the affected components.<sup>20</sup>

The present study shows that the most affected part in the spiritual domain was a sense of inner peace, uncertainty for the future, hopefulness and positive change in your life related to ostomy and the least affected part is that is support you receive from religious activities sufficient to meet your needs with a mean score. Robert Krouse *et al.* in (2007) in California stated no statistically significant difference in the spiritual QOL subscale. The question, "Has having an colostomy made positive changes in your life?" was the only item in this dimension that differed significantly across groups, with fewer cancer patients reporting a lower score than non-cancer patients ( $P=0.002$ ).<sup>20</sup>

The present study shows that there was no significant association between the health related quality of life and selected socio-demographic variables like age, gender, height, weight, occupation, marital status and religion ( $p>0.05$ ). The similar finding was affirmed by Dabirian *et al.* (2010) which shows that there is no significant association with the selected socio-demographic variables except occupation, because there is a fear of loss of employment as one of the consequences of stoma ( $p>0.05$ ).<sup>17</sup>

## CONCLUSION

The presence of stoma impairs the quality of life thereby affecting all the domains. Psychological domain is the most affected leading to depressed feelings. There is a significant association between the domains of quality of life and level of impairment. Therefore, proper counseling sessions as well as pre and post operative education for ostomy patient and care takers should be conducted that will help them to adjust to their stoma care in a better way.

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