

Outcomes and Quality of Life of Patients with a Digestive Stoma in Sub-Saharan Africa: Case of the Yaounde Central Hospital, Cameroon

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Abstract

Introduction: The installation of a digestive stoma involves changes affecting all aspects of the patients' lives. The objective of this study was to determine the impact of a digestive stoma on the quality of life of patients operated on at the Yaounde Central Hospital (YCH). **Patients and Methodology:** We conducted a prospective descriptive study over a period of 12 months from June 2018 to May 2019 in all patients with a digestive stoma for at least 3 months operated on at the YCH. The follow-up was done within 12 months. Quality of life was assessed using the stoma QOL (quality of life) and self-image using the BIS (Body Image Scale). **Results:** We collected a total of 34 patients, of whom 22 were male, giving an M/F sex ratio of 1.8. The average age of the patients was 42.8 years. The indications were tumoral in 44.11% of cases (n = 15) and non-tumoral in 55.88% of cases (n = 19). The colon was the most frequently ablated organ (n = 26) with 76.5% of colostomies. The complication rate was 67.6%. Stomal oedema was the most common early complication with 38.2% of cases. All patients used colostomy bags. The average time to return to sexual activity was 8 months for men and 9 months for women. 85.3% of the patients had an average impairment of quality of life according to the Stoma Quality of Life Scale. According to the Body Image Scale, 73.5% of the patients had a moderate dissatisfaction with their self-image. **Conclusion:** The realization of a digestive stoma imposes a long-term follow-up especially on the psychological level in order to allow the empowerment of the patients who all have a modification of their quality of life and their self-image.

Keywords

Stoma, Quality of Life, Self-Image Cameroon

1. Introduction

A digestive stoma is the connection of a digestive viscera to the skin outside its natural location [1]. It can involve different segments of the digestive tract and can be used for exoneration or feeding. It is a common practice throughout the world with a large patient population of approximately 1.5 million in the USA, 80,000 in France and 45,000 in the UK [2]. In China, 38% of colostomies and 29% of ileostomies are performed annually [3] [4]. In Africa, it represents 7.4% of all surgical procedures in Mali [5]. Regardless of the country or continent, colostomy seems to be the most commonly performed diversion [2] [3].

The indications for this surgical practice are diverse and varied, and may be tumour-related or not. Colorectal cancer is the most prevalent indication in the West, as in Africa [3] [4] [5].

The use of a digestive stoma involves the loss of organ function and control, and implies changes affecting all aspects of the patient's life [4]. These changes can be surgical, medical and even psychological in the long term with an impact of the stoma on body image, self-esteem and relationships.

Electrolyte disorders have been found in China to be one of the most frequent early complications, while in Denmark and France trophic disorders prevail [3] [4] [6]. In Africa, undernutrition is added to these skin complications [5] [7].

A study carried out in Cameroon found a rate of surgical complications of 19% [8]. The psychological impact of the stoma is not insignificant, as it requires adaptation to this form of disability and the repercussions on quality of life can go as far as social isolation [4].

In most studies, the quality of life of patients with a digestive stoma remains disturbed [9] [10] [11] [12]. If in developed countries ostomate patients have difficulties of social reintegration after ostomy, it seemed appropriate to us to determine the psychological and social impact of ostomy on patients derived from the digestive tract in our environment with diverse cultures and multiple taboos.

2. Patients and Methods

We conducted a prospective descriptive study over a period of 12 months from June 2018 to May 2019 at the YCH. The choice of this hospital is justified by the fact that it has the largest proctological surgery activity in the city of Yaoundé.

All adult patients over 15 years of age with a digestive stoma for at least 3 months were included in the study.

The sampling was consecutive.

Prospectively, we collected the files of all patients aged at least 15 years who

had a digestive stoma from June 2018 to May 2019 (*i.e.*, 12 months). These patients were then reviewed in consultation at 3 months, 6 months and 12 months after surgery to assess their quality of life.

The variables studied were socio-demographic data, clinical data, and lifestyle with the stoma. Follow-up was for 12 months.

Quality of life was assessed using the stoma QOL (quality of life) [4]. It consists of 20 questions assessed on a 4-point scale. The points obtained for each of the 20 questions are added together to obtain an overall score. This summary raw score per patient is in the range of 20 - 80. The higher the Stoma-QOL score, the better the Quality of Life.

Self-image was assessed using the BIS (Body Image Scale) [4]. It measures the impact of treatment and illness on body image through 10 questions with 4 choices of answers. The higher the score, the more satisfactory the individual's body image is.

An interview was conducted by one of the investigators to evaluate the quality of life according to Stoma QOL and BIS. If necessary, some items were explained to the participants in local language

Data were recorded using CS Pro version 7 software and analysed using IBM_SPSS (Statistical Package of Social Sciences) version 23.0. Qualitative data were expressed as headcount and percentage; illustrated in tables and figures. Chi-square and Fischer tests were used to test for association between categorical values; while the student's t test was used to compare means.

Ethical clearance was obtained from the Research and Ethics Committee of the Faculty of Medicine and Pharmaceutical Sciences, University of Douala. Study authorization was obtained from the administrative services of the YCH.

3. Results

Among the 293 surgeries performed during the study period in the visceral surgery department, we recorded 34 cases of digestive stomas, with a prevalence of 11.60%. Of these, 22 were men, giving a sex ratio M/F of 1.8. The average age of the patients was 42.8 years with extremes ranging from 16 to 83 years. The most represented age group was 36 - 45 years with 35.4%. **Table 1** shows the socio-demographic characteristics of the patients.

The indications were tumour in 44.11% of cases (n = 15) and non-tumour in 55.89% of cases (n = 19). The colon was the most frequently ablated organ (n = 26) with 76.5% of colostomies. **Table 2** shows the different digestive segments of the stoma.

Of the stomas performed, 67.65% (n = 23) were temporary and 32.35% (n = 11) were permanent. 50% of the stomas were terminal. The complication rate was 67.6%. Stomal oedema was the most common early complication with 38.2% of cases. Peristomal dermatitis accounted for 50% of late complications. **Table 3** shows all the complications found.

All patients used colostomy bags and the majority (n = 18), 52.9%, had a

Table 1. Socio-demographic characteristics of patients.

	Item	N	%
Gender	Male	22	22.65
	Female	12	12.35
Age range	15 - 25	3	8.8
	26 - 35	6	17.6
	36 - 45	12	35.4
	46 - 55	7	20.6
	56 - 65	2	5.8
	>65	4	11.8
	Profession	Civil servant	9
Shopkeeper		12	35.29
Housewife		4	11.76
Pupil/student		5	14.70
Unemployed		4	11.76
Education level	Primary	2	5.9
	Secondary	18	52.9
	Higher	14	41.2
Marital status	Single	9	26.5
	Married/couple	23	67.64
	Divorced	1	2.94
	Widowed	1	2.94

Table 2. Distribution of organs attached to the skin.

	Item	N	%
Bypass stoma	Colostomy	26	76.5
	Ileostomy	5	14.7
Feeding stoma	Gastrostomy	1	2.9
	Jejunostomy	2	5.9
Total		34	100

pouch change frequency of between 3 and 6 days. 23.5% of patients (n = 8) had pouch change frequency of less than 3 days and also 23.5% (n = 8) had a pouch change frequency of more than 6 days.

The majority of patients (79.41%) had not regained normal sexual activity. Partner discomfort was the most frequent reason, with 76.5% of cases resulting in separation of the couple in 35.3% of cases. The average time to return to sexual activity was 8 months for men and 9 months for women.

Quality of life was severely impaired (QOL between 0 and 40) in 9.1% of

Table 3. Ostomy complications.

	Complications	N	%
Early complications	Stomal haemorrhage	11	32.4
	Stomal oedema	13	38.2
	Stomal necrosis	1	2.9
	Desinsertion	6	17.6
	Evisceration	2	5.9
	Retraction	7	20.6
Late complications	Peristomal abcess	3	8.8
	Peristomal fistula	2	5.9
	Stenosis	1	2.9
	Dermatittis	17	50
	Eventration	2	5.9
	Stomal prolapse	5	14.5
	Denutrition	10	29.4
	Hydroelectrical disorders	5	14.7

patients with a permanent stoma and 17.4% of patients with a temporary stoma. Women had a worse quality of life than men. The QOL score was between 0 and 40 in 16.7% of women and 13.6% of men. None of our patients had a normal quality of life. **Table 4** shows the Stoma Quality of Life (QOL) score according to the type of stoma and the gender of the patients.

According to the Body Image Scale, Self-image was very dissatisfied (score between 0 and 14) in 36.4% of the patients with a permanent ostomy and in 8.7% of the patients with a temporary ostomy. Self-image was normal in 25% of the women and in none of the men. **Table 5** shows the BIS self-image according to the type of stoma and gender.

4. Discussion

During our study, we collected 34 patients who underwent surgery leading to the creation of a stoma, 22 of whom were men, with a sex ratio of 1.8 in favor of men, which was also found by Traore [5], and B. Ameer [7] in Africa, and Yin in Asia [3]. Adults around the fourth decade were the most affected, as in many African studies [5] [12], unlike Western studies which found a peak around the sixth decade. This difference could be explained by the fact that the colorectal cancer pathology that is most often responsible for colostomy is the preserve of the young adult in our context [13].

Temporary colostomy was the most common procedure, as in the literature [3] [5], and the segment most frequently removed was the sigmoid, as was the case for all the authors, due to its easier mobilisation [7] [8] [14].

The postoperative complication rate was 67.6%, which is high compared to

Table 4. Quality of life of patients according to type of stoma and gender.

	Very impaired QOL 0 - 40 N (%)	Moderately impaired QOL 41 - 80 N (%)	Normal QOL 81 - 100 N (%)
Permanent stoma (n = 11)	1 (9.1)	10 (90.9)	0
Temporary stoma (n = 23)	4 (17.4)	19 (82.6)	0
Female (n = 12)	2 (16.7)	10 (83.3)	0
Male (n = 22)	3 (13.6)	19 (86.4)	0

Table 5. BIS score according to the type of stoma and the gender of the patients.

	Very dissatisfied 0 - 14 N (%)	Moderately dissatisfied 15 - 29 N (%)	Normal 30 - 40 N (%)
Permanent stoma (n = 11)	4 (36.4)	6 (54.5)	1 (9.1)
Temporary stoma (n = 23)	2 (8.7)	19 (82.6)	2 (8.7)
Female (n = 11)	0	9 (75)	3 (25)
Male (n = 22)	6 (27.3)	16 (72.7)	0

the studies by Yin, who found 36.4% [3], and a Tunisian study which found a complication rate of 57% [7]. This difference could be linked to the early diagnosis, optimal management with more adequate technical facilities in these countries. The most common complication is peristomal dermatitis at 50%. This irritation is very present for ileostomies with the rejection of proteolytic enzymes on the skin. It is also the leading cause in China [3] and Denmark [6] because ostomy care is not mastered by ostomates themselves and the abusive use of plasters to hold the pouch in place by ostomates maintains the permanent irritation of the peri-stomal area.

Sexuality is an essential element for the well-being of ostomates, as it interacts with body image and self-fulfillment.

The majority of our patients had not resumed sexual activity before 8 months, not because of an organic defect but mainly because of the partner's embarrassment. This resumption is even later in women than in men. These same observations were made by Persson [15] and Salter [16] who found a decrease in sexual desire after the stoma. Contrary to Van De Wiel who found that ostomy surgery had very little influence on sexual motivation [17].

Quality of life is an important monitoring element for the future of ostomy patients as they must learn to be independent. This monitoring takes into account physical, psychosocial and social well-being and it is widely recognized that the measurement of such parameters is difficult [18], certainly due to the subjectivity of the answers. The quality of life in our study was unsatisfactory for all of our patients, in contrast to the work of Thomas [12] and Kraise [19] who

found some patients with a normal quality of life, respectively 78% and 68% of their study population.

In the decision tree that led to the creation of the stoma, most of our patients thought they had not been sufficiently informed about the surgery and the results [12].

Permanent ostomates have a better quality of life than temporary ostomates similar to Beaubrun *et al.* in 2018 [4]. The fact that an ostomy is temporary would give the patient the hope of regaining normal elimination and paradoxically would flourish the process of adaptation and autonomy [4]. The quality of life would be favored by good physical self-esteem in patients with a temporary stoma, and good emotional self-esteem associated with a preserved body image in patients with a permanent stoma. The latter had higher self-esteem than the temporary ostomy patients.

5. Limitations of the Study

Our study was limited by its monocentric nature and relatively short follow-up time. A multicentric study with larger sample size and longer follow-up would allow a better assessment of the quality of life of these patients and to see if it improves over time, especially for patients with a permanent stoma.

6. Conclusion

Our aim was to determine the impact of digestive stomas on the quality of life of patients. At the end of this study, young adult males between the 3rd and 4th decade are the most affected. Tumor pathology is the main indication leading to the creation of an ostomy, whether it is for feeding or exoneration. The quality of life of our ostomates remains average, although it is clearly higher in the definitive ostomates than in the temporary ostomates who are permanently stressed by the date of recovery.

Authors' Contributions

GBM and GAB: Study design.

RLKDS: Data collection.

JCCN and RLKDS: Data analysis.

GBM, JCCN: Drafting the manuscript.

GAB, YBEM: Proofreading and editing the manuscript.

BNN: Final revision of the manuscript.

MAS: Final Approval for submission.

Conflicts of Interest

The authors declare no conflict of interest.

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