



Trabajo Original

Epidemiología y dietética

Assessment of the importance of ostomy patients' understanding of dietary and lifestyle recommendations

Evaluación de la importancia de la comprensión de las recomendaciones dietéticas y de estilo de vida en los pacientes con ostomía

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Abstract

Objective: the objective of our study was to evaluate the level of understanding of ostomy patients regarding lifestyle, diet, and high output stoma (HOS) management recommendations provided by healthcare professionals.

Method: a prospective study to follow up ostomy patients at nutritional consultations was designed. The follow-up process was performed 7-10 days after hospital discharge and again one month later. At the first visit, patients were instructed in the detection and management of HOS. At the second visit, the level of understanding of the training received was assessed using an evaluation questionnaire. A descriptive analysis of the answers to each of the questionnaire's items was performed. Fisher's exact test was used to evaluate differences in the level of understanding recorded with the questionnaire.

Results: a total of 35 patients were recruited; 71.4 % did not provide correct answers to all the questions. There were no significant differences in the correctness of the answers to the questionnaire according to education level.

Conclusions: many patients do not adequately understand the information provided by healthcare professionals and this could have a negative impact on the incidence of clinical complications.

Keywords:

Ostomy. Ostomy education. Educational strategies.

Resumen

Objetivo: el objetivo de nuestro estudio fue evaluar el nivel de comprensión de los pacientes ostomizados con respecto a las recomendaciones sobre estilo de vida, dieta y manejo de la ostomía de alto débito (OAD) proporcionadas por los profesionales de la salud.

Método: se diseñó un estudio prospectivo para el seguimiento de pacientes ostomizados en consulta de nutrición. El seguimiento se realizó 7-10 días después del alta hospitalaria y a continuación un mes después. En la primera visita, se instruyó a los pacientes sobre la detección y el tratamiento de OAD. En la segunda visita se evaluó el nivel de comprensión de la formación recibida mediante un cuestionario de evaluación. Se registraron las respuestas dadas a cada uno de los ítems del cuestionario y se realizó un análisis descriptivo. Para evaluar las diferencias en el nivel de comprensión registrado con el cuestionario se utilizó la prueba exacta de Fisher.

Resultados: se reclutaron 35 pacientes. El 71,4 % no respondieron correctamente a todas las preguntas. La exactitud de las respuestas al cuestionario no mostró diferencias significativas según el nivel educativo.

Conclusiones: un gran número de pacientes no comprende adecuadamente la información que ofrecen los profesionales sanitarios y esto podría tener un impacto negativo en el desarrollo de complicaciones clínicas.

Palabras clave:

Ostomía. Educación sobre ostomía. Estrategias educativas.

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INTRODUCTION

Patient non-adherence to medical treatment recommendations from healthcare professionals is a major concern requiring additional research that would guide the implementation of strategies aimed at improving the level of patient compliance and commitment with the instructions they receive (1).

In 2003, the World Health Organization defined adherence as "the extent to which a person's behaviour —taking medication, following a diet, and/or executing lifestyle changes— corresponds with agreed recommendations from a health care provider" (2). Although nutritional therapy and lifestyle recommendations were included in this definition, current literature examining the degree of patient adherence or compliance with these recommendations is scarce (3).

Studies on medication non-adherence have identified certain patient-related characteristics that have an impact on this lack of adherence, such as age, level of education, social environment, and difficulties in understanding instructions for the management of their disease (4). Additionally, lack of communication between patients and healthcare professionals, limited consultation times, and message complexity have a negative effect on adherence (4).

