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UNCOMPLICATED HAEMORRHOIDS FOLLOWING CRYOSURGERY OR RUBBER BAND LIGATION-OBSERVATIONAL STUDY

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ABSTRACT

Background: The quality-of-life following hemorrhoids treated with rubber band ligation or cryotherapy is not well documented in the literature and requires more research.

Aim: The purpose of this study was to use the SF-36 (short form-36) survey questionnaire to analyze and evaluate the quality of life in adult Indian individuals with simple Grade I or II hemorrhoids following treatment with either cryosurgery or rubber band ligation.

Methods: 120 participants with symptomatic, straightforward Grade I and II hemorrhoids were evaluated. The SF-36 form version 2 questionnaire was used to measure each subject's quality of life. These individuals underwent cryosurgery and rubber dam surgery after being split into two groups of sixty each at random. All the subjects were followed after 2 months SF-36 was again used to assess quality of life.

Results: There were 30 girls and 90 males in the research, with a mean age of 41.13 ± 14.14 years. Following pruritus ani in 16 participants, bleeding was the primary symptom in all subjects. In terms of age and symptoms, the two study groups were similar. After rubber band ligation and cryotherapy, a notable improvement in quality of life was seen. Compared to the physical component, the mental component changed considerably more in the cryotherapy group. Except for overall health, there was no discernible intergroup difference from preoperative to postoperative levels.

Conclusion: hemorrhoids negatively influence a person's quality of life. Both rubber band ligation and cryotherapy are equally effective at improving hemorrhoid patients' quality of life.

Keywords: Cryotherapy, Hemorrhoids, Quality of Life, Rubber Band Ligation

INTRODUCTION

In India as well as other countries, quality of life is regarded as a crucial factor in evaluating the results of surgical procedures. The quality of life has significantly improved as a result of surgical care when it is measured for research reasons. Despite hemorrhoids being one of the most prevalent illnesses that have afflicted people for centuries, there is a dearth of evidence in the literature evaluating quality of life following therapy in hemorrhoid individuals.¹

Hemorrhoid patients are typically distressed and worried about bleeding, pruritus ani, mucus discharge, and protrusion of the hemorrhoidal masses, all of which have varying degrees of negative effects on their quality of life. Among various treatment modalities available for the management of hemorrhoids, most popular choice for management is rubber band ligation, whereas, cryotherapy is not a widely practiced treatment modality of hemorrhoids.²

Due to its low cost, limited invasiveness, ease of execution, simplicity, and low postoperative care requirements, both of these treatment methods can be performed in an outpatient department. Given their effectiveness, these treatments are thought to enhance the individuals' quality of life when they have hemorrhoids. There are few research comparing the quality-of-life outcomes of rubber band ligation and cryotherapy for the treatment of hemorrhoids in adult Indian individuals.^{3,4}

The goal of the current study was to use the SF-36 (short form-36) survey questionnaire to examine and evaluate the quality of life in adult Indian individuals with simple Grade I or II hemorrhoids following treatment with either cryosurgery or rubber band ligation.

MATERIALS AND METHODS

This observational study was conducted at the Institute's Department of General Surgery. Before participating in the study, all subjects and school administrators gave their verbal and written informed consent.

Within the specified study period, 120 participants who came to the Institute with simple, symptomatic Grade I and II hemorrhoids were evaluated. Participants on anticoagulant therapy, portal hypertension, pelvic tumors, ascites, pregnancy-like conditions that raise intra-abdominal pressure, hematological disorders, inflammatory bowel disease, strangulation, and thrombosis as hemorrhoid complications were all excluded from the study. Following final inclusion, each study participant's complete medical history was documented, and each participant underwent a general physical examination and abdominal examination.

Proctoscopy and digital rectal examination were used to make the diagnosis. Each of the two groups of 60 participants was randomly assigned to receive either rubber band ligation or cryotherapy. The results of the history and examination were recorded using a pre-made structured proforma. The SF-36 version 2 questionnaire was used to measure each subject's preoperative quality of life.

Both groups' subjects underwent outpatient care without anesthesia. Other than making sure the rectum was clear of feces, no particular bowel preparation was carried out in any of the subjects. All participants had banding or cryotherapy for hemorrhoids in a similar manner using comparable standard equipment.

All patients were prescribed a high residue meal, a single 50-gram Diclofenac tablet for analgesia, and a moderate laxative (10 grams (15 ml) BD) for lactulose throughout the postoperative period.

For early postoperative problems and a thorough evaluation, all individuals were monitored for the first three days after the procedure and at one week. After cryotherapy or rubber band ligation, the individuals were contacted back two months later, and their quality of life was reevaluated using the SF-36 questionnaire.

The chi-square test, Fisher's exact test, Mann Whitney U test, and SPSS software with ANOVA, chi-square test, and student's t-test were used to statistically analyze the collected data. A p-value of less than 0.05 was used as the significance criterion.

RESULTS

The goal of the current study was to use the SF-36 (short form-36) survey questionnaire to examine and evaluate the quality of life in adult Indian individuals with simple Grade I or II hemorrhoids following treatment with either cryosurgery or rubber band ligation. 120 participants with Grade I and II hemorrhoids that were both symptomatic and uncomplicated were evaluated. The SF-36 form version 2 questionnaire was used to measure each subject's quality of life. The study participants' ages ranged from 18 to 80 years old, with a mean age of 41.13 ± 14.14 years and similar ages in both groups ($p=0.186$). The study included 30 females and 90 males. The study participants' mean BMI was 21.56 ± 2.45 kg/m². None of the participants were obese, and twelve were assessed to be overweight.

All 120 participants had bleeding as their primary symptom, followed by pruritus ani in 16 of them; nonetheless, the incidence was similar in the two groups ($p=0.1$ and 0.68 , respectively). No participant from either group reported experiencing pain or discharge.

The average length of the illness was found to be 4.05 ± 4.88 years, with a range of 4 days to 20 years. The mean difference, however, was not significant ($p=0.475$). Subjects were distributed similarly between the two groups according to the number of hemorrhoids and different orientations. The two groups' bowel habits, straining at feces, and duration of symptoms were similar ($p=0.44$, 0.3 , and 0.4 , respectively). Duration of procedure was <30 minutes in all subjects. Out of 120 subjects, 118 underwent outpatient management and were released following treatment.

Two patients required hospitalization for two weeks prior to treatment due to severe anemia. According to the study's findings, all participants in both groups had their quality of life evaluated using the SF-36 questionnaire at both the preoperative appointment and the two-month follow-up following treatment with either rubber band ligation or cryotherapy. Tables 1 and 2 provide a summary of the subjects' quality of life scores for different criteria from the two groups. Following therapy, all quality-of-life parameter scores in both groups showed a statistically significant decrease ($p<0.05$). Additionally, a significant increase in quality of life was observed following both rubber band ligation and cryotherapy, with p-values of less than 0.05 across all QoL metrics.

However, the shift was much greater for the mental health component scores than for the physical component scores in the participants treated with cryotherapy. With the exception of general health, the intergroup difference for score changes from preoperative to postoperative time was not statistically significant following multivariate analysis of individual QoL components in two groups of study participants (Table 3).

DISCUSSION

In this study, 120 individuals with Grade I and II hemorrhoids that were both symptomatic and uncomplicated were evaluated. The SF-36 form version 2 questionnaire was used to measure each subject's quality of life. The study participants' ages ranged from 18 to 80 years old, with a mean age of 41.13 ± 14.14 years and similar ages in both groups ($p=0.186$). The study included 30 females and 90 males. The study participants' mean BMI was 21.56 ± 2.45 kg/m².

None of the participants were obese, and twelve were assessed to be overweight. In all 120 participants, bleeding was the primary symptom, followed by pruritus ani in 16 cases; nevertheless, the incidence was similar in two groups ($p=0.1$ and 0.68 , respectively). No participant from either group reported experiencing pain or discharge. These findings were similar to those of earlier research by Martinsons A et al. (2007) and Chen et al. (2010), whose authors evaluated hemorrhoid individuals and provided demographic information similar to the current study. According to the study's findings, the average length of the illness was 4.05 ± 4.88 years, with a range of 4 days to 20 years. The mean difference, however, was not significant ($p=0.475$).

Subjects were distributed similarly between the two groups according to the number of hemorrhoids and different orientations. The two groups' bowel habits, straining at feces, and duration of symptoms were similar ($p=0.44$, 0.3 , and 0.4 , respectively). For every individual in both groups, the process took less than thirty minutes. Out of 120 subjects, 118 underwent outpatient management and were released following treatment. Two patients required hospitalization for two weeks prior to treatment due to severe anemia. These findings were in line with those of Jacobsen et al. (2002) and Cocorullo G et al. (2017), who revealed similar disease features in hemorrhoid individuals to the current investigation.

At the preoperative appointment and the two-month follow-up following treatment with either rubber band ligation or cryotherapy, all individuals from both groups had their quality of life evaluated using the SF-36 questionnaire. Tables 1 and 2 provide a summary of the subjects' quality of life scores for different criteria from the two groups. Following therapy, all quality-of-life parameter scores in both groups showed a statistically significant decrease ($p<0.05$). These results were consistent with those of Komporozos V et al. (2021) and Elmér SE et al. (2013), whose authors similarly reported quality of life scores following hemorrhoids treatment that were similar to the current study.

The study's findings also demonstrated a substantial increase in quality-of-life following rubber band ligation and cryotherapy, with a p-value of less than 0.05 across all QoL metrics. However, the shift was much greater for the mental health component scores than for the physical component scores in the participants treated with cryotherapy. The intergroup difference for score changes from preoperative to postoperative time was not statistically significant after multivariate analysis of individual QoL components in two groups of research participants, with the exception of overall health. These findings were consistent with those of Watson et al. (2022) and Abramowitz et al. (2019), whose quality-of-life findings were similar to those of the current study.

CONCLUSION

The current study comes to the conclusion that hemorrhoids negatively impair the quality of life of those who have them, despite its limits. Both rubber band ligation and cryotherapy are equally effective in enhancing the quality of life for hemorrhoid patients. To draw a firm conclusion, however, more longitudinal research with a bigger sample size and longer monitoring is required.

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S. No	Parameters	Preoperative	Postoperative	p-value
1.	Mental health (MH)	43.32±2.45	33.70±2.72	<0.05
2.	Role emotional (RE)	41.24±6.17	30.72±2.72	<0.05
3.	Social functioning (SF)	42.64±2.52	34.64±2.95	<0.05
4.	Vitality (VT)	47.70±5.82	51.11±5.89	<0.05
5.	General health (GH)	38.72±2.61	28.28±1.47	<0.05
6.	Bodily pain (BP)	52.95±6.01	49.73±9.15	<0.05
7.	Role physical (RP)	46.87±2.74	43.83±6.23	<0.05
8.	Physical functioning (PF)	48.45±8.32	46.55±8.24	<0.05
9.	Summary MCS (mental component scale)	41.05±2.43	29.37±2.49	<0.05
10.	Summary PCS (physical component scale)	49.41±5.98	48.26±7.94	<0.05

Table 1: Quality of life scores and parameters for rubber band ligation group

S. No	Parameters	Preoperative	Postoperative	p-value
1.	Mental health (MH)	30.93±4.75	47.83±5.59	<0.05
2.	Role emotional (RE)	28.26±6.62	46.01±7.59	<0.05
3.	Social functioning (SF)	32.10±5.08	45.92±3.77	<0.05
4.	Vitality (VT)	38.43±4.27	50.61±4.94	<0.05
5.	General health (GH)	27.65±3.19	43.30±4.80	<0.05
6.	Bodily pain (BP)	49.64±10.86	53.18±6.94	<0.05
7.	Role physical (RP)	42.71±7.38	49.16±6.10	<0.05
8.	Physical functioning (PF)	47.61±6.71	51.04±6.45	<0.05
9.	Summary MCS (mental component scale)	25.59±5.73	45.91±5.31	<0.05
10.	Summary PCS (physical component scale)	48.92±7.89	50.78±5.07	<0.05

Table 2: Quality of life scores parameters for cryotherapy group

S. No	Parameters	Rubber band ligation group		Cryotherapy group		p-value
		Preoperative	Postoperative	Preoperative	Postoperative	
1.	Mental health (MH)	43.32±2.45	33.70±2.72	30.93±4.75	47.83±5.59	0.45
2.	Role emotional (RE)	41.24±6.17	30.72±2.72	28.26±6.62	46.01±7.59	0.41
3.	Social functioning (SF)	42.64±2.52	34.64±2.95	32.10±5.08	45.92±3.77	0.68
4.	Vitality (VT)	47.70±5.82	51.11±5.89	38.43±4.27	50.61±4.94	0.83

5.	General health (GH)	38.72±2.61	28.28±1.47	27.65±3.19	43.30±4.80	0.02
6.	Bodily pain (BP)	52.95±6.01	49.73±9.15	49.64±10.86	53.18±6.94	0.97
7.	Role physical (RP)	46.87±2.74	43.83±6.23	42.71±7.38	49.16±6.10	0.73
8.	Physical functioning (PF)	48.45±8.32	46.55±8.24	47.61±6.71	51.04±6.45	0.34
9.	Summary MCS (mental component scale)	41.05±2.43	29.37±2.49	25.59±5.73	45.91±5.31	0.63
10.	Summary PCS (physical component scale)	49.41±5.98	48.26±7.94	48.92±7.89	50.78±5.07	0.53

Table 3: Comparison of quality of life scores and parameters for rubber band ligation and cryotherapy group