



## Research Article

# Psychological assistance to ostomate patients. Proposal of intervention protocol (Perrotta-Guerrieri Psychological Care for Ostomy Patients, PCOP) and clinical questionnaire (Perrotta-Guerrieri Psychological Care for Ostomy Patients Questionnaire – first version, PCOP-Q1)

Giulio Perrotta<sup>1\*</sup> and Emanuele Guerrieri<sup>2</sup>

<sup>1</sup>General and Emergency Surgical Clinic, Azienda Ospedaliero-Universitaria "Ospedali Riuniti", Ancona, Italy

<sup>2</sup>Physician, "Emergency Medicine-Urgency", Polytechnic University of Marche, Via Tronto n. 10 / a, 60126, Torrette - Ancona, Italy

Received: 17 March, 2022

Accepted: 28 March, 2022

Published: 30 March, 2022

\*Corresponding author: Dr. Giulio Perrotta, General and Emergency Surgical Clinic, Azienda Ospedaliero-Universitaria "Ospedali Riuniti", Ancona, Italy  
E-mail: [info@giulioperrotta.com](mailto:info@giulioperrotta.com)

ORCID: <https://orcid.org/0000-0003-0229-5562>

**Keywords:** Colostomy; Quality of life; Changes; Body image after surgery; Stoma; Altered body image; Nursing role; Patient's experience; The impact of stoma; Negative thoughts; Ostomy; Ileostomy; Psychological adjustment; Urostomy

**Copyright License:** © 2022 Perrotta G, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

<https://www.peertechzpublications.com>



Check for updates

## Abstract

Ostomy patients are subject to significant negative psychological impact, affecting their quality of life in all respects (physical, psychological, social, economic, and spiritual), especially if they are not properly constructed or if there are complications during the recovery phase. In the light of published research and studies, the main problems are as follows: a) alteration of body image; loss of sphincter control; b) odor, leakage, and complications related to the stoma; c) impairment of sexuality; d) alteration of nutrition and sleep; e) anxiety, depression, and loneliness; embarrassment and shame; f) loss of control of the situation; drop in self-esteem; g) rejection; h) stigmatization; i) disinvestment in social activities; l) abandonment of work and sports activities; isolation; m) difficulties in couple relationships and social contacts. The psychological problems caused by ostomy can be avoided, or at least contained, by comprehensive care of the patient, both before and after the operation. In addition to purely technical care, teaching, accompaniment and constant support are the main components of care that can make a difference to how the patient will accept his or her ostomy. Setting the care only on the management of the physical dimension will hardly allow the person to integrate the ostomy into his life. The present work proposes a specific protocol of psychological intervention (*Perrotta-Guerrieri Psychological Care for Ostomy Patients*, PCOP), for all the clinical phases (pre-operative, operative, post-operative, follow-up) and a specific questionnaire (*Perrotta-Guerrieri Psychological Care for Ostomy Patients Questionnaire - first version*, PCOP-Q1) to be submitted to the patient which investigates the 9 subjective functions (physical, psychological, sexual, emotional, sentimental, work, family and social), in 45 items with a response on L1-5 scale, for the study of quality of life in the ostomised patient.

## Introduction and definitions

The term “ostomy” (from the Greek word “stoma”) means “opening” or “mouth” and indicates the result of a surgical operation which consists of attaching a section of the intestine or urinary tract to the skin, thus allowing organic material (feces and urine) to escape to the outside [1,2].

The placement (of an enterostomy or urostomy) entails a substantial modification of the person’s body plan and of the fecal and urinary elimination function, which involves not only their physical integrity but also and above all their psychological integrity. Moreover, the ostomised person encounters, especially in the early stages, numerous difficulties in managing the ostomy: in particular, in self- and object acceptance, in feeding and in organizing their daily life and cleaning activities. The specificity of the needs of these patients is extremely complex from care, clinical, and organizational points of view, since these needs impact both the individual and the community as a whole, using the healthcare system and the patient care and treatment processes.

For these people, therefore, specific care paths must be envisaged, after the ostomy has been packaged, and these must be closely interconnected with the organizational structures of the social and health care network.

The role of the psychologist then should be central in all phases of the healthcare intervention (pre-operative, operative, postoperative, and follow-up): preparing the patient and his/her family members for the change and the new challenges they will face; supporting the family members and the patient’s socio-environment; to work actively with the patient and family members, nurturing and reinforcing the processes of consciousness, awareness and acceptance, to alleviate states of anxiety and encourage a greater and more functional adherence to the emotional states and unconscious processes relating to needs, requirements and expectations, until verifying over time, continuously and progressively, that the patient is at ease and does not experience criticalities capable of destabilizing his or her new-found balance, through follow-up meetings.

An ostomy is therefore performed when there is no alternative to save the patient’s life. This does not mean, however, that it makes life easy for the patient or that he automatically and unconditionally accepts it.

It is the right of every person with an ostomy to “have a well-packed ostomy in an appropriate location so that it can be properly managed”. The choice of the most suitable location for fitting an ostomy is made in the preoperative design of the ostomy itself. Achieving a satisfactory quality of life for ostomates is the ultimate aim of the multi-professional healthcare team, which takes charge of various aspects: eliminating/controlling symptoms related to the disease, preventing/reducing postoperative complications, promoting self-management of the stoma and the underlying pathology (if still present).

Factors that support the physical, social and psychic recovery of the ostomate person include the surgical technique for packing the stoma; the location of the shunt; complete mastery in the management of the stoma; the adoption of a reliable effluent collection system; the presence of trained personnel and dedicated healthcare facilities of reference the application of the collection system in a functional way to contain the droppings and to prevent sudden and repeated detachment of the device, which can compromise not only skin integrity but above all social life and self-esteem; the prevention of certain stomal complications such as peristomal hernia, retraction, prolapse, and peristomal skin lesions; recovery of the patient’s autonomy and self-esteem.

## Clinical profiles

The customized patient is a subject who, due to a specific pathological condition of neoplastic, inflammatory, or traumatic type, has undergone the removal of the mechanisms of continence (anal canal, sphincters, rectal ampulla, bladder) and the attachment to the abdominal wall of a section of intestine (ileum, colon) and/or ureter; these are therefore external derivations [3].

The ostomy, however, being without a sphincter, is subject to continuous leakage of feces and urine, which cannot be retained in any way. This is a serious drawback, but it can be dealt with and resolved satisfactorily by a good knowledge of ostomy care. In many cases, the placement of an ostomy is the only way to survive an illness or accident. This solution, even if it compromises physiological functions, allows the immediate and effective removal of the problems affecting the patient’s state of health. When you have an ostomy, you must consider it as a new organ that is part of your body, and as such it must be managed and cared for, without trauma. Optimal management of the ostomy allows for a completely normal social life and relationships and often makes it possible to regain one’s health [4].

There are different criteria for classifying ostomies [5-7].

1. According to the packing profile. We speak of: a) “terminal ostomies”, where the viscera is directly attached to the outside, interrupting any continuity with the portion of the viscera downstream: b) “lateral or gunshot stoma”, where both stumps are attached to the skin while the posterior walls of the loops concerned are fixed together, to keep the two loops parallel and fixed.
2. According to the profile of duration. We speak of: a) “temporary ostomies”, when the ostomies are only for “protection” and the transit will be restored once the cause that imposed it has been resolved (and can be removed and re-channeled); b) “definitive ostomies” when the downstream tract can no longer be reused and are therefore permanent for life.
3. According to the utilitarian (or motivational) profile. One speaks of a) “palliative ostomies”, when the purpose is evacuation and decompression, due to the presence of

a tumor mass which cannot otherwise be operated on; b) “ostomies of necessity”, when, for specific surgical requirements, it is necessary to remove the final part of the enteric tract and it is, therefore, necessary to pack upstream the tract removed c) “protective ostomies”, when, to facilitate the healing and cicatrization processes of the anastomosis, a valved tract is excluded, although recently, with the use of laparoscopy and minimally invasive techniques, there is a tendency not to perform ostomies of this type, except in complex or exceptional cases [8].

