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ORIGINAL ARTICLE

Self-efficacy, postoperative care satisfaction, body image and sexual functioning in ARM patients

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Abstract
Introduction Several studies indicate that self-efficacy may have profound positive effects on health promotion, clinical practice and other outcomes, like patients' satisfaction and quality of life. However no studies on self-efficacy have been conducted in anorectal malformation (ARM) patients. Aim of the present study is to analyze the relationships between self-efficacy and satisfaction with postoperative care in ARM patients or in their parents and between self-efficacy, body image and sexual functioning in adult ARM patients.
Material and methods A total of 237 patients from 2 to 49 years old (mean age = 13.35 years old) participated in the study. Questionnaires were sent to members of the Italian Association for Anorectal Malformation (AIMAR) by ordinary mail. All subjects were asked to fill in the AIMAR questionnaire in which information about the perceived severity of malformation and postoperative care satisfaction were collected. For patients under 16 years old, parents were asked to fill in a questionnaire and a parent self-efficacy scale concerning the perceived ability to overcome possible difficulties related to ARM. Participants above 16 years of age were asked to fill in the questionnaire, a self-efficacy scale and some body image and sexual functioning items.
Results The main findings indicate that those patients who feel more efficacious are those who feel less embarrassed and shame about their body, feel less frequently unsatisfied of their body and their physical condition, and have the perception to be less limited in their sexual activities. Considering patients under 16 years old, results indicate that more parents feel efficacious, the more they are satisfied of the postoperative care, especially of some health care providers.
Conclusions In ARM patients self-efficacy and parents self efficacy are correlated to important outcomes, respectively body image and sexual functioning in adults and postoperative care satisfaction in parents of those under 16 years old. Future longitudinal studies are needed to evaluate causal relations between the concepts considered.

Keywords Self-efficacy · Postoperative care satisfaction · ARM · Body image · Sexual functioning

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Introduction

Anorectal malformations (ARM) are congenital anomalies of the rectum that require surgical interventions in the neonatal period and postoperative follow up and therapies to control fecal and urinary incontinence. This sequaele continues into adulthood and may include soiling and sexual dysfunctions.

Several studies were conducted to investigate quality of life in adults and younger patients [1, 2], and some results

indicate that while the level of fecal continence achieved and other impairments had almost no effect on the quality of life of children and adults patients [1, 3, 4], it appears that psychosocial functioning of the adult patients [2] and parental factors [1] had important effect on the quality of life of patients. Several aspects of psychosocial functioning have been investigated in previous studies, like self-esteem, self-mastery, social support, depression and behavioural problems [1, 2, 5], but no studies have investigated self-efficacy in ARM patients or in their mothers, and its relation with other aspects of quality of life and post-operative care satisfaction.

Following Bandura [6], self-efficacy is defined as people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives. It is concerned not with the skills one has but with judgments of what one can do with whatever skills one possesses and it is distinguished from more global psychological constructs traditionally measured by distress or personality scales.

Several studies indicate that perceived self-efficacy may have profound positive effects on health promotion, patient education, compliance to medication, self-care, patient outcomes and quality of life [7–10].

A bourgeoning area of research [11] has concentrated also on parental self-efficacy, defined as parents' perceptions of their ability to influence the behaviour and development of their children. Studies that have investigated parenting self-efficacy, have found that this construct predicts responsivity to children's needs active parental coping orientations and other parental outcomes [11–13].

We were interested in the role that self-efficacy plays in managing the challenges to functioning posed by ARM, and its difficulties in adult patients and in parents of children with this problem. We, therefore, designed a questionnaire which helped to elucidate the role that patient self-efficacy plays in facing obstacles and challenges linked to ARM, and, considering patients under 16 years old, a questionnaire that investigate their parents' self-efficacy in dealing with obstacles and difficulties linked to this defect. Insight into the role played by self-efficacy among ARM patients may be of relevance for clinicians, since self-efficacy can be taught and changed. In fact, self-efficacy theory incorporates specific methods by which efficacy can be enhanced, such as skills mastery, modelling, re-interpretation of physiological symptoms, and persuasion.

The first goal of this study was therefore, to investigate the relation between self-efficacy and post-operative care satisfaction in patients and in parents of ARM young patients. A second goal was to investigate the relationship between self-efficacy, body image and sexual functioning in adult patients.

Materials and methods

Between September and November 2007, a questionnaire was sent by mail to all families of the Italian Association for Anorectal Malformation (AIMAR) database. This database includes patients residing in Italy who were operated for different types of ARM in surgical centres across the country. Questionnaires were sent to 540 families.

For those patients who were at least 16 years old, it was asked to fill in the questionnaire personally, while if they were younger, mothers were asked to fill in the questionnaire. The study was approved by the ethical committee of the Department of Psychology of the University of Rome and only members who signed the informed consent were included in the study. Informed consent was signed by the patient if he or she was at least 18 years old and by the mother if he or she was under this age. Questionnaire were in part different for patients and for mothers. Both patients and parents were asked to fill in the AIMAR questionnaire that was already used in a previous study conducted by the Italian Association for ARM [14], while patients and parents were asked to fill in two different self-efficacy scales: the patient self-efficacy scale and the parents self-efficacy scale. Since in the literature no self-efficacy scale for ARM exists, we specifically developed these self-efficacy scales for the present study, following Bandura guidelines [6], considering the literature on other chronic diseases, and collecting lists of possible obstacles and difficulties related to ARMs, which patients or their parents could meet.

Adult patients were also asked to completed the Body image and sexual functioning scales from the HAQL questionnaire [15], which is a disease-specific questionnaire that measures quality of life in ARM patients.

Patients' self-efficacy scale

Patients who have at least 16 years old completed an 8-item self-efficacy scale ($\alpha = 0.73$). Examples of the items from this scale were: "How confident do you feel to manage to stay one entire day outside home?" and "How confident do you feel to manage potential sexual problems with your partner?"

Parents' self-efficacy scale

Parents of patients under 16 years old completed an 14-item self-efficacy scale ($\alpha = 0.92$). Examples of the items from this scale were: "How confident do you feel to talk about the disease with your son/daughter?" and "How confident do you feel to manage the body of your son/daughter?"

Each item of both scales answered on a 5-point response scale ranging from 1 (not confident at all) to 5 (totally

confident). A total score was compute for each scale, calculating the mean of the items of each scale.

Postoperative care satisfaction and perception of the severity of the malformation

Both patients and parents were asked to answer the satisfaction items concerning post-operative care drawn from the AIMAR questionnaire [14]. These items investigated both general satisfaction with post-operative care, and satisfaction with specific post-operative health care providers (surgeon, urologist, paediatrician, nurse, physiotherapist, psychologist, stomatherapist, welfare worker and alternative specialists). Each item of the scale answered on a 5-point response scale ranging from 1 (not satisfied at all) to 5 (totally satisfied).

Considering the perception of the severity of the malformations, all participants were also asked to answered the following question: “The doctor and the other health-care providers who follow the person affected by ARM judges that your case (or your son/daughter case) was: among the most severe (1); among those less severe (2); among those not severe at all (3).

Body image and sexual functioning

Patients who have at least 16 years old answered items from the Body Image scale and from the Sexual Functioning scale from the HAQL [15] questionnaire. Examples of items for the Body image scale ($\alpha = 0.96$) were: “Have you felt embarrassed due to your condition?” and “Have you felt physically less attractive due to your condition? Examples of items for the Sexual functioning scale were “How often did your condition restrict your sexual activity?” and “Did your condition restrict your sexual enjoyment? ($\alpha = 0.89$). Each item of the scale answered on a 5-point response scale ranging from 1 (Never) to 5 (Always). Two total scores were compute respectively for the Body image and for the Sexual functioning scale, calculating the mean of the items of each scale. Parents were not required to answer the items of these scales.

To examine the relationship between self-efficacy and postoperative care, correlations between self-efficacy and the general postoperative care satisfaction items were calculated both for the adults sample and for the patients sample. Besides, correlations between self-efficacy and each health-care provider satisfaction items were also calculated for both samples.

After calculating total scores for the body image and for the sexual functioning scales, correlations were also calculated between self-efficacy and these scores in the adult sample.

Results

Of the 540 questionnaires sent to families, 237 (62 patients; 175 parents) were returned with informed consent, for a response rate of 43.8%. The mean age of children in the parents sample was 7.3 years old (SD = 4.26). The mean age in the adults sample was 24.0 years old (SD = 8.68). The age distribution for each sample is reported in Fig. 1. In the patients sample, 59.7% were males. In the parents sample, 61% of parents have a son with a malformation and 38.9% have a daughter with this defect.

Considering the adult sample, any of the correlation between self-efficacy and post-operative care was significant. It has to be noted, however, that the adult sample was much more smaller than the parents one. Instead, several correlations for the patients sample were significant (Table 1).

Correlation between perception of the severity of malformations and self-efficacy was also not significant, neither in the adult sample, nor in the patients one.

Considering the correlations between self-efficacy and the body image and sexual functioning scales in the adult sample, both correlations were significant and negative. For body image satisfaction, $\rho = -0.60$; $P < 0.01$; for sexual functioning $\rho = -0.33$; $P < 0.05$. Perception of the severity of the malformation did not correlate with body image and sexual functioning.

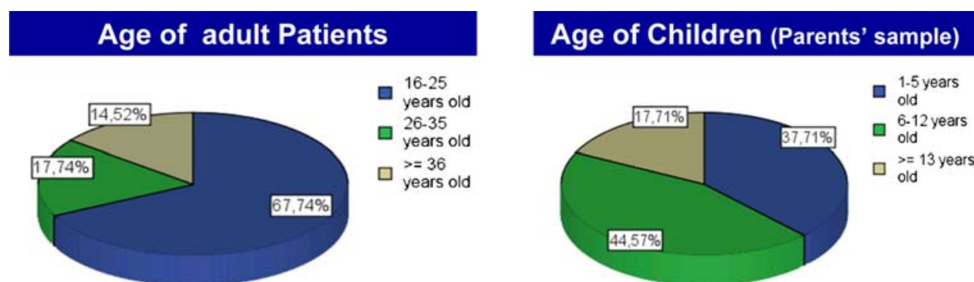

Fig. 1 Age of the patients in the adult sample and in the parents' one

Table 1 Correlations between self-efficacy and postoperative care satisfaction in the parents' sample

	N	Self-efficacy
Postoperative care satisfaction (in general)	159	0.20*
Primary surgeon	156	0.19*
Other surgeons	143	0.14
Urologist	92	0.10
Paediatrician	131	0.20*
Nurse	138	0.12
Physiotherapist	45	0.02
Psychologist	58	0.37**
Stomatherapist	39	0.45**
Welfare worker	38	0.20
Alternative specialist	21	0.16

The ρ value is shown

* Correlation is significant with a P value of less than 0.05

** Correlation is significant with a P value of less than 0.01

Discussion

Relation between patients or parental self-efficacy and postoperative care satisfaction

This is the first study that evaluate self-efficacy and postoperative care satisfaction in patients and parents.

We found a positive and a significant relation between parental self-efficacy and postoperative care satisfaction. This is consistent with studies that have investigated parental self-efficacy, that reported that this construct predict parental responsivity to children's needs [12], active parental coping orientations [13] and few perceptions of child behaviour problems [16]. Our results indicate that those mothers who have higher assurance in their capabilities and who better approach difficult tasks related to their child malformations, are also those who are more satisfied of the postoperative care received for their child, while mothers who feel less capable in dealing with the difficulties related to their child defect, such as, talking about the malformation with their child, or evaluate whether their child may have the best treatment and care, are also those who are less satisfied. According with research on self-efficacy [6], we can make an hypothesis that self-efficacious mothers may be more likely to attempt adaptive strategies, choosing courses of action that lead them to be more satisfied, for example they may be more competent in gathering information about the ARMs, or they may be more able to evaluate among different surgical centres and health providers, choosing those that lead them to be more satisfied.

In particular, considering satisfaction with specific postoperative health care providers, being more self-efficacious for mothers is correlated to satisfaction with some health professionals, such as the stomatherapist, the psychologist, the paediatrician and other surgeons, other than the one who operated the patient the first time. As in the previous case of general postoperative satisfaction, we can recur to the explanation that those mothers who perceived themselves as more efficacious may also be those who are more able to ask for aid and support from these specialized health providers. These may be particularly true for the stomatherapist and for the psychologist. In fact, the number of mothers that answered the stomatherapist and the psychologist items was very small, nevertheless these two correlations were quite relevant. Although the above conclusions are certainly logical, a limit of this study is its correlational nature that can't give assurance regarding the direction of the associations, therefore future longitudinal studies are necessary to establish causality.

Patients or parental self-efficacy and perception of the severity of the malformation

Considering the perception of the severity of the malformation, this variable do not correlate neither with self-efficacy (in parents and in adults), nor with postoperative care satisfaction (in parents and in adults). Based on our results, we can conclude that one can have high self-efficacy both in presence of a severe or not severe malformation (or in presence of his son/daughter severe or not severe malformation) and that the perception of severity of the malformation have no influences on postoperative satisfaction, while parental self-efficacy does, as the correlation between parental self-efficacy and postoperative care evidences. Moreover severity of the malformation is not correlated neither with body image nor with sexual functioning in the adult sample, while self-efficacy does.

On the whole, these results indicate that parents can be satisfied with postoperative care, and patients can have a good body image and sexual functioning, also in presence of severe malformation. These data are consistent with those form other studies. For example, in an adult sample, Hartmann et al. [2] found that psychosocial functioning had the most important effect on the quality of life of patients with ARM, while objective problems related to malformations such as fecal incontinence and constipation had almost no effect on their quality of life. Considering a sample of 286 adult and younger patients, Poley et al. [3] concluded that impairments are imperfect predictors of health related quality of life and that not every impairment automatically triggers a decrease in the quality of life of patients.

Relation between patients self-efficacy, body image and sexual functioning

Considering the adult sample we were interested in investigating the relationship between self-efficacy and two aspects of the quality of life in adults: body image and sexual functioning. We find a significant negative correlation between self-efficacy and body image, indicating that those patients who perceived themselves as more efficacious in dealing with their malformation are also those who feel less frequently embarrassed, unsatisfied and ashