IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 18, Issue 11 Ser.4 (November. 2019), PP 10-13
www.iosrjournals.org

A Prospective Cross Sectional Study of Quality of Life in Patients with Enterostomy in a Tertiary Care Hospital

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Abstract:
Introduction: *An enterostomy is either a surgical procedure to create a durable opening (called a stoma) through the abdominal wall into an intestine (small intestine or large intestine) or the stoma thus created. The various types of enterostomy are named according to which intestinal segment is involved. Indications for surgery and complications are dependent on the site of the enterostomy. Gastrostomies and enterostomies can be used to provide nutrition in digestive disorders. Hernia development at both permanent and temporary enterostomy sites in a common complication.*
Materials and methods: *This is a cross sectional observational study conducted at Department of General Surgery, Osmania Medical College and Osmania General Hospital, Hyderabad, Telangana, India. Study was conducted from January 2018 to December 2018 for a total duration of 12 months at stoma follow up care unit of Osmania Medical College and Hospital, Hyderabad.*
Results: *A total of 160 patients with stoma were studied of which 114 (71.25%) were males and 46 (28.75%) were females. Ileostomy was the most commonly performed stoma in 134 (83.8%) of patients compared to colostomy in 26 (16.3%) patients. Majority of patients in the study had temporary stomas 140 (87.5%) compared to permanent stomas 20 (12.5%).*
Conclusion: *Thus a large proportion (82.5%) of our sample population fell in the fair to average QOL group strata. This is our target population for interventions so that they can be upgraded to higher strata of QOL by improving their QOL further. And the interventions we suggest are holistic multimodal approach towards improving each of these four domains of life by proper pre and post-operative counselling, training and support by trained enterostomal therapists, treating surgeons, psychiatrists, psychosocial therapist, social worker as well as economic and vocational rehabilitation.*
Key Words: *enterostomy, QOL, Gastrostomies, Hernia.*

Date of Submission: 24-10-2019 Date of Acceptance: 09-11-2019

I. Introduction

An enterostomy is either a surgical procedure to create a durable opening (called a stoma) through the abdominal wall into an intestine (small intestine or large intestine) or the stoma thus created. The various types of enterostomy are named according to which intestinal segment is involved. Indications for surgery and complications are dependent on the site of the enterostomy. Gastrostomies and enterostomies can be used to provide nutrition in digestive disorders. Hernia development at both permanent and temporary enterostomy sites in a common complication.[1]

Enterostomy is one of the commonly performed operation in surgical practice for varied indications like perforative peritonitis, ischaemic or inflammatory bowel disease, trauma and malignancy. It can be both temporary and permanent. Creation of ostomy results in bypassing sphincters and loss of voluntary control of bowel movements which necessitates use of external pouch appliances to collect excreta.[2,3]

Patients with ostomies need to spend a considerable amount of time and money for its maintainance and care. Patients with proximal enterostomies have to face significant nutritional consequences. Thus creation of stoma leads to various physical, psychological and social problems having impact on lifestyle of patients.[4] Altered perception of body image, diminished self-esteem, sexual dysfunction, marital problems, vocational and educational instability. Patients are anxious about leakage and odour from ostomy and they need frequent privacy and facility for stoma care outdoors; hence they may avoid social interactions. Many of these patients may have to change or leave job. Moreover maintenance related cost like buying stoma appliances, gloves and other stoma care products pose further financial burden. Thus these patients have to face profound lifestyle issues. [5]

II. Materials And Methods

This is a cross sectional observational study conducted at Department of General Surgery, Osmania Medical College and Osmania General Hospital, Hyderabad, Telangana, India. Study was conducted from January 2018 to December 2018 for a total duration of 12 months at stoma follow up care unit of Osmania Medical College and Hospital, Hyderabad.

Sampling method used was „complete enumeration technique". A total of 160 patients participated in study who were at least 18 years of age. Patients who have undergone stoma creation surgery between 2 months to a year earlier were included in study and those outside this time period of 2 months to one year were excluded. The reason for selecting this time frame was that prior to 2 months QOL may have influence of patient"s primary pathology for which stoma was created, may have influence of surgery or its complications. And after 1 year patients may have naturally improved QOL due to adaptation to stoma. Patients with psychiatric conditions and other debilitating chronic conditions having significant impact over QOL were excluded for obvious reasons.

All patients satisfying inclusion criteria were given detailed information about the study and the questionnaire to be answered. Those who were willing to participate freely, informed consent was obtained. Patients undertook questionnaire during their routine follow up visits to the stoma clinic. Literate patients undertook questionnaire themselves either in English, Hindi or Marathi. Assistance if required for interpretation of questions was provided by investigating team members. Adequate time, privacy and comfort were made available to patients undertaking questionnaire. For illiterate patients questionnaire was administered by one of study team members.

Data collected from City of Hope QOL Questionnaire was entered in Microsoft Excel Sheets. Quantitative and qualitative data such collected was analysed statistically for significance and correlation using ANOVA, Pearson correlation and independent sample test.