The incidence of complications associated with defunctioning stoma formation in surgical patients is high (5). Dehydration and malnutrition are among the most common complications and are both intimately associated with high output stomas (HOS). Although a short self-limited high output during the first postoperative days is normal (6), an unremitting or continuous occurrence of this process requires a specific management given the associated complications, which involves identifying the cause and performing a series of actions to control it adequately (7). However, the cause is often not easy to identify. HOS triggering factors that have been described include the development of short bowel syndrome resulting from extensive intestinal resections, a flare of inflammatory bowel disease, diabetes, sudden discontinuation of drugs such as opioids or corticosteroids, or the use of prokinetics (8). Abdominal infections or obstructions have also been described as triggering factors. Furthermore, in their endeavour to establish models to predict the risk of readmissions from HOS, Chen et al. (5) identified age \geq 65 years, female sex, arterial hypertension, and short postoperative hospital stay as predictive factors.

Many interventions aimed at reducing the incidence of HOS and improving patient nutritional status (9), such as scheduling early postoperative visits performed by multidisciplinary teams or implementing aggressive educational programmes, have been developed. These measures have been reported to have had positive outcomes on the reduction of associated readmission rates in certain studies (9).

However, not all interventions have achieved the objective of reducing readmission rates through the implementation of educational programmes, emphasizing the need for new educational strategies (10). This, together with the scarcity of published evidence on the evaluation of the level of understanding and compliance with dietary recommendations in this type of patients,

highlights the need to design validated tools to assess the impact of educational interventions on health outcomes.

The objective of our study was, firstly, to evaluate the level of understanding of ostomy patients regarding lifestyle, diet, and high output stoma management recommendations provided by healthcare professionals during a nutritional consultation and, secondly, to analyse the impact of the level of understanding on the occurrence of this type of ostomy-related complications.

MATERIALS AND METHODS

PATIENTS

The study population consisted of \geq 18 year-old patients who had undergone bowel resection with ostomy.

STUDY DESIGN

A prospective study to follow up ostomy patients at nutritional consultations in a 350-bed hospital was designed.

Based on our centre's clinical guidelines, all patients undergoing gastrointestinal resection requiring a defunctioning stoma were registered and followed up during the postoperative period to facilitate diet progression and detect potential alterations in stoma function (11). At discharge, all patients tolerated a low-residue diet. However, given the complexity of adapting to the diet after surgery and the high risk of developing complications, our hospital has defined and implemented a nutritional protocol for ostomised patients which consist of a comprehensive follow-up in outpatient clinics following hospital discharge to rapidly identify and treat any electrolyte and/or nutritional problems that may appear.

The follow-up process was performed early after hospital discharge and again one month later, as follows:

- The first follow-up visit was performed 7-10 days after hospital discharge. The patients' nutritional history was obtained and their nutritional status and dietary progression evaluated.
- In addition, patients were instructed in the detection and management of HOS. An information leaflet was provided (Annex I), its suitability assessed using the Suitability Assessment of Materials (SAM) scale, and its readability evaluated using the INFLESZ (Flesch- Szigriszt index) formula (12,13).
- The second visit took place one month later, with a further assessment of nutritional status and dietary progression, and the recording of any occurrences of HOS. The level of understanding of the training received during the first visit was also assessed using a five-question evaluation questionnaire with dichotomous (Yes/No) responses (Fig. 1).

Demographic characteristics (age, sex, education level, employment status), underlying disease leading to the surgical intervention, length of resection, type of stoma, and presence of HOS after surgery were collected from electronic medical records.

ANNEX I. INFORMATION LEAFLET

USE PHARMACY REHYDRATING SOLUTIONS SUCH AS:



- ❖ Sueroral®, Isotonar®, Bebesales®
- ❖ (ALTERNATIVELY USE: 1 litre of water, two spoonfuls of sugar, half a teaspoon of salt and of bicarbonate, and the juice of one medium-size lemon)
- ❖ Isotonic beverages (Acuarious®, Isostar®, Gatorade®, Santiveri®)

Subsequently, incorporate rice water (50 g of rice and one large peeled carrot, one litre and a half of water with salt, boil for 20 minutes on medium heat).

On no account must these solutions replace meals

Please follow the nutritionist's instructions for these cases at all times

❖ IF IT LASTS FOR MORE THAN THREE DAYS, VISIT YOUR FAMILY DOCTOR

The addition of medication may be required to reduce the speed of bowel transit, or improve absorption.



WEEK	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
6							
5							
4							
3							
2							
1							

Table. DAILY OUTPUT MONITORING (please write the number of bags you empty throughout the day)



OSTOMY OUTPUT MONITORING

Patient information



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WHAT IS OUTPUT?

It is the bowel content that is discharged through the stoma and collected in the ostomy bag.

It is important to pay attention to the characteristics of the output to detect potential anomalies in bowel transit:

- AMOUNT
- FREQUENCY
- CONSISTENCY



¿WHEN SHOULD I CONSIDER I HAVE A HIGH OUTPUT?

Under normal conditions, the output usually ranges from 500 mL to 1000 mL daily. A high output is considered in cases when it is greater than 2000 mL for more than 48 hours or when the output is greater than 1000 mL for 3-5 days.



HOW DO I DETECT A HIGH OUTPUT?

In order to monitor your output, it is important that you know the volume of the bag you are using.

You can fill up an ostomy bag at home and then measure the volume so you have a reference volume to calculate your output.

If you detect a high volume, you should closely monitor your output during the following 48-72 hours to determine if you meet the high output criteria we have established.



WHAT HAPPENS IF I HAVE A HIGH OUTPUT?

Because large amounts of water and salts are lost with a high output, dehydration is one of the main consequences. Clear signs of fatigue and muscle weakness may be associated with dehydration.

The absorption of the food ingested is affected by this situation. If the high output continues for an extended period of time, it may cause weight loss and significant physical impairment.



¿WHAT SHOULD I DO IF I HAVE A HIGH OUTPUT?

- ❖ You should reduce the total daily intake of fluids: one litre maximum, taken in small amounts
- ❖ Try not to drink during meals
- ❖ Use rehydration solutions (see below) or, as a last resort, water.
- ❖ Always avoid herbal teas, coffee, soft drinks, and fruit juice when you have a high output. These drinks will make it worse.

ASSESSMENT QUESTIONNAIRE
MR No.: NAME AND SURNAME: DATE:
1. - Is it important to monitor your output daily? <input type="checkbox"/> Yes <input type="checkbox"/> No
2. - If my daily output is greater than 1500mL, does it mean I am having a high output? <input type="checkbox"/> Yes <input type="checkbox"/> No
3. - If I am having a high output, I should take more than a litre of fluids by mouth, mainly soft drinks and herbal teas, and always at meals. <input type="checkbox"/> Yes <input type="checkbox"/> No
4. - If my output is high, in addition to being careful with my fluid intake, should I make some changes to my diet? <input type="checkbox"/> Yes <input type="checkbox"/> No
5. - If my output remains high for three days despite drinking less than one litre of fluids and changing my diet, should I seek medical advice? <input type="checkbox"/> Yes <input type="checkbox"/> No

Figure 1.

The assessment questionnaire.

The answers to each of the questionnaire's items were collected and analysed.

STATISTICAL ANALYSIS

A descriptive analysis was performed using measures of central tendency, dispersion, and position for quantitative variables, and frequency distribution for qualitative variables. To evaluate differences in the level of understanding recorded with the questionnaire, the Mann-Whitney U-test was used for quantitative variables, and Fisher's exact test for qualitative variables. Statistical significance level was set at $p < 0.05$.

RESULTS

The study population consisted of 35 consecutively recruited patients. Demographics are shown in table I.

EDUCATIONAL MATERIAL EVALUATION

The evaluation of the information leaflet using the 22 factors contained in the SAM scale provided a 75 % score, and therefore the quality of the material was considered superior (70-100 %). Text readability was assessed with the INFLESZ formula, and the level of difficulty was considered normal.

