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ALGORITHM FOR INDICATION OF COLLECTOR EQUIPMENT FOR STOMAS

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ABSTRACT

Objective: To report the experience of a team of enterostomal therapists in the construction of an algorithm for the indication of collecting equipment for elimination stomas. **Method:** Experience report, from January 2018 to September 2019, on the process of building an algorithm to indicate collecting equipment for elimination stomas. **Results:** Based on certain clinical characteristics (assessment parameters) and the categorization of collecting equipment (solution), an algorithm was developed to indicate collecting equipment for elimination stomas. **Conclusion:** It is expected that this instrument can help nurses in their professional practice regarding the choice of collecting equipment and the construction of clinical protocols.

DESCRIPTORS: Algorithms. Ostomy. Enterostomal therapy.

ALGORITMO DE INDICAÇÃO DE EQUIPAMENTO COLETOR PARA ESTOMIAS

RESUMO

Objetivo: Relatar a experiência de uma equipe de enfermeiros estomaterapeutas na construção de um algoritmo para a indicação de equipamento coletor para estomias de eliminação. **Método:** Relato de experiência, do período de janeiro de 2018 a setembro de 2019, sobre o processo de construção de um algoritmo para indicação de equipamento coletor para estomias de eliminação. **Resultados:** A partir de determinadas características clínicas (parâmetros de avaliação) e da categorização dos equipamentos coletores (solução), foi desenvolvido um algoritmo para indicação de equipamento coletor para estomias de eliminação. **Conclusão:** Espera-se que esse instrumento possa auxiliar os enfermeiros na sua prática profissional quanto à escolha do equipamento coletor e na construção de protocolos clínicos.

DESCRITORES: Algoritmos. Estomia. Estomaterapia.

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ALGORITMO PARA LA INDICACIÓN DE EQUIPOS COLECTORES PARA ESTOMAS

RESUMEN

Objetivo: Relatar la experiencia de un equipo de enfermeros estomaterapeutas en la construcción de un algoritmo para la indicación de equipos recolectores para estomas de eliminación. **Método:** Informe de experiencia, de enero de 2018 a septiembre de 2019, sobre el proceso de construcción de un algoritmo para indicar equipos colectores para estomas de eliminación. **Resultado:** A partir de ciertas características clínicas (parámetros de evaluación) y la categorización de los equipos colectores (solución), se desarrolló un algoritmo para indicar equipos colectores para estomas de eliminación. **Conclusión:** Se espera que este instrumento pueda ayudar a los enfermeros en su práctica profesional en cuanto a la elección de equipos de recolección y la construcción de protocolos clínicos.

DESCRIPTORES: Algoritmos. Estomía. Estomaterapia.

INTRODUCTION

Care for the person with a stoma involves several factors, and care management is fundamental for the rehabilitation process and also concerns the maintenance of the integrity of the peristomal skin through the evaluation of the person with a stoma and the indication of the appropriate collection equipment for individual needs[1]. Considering the importance of the peristomal skin, it is essential to establish a secure and durable seal of protection between the skin and the adhesive base of the equipment. This should be the guiding principle in risk management and prevention of peristomal skin complications, directly influencing the performance of activities of daily living and the quality of life of this population[2].

Competence and skill in managing this specialized care is a challenge for health professionals, who seek to provide the best clinical results. Educational interventions are also essential and extremely effective in controlling peristomal skin complications, contribute to reducing the length of hospital stays and encourage self-care[1].

Nurses can favor their clinical conduct by using risk assessment tools in the care of people with a stoma, such as the assessment of skin conditions, complications and results reported by patients. Some instruments can be used to assess peristomal skin, such as *Studio Alterazioni Cutanee Stomali (SACS)* and *Canadian Ostomy Assessment Guide (COAG)*. The *SACS* instrument helps in the evaluation of the peristomal skin, using the topographic location and classification of the lesions.

The main objectives of the study that led to the development of the COAG were to assess changes in the condition of the peristomal skin, the financial impact on the total cost of ostomy care products, the patient's general perception of well-being and acceptance of the selected collection equipment and the use of COAG as a clinical tool for non-specialized nurses.

Although there are assessment instruments, there is no consensus among specialists on the most appropriate one. The instruments use different ways to describe the severity of peristomal skin complications, which makes it difficult to standardize terminology and compare results[3-4].

During clinical practice and the exchange of experiences with specialized or non-specialized nurses, during training carried out by a group of technical advisors from a company specialized in ostomy products, it was possible to identify important gaps for better management of the assistance provided in specific programs for health care of the person with an ostomy.

Some reports of difficulties observed during the evaluation and indication of collection equipment to prevent leaks and the lack of knowledge about the characteristics of the adhesive bases (composition and/or structure) suggest

a negative impact on the assistance provided to the person with a stoma, such as the lack of effective protection of the peristomal skin and the permanence of the product for an inadequate period. Reports of this nature are also found in groups of people with ostomy or even during home visits carried out by patient education consultants of a reception program.

In this context, it is also important to highlight the experience of a specialist nurse in this group of technical advisors, who is also a person with a stoma. Because she knows the particularities of collector equipment, she is able to report the difficulties in the search for a better adjustment to its characteristics. The presence of leaks and skin lesions, as well as the short durability of the collection equipment were frequent episodes in her trajectory as a person with a stoma until she found the collection equipment that suited her demands and needs.

People with stomas often report that the most common problem related to collection devices is leaks, especially among those with increased body mass index and skin folds[4]. Skin contact with fecal or urinary effluent causes lesions in the peristomal region called dermatitis, which may be related to the incorrect indication of the collection equipment[5-6].

However, new technologies are available for the care of people with an ostomy and are designed to protect the peristomal skin, be light, odor-proof and low maintenance, that is, with acceptable wear time.

The most appropriate choice for each situation and person must permeate the care process so that the equipment protects the peristomal skin, guarantees sealing and safety, favoring the rehabilitation process6.

Faced with this information and experiences, a team of stoma therapist nurses and technical advisors felt motivated to seek instruments for better positioning and indication of their portfolio of company products and, thus, contribute to favoring the care practice and minimize the problems encountered in the indication of the most appropriate collection equipment for each situation[7].

Thus, this group initiated studies and discussions that culminated in the development of an algorithm for indicating the collection equipment to be used in the professional practice of nurses who care for people with ostomy.

This tool is intended to assist in the clinical practice of health professionals, especially nurses, during the evaluation of the person with a stoma and indication of the collector equipment, which contributes to facilitating the process of adaptation and rehabilitation of people with a stoma and, consequently, favoring the management of care and the optimization of institutional, human and financial resources, increasing the resolution of the health team and people with a stoma.

OBJECTIVE

To report the experience of a team of stomal therapist nurses and technical advisors from a company in the construction of an algorithm for the indication of a collection device for elimination ostomies.

METHODS

This is an experience report on the construction process of an algorithm for indicating collector equipment for elimination ostomies from January 2018 to September 2019. An experience report contributes to the production of knowledge, since, in addition to the description of the lived experience, allows a critical-reflective analysis with theoretical-methodological support[8].

Algorithms are tools consisting of a finite sequence of well-defined instructions, carried out systematically. In health, these instruments are simple, direct and easily accessible, presenting themselves as maps or serving as guides for decision making[9].

The algorithm for indicating collector equipment for elimination ostomies was developed by 10 stoma therapist nurses (technical advisors and those responsible for the reception program for people with ostomy) and professionals from the marketing and sales team of the company Convatec do Brasil.

Initially, an internal study was carried out of the technical sheets, leaflets and industrial information on the technologies and structural differences of the adhesive bases in the company's portfolio.

Subsequently, a systematic review of the literature was carried out in order to seek scientific evidence about the indication of collection equipment for elimination ostomies. Publications of the type of consensus and guidelines were found that guide the recommendations for the use of these collection equipment, however it was verified that there is a lack of research on evaluation and indication of products, as well as standardized definitions regarding the structure of adhesive bases, classification of convexity and its indications.

With this information in hand, group discussions were conducted, considering the experience of clinical practice and use of the collection equipment, the group established the parameters that were necessary for the construction of the algorithm.

A sketch of the algorithm was designed by the team, which, after discussions, reached a final model that was forwarded to the design team for formatting and visual presentation.

RESULTS

Initially, the algorithm was produced based on the characteristics of the company's collector equipments:

• Adhesive base: stiffness, flexibility, depth, stress location, compressibility and slope/profile, flat or convex[3].

• Types of collector equipment:

- One-piece flat equipment: was considered a one-piece equipment with flat bases that can be cut and molded.
- Flat 2-piece equipment: was considered a two-piece equipment with flat bases that can be cut and molded.
- 1-piece moderately convex equipment: was considered a one-piece equipment with soft convex, cuttable, flexible bases and medium depth (3 to 6.35 mm) to deep (> 6.35 mm)[10].
- 2-piece moderately convex equipment: was considered a two-piece equipment with soft, moldable convex bases and medium* depth (3 to 6.35 mm) to deep* (> 6.35 mm)[10].
- 1-piece rigid convex equipment: was considered an one-piece equipment with bases of firm convexity, pre-cut, rigid and with deep depth* (> 6.35 mm)[10].
- 2-Piece Rigid Convex Apparatus: was considered a two-piece rigs with firm, pre-cut, rigid convex bases and deep depth* (>6.35 mm)[10].

Such characteristics contribute to a better indication of a collection device, aiming to optimize its effectiveness in clinical practice.

After categorization of the products, three main ostomy evaluation parameters were selected for the indication of the collection equipment: ostomy height, drainage angle and abdominal contour[1].

With the definition of the evaluation parameters and the categorization of the collection equipment, an instrument was developed to help health professionals in a practical way to make the most assertive choice when evaluating the person with a stoma.

The instrument created to indicate the collection equipment was used by crossing the three parameters: ostomy height, drainage angle and abdominal contour and possible solutions (collection equipment category) considering each possible care situation: flat adhesive base, moderate convex or rigid convex, 1 or 2 pieces.

Based on the clinical characteristics (evaluation parameters) and the collection equipment (solution), a tool was developed a priori consisting of a rotating disk indicating technologies in order to cross all this information and give a possible indication of which collection equipment would be the most suitable choice according to the evaluated characteristics (Fig. 1).

However, the stoma care nurses and the company's marketing team concluded that it was not the best model. Thus, after internal discussions, a new presentation was proposed in the form of a table, with a simpler and more visual identity, in which, from the crossing of parameters, starting from the height of the ostomy (step 1) and drainage angle (step 2) , the type of adhesive base (step 3) most suitable for the situation would be indicated: flat,

moderately convex or rigidly convex. It also considers the evaluation of the abdominal contour (step 4), which is related to conformability, especially with regard to the flexibility of the collection equipment. Thus, this last parameter directs to the type of collector equipment, whether one or two pieces. The four steps of using this algorithm can be seen in Figure 2.

Figure 1. Protocol *Ostomy Solutions* tool composed of a technology indication disc that indicates the most appropriate collection equipment for the patient.

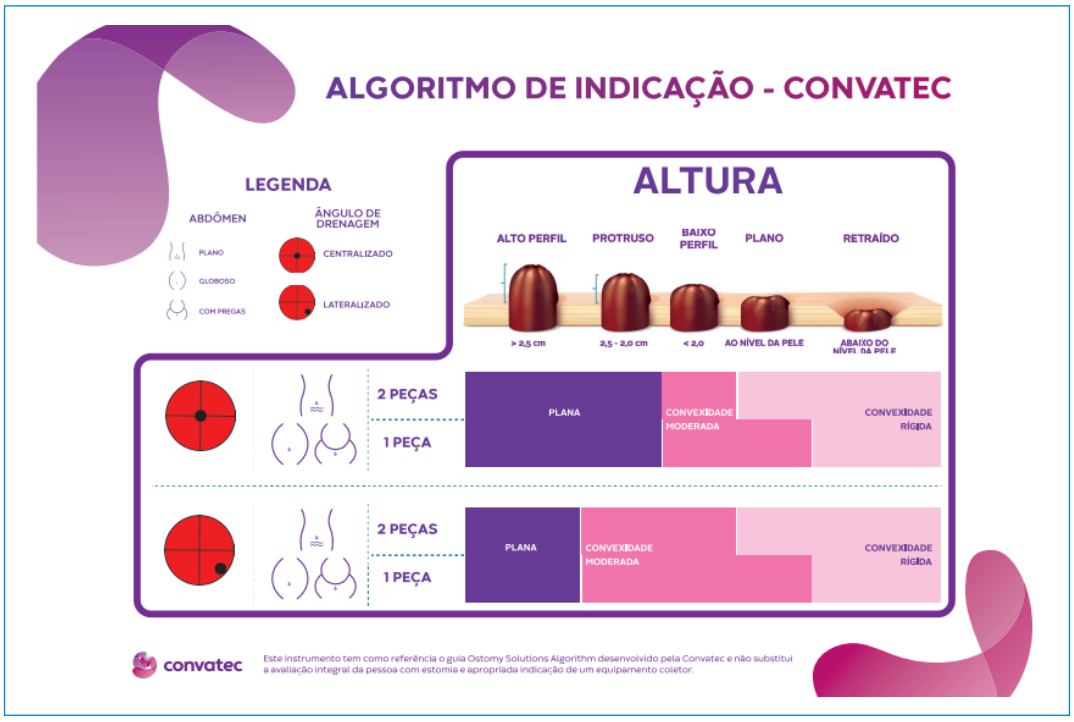

Figure 2. Indication Algorithm – Convatec.

Thus, the first algorithm for indicating collection equipment for elimination ostomies was developed, which was patented by the company that created it and, since then, has been undergoing updates in terms of nomenclature and graphic design. In 2022, it gained a digital format, which made the algorithm more dynamic and easily accessible[11].

DISCUSSION

A decision-making algorithm facilitates the understanding of health professionals in identifying possible alternative paths to be followed so that certain defined purposes can be achieved. Thus, interactive analyzes of the results are presented in a simple and clear way, through visual observation, making it easier to understand the problem and with a high degree of interpretability[12].

This algorithm helps in decision-making during the evaluation of a person with a stoma and the indication of the collector equipment, favoring care. It was built from important aspects that are considered fundamental for assertive care.

The adhesive base helps keep the collection equipment connected to the ostomy and is essential to protect the skin surrounding the ostomy from contact with fecal and/or urinary effluent. Adhesive bases are flat or convex and may or may not be connected to the collection bag.

Considering the importance of the peristomal skin, the correct choice of adhesive base is necessary to provide peristomal skin protection. In this algorithm, flat adhesive bases and two types of convexity were considered, as well as one- and two-piece collection equipment.

The flat base has a level surface and is ideal for an ostomy that projects above the surface of the peristomal skin and is free of folds and creases. It is an option for people who have a protruding ostomy. For its indication, factors such as type of ostomy, location and evaluation of the abdomen were also considered[3].

Moderate convexity is that in which the pressure is distal to the ostomy, that is, there is a hydrocolloid plateau that can be cut or molded between the rigid convex rim and the ostomy fitting opening, characterizing it as soft convexity when considering the location of tension and compressibility[3]. Rigid convexity is that in which the pressure is proximal to the stoma, that is, there is no hydrocolloid plateau between the rigid convex rim and the opening for the stoma; in this type

of convexity, the rigid rim determines the diameter of the pre-cut opening of the adhesive base, thus characterizing a firm convexity, considering the location of tension and compressibility[14].

Convex bases are generally indicated to prevent and manage leaks, being indicated for retracted or flat ostomies or an ostomy surrounded by peristomal skin that has creases and folds[3,13].

The type of abdomen should also be considered, as it corroborates the effectiveness of the equipment. Thus, features such as scars, retractions, skin folds, skin turgor, and abdominal contour should be assessed with the abdomen exposed and with the person in sitting, bending over, standing, and lying positions[14].

In this algorithm, the drainage angle and the height of the ostomy are also decisive items for decision making. Such parameters related to the ostomy, in addition to being among the literary recommendations for the practice in the evaluation and indication of the collection equipment14,were considered by the authors, in clinical practice, as major influencers in the risk management of peristomal lesions. The ideal drainage angle is the one positioned in the center of the ostomy, but it can be located laterally.

The height of the ostomy also contributed to the construction of the algorithm. To reduce skin complications due to infiltration of the effluent between the adhesive base and the skin, ideally, the protrusion of the ostomy should be between 3 and 5 cm, favoring the use of a flat adhesive base and the drainage of the effluent into the collection bag. For retracted or flat stomata, the recommendation is to use convexity; in this case, the indication of a convex adhesive base in which the greatest tension is located as close as possible to the stoma should be considered[3,13,15].

Based on these factors, the collector equipment indication algorithm was built. It is important to emphasize that the use of this tool does not exclude the need for a comprehensive assessment of the individual, based on the physical examination and individual particularities.

CONCLUSION

It was possible to build a tool for indicating a collection device for people with an elimination ostomy. It is expected that this instrument can help nurses during professional practice and in the construction of clinical protocols.

New validation studies are needed so that the instrument can be improved and ensure its efficacy and effectiveness.

AUTHORS' CONTRIBUTION

Conceptualization: Seifert SKM, Pereira LA, Sponton ES; **Methodology:** Seifert SKM, Pereira LA, Sponton ES; **Investigation:** Seifert SKM, Morais F, Pereira LA, Sponton ES; **Writing – First version:** Seifert SKM, Morais F, Pereira LA, Sponton ES; **Writing – Reviewing & Editing:** Seifert SKM, Pereira LA, Sponton ES; **Acquisition of Financing:** Seifert SKM, Pereira LA, Sponton ES; **Resources:** Seifert SKM, Pereira LA, Sponton ES; **Supervision:** Seifert SKM.

DATA AVAILABILITY STATEMENT

Not applicable.

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