III. Results

A total of 160 patients with stoma were studied of which 114 (71.25%) were males and 46 (28.75%) were females. Ileostomy was the most commonly performed stoma in 134 (83.8%) of patients compared to colostomy in 26 (16.3%) patients. Majority of patients in the study had temporary stomas 140 (87.5%) compared to permanent stomas 20 (12.5%).

Most common indication for stoma in our study was perforative peritonitis in 88 (55.8%) of cases followed by ischemic bowel disease 20 (12.5%) and some other less common indications like small intestinal obstruction 14 (8.8%), sigmoid colon perforation 14 (8.8%), carcinoma rectum, necrotising pancreatitis with colonic fistula, small bowel mass.

	Physical	Psychological	Social	Spiritual
Mean	43.8523	71.1324	56.1432	43.2154
Median	44	71	59	44
SD	6.0231	9.5421	8.6578	8.2654
Minimum	30	42	27	24
Maximum	56	101	81	64

Table 1: Distribution of scores of each domains of life

What kind of ostomy do you have?		Physical	Psychological	Social	Spiritual
Colostomy	Mean	44.7634	76.1435	61.2132	42.1432
	N	26	26	26	26
	SD	6.31543	13.254	10.8612	11.1432
Ileostomy	Mean	43.1653	70.1543	56.6531	43.6321
	N	134	134	134	134
	SD	5.763	8.134	8.08	7.54
Total	Mean	43.1645	71.2145	57.2143	43.2143
	N	160	160	160	160
	SD	6.0324	9.3421	8.7013	8.2312

Table 2: Type of enterostomy and scores in various domains of life

Quality of life	Scores	Frequency (%)
Poor	**162-189**	**16 (10)**
Fair	**190-217**	**70 (43.75)**
Average	**219-245**	**62 (38.75)**
Good	**246-272**	**12 (7.5)**

Table 3: Total score-wise stratified grouping of sample population

	Gender	N	Mean	SD	Std error mean
Physical	**Male**	114	45.2143	5.6521	0.8523
	Female	46	40.4375	5.0475	1.0432
Psychological	**Male**	114	69.4276	8.3254	1.1543
	Female	46	72.1432	11.4321	2.4541
Social	**Male**	114	56.4154	9.2615	1.1217
	Female	46	60.1532	6.6123	1.3819
Spiritual	**Male**	114	41.6532	7.4517	0.8935
	Female	46	46.1842	9.6261	1.8324
Total wellbeing	**Male**	114	212.4376	17.3942	2.3827
	Female	46	221.8526	23.7415	4.9425

Table 4: Comparisons of scores in various domains of life in male and female

IV. Discussion

Mean age of participants in our study was 42.65 years (range 16-75 years) and majority of patients were <40 years of age (56.25%) compared to >40 years of age (43.75%). This was consistent with prospective analysis of 640 emergency ileostomies conducted by Chaudhary et al.6 But it was lower than prospective audit by Arumgum et al who found mean age to be 65 years.7 A retrospective study by Sashir et al also showed mean age to be 58 years.8 A similar study in 2011 by Iranian Ostomy Society, mean age was 53.5 years.

This difference in age distribution can be explained by the attributes of sample, as most of these studies focused mainly on purely permanent stoma or sometimes on purely temporary stomas. But our study included both permanent and temporary stomas. Sex distribution in our study was similar to most of the studies including study by Iranian Ostomy Society.7 Most common indication for stoma creation in our study was perforative peritonitis as we had chosen „complete enumeration" as sampling technique and our study site is a busy tertiary care medical college catering to a large population and provides emergency surgical services. It is interesting to note that it correlates well with other studies from Indian subcontinent where commonest indication is typhoid ileal perforation. In our study too, ileostomy was the most common subtype. [8]

Majority of patients (22 out of 40 previously occupied means 55%) reported that they had to leave or change their occupation post stoma creation and this along with increased cost of stoma care products caused significant economic crisis and burden to patients which had direct negative influence on QOL of these patients. This is consistent with study from Iran and China where 83.33% patients reported changing or leaving their jobs after enterostomies.[9]

Effect of stoma creation on marital status was negligible. There were no incidences of divorce or separation post stoma creation. This may be attributed to Indian marital system and socioculturalf values which Indian people adhere to.

As reflected from results about post-surgery sexual activity resumption and satisfaction from sexual life it is evident that ostomy is associated with lower rates of sexual activity, satisfaction and higher erectile dysfunction. Thus this sexual dysfunction causes negative impact on QOL. It may thus be prudent to refer these patients to professional counselling and training services about sexual health before and after stoma surgery.[10]

V. Conclusion

Thus a large proportion (82.5%) of our sample population fell in the fair to average QOL group strata. This is our target population for interventions so that they can be upgraded to higher strata of QOL by improving their QOL further. And the interventions we suggest are holistic multimodal approach towards improving each of these four domains of life by proper pre and post-operative counselling, training and support by trained enterostomal therapists, treating surgeons, psychiatrists, psychosocial therapist, social worker as well as economic and vocational rehabilitation.

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Dr.K.Ananthababu. "A Prospective Cross Sectional Study of Quality of Life in Patients with Enterostomy in a Tertiary Care Hospital." IOSR Journal of Dental and Medical Sciences (IOSR-JDMS), vol. 18, no. 11, 2019, pp 10-13.