Table I. General characteristics of the study population (n = 35)

	n (%)
<i>Gender</i>	
Male	27 (77.1 %)
Female	8 (22.9 %)
<i>Underlying disease</i>	
Malignant	30 (85.7 %)
Benign	5 (14.3 %)
<i>Length of resection (cm)</i> (mean ± SD)	21.5 ± 22.1
<i>Type of stoma</i>	
Colostomy	20 (57.1 %)
Ileostomy	15 (42.9 %)
<i>Duration of the stoma</i>	
Provisional	21 (60 %)
Permanent	14 (40 %)
<i>High-output stoma at admission</i>	2 (5.7 %)
<i>Education level</i>	
No qualifications/Primary-level education	15 (43 %)
Secondary-level education/University education	20 (57 %)
<i>Employment status</i>	
Employed	6 (17 %)
Unemployed	3 (9 %)
Retired	20 (57 %)
Sick leave	4 (11 %)
Family carer/Housekeeper	2 (6 %)
Age (years) (mean ± SD)	67.9 ± 11.1 years

HIGH OUTPUT MANAGEMENT: LEVEL OF UNDERSTANDING

Of all the patients, 71.4 % (n = 25) did not provide correct answers to all the questions. Table II shows the answers to the different items of the questionnaire.

Correctness of the answers to the questionnaire showed no significant differences between the group of patients with secondary/university education and the group without formal education or with primary education ($p = 1.00$).

DISCUSSION AND CONCLUSION

Seventy percent of patients provided incorrect answers to some of the items of the questionnaire. These results evidence a lack of understanding of the information provided during the nutritional consultation and are consistent with the findings of other studies on treatment adherence, which have shown that the limitations of certain patients to understand the characteristics of their disease and the information received determines their degree of treatment compliance (1,4).

Table II. Distribution of answers to the questionnaire's items

	Q- 1	Q- 2	Q- 3	Q- 4	Q- 5
Correct answer % (n)	88.6 % (31)	68.6 % (24)	48.6 % (17)	68.6 % (24)	65.7 % (23)
Incorrect answer % (n)	11.4 % (4)	14.3 % (5)	28.6 % (10)	14.3 % (5)	17.1 % (6)
Unanswered % (n)	-	17.1 % (6)	22.9 % (8)	17.1 % (6)	17.1 % (6)

In line with this, some authors have suggested that the level of education may be a risk factor associated with non-adherence (2,13,14). However, our analysis did not identify patient level of education as a determinant of the results obtained in the questionnaire. Other studies have associated the lack of understanding not so much with education level but with a lack of commitment of the patient (6). Distrust in treatment efficacy, low motivation to recover health, and/or lack of knowledge on the consequences are all factors that may have an impact on adherence (1,15).

In addition to the patient-related factors, certain characteristics of the healthcare professionals and settings such as lack of written instructions or difficulty of the language used may compromise adherence to the instructions provided. Several tools are available to assess educational material or health information for adults (12,13). In our case, the analysis of the material prepared did not reveal a high level of complexity. However, in light of the results obtained and in line with other studies (16), our objectives regarding understanding and patient commitment with the information provided were not met. Thus, it would be beneficial to simplify the material provided to lower the level of complexity.

Furthermore, although a large number of studies on medication adherence and associated factors are readily available (1,16), evidence on adherence in the field of clinical nutrition and lifestyle and dietary recommendations is scarce (3).

The occurrence of ostomy-related complications, in particular dehydration and malnutrition secondary to HOS, can be largely prevented through patient self-care education and training (9).

Several authors have described educational programmes based on multidisciplinary teams and aimed at reducing HOS-related hospital readmission rates (9,10,18,19).

Although our study has several limitations such as the use of a non-validated measuring tool and a small sample size for subgroup comparisons, our findings reveal that new validated tools assessing the quality of clinical interventions performed to improve patient understanding and commitment with the recommendations provided are required.

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