4. According to the structural profile. We talk about: a) “digestive ostomies” when the interventions are of ileostomy and colostomy; b) “urinary ostomies”, when the intervention is of a urostomy, and they can be of three types (ureterocutaneostomies, ureteroileocutaneostomies -Bricker- and nephrectomies). Let us see these in detail.

The ileostomy [9-11] is the opening and temporary or permanent fixation of the ileum to the abdominal wall to divert the intestinal contents outwards. Specifically, the indications for a permanent ileostomy are ulcerative reticulitis, Crohn’s disease, hereditary polyposis (familial multiple polyposis, Gardner syndrome, and Turcot-Depres syndrome), multiple diffuse large bowel neoplasms, rectocolic gangrene, and trauma. Indications for temporary ileostomy are colic perforation, toxic megacolon, protection of ileorectal anastomoses, protection of right colic anastomoses, and trauma. The ileostomy begins to function on the second to the third day, with continuous, liquid, greenish evacuations of 500 to 1500 ml/day. By the tenth day, they are reduced to 600 ml/day and the consistency is pulpy. After stabilization, the consistency is semi-fluid and the number of discharges less frequent (up to 3-4 per day). As the colon does not reabsorb liquids and salts, the most obvious consequence is dehydration and loss of electrolytes. Stabilization is due to renal compensation mechanisms that increase the reabsorption of water by the intestine, particularly in the last ileal loop. However, the compensation mechanism alters diuresis (concentrated urine and low Na/K ratio) and this factor is responsible for a high incidence of urolithiasis. If there is also a large ileal resection, there is lipid malabsorption, particularly of bile acids, resulting in cholelithiasis, and malabsorption of B vitamins (particularly B12) resulting in megaloblastic anemia and hypoprothrombinemia. In ileostomy the transit of feces is rapid (3-8 hours). Ileostomy stools are particularly aggressive due to the presence of still active digestive enzymes; ileostomy stools are odorless and the presence of a bad smell is often an indication of a bacterial infection or indicative of the diet followed.

The colostomy [9,12] is the opening and temporary or permanent fixation of the colon to the abdominal wall to divert the intestinal contents to the outside. There are different types of colostomy, depending on which section of the colon is being exteriorized: a cecostomy, ascending colostomy, transverse colostomy, descending colostomy, and sigmoidectomy. The

main indications for colostomy placement are the protection of colorectal surgery (defunctionalizing colostomies), emergency treatment of occlusions or subocclusions of different aetiologies (decompressive colostomies), tumors, endometriosis, post-actinic stenosis, Hirschprung’s disease, complicated diverticular disease, ulcerative rectocolitis, Crohn’s disease and trauma of the colon-rectum. Colostomies are dedicated to the absorption, secretion, production of vitamins, and the progression and storage of fecal material. Caecostomies are physiologically similar to an ileostomy (massive loss of fluid and electrolytes). The intact ileocecal valve partially preserves the continuous emission of fecal material. A caecostomy, being nine, almost always temporary, does not lead to significant distinctive metabolic changes. In transversostomies, the feces are semi-liquid in the case of a proximal stoma or of almost normal consistency if the stoma is distal. Initially semi-solid, the stools become more compact after the operation. In sigmoidostomies, stools are normal in volume, consistency, and odor. There is a normal presence of gas and little or no enzyme activity. At first, the stools are pulpy, with time they acquire a solid appearance.

Numerous complications can occur after the placement of an ostomy, and of varying severity, which can be resolved with appropriate conservative therapy or require reoperation. There is evidence of the possibility of immediate complications of the ostomy, which generally appear quite early, and of complications that may occur even after a long period - late complications. The early hypotheses include edema, intra-, and peristomal hemorrhage, fistulas and abscesses, ischemia, and necrosis of the extrinsic loop. Late hypotheses include peristomal dermatitis, stoma obstruction, retraction, prolapse, peristomal hernia, bowel obstruction, and granulomas. Initially, each ostomy presents more or less important edema; if the cutaneous or fascial incision is too tight, edema may become exaggerated with compression of the loop lumen and may compromise the ostomy apparatus. In some cases, the oedematous ostomy may be compressed to allow the placement of the collection device, but edema recurs immediately after compression. In extreme cases, a small mucosal incision is necessary. Another important complication is early bleeding, which originates at the sectional point of the intestinal loop and can be controlled with a simple suture. Later bleeding may originate from granulation tissue, which often develops as a reaction to the suture material. Although bleeding is of concern to the patient, this is easily controlled with suture removal and compressive hemostasis; only in a few cases is it necessary to use adrenaline shots, hemostatic sponges, or electrical cautery. Hard, bleeding granulations can be treated with an application of silver nitrate. The rupture of a vessel in the submucosa may result in a hematoma. Incision of the mucosa and evacuation of the hematoma is only necessary when the hematoma is under tension and covers the entire circumference of the ostomy. Even the hematoma of the abdominal wall adjacent to the ostomy should not be a cause for concern, but it must be controlled and antibiotic prophylaxis instituted to prevent the possible subsequent formation of peristomal abscesses. Although in theory one is in a septic environment (leakage of intestinal material directly onto the mucocutaneous suture),

the healing process is rarely complicated by infections. Instead, infections originate from skin bridges trapped under the suture plane or from non-resorbable suture material. Sometimes these stitches remain hidden by the oedematous ostomy and are not removed in time (about 10 days) so that they become a source of chronic granulations resulting in irregularities of the mucocutaneous border with difficulty in applying the collection device, fecal infiltration, and dermatitis. Deep infections originate from the fascial suture (generally only necessary in ileostomies, except in Crohn's disease patients) and can lead to the appearance of fistulas; when infected fistulas do not heal in a short time, it is necessary to reposition the ostomy to avoid stenosis and retraction. It is important to know the origin of fistulas because, in the case of Crohn's disease, they may be an aspect of the disease itself and require further respective treatment of the intestinal loop. Ischaemia and subsequent necrosis are early manifestations that may affect the entire stomal loop or a large section of it (total ischemia), or maybe limited to the emerging portion (partial or terminal ischemia). Total ischemia is due to a vascular lesion caused during mobilization manoeuvres or more often when the meso stomal loop is used to close the parietal douche. Devascularisation may therefore occur by sectioning an artery or ligating it. Partial ischemia, on the other hand, may be due to compression of the viscera by the edges of an ill-calibrated parietal opening, tension caused by insufficient mobilization, or, finally, excessive skeletonization of the terminal section of the stomal loop. Peristomal dermatitis has a high incidence (25%) and is a complication that particularly affects the patient in the immediate postoperative period. Several causes can be cited as responsible: the excessively liquid nature of the secretion, an excessively short or asymmetrical ostomy, ineffective adhesion of the pouch (excessive maceration of the abdominal wall, bony protrusions, previous scarring), a peristomal fistula, particular skin sensitivity to the material of the collection device or, more often, to the adhesive. Once the excoriation is established, it becomes particularly difficult and painful to perform thorough hygiene of the peristomal area and the bags become increasingly difficult to adhere. Stomal stenosis is also one of the most frequent complications and it is necessary to distinguish, the different etiopathogenetic and clinical characteristics, an early form, or dysfunction of the ostomy, and a late form. The term "ileostomy dysfunction" describes a syndrome most likely linked to peristomal edema, an expression of the serious process, which results in partial or total obstruction of the intestinal lumen. In addition, ileostomy obstruction can often be caused by "blockage" by undigested solid material (e.g. fruit residues, plant fiber clusters) and in such cases, therapy consists of irrigation through the ostomy. Late obstruction (also quite common in ileostomies) is more commonly caused by scar stenosis of the ileostomy mouth. This type of stenosis has also become much rarer with the adoption of Brooke's technique and can sometimes remain asymptomatic. Typically the complaints are anorexia, cramping abdominal pain, especially post-prandial. In the case of established fibrous stenosis, a revision of the ostomy is required with excision of the narrowed stoma and the surrounding area of skin and subcutis. Stenosis, however, has a higher incidence in

colostomies, especially terminal ones (6-8%). Among the most frequent causes is the incongruity between the softness of the viscera and the relative rigidity of the wall: this is compounded by the proliferation of granulation tissue that constricts the serosa of the exteriorized loop. Stenosis may also be the result of a peristomal suppurative process with neoformation of fibrous tissue around the loop. Another cause may be that the incision caliber is too small for the size of the exteriorized viscera. Another possible cause of obstruction is a recurrence of Crohn's granulomatous colitis. Prolapse, a fairly frequent occurrence (20-50%), is an excessive protrusion of the stomal loop from the abdominal skin plane, up to 10-15 cm or more. All stomas can prolapse, but the phenomenon occurs more frequently in colostomies, especially double-barreled ones. Two types of prolapse can be distinguished: sliding prolapse, where the protrusion is not permanent, but occurs only during straining, prolonged standing. Prolapse is caused by insufficient fixation of the loop at the level of the abdominal wall thickness and the endoabdominal peritoneal level, and fixed prolapse related to the excessive length of the exteriorized ileum segment. The main problems caused by prolapse relate to the hygiene of the stoma and its difficult camouflage under clothing. Another problem is bleeding; in fact, the size of the prolapsed loop encourages small traumatism, which are responsible for erosions and ulcerations of the mucosa that can bleed. Retraction can also occur in any type of stoma but is more common in transverse colostomies and terminal sigmoidostomies. Like prolapse, retraction occurs as a result of an alteration in the fixation systems of the ostomy to the wall. It consists of slippage of the ostomy below the skin plane due to excessive tension of the poorly mobilized loop. If the tension succeeds in overpowering the viscera-parietal suture, the intestine may become detached. Slivelling causes serious logistical problems, because the stoma, located in the bottom of a funnel with sloping edges, makes it impossible for any kind of prosthesis to adhere. Droppings stagnate there and infiltrate below the pouch, causing skin irritation. In the case of retraction, re-intervention is also an option and consists of extensive mobilization of the large intestine, which is extruded in its old location, without traction and with sufficient vascularisation. Another complication, which is almost always due to a technical error during stoma packing, is a peristomal hernia. This occurs in 2% of ileostomies and 7% of colostomies: this is justified by the fact that ileostomies are generally performed in young people and work without an increase in abdominal pressure. The complete or partial detachment of the aponeurotic fascia of the stomal loop is then established, and through this opening, the contents of the hernia usually loop of the small intestine covered by the parietal peritoneum, make their way into the subcutaneous tissue, occupying an adequate space. Irregularity of bowel movements, abdominal pain, borborygmus, and even sub-occlusive crises are due to intermittent obstructions caused by the pressure exerted by the hernia sac on the stomal loop. Finally, swelling may prevent perfect adhesion of the collection devices, with the consequent peristomal dermatitis. Other complications are granulomas. These may affect the mucocutaneous border in one area or the entire circumference. They are often accompanied by peristomal

fistulas. Nodules are also located on the mucocutaneous border but usually affect the lower half-circle. They are mostly composed of chronic inflammatory tissue and represent the reaction of the stoma border to continuous trauma from the prosthesis. Inflammatory pseudo-polyposis, like fibrous nodules, are also due to chronic trauma from the prosthesis and their name is given by the fact that they are composed not only of granulation tissue but also of hyperplastic glandular tissue from the mucosa. All these lesions of the mucocutaneous border are particularly annoying and cause pain and burning when passing droppings [9,13,14].

### Psychological and psychopathological profiles

There are situations such as the onset of a disability or chronic illness in which the family and the patient find themselves immersed in a complex and disorienting reality that increases discomfort, fatigue, and confusion. When faced with situations that make it difficult, at least initially, to relate to others and oneself, it is very important to give space to the negative feelings related to the new condition. This is the main aim of counseling, which considers man as a human system made up of a certain number of elements endowed with characteristics known and recognized by all the other men (age, role, history) and being connected among them by relationships, any change involving one of these elements influences and involves all the others [9].

Ostomy significantly compromises all dimensions of quality of life (physical, psychological, social, economic, and spiritual) in individuals who have not been adequately prepared for the change or who suffer from one or more complications during the grafting and healing phase. This is because the ostomate patient encounters events that often find him or her unprepared, such as the alteration of body image, the loss of sphincter control (incontinence), the bad smell deriving from the leakage of fecal and/or urinary material, but also losses and complications related to the stoma, with a consequent defensive attitude, protective of the external environment, This leads to isolation, embarrassment, shame, and rejection, eventually compromising one's sexuality, eating habits, natural sleep patterns, control and self-esteem, and too anxious experiences that can lead to mood swings and even depression, suicidal ideation or worsening of the psychological and/or psychiatric state before the ostomy. The patient undergoing surgery involving the placement of an ostomy must inevitably deal with the immediate physical changes that the operation entails, but must also adapt to the psychological impact of the ostomy. The person is faced with emotional, social, and physical problems caused by the ostomy. Problems that generate anxiety include feelings regarding the alteration of one's body image, the functionality, and control of the ostomy, and restrictions on lifestyle and activities. Body image is defined as each person's perception of the appearance and functioning of their body. It is a very important part of everyday life and society, especially in the West, places great value on it. An imperfect body puts the patient at a disadvantage, leading to social isolation. In this way, the patient escapes from shame and the possibility of finding himself in embarrassing situations. Very often,

patients try to hide their bodies to avoid stares and comments from others, because they want to continue to be considered healthy. The patient living with an ostomy has to deal with identity problems, functional limitations, changes in lifestyle, social role, family and relationship life, feelings of shame and helplessness, withdrawal from all investments. This can lead to dysfunctional anxiety, dysphoric mood, depression, panic, phobias, obsessions, and fear of abandonment. People who are more likely to have difficulties in adapting psychologically are likely to be those who have also suffered from psychological problems in the past, those who express dissatisfaction with the information received before the operation, and those who express negative thoughts about the ostomy and its impact. When an ostomy is created, a high price is paid in both physical and psychological terms. The fact of having to wear an external pouch is seen as one of the main disadvantages related to the ostomy; when it comes into operation, it is noisy, it smells bad, it feels warm on the skin, and can lead to profound changes concerning the feelings aroused by the body image. Body image is linked to self-concept and self-esteem; those who are dissatisfied with their appearance develop negative feelings towards themselves [15-43].

Based on these profiles, the psychologist's intervention must therefore succeed, starting from the patient, in restoring balance to the events that have upset him, aware of the fact that the ostomy could be grafted onto a personality framework that is in itself already pathological or already compromised, thus leading him to orientate himself towards new perspectives and objectives, respecting the individual personality framework, with all possible functional and structural limitations [44-64].

The concept of 'quality of life' is therefore central to applied psychology. According to the definition provided by the WHO (1998), it should be understood as the sum of the subjective perceptions that individuals have of their place in life about the cultural context and value system in which they live and concerning their own goals, standards, and interests. Quality of life is seen as a multidimensional concept comprising positive and negative perceptions concerning the physical, emotional, social, cognitive, and spiritual dimensions. Inevitably, people who go through processes and events of negative change in their health almost always experience a reduction in their quality of life either through reduced functional outcomes or through limitations in personal choice and social participation compared to their previous state. The measurement of quality of life has then become an important measure for the evaluation of outcomes, also for ostomate patients, and questionnaires are used in the scientific literature for both general and clinical measurements: Among the most quoted are the Health-Related Quality of Life (HRQOL) self-assessment test and the Short-Form Health Survey (SF-36), which assesses the effects of medical treatments on well-being and functioning; the latter, in particular, proves extremely useful because it is a short questionnaire (36 items) and assesses 8 dimensions (physical and social functioning, limitations due to physical problems, limitations due to emotional problems, mental health, energy/vitality, pain and perception of general health). Equally useful and functional is the WHO Quality of life (WHOQOL), in 26 items

(reduced version, “-Bref”) or 100 items (extended version, “-100”), which explores 6 areas (including physical health, psychological health, social relationships, and environment) in 24 sections. Finally, the Stoma-QoL, which again investigates the quality of life concerning health status, in 20 items for 4 dimensions (sleep and rest, intimate relationships, family and friend relationships, relationships with other people) [9,65-78].

### The possible role of the gut microbiota

Related to ostomy management is the nutritional profile of the patient and his intestinal microbiota, to promote eubiosis and avoid unpleasant gastrointestinal and extraintestinal symptoms that can further decompensate the patient, due to its multiple implications with the various anatomical systems, both in terms of structure and function. It is well known that intestinal dysbiosis is directly related to various mental disorders, such as anxiety disorders, mood disorders, depressive disorders, bipolarity and even severe psychotic disorders; however, it is not yet clear whether dysbiosis is the product of the inflammation that then leads to the morbid conditions that lead to the implantation of the ostomy or is the consequence of the pathological condition itself [78-86].

### The protocol: Perrotta-Guerrieri Psychological Care for Ostomy Patients, PCOP

The proposed integrated psychological intervention protocol for ostomate patients (PCOP) provides for a specific active procedure of actions aimed at the taking on, management, and clinical care of the ostomate patient, as follows:

1. **Hypothesis 1: Intake from the pre-operative phase:** The psychologist will carry out a preliminary clinical interview, aimed at ascertaining the patient's state of psychological health, before ostomy surgery, using, if necessary, standardized psychometric instruments to study the patient's personality and psychological wellbeing (e.g. MMPI-II, BAI, and Hamilton Scale for depression, as well as any other instrument if necessary about the findings made during the interview). Interviews may extend to a maximum of 3-5 sessions, if necessary, with a short cadence, also based on clinical needs and timing. With the patient's consent if he/she is of age, or without consent, if he/she is a minor, the psychologist will proceed to an interview with the family members, to prepare them for the consequences of the intervention and the best ways to help the patient in the initial and subsequent phases; interviews with family members may also extend to a maximum of 3-5 sessions, and will have to focus exclusively on contents related to the factual circumstances interconnected with the patient's clinical situation. They may also be held during the patient's operating phase, but not beyond it. In the postoperative phase, the psychologist should foster the bond between the family members so that they devote themselves entirely to the patient's needs and requirements; if the patient is abandoned or lonely, all possible actions should be taken through the social assistance service, in order not to make the patient feel alone and abandoned. During the follow-ups (weekly for the first 2 months, then twice a week for another month, and finally

every month for the first year, unless otherwise required), the psychologist must focus on issues relating to the state of health and the management of the ostomy, about the patient's needs and requirements; he/she may also extend his/her action to related issues, provided that the distress suffered is always psychological. If clinical circumstances require it, he may refer the patient to another healthcare professional Table 1.

2. **Hypothesis 2: Taking charge during the operational phase:**

The psychologist, not proceeding to a preliminary clinical interview aimed at certifying the patient's state of psychic health, before the ostomy operation, since it took place in the second phase, will condense the clinical activities in the second phase, moving the interview with the patient to the third, using if necessary standardized psychometric instruments for the study of the personality and his psychological well-being (e.g. MMPI-II, BAI and Hamilton Scale for depression, as well as any other instrument if necessary about the findings during the interview). The interview, if necessary, can be extended to a maximum of 3-5 sessions, at short intervals, also based on clinical needs and timing. In the postoperative phase, the psychologist should foster the bond between the family members so that they can devote themselves entirely to the patient's needs and requirements; if the patient is abandoned or lonely, all possible actions should be taken through the social assistance service, in order not to make the patient feel alone and abandoned. During the follow-ups (twice a week for the first month, then once a week for the next 2 months, then every 2 weeks for the next 2 months, and finally once a month for the remaining 7 months, unless otherwise needed), the psychologist must focus on issues related to the state of health and the management of the ostomy, concerning the patient's needs and requirements; he/she may also extend his/her action to related issues, provided that the distress suffered is always psychological. If clinical circumstances require it, he may refer the patient to another healthcare professional.

3. **Hypothesis 3: Care during the post-operative phase:**

The psychologist, intervening in the third phase, will condense the clinical work, first separately and then jointly with the relatives and family members, taking care of the patient's requests, also in terms of confidentiality, using, if necessary, standardized psychometric instruments for the study of personality and psychological well-being (e.g. MMPI-II, BAI and Hamilton Scale for depression, as well as any other instrument if necessary about the findings, emerged during the interview). The psychologist will thus have to foster the bond between the family members so that they devote themselves entirely to the patient's needs and requirements; if, however, the patient finds himself in a state of abandonment or loneliness, all possible actions should be taken through the social assistance service, in order not to make the patient feel alone and abandoned. During the follow-ups (3 times a week for the first month, then 2 times a week for the next 2 months, then every week for the next 2 months, and finally once a month for the remaining 7 months, unless otherwise needed), the psychologist must focus on issues related to the state of health and the management of the ostomy, about the patient's needs and requirements; he/she may also extend his/her action to related issues, provided



**Table 1:** Perrotta-Guerrieri (PCOP).

**Hypothesis 1:** Intervention from the “Pre-Operative Phase”

<i>Brief description of the intervention in its individual phases</i>	<i>List of concrete actions</i>
<ol style="list-style-type: none"> <li>1. <b>Pre-operative phase:</b> Preliminary clinical interview with the patient (1-2 sessions, extendable up to a maximum of 3-5 sessions), administering, if necessary, psychometric tests to investigate the state of psychological health.</li> <li>2. <b>Pre-operative and operative phase:</b> Family interview (1-2 sessions, extendable to 3-5 sessions).</li> <li>3. <b>Post-operative phase:</b> Joint and several interviews with the patient and family members throughout the hospital stay.</li> <li>4. <b>Follow-up phase:</b> Interviews with the patient (and with family members if requested by the patient or by them if the patient is a minor), weekly for the first 2 months, then every 2 weeks for 1 month, and then monthly for the next 9 months (12 months in total), using, if necessary, psychometric tests to study psychological health and psychophysical well-being.</li> </ol>	<ol style="list-style-type: none"> <li>1. <b>Pre-operative phase:</b> <ol style="list-style-type: none"> <li>a) Clinical interview with the patient and family members, 1-2 sessions extendable up to 5.</li> <li>b) Administration of psychometric tests to the patient to assess personality profile and emotional state.</li> <li>c) Psychological support and assistance in the early stages of trauma.</li> </ol> </li> <li>2. <b>Operative phase:</b> Support and psychological assistance to family members regarding the patient's health condition.</li> <li>3. <b>Post-operative phase:</b> <ol style="list-style-type: none"> <li>a) Psycho-education and training for patients and relatives on the health issues of ostomies and the new life.</li> <li>b) Patient support and psychological assistance.</li> </ol> </li> <li>4. <b>Follow-up phase:</b> Psychological support and assistance, aimed at the conscious growth of one's own vital status and the new life regime, at regular intervals, also with group activities, emotional mutuality, training courses, and building a collaborative network.</li> </ol>

**Hypothesis 2:** Intervention from the “Operative / Surgical Phase”

<i>Brief description of the intervention in its individual phases</i>	<i>List of concrete actions</i>
<ol style="list-style-type: none"> <li>1. <b>Operative phase:</b> Interview with family members (1-2 sessions, extendable to a maximum of 3-5 sessions).</li> <li>2. <b>Post-operative phase:</b> Interviews with the patient and family members throughout the hospital stay. If necessary, psychometric tests may be administered to study personality and psychophysical well-being.</li> <li>3. <b>Follow-up phase:</b> Interviews with the patient (and with family members if requested by the patient or by them if the patient is a minor), twice a week for the first month, then once a week for the next 2 months, then every 2 weeks for the next 2 months, and finally once a month for the remaining 7 months (12 months in total), using, if necessary, psychometric tests to study psychological health and psychophysical well-being.</li> </ol>	<ol style="list-style-type: none"> <li>1. <b>Operative phase:</b> Support and psychological assistance to family members regarding the patient's health condition.</li> <li>2. <b>Post-operative phase:</b> <ol style="list-style-type: none"> <li>a) Clinical interview with the patient, 1-2 sessions extendable up to 5.</li> <li>b) Administration of psychometric tests to the patient to assess personality profile and emotional state.</li> <li>c) Psycho-education and training for patients and relatives on the health issues of ostomies and the new life.</li> <li>d) Patient support and psychological assistance.</li> </ol> </li> <li>3. <b>Follow-up phase:</b> Psychological support and assistance, aimed at the conscious growth of one's own vital status and the new life regime, at regular intervals, also with group activities, emotional mutuality, training courses, and building a collaborative network.</li> </ol>

**Hypothesis 3:** Intervention from the “Post-Operative Phase”.

<i>Brief description of the intervention in its individual phases</i>	<i>List of concrete actions</i>
<ol style="list-style-type: none"> <li>1. <b>Post-operative phase:</b> Joint and several interviews with the patient and family members throughout the hospital stay. If necessary, psychometric tests may be administered to study personality and psychophysical well-being.</li> <li>2. <b>FOLLOW-UP PHASE:</b> Interviews with the patient (and with family members if requested by the patient or by them if the patient is a minor), 3 times a week for the first month, then 2 times a week for the next 2 months, then every week for the next 2 months, and finally once a month for the remaining 7 months (12 months in total), using, if necessary, psychometric tests to study psychological health and psychophysical well-being.</li> </ol>	<ol style="list-style-type: none"> <li>1. <b>Post-operative phase:</b> <ol style="list-style-type: none"> <li>a) Clinical interview with the patient, 1-2 sessions Extendable up to 5.</li> <li>b) Administration of psychometric tests to the patient To assess personality profile and emotional state.</li> <li>c) Support and psychological assistance to family Members regarding the patient's health condition.</li> <li>d) Psycho-education and training for patients and relatives on the health issues of ostomies and the New life.</li> <li>e) Patient support and psychological assistance.</li> </ol> </li> <li>2. <b>FOLLOW-UP PHASE:</b> Psychological support and assistance, aimed at the conscious growth of one's own vital status and the new life regime, at regular intervals, also with group activities, emotional mutuality, training courses, and building a collaborative network.</li> </ol>

**Hypothesis 4:** Intervention from the “Follow-Up Phase”

<i>Brief description of the intervention in its individual phases</i>	<i>List of concrete actions</i>
<ol style="list-style-type: none"> <li>1. <b>Follow-up phase:</b> Interviews with the patient (and with family members if requested by the patient or by them if the patient is a minor), 3 times a week for the first month, then 2 times a week for the next 2 months, then once a week for the next 2 months, then every 15 days for the next 2 months, then every month for the remaining 5 months (12 months in total), using, if necessary, psychometric tests to study psychic health and psychophysical well-being.</li> </ol>	<ol style="list-style-type: none"> <li>1. <b>Follow-Up Phase:</b> <ol style="list-style-type: none"> <li>a) Clinical interview with the patient, 1-2 sessions extendable up to 5.</li> <li>b) Administration of psychometric tests to the patient to assess personality profile and emotional state.</li> <li>c) Support and psychological assistance to family members regarding the patient's health condition.</li> <li>d) Psycho-education and training for patients and relatives on the health issues of ostomies and the new life.</li> <li>e) Psychological support and assistance, aimed at the conscious growth of one's own vital status and the new life regime, at regular intervals, also with group activities, emotional mutuality, training courses and building a collaborative network.</li> </ol> </li> </ol>

that the distress suffered is always psychological. If clinical circumstances require it, he may refer the patient to another healthcare professional.

**4. Hypothesis 4: Post-discharge care (follow-up):** The psychologist, intervening in the third phase, will condense the clinical work, first separately and then jointly with the relatives and family members, taking care of the patient's requests, also in terms of confidentiality, using, if necessary, standardized psychometric instruments for the study of personality and psychological well-being (e.g. MMPI-II, BAI and Hamilton Scale for depression, as well as any other instrument if necessary about the findings, emerged during the interview). The psychologist will thus have to foster the bond between the family members so that they devote themselves entirely to the patient's needs and requirements; if, however, the patient finds himself in a state of abandonment or loneliness, all possible actions should be taken through the social assistance service, in order not to make the patient feel alone and abandoned. During the follow-ups (3 times a week for the first month, then 2 times a week for the next 2 months, then once a week for the next 2 months, then every 15 days for the next 2 months, then every month for the remaining 5 months, unless otherwise needed), the psychologist must focus on issues related to the state of health and the management of the ostomy, about the patient's needs and requirements; he/she may also extend his/her action to related issues, provided that the distress suffered is always psychological. If clinical circumstances require it, he may refer the patient to another healthcare professional.

### The clinical questionnaire: Perrotta-Guerrieri Psychological Care Questionnaire for Ostomy Patients – first version, PCOP-Q1

#### Annexe No. 1: Perrotta-Guerrieri Psychological Care Questionnaire for Ostomy Patients – first version (PCOP-Q1)

The questionnaire is structured in 3 sections: A, where to insert the contact data of the patient; B, where to insert the clinical data related to the ostomy; C, the clinical questionnaire structured in 45 items on L1-5 scale for the study of the quality of life of the ostomy patient.

In particular, concerning section C, the patient has to answer all the questions, indicating for each one a single definitive answer with a numerical value from 1 (never) to 5 (always), referring to the timestamp of the answer (here and now). The questionnaire can be administered no earlier than 60 days after the previous administration.

The questions are distributed according to 8 areas of specific interest: I) Physical functioning (1-5): this is the section related to physical limitations, pain, and sleep-wake well-being. II) Psychological functioning (6-10): this is the section related to psychological well-being and the relationship with oneself. III) Emotional functioning (11-15): this is the section related to emotional well-being, energy, vitality strength of spirit, resilience, and perceived quality of life. IV) Sexual functioning (16-20): is the section related to

sexual well-being and relationships with self and others. V) Relational-affective functioning (21-25): this is the section related to relational well-being, about friends and friendships. VI) Relational-familial functioning (26-30): this is the section relating to relational well-being, about the ties with relatives and relatives-in-law. VII) Sentimental-relational functioning (31-35): this is the section relating to relational well-being, about sentimental ties (partners and concubines). VIII) Relational-work or school functioning (36-40): this is the section on relational well-being, about work or school ties. IX) Relational-social functioning (41-45): this is the section related to relational well-being, about social and community ties (e.g. social activities, volunteering, conferences, congresses, seminars, public events).

The results obtained should be evaluated according to the following scheme: A) "single area voting": a) 5-10 = well compensated; b) 11-15 = slightly compromised; c) 16-20 = compromise; d) 21-25 = severely compromised. B) "overall global vote": a) 45-90 = well compensated; b) 91-135 = slightly compromised; c) 136-180 = compromise; d) 181-225 = severely compromised.

## Conclusion

Ostomy patients are by no means rare. The number of operations involving the placement of an enterostomy is already noteworthy and will increase in the coming years. In addition to the immediate physical changes caused by the ostomy, these patients suffer a considerable psychological impact that needs to be taken into account.

The main objectives of this study are therefore to identify the dimensions of quality of life that are compromised by the placement of an ostomy and to analyze the resulting psychological consequences. The starting hypothesis is that ostomy significantly compromises all dimensions of quality of life (physical, psychological, social, economic, and spiritual).

In the light of the research and studies published, the problems most commonly encountered are as follows: a) alteration of body image; loss of sphincter control; b) odor, leakage, and stoma-related complications; c) impairment of sexuality; d) alteration of nutrition and sleep; e) anxiety, depression, and loneliness; embarrassment and shame; f) loss of control of the situation; drop in self-esteem; g) rejection; h) stigmatization; i) disinvestment in social activities; l) abandonment of work and sports activities; isolation; m) difficulties in couple relationships and social contacts.

The psychological problems caused by ostomy can be avoided, or at least contained, by comprehensive care of the patient, both before and after the operation. In addition to purely technical care, teaching, accompaniment and constant support are the main components of care that can make a difference to how the patient will accept his or her ostomy. Focusing the care only on the management of the physical dimension will hardly allow the person to integrate the ostomy into his or her life.



## References

- Porrett T (2006) La persona stomizzata: assistenza, cura e riabilitazione. Milano: McGraw-Hill. [Link: https://bit.ly/36zR68E](https://bit.ly/36zR68E)
- Franceschini F (1993) Il paziente stomizzato: problemi di assistenza e riabilitazione. Torino: UTET. [Link: https://bit.ly/3tO3bjs](https://bit.ly/3tO3bjs)
- Bernasconi C (2016) Convivere con una stomia. Tesi di Laurea in Scienze Infermieristiche. SUPSI, Svizzera.
- Putzu F (2015) L'approccio infermieristico educativo al paziente stomizzato. Tesi di Laurea in Scienze Infermieristiche. Università degli Studi di Genova. [Link: https://bit.ly/3tOWAtx](https://bit.ly/3tOWAtx)
- Ferrara F, Parini D, Bondurri A, Veltri M, Barbierato M, et al. (2019) Multidisciplinary Italian Study group for STOMAs (MISSTO). Italian guidelines for the surgical management of enteral stomas in adults. *Tech Coloproctol* 23: 1037-1056. [Link: https://bit.ly/36QX5G2](https://bit.ly/36QX5G2)
- AA.VV (2018) Malattie gastrointestinali ed epatiche. Fisiopatologia, diagnosi e trattamento (Sleisenger e Fordtran), I-II 10, trad. ita, Edra Ed.
- Pine J, Stevenson L (2014) Ileostomy and colostomy. *Intestinal Surgery* 32: 212-217.
- Coiro S (2012) Open resection without derivative stoma for rectal cancer: our experience. *Prevent Res* 2: 170-174.
- Bosio C (2010) Qualità di vita e assistenza personalizzata al paziente stomizzato. Stoma-Qol applicazione di uno strumento internazionale valido. Tesi di Laurea in Scienze Infermieristiche. Università degli Studi di Torino.
- Berti-Hearn L, Elliott B (2019) Ileostomy care: A guide for Home Care Clinicians. *Home Healthc Now* 37: 136-144. [Link: https://bit.ly/3DmQmzD](https://bit.ly/3DmQmzD)
- Vasilopoulos G, Makrigianni P, Polikandrioti M, Tsiampouris I, Karayiannis D, et al. (2020) Pre- and post-operative nutrition assessment in patients with Colon Cancer undergoing Ileostomy. *Int J Environ Res Public Health* 17: 6124. [Link: https://bit.ly/3NFCDJg](https://bit.ly/3NFCDJg)
- GlobalSurg Collaborative (2019) Global variation in anastomosis and end colostomy formation following left-sided colorectal resection. *BJS Open* 3: 403-414. [Link: https://bit.ly/3wlUGbp](https://bit.ly/3wlUGbp)
- Zelga P, Kluska P, Zelga M, Piasecka-Zelga J, Dziki A (2021) Patient-Related Factors Associated With Stoma and Peristomal Complications Following Fecal Ostomy Surgery: A Scoping Review. *Review J Wound Ostomy Continence Nurs* 48: 415-430. [Link: https://bit.ly/3iK58Hn](https://bit.ly/3iK58Hn)
- Marinez AC, Bock D, Carlsson E, Petersén C, Erestam S, et al (2021) Stoma-related complications: a report from the Stoma-Const randomized controlled trial. *Colorectal Dis* 23: 1091-1101. [Link: https://bit.ly/3JRzjbp](https://bit.ly/3JRzjbp)
- American Psychiatric Association (2014) DSM-5. Manuale diagnostico e statistico dei disturbi mentali. Milano: Cortina Raffaello. [Link: https://bit.ly/3JNEXv7](https://bit.ly/3JNEXv7)
- Acevedo-Ibarra JN, Juárez-García DM, Espinoza-Velazco A, Buenaventura-Cisneros S (2019) Cognitive Behavioral Stress Management intervention in Mexica colorectal cancer patients: Pilot study. *Psychooncology* 28: 1445-1452. [Link: https://bit.ly/3iHBR03](https://bit.ly/3iHBR03)
- Ang MS, Chen HC, Siah RJ, He HG, Klainin-Yobas P (2013) Stressors relating to patient psychological health following stoma surgery: an integrated literature review. *Oncology Nursing Forum* 40: 587-594. [Link: https://bit.ly/3uEfcHov](https://bit.ly/3uEfcHov)
- Bekkers MJ, van Knippenberg FC, van den Borne HW, van Berge-Henegouwen GP (1996) Prospective Evaluation of Psychosocial Adaptation to Stoma Surgery: The Role of Self-efficacy. *Psychosom Med* 58: 183-191. [Link: https://bit.ly/3IT4amB](https://bit.ly/3IT4amB)
- Shaffy-Kaur S (2014) Psychosocial experiences of the patients with colostomy/ileostomy: a qualitative study. *Indian Journal of Social Psychiatry* 30: 28-34.
- Zheng MC, Zhang JE, Qin HY, Fang YJ, Wu XJ, et al. (2013) Telephone follow-up for patients returning home with colostomies: views and experiences of patients and enterostomal nurses. *Eur J Oncol Nurs* 17: 184-189. [Link: https://bit.ly/3uDvaBK](https://bit.ly/3uDvaBK)
- Krouse R, Grant M, Rawl SM, Mohler MJ, Baldwin CM (2009) Coping and acceptance: The greatest challenge for veterans with intestinal stomas. *J Psychosom Res* 66: 227-233. [Link: https://bit.ly/3wLMyH5](https://bit.ly/3wLMyH5)
- Sie HL, Chan SWC, Chow A, Zhu L, Lai JH, et al. (2019) Pilot trial of a STOMA psychosocial intervention programme for colorectal cancer patients with stomas. *J Adv Nurs* 75: 1338-1346. [Link: https://bit.ly/3qG1By8](https://bit.ly/3qG1By8)
- Smith D, Loewenstein G, Rozin P, Sherriff RL, Ubel PA (2007) Sensitivity to disgust, stigma, and adjustment to life with a colostomy. *J Res Pers* 41: 787-803. [Link: https://bit.ly/3wHEvuz](https://bit.ly/3wHEvuz)
- Simmons KL, Smith JA, Bobb KA, Liles LL (2007) Adjustment to colostomy: stoma acceptance, stoma care self-efficacy and interpersonal relationships. *J Adv Nurs* 60: 627-635. [Link: https://bit.ly/36Uyksu](https://bit.ly/36Uyksu)
- Borwell B (2009) Rehabilitation and stoma care: addressing the psychological needs. *Br J Nurs* 18: 20-25. [Link: https://bit.ly/3uFKGx3](https://bit.ly/3uFKGx3)
- Tseng H, Wang HH, Hsu YY, Weng WC (2004) Factors Related to Stress in Outpatients with Permanent Colostomies. *Kaohsiung J Med Sci* 20: 70-76. [Link: https://bit.ly/3iMgWsw](https://bit.ly/3iMgWsw)
- Zhang T, Shi CG, Hu A, Xu H, Zheng MC, et al. (2014) Correlation between acceptance of disability and social relational quality in patients with colostomy. *International Journal of Nursing Sciences* 1: 102-106. [Link: https://bit.ly/3iK5tk9](https://bit.ly/3iK5tk9)
- Fioravanti M (1991) Adattamento psicologico e riabilitazione in pazienti enterostomizzati. *Psicologia in ospedale, esperienze a confronto*. Nuova Editrice Spada.
- Canestrari R, Ricci Bitti PE (1975) Sulle reazioni psicologiche alla colectomia totale. *Medicina Psicosomatica* 20.
- Celani G (2001) Influenza del sostegno psicosociale per l'adattamento alla malattia in pazienti con neoplasia maligna: una rassegna meta-analitica, *Psicologia della salute*, n. 1/2001, Franco Angeli, Milano.
- Bartoli B (2000) La narrazione della malattia nella ri-Costruzione della salute: l'esperienza della lettera a se stessi, *Psicologia della Salute*, 3, Franco Angeli, Milano.
- Pozzolo A (2015) Efficacia degli interventi di educazione terapeutica rivolti ai pazienti stomizzati: revisione di letteratura. Tesi di Laurea in Scienze Infermieristiche. Università degli Studi di Padova. [Link: https://bit.ly/3NGx6IN](https://bit.ly/3NGx6IN)
- Mulhall JP, Incrocci L, Goldstein I, Rosen R (2011) *Cancer and Sexual Health*. New York: Humana Press. [Link: https://bit.ly/3wLW0tX](https://bit.ly/3wLW0tX)
- Kiliç E, Taycan O, Belli AK, Ozmen M (2007) The Effect of Permanent Ostomy on Body Image, Self-Esteem, Marital Adjustment, and Sexual Functioning. *Turkish Journal of Psychiatry* 18: 1-8. [Link: https://bit.ly/3NtD2hG](https://bit.ly/3NtD2hG)
- Jenks JM, Morin KH, Tomaselli N (1997) The Influence of Ostomy Surgery on Body Image in Patients With Cancer. *Appl Nurs Res* 10: 174-180. [Link: https://bit.ly/3iP4tnS](https://bit.ly/3iP4tnS)
- Sharpe L, Patel D, Clarke S (2011) The relationship between body image disturbance and distress in colorectal cancer patients with and without stomas. *J Psychosom Res* 70: 395-402. [Link: https://bit.ly/3tN900F](https://bit.ly/3tN900F)
- Steinhagen E, Colwell J, Cannon LM (2017) Intestinal Stomas-Postoperative Stoma Care and Peristomal Skin Complications. *Clin Colon Rectal Surg* 30: 184-192. [Link: https://bit.ly/3LpaBQg](https://bit.ly/3LpaBQg)



38. Rivet EB (2019) Ostomy Management: A Model of Interdisciplinary Care. *Surg Clin North Am* 99: 885-898. [Link: https://bit.ly/3uBLN07](https://bit.ly/3uBLN07)
39. Maydick-Youngberg D (2017) A Descriptive Study to Explore the Effect of Peristomal Skin Complications on Quality of Life of Adults With a Permanent Ostomy. *Ostomy Wound Manage* 63: 10-23. [Link: https://bit.ly/3iK4x8M](https://bit.ly/3iK4x8M)
40. Martins L, Ayello EA, Claessens I, Steen Hansen A, Hentze Poulsen L, et al. (2010) The ostomy skin tool: tracking peristomal skin changes. *Br J Nurs* 19: 960. [Link: https://bit.ly/3Dmlrn2](https://bit.ly/3Dmlrn2)
41. Jemec GB, Martins L, Claessens I, Ayello EA, Hansen AS, et al. (2011) Assessing peristomal skin changes in ostomy patients: validation of the Ostomy Skin Tool. *Br J Dermatol* 164: 330-335. [Link: https://bit.ly/3l1vm7z](https://bit.ly/3l1vm7z)
42. Maculotti D, Melis V, Roveron G, Spina PR, Villa G, et al. (2020) Patient flow for the management of ostomy patients. *Minerva Chir* 75: 365-372. [Link: https://bit.ly/37YRxd0](https://bit.ly/37YRxd0)
43. Fellow J, Richbourg L (2018) Advanced Practice Ostomy Care. *J Wound Ostomy Continence Nurs* 45: 276-278. [Link: https://bit.ly/3tOxcjl](https://bit.ly/3tOxcjl)
44. Perrotta G (2019) Anxiety disorders: definitions, contexts, neural correlates and strategic therapy. *J Neur Neurosci* 6: 046. [Link: https://bit.ly/2WSmiaT](https://bit.ly/2WSmiaT)
45. Perrotta G (2019) Neural correlates in eating disorders: Definition, contexts and clinical strategies. *J Pub Health Catalog* 2: 137-148. [Link: https://bit.ly/3mWmf8s](https://bit.ly/3mWmf8s)
46. Perrotta G (2019) Post-traumatic stress disorder: Definition, contexts, neural correlations and cognitive-behavioral therapy. *J Pub Health Catalog* 2: 40-47. [Link: https://bit.ly/3rvaCc6](https://bit.ly/3rvaCc6)
47. Perrotta G (2019) Sleep-wake disorders: Definition, contexts and neural correlations. *J Neurol Psychol* 7: 09. [Link: https://bit.ly/3hoBiGO](https://bit.ly/3hoBiGO)
48. Perrotta G (2019) Depressive disorders: Definitions, contexts, differential diagnosis, neural correlates and clinical strategies. *Arch Depress Anxiety* 5: 009-033. [Link: https://bit.ly/2KADvDm](https://bit.ly/2KADvDm)
49. Perrotta G (2019) Panic disorder: definitions, contexts, neural correlates and clinical strategies. *Current Trends in Clinical & Medical Sciences* 1. [Link: https://bit.ly/38IG6D5](https://bit.ly/38IG6D5)
50. Perrotta G (2019) Obsessive-Compulsive Disorder: definition, contexts, neural correlates and clinical strategies. *Scientific Journal of Neurology* 1: 08-16. [Link: https://bit.ly/3pxNbNu](https://bit.ly/3pxNbNu)
51. Perrotta G (2019) Behavioral addiction disorder: definition, classifications, clinical contexts, neural correlates and clinical strategies. *J Addict Behav* 2. [Link: https://bit.ly/3rAT9ip](https://bit.ly/3rAT9ip)
52. Perrotta G (2019) Delusions, paranoia and hallucinations: definitions, differences, clinical contexts and therapeutic approaches. *Scientific Journal of Neurology (CJNE)* 1: 22-28. [Link: https://bit.ly/3ht2nKz](https://bit.ly/3ht2nKz)
53. Perrotta G (2019) Bipolar disorder: definition, differential diagnosis, clinical contexts and therapeutic approaches. *J Neuroscience and Neurological Surgery* 5. [Link: https://bit.ly/34SoC67](https://bit.ly/34SoC67)
54. Perrotta G (2019) The reality plan and the subjective construction of one's perception: the strategic theoretical model among sensations, perceptions, defence mechanisms, needs, personal constructs, beliefs system, social influences and systematic errors. *J Clinical Research and Reports* 1. [Link: https://bit.ly/3b34baH](https://bit.ly/3b34baH)
55. Perrotta G (2020) Suicidal risk: definition, contexts, differential diagnosis, neural correlates and clinical strategies. *J Neuroscience Neurological Surgery* 6: 114. [Link: https://bit.ly/3aMqcu5](https://bit.ly/3aMqcu5)
56. Perrotta G (2020) Borderline Personality Disorder: definition, differential diagnosis, clinical contexts and therapeutic approaches. *Ann Psychiatry Treatm* 4: 043-056. [Link: https://bit.ly/3hx2B1N](https://bit.ly/3hx2B1N)
57. Perrotta G (2020) Narcissism and psychopathological profiles: definitions, clinical contexts, neurobiological aspects and clinical treatments. *J Clin Cases Rep* 4: 12-25. [Link: https://bit.ly/2X8wzzF](https://bit.ly/2X8wzzF)
58. Perrotta G (2020) Psychotic spectrum disorders: definitions, classifications, neural correlates and clinical profiles. *Ann Psychiatry Treatm* 4: 070-084. [Link: https://bit.ly/2QI9kNc](https://bit.ly/2QI9kNc)
59. Perrotta G (2021) Maladaptive stress: Theoretical, neurobiological and clinical profiles. *Arch Depress Anxiety* 7: 001-007. [Link: https://bit.ly/3sDs39Y](https://bit.ly/3sDs39Y)
60. Perrotta G (2021) The state of consciousness: from perceptual alterations to dissociative forms. Defining, neurobiological and clinical profiles. *J Neuro Neurol Sci Disord* 7: 006-018. [Link: https://bit.ly/3n24oPI](https://bit.ly/3n24oPI)
61. Perrotta G (2020) The strategic clinical model in psychotherapy: theoretical and practical profiles. *J Addict Behav* 3: 5. [Link: https://bit.ly/3aPMx9X](https://bit.ly/3aPMx9X)
62. Perrotta G (2020) Accepting "change" in psychotherapy: from consciousness to awareness. *Journal of Addiction Research and Adolescent Behaviour* 3. [Link: https://bit.ly/36Vw80Q](https://bit.ly/36Vw80Q)
63. Perrotta G (2021) Strategic psychotherapy and the "decagonal model" in clinical practice. *Ann Psychiatry Treatm* 5: 028-035. [Link: https://bit.ly/3iCCwzs](https://bit.ly/3iCCwzs)
64. Perrotta G (2021) "Perrotta Psychotherapeutic Protocol for Disorder of the Neurotic Area (PPP-DNA)": proposal of protocol, profiles and clinical applications. *Open J Trauma* 5: 010-018. [Link: https://bit.ly/3lLW5QL](https://bit.ly/3lLW5QL)
65. Angott AM, Comerford DA, Ubel PA (2013) Imagining life with an ostomy: Does a video intervention improve quality-of-life predictions for a medical condition that may elicit disgust? *Patient Education and Counseling* 91: 113-119. [Link: https://bit.ly/3NwVPZF](https://bit.ly/3NwVPZF)
66. Aronovitch SA, Sharp R, Harduar-Morano L (2010) Quality of Life for Patients Living With Ostomies. Influence of Contact With an Ostomy Nurse. *J Wound Ostomy Continence Nurs* 37: 649-653. [Link: https://bit.ly/36D3UeD](https://bit.ly/36D3UeD)
67. Brown H, Randle J (2005) Living with a stoma: a review of the literature. *J Clin Nurs* 14: 74-81. [Link: https://bit.ly/3JPoLd3](https://bit.ly/3JPoLd3)
68. Concepción CD, Bonill-de Las Nieves C, Hernández-Zambrano SM, Montoya-Juárez R, Morales-Asencio JM, et al. (2019) Living With an Intestinal Stoma: A Qualitative Systematic Review. *Qual Health Res* 29: 1255-1265. [Link: https://bit.ly/3JQYpaq](https://bit.ly/3JQYpaq)
69. Cotrim H, Pereira G (2008) Impact of colorectal cancer on patient and family: Implications for care. *Eur J Oncol Nurs* 12: 217-226. [Link: https://bit.ly/3JP1NTr](https://bit.ly/3JP1NTr)
70. Dabirian A, Yaghmaei F, Rassouli M, Tafreshi MZ (2010) Quality of life in ostomy patients: a qualitative study. *Patient Preference and Adherence* 5: 1-5. [Link: https://bit.ly/3lI2b4E](https://bit.ly/3lI2b4E)
71. Fortes RC, Cavalcante Monteiro TMR, Kimura CA (2012) Quality of life from oncological patients with definitive and temporary colostomy. *Journal of Coloproctology (Rio de Janeiro)* 32: 253-259. [Link: https://bit.ly/3LmEZL8](https://bit.ly/3LmEZL8)
72. Kimura CA, Kamada I, Guilhem D, Monteiro PS (2013) Quality of life analysis in ostomized colorectal cancer patients. *Journal of Coloproctology* 33: 216-221. [Link: https://bit.ly/3LrabiT](https://bit.ly/3LrabiT)
73. Krouse R, Grant M, Ferrell B, Dean G, Nelson R, et al. (2007) Quality of Life Outcomes in 599 Cancer and Non-Cancer Patients with Colostomies. *J Surg Res* 138: 79-87. [Link: https://bit.ly/3iGobT3](https://bit.ly/3iGobT3)
74. Luo B, Qin HY, Zheng MC (2014) Correlation between social relational quality and hope among patients with permanent colostomies. *International Journal of Nursing Sciences* 1: 405-409. [Link: https://bit.ly/3tN9bcl](https://bit.ly/3tN9bcl)
75. Salles V, Becker C, Faria G (2014) The influence of time on the quality of life of patients with intestinal stoma. *Journal of Coloproctology* 34: 73-75. [Link: https://bit.ly/3NsCOY5](https://bit.ly/3NsCOY5)



76. Sprangers MA, Taal BG, Aaronson NK, te Velde A (1995) Quality of Life in Colorectal Cancer: Stoma vs. Nonstoma Patients. *Diseases of the Colon & Rectum* 38: 361-369. [Link: https://bit.ly/3IQ7orb](https://bit.ly/3IQ7orb)
77. Lai E, Peterson AC, Liu G, et al. (2018) Psychometric validation of the Stoma-Qol questionnaire in Canadian cross-sectional sample of colostomy and ileostomy patients. *Scand J Gastroenterol* 53: 721-726. [Link: https://bit.ly/3uwFewe](https://bit.ly/3uwFewe)
78. Perrotta G (2021) The intestinal microbiota: towards a multifactorial integrative model. Eubiosis and dysbiosis in morbid physical and psychological conditions. *Arch Clin Gastroenterol* 7: 024-035. [Link: https://bit.ly/36VwRPC](https://bit.ly/36VwRPC)
79. Perrotta G (2021) Intestinal dysbiosis: definition, clinical implications, and proposed treatment protocol (Perrotta Protocol for Clinical Management of Intestinal Dysbiosis, PID) for the management and resolution of persistent or chronic dysbiosis. *Arch Clin Gastroenterol* 7: 056-063. [Link: https://bit.ly/3BVkrQH](https://bit.ly/3BVkrQH)
80. Gallagher K, Flint A, Mouzaki M, Carpenter A, Haliburton B, et al. (2018) Blenderized Enteral Nutrition Diet Study: Feasibility, Clinical, and Microbiome Outcomes of Providing Blenderized Feeds Through a Gastric Tube in a Medically Complex Pediatric Population. *JPEN J Parenter Enteral Nutr* 42: 1046-1060. [Link: https://bit.ly/3uBsrZr](https://bit.ly/3uBsrZr)
81. Qian T, Zhu H, Zhu L, Chen C, Shen C, et al. (2020) Small intestinal microbiota composition and the prognosis of infants with ileostomy resulting from distinct primary diseases. *BMC Gastroenterol* 20: 224. [Link: https://bit.ly/3DiRswz](https://bit.ly/3DiRswz)
82. van Trijp MPH, Rosch C, An R, Keshtkar S, Logtenberg MJ, et al. (2020) Fermentation Kinetics of Selected Dietary Fibers by Human Small Intestinal Microbiota Depend on the Type of Fiber and Subject. *Mol Nutr Food Res* 64: e2000455. [Link: https://bit.ly/3uAyVb4](https://bit.ly/3uAyVb4)
83. Zoetendal EG, Raes J, van den Bogert B, Arumugam M, Booijink CCGMC et al. (2012) The human small intestinal microbiota is driven by rapid uptake and conversion of simple carbohydrates. *ISME J* 6: 1415-1426. [Link: https://go.nature.com/3IRF1J4](https://go.nature.com/3IRF1J4)
84. Cotter PD (2011) Small intestine and microbiota. *Curr Opin Gastroenterol* 27: 99-105. [Link: https://bit.ly/3ISCzSG](https://bit.ly/3ISCzSG)
85. Gulati M, Singh SK, Corrie L, Pal Kaur I, Chandwani L (2020) Delivery routes for faecal microbiota transplants: Available, anticipated and aspired. *Pharmacol Res* 159: 104954. [Link: https://bit.ly/3JILAPv](https://bit.ly/3JILAPv)
86. Bauer CM, Zhang X, Long MD, Sandler RS (2020) Characteristics of Fecal Microbiota Transplantation Use in Inflammatory Bowel Disease Cohort. *Crohn's Colitis* 2: otaa024. [Link: https://bit.ly/36uys2h](https://bit.ly/36uys2h)

### Discover a bigger Impact and Visibility of your article publication with Peertechz Publications

#### Highlights

- ❖ Signatory publisher of ORCID
- ❖ Signatory Publisher of DORA (San Francisco Declaration on Research Assessment)
- ❖ Articles archived in worlds' renowned service providers such as Portico, CNKI, AGRIS, TDNet, Base (Bielefeld University Library), CrossRef, Scilit, J-Gate etc.
- ❖ Journals indexed in ICMJE, SHERPA/ROMEO, Google Scholar etc.
- ❖ OAI-PMH (Open Archives Initiative Protocol for Metadata Harvesting)
- ❖ Dedicated Editorial Board for every journal
- ❖ Accurate and rapid peer-review process
- ❖ Increased citations of published articles through promotions
- ❖ Reduced timeline for article publication

Submit your articles and experience a new surge in publication services (<https://www.peertechz.com/submission>).

*Peertechz journals wishes everlasting success in your every endeavours.*