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OSTOMY CARE

Factors Influencing Adjustment to a Colostomy in Chinese Patients

A Cross-sectional Study

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■ ABSTRACT

PURPOSE: We evaluated persons living with a colostomy in order to characterize and describe relationships among adjustment, self-care ability, and social support.

SUBJECTS AND SETTING: One hundred twenty-nine colostomy patients from 5 hospitals in Guangzhou, capital city of the Guangdong province, were recruited by convenience sampling.

INSTRUMENTS: Cross-sectional data were collected from a survey that included demographic and pertinent clinical data related to their ostomy. The survey also incorporated Chinese language versions of the Ostomy Adjustment Scale, Exercise of Self-Care Agency Scale, and Perceived Social Support Scale. These scales were used to measure the levels and degrees of adjustment, self-care ability, and social support of colostomy patients.

METHODS: Respondents completed the survey during outpatient clinics visit after creation of a colostomy.

RESULTS: Scores from the Ostomy Adjustment Scale revealed that 96.9% of colostomy patients reported low to moderate adjustment (128.6 $\pm$ 19.38) to their stoma. Self-care ability and social support of patients were positively correlated with the adjustment level ($R = 0.33$, $R = 0.21$). Several factors, including being a housewife, paying medical expense by oneself, inability to manage the ostomy without assistance, and not participating in an ostomy support group, were associated with a lower level of adjustment ($P < .05$). Worries about odor and antipathy toward the ostomy significantly contributed to lower levels of adjustment to the stoma ($P < .01$).

CONCLUSION: Overall adjustment to a colostomy was moderate. Self-care ability and social support associated with having a colostomy positively influenced adjustment. Adjustment was also influenced by occupation, health insurance provider, and ability to care for the stoma without requiring assistance.

KEY WORDS: adjustment, colostomy, self-care ability, social support.

■ Introduction

Colorectal cancer is the third most common type of cancer in the United States, and it is associated with the second highest cancer mortality rate.[1] Colorectal cancers represent 10.8% of all cancers diagnosed from 2001 to 2005.[2,3] Approximately 146,970 Americans were diagnosed with colorectal cancer in 2009.[2]

In China, rectal cancer accounts for 75% of all colorectal tumors. It is typically detected in early-middle age (<30 years old).[4] Abdominoperineal (AP) resection is a standard surgical method for treatment of low-position rectal cancer; approximately 100,000 Chinese patients undergo AP resection annually.[5] In addition, approximately 1 million persons in China are living with a colostomy.

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Creation of a colostomy profoundly influences the individual's physical and psychosocial health; it profoundly influences body image, excretory function, and personal hygiene.[6-9] Multiple factors affect adjustment to a colostomy such as self-care ability and social support.[10,11] Self-care ability refers to the complex ability that individuals learned to maintain and promote health and physical and mental development.[12] It significantly influences the individual's adjustment and plays a vital role in rehabilitation following ostomy creation.[10,13,14] Social support acts a positive stimulus that can alleviate the challenges to self-image created by a colostomy; maintaining social support enhances adjustment to a chronic illness.[15] Additional factors that influence adjustment to an ostomy include access to WOC nursing care, education about the colostomy and its care, preoperative stoma site marking and counseling, visits from a peer living with a colostomy, and demographic factors such as age, gender, and economic status.[16-19] The purpose of this study was to evaluate the adjustment levels among persons living with a colostomy; evaluate associations among social support, self-care ability, and adjustment; and identify additional other factors that influence ostomy adjustment.

Methods

Persons who were diagnosed with rectal cancer from September 2007 to April 2008 and underwent AP resection and creation of a permanent colostomy comprised the target population for this study. Inclusion was limited to persons who had lived with a colostomy for at least 1 month prior to data collection. Subjects were recruited from 5 hospitals in the Guangzhou, capital city of the Guangdong province by convenient sampling. The study was reviewed by Human Ethics Committees at the participating hospitals; study participants provided informed consent prior to completing the survey.

Instruments

Four instruments—the general information questionnaire, Ostomy Adjustment Scale (OAS), Exercise of Self-Care Agency Scale (ESCA), and Perceived Social Support Scale (PSSS)—were used to measure study outcomes. The survey also contained items that queried demographic data (age, gender, place of residence, marital status, education, occupation, family income, payment mode of medical treatment, and family relationship) and pertinent stoma-related data.

The OAS was developed by Olbrisch[20] in 1983 to measure postoperative adjustment among ostomy patients. It includes 34 items; respondents use a 6-grade Likert-type scale when responding to questions or statements. Scores vary from 34 to 204. Scores ranging from 34 to 68 indicate maladjustment to an ostomy, scores greater than 68 to 119 indicate moderate adjustment, scores greater than 119 to 170 indicate high adjustment to the stoma, and scores greater than 170 indicate highest adjustment. To the best of our knowledge, a Chinese language version of the OAS has not developed. We, therefore, used a technique of translation and back translation to adapt the instrument to our patient population. We measured internal consistency of the translated version of the OAS and found a Cronbach α coefficient of 0.909.

The ESCA was developed and validated by Kearney and Fleischer[21] to measure self-care ability.[22] This scale has 43 items, which are answered using a 5-category Likert scale. Items are scored from 0 to 4, yielding a highest cumulative score of 172; higher scores indicate greater perceived self-care ability. In 2000, Wang and Laffrey[23] translated the ESCA into the Chinese language. They evaluated its psychometric properties in a group of persons living in Taiwan and found the translated instrument to be valid and reliable. We measured internal consistency of the translated version of the ESCA and found a Cronbach α coefficient of 0.92.

The PSSS was developed and validated by Zimet and translated for use by Chinese subjects.[24-26] The PSSS comprises 12 self-evaluation items, followed by a 7-category scale for responses. Scores vary from 12 to 84; higher scores indicate a greater degree of social support. We measured internal consistency of the translated version of the PSSS and found a Cronbach α coefficient of 0.91.

Study Procedures

After signing the informed consent, the subjects were given the instrument during their subsequent clinic visit. Completion of the survey requires approximately 30 minutes; surveys were collected upon completion. An investigator was present during data collection to answer any questions concerning the forms.

Data Analysis

Data were analyzed using the Statistical Package for Social Sciences (SPSS, Chicago, Illinois), version 13.0. Demographic and ostomy-related clinical data and scores on the various instruments were described using means and standard deviations, or frequencies and percentages based on the level of the data measured. We used Pearson correlation analysis to investigate the correlation between social support, self-care ability, and adjustment, and multivariate analysis (stepwise regression) was undertaken to identify factors that influenced adjustment to the ostomy.

Results

One hundred fifty questionnaires were distributed and 137 were returned, yielding a return rate of 91.3%. In addition, 8 surveys were found to contain incomplete or unusable responses. Therefore, study results are based on responses from 129 participants. The mean age of the sample was 58.66 ± 12.85 years (mean ± SD). Ninety respondents (69.7%) were male; 93.02% were married. When asked about their occupations, 14.73% self-identified as workers, 12.40% identified themselves as

farmers, 15.50% identified as political activists, 7.75% identified as technical personnel, 8.53% stated that they were service personnel, and 31.01% identified as housewives or retirees. More than half (59.69%) were living in the city. Most respondents (51.94%) paid medical expense partly at their own expense, and 27.13% paid all medical costs out of pocket. The vast majority (93.03%) managed their ostomies without regular assistance. Slightly more than one-third (35.66%) reported experiencing stomal or peristomal complications. The shortest time span since they received ostomy was 1 month, the longest was 37 years (mean ± SD = 3.34 ± 4.75 years).

Scores on the OAS instrument revealed that the level of adjustment to a colostomy tended to be moderate to low. One-third of respondents (33.3%) were found to have a low level of adjustment and scores of 63.6% of our participants indicated a moderate level of adjustment. Only 3.1% of the patients achieve a high level of adjustment. Ostomy adjustment was found to be related to self-care ability and social support ($r = 0.33$, $P < .05$; $r = 0.21$, $P < .01$, respectively). Univariate analysis revealed multiple factors associated with adjustment to a colostomy including occupation, payment mode of medical treatment, stoma self-care, participating in an ostomy support group, concerns about odor, and patients' and their family members' antipathy to their stoma (Table 1).

TABLE 1.

Univariate Analysis of Adjustment to an Ostomy, Self-care Ability, and Social Support Level in 129 Persons Living With a Colostomy

	Adjustment	
Variables	**F/*t***	***P***
Occupation	2.47	<.05
Source of support for medical costs	3.85	<.05
Ability to care for the colostomy	3.33	<.05
Participation in an ostomy support group	3.13	<.05
Patient's acceptance of the stoma	16.32	<.01
Spouse's acceptance of the stoma	21.75	<.01
Other family members' acceptance of stoma	6.83	<.01
Concerns about odor	10.99	<.01
Patients' antipathy toward stoma	18.26	<.01
Spouses' antipathy toward stoma	21.41	<.01
Other family members' antipathy toward stoma	29.87	<.01

Multivariate Analysis

A multiple regression analysis was completed using adjustment as the dependent variable. The spouse's acceptance of the ostomy, the patient's antipathy toward the stoma, their ability to care for the stoma without regular assistance, and presence of stomal or peristomal complications were found to significantly influence adjustment to their colostomy (Table 2).

Discussion

Results from this study revealed moderate to low adjustment to the ostomy among the vast majority of participants (96.9%). These data represent a lower level of adjustment to a colostomy that was reported by some researchers based in the United States or Western Europe,[21,27,28] but a comparable level of adjustment when compared to the findings of Piwonka,[10] who is based in South America. We believe that regional or cultural factors may influence overall adjustment to a colostomy. Participants in the studies that reported higher overall adjustment than our respondents were based in the United States and Sweden. In contrast, the 66 persons with colostomies who participated in Piwonka's study were from Santiago, Chile.

Multivariate analysis revealed that perceived spousal acceptance of the ostomy, the individual's antipathy toward the ostomy, self-care ability, and presence of peristomal complications were associated with a positive adjustment toward a colostomy. We found that nearly

TABLE 2.

Regression Analysis of Factors Affecting Adjustment to a Colostomy

Variables	Variable Order	Multiple Relative Sequence, *R*	Coefficient of Determination, R^2	Partial Regression Coefficient, β	Standard Partial Regression Coefficient, β	*P*
Adjustment				94.17		<.01
	Spouses acceptance of colostomy	0.6	0.36	−17.44	−0.44	<.01
	Patients' antipathy toward colostomy	0.67	0.45	10.32	0.31	<.01
	Self-care ability	0.71	0.5	0.25	0.24	<.01
	Stomal or peristomal Complications	0.74	0.54	7.92	0.19	<.05

40% of respondents believed that their spouses did not accept their ostomy. The negative correlation between spousal acceptance and patient adjustment to an ostomy is supported by the results of both Gloeckner[29] and Persson and colleagues,[30] who reported that spousal acceptance of an ostomy is strongly related to adjustment.

Approximately two-thirds of our participants were able to manage their colostomies without regular assistance, which is similar to findings reported by other researchers who evaluated adjustment to a colostomy.[13,14,31] These studies also revealed that the ability to self-manage their colostomy was associated with positive adjustment to a colostomy.

Study findings also revealed that 35.66% of respondents experienced stomal or peristomal complications. This is somewhat higher than that reported by Duchesne and colleagues,[32] who reported a 25% complication rate, but it is within the range of stomal and peristomal occurrence rates reported among studies based in China.[33] We postulate that experiencing stomal or peristomal complications impairs adjustment to an ostomy owing to the physical and psychosocial distress they produce.

Even though multivariate analysis did not find a statistically significant association linking social support, participation in an ostomy support group, and adjustment to the stoma, univariate analysis and our clinical experience suggest that such a relationship may exist. This hypothesis is supported by the results of other studies.[34-36]

Limitations

Study findings are based on a convenience sample of persons living in a single region in China (Guangzhou). Further research is indicated to confirm our findings, including studies based in multiple regions of the world to determine what influence geography may exert on adjustment to an ostomy. In addition, adjustment to a colostomy is a dynamic process, but our study used a cross-sectional design in a group of patients who had lived with a colostomy variable periods of time from as little as 1 month to 37 years. Additional research is needed to evaluate the process of adjustment to a colostomy over time.

Conclusions

We evaluated ostomy adjustment in a group of 129 Chinese patients and found that the level of adjustment was moderate to low. Multivariate analysis found that self-care ability, spousal acceptance of the ostomy, antipathy toward the colostomy, and occurrence of stomal or peristomal complications were significantly related to ostomy adjustment.

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- Original research reports comparing surgical outcomes for patients who undergo preoperative stoma site marking by a WOC nurse compared to patients who do not.
- Case studies, case series or original research reports focusing on stomal or peristomal complications.
- Case studies, case series or original research reports focusing on other potential sequelae of ostomy surgery including physical manifestations such as low back pain or psychosocial manifestations such as depression, altered sexual function or embarrassment.
- Original research reports confirming or challenging the assertions of the ongoing WOCN Ostomy Consensus Session including ostomy pouch wear time and minimum standards for immediate postoperative education of patient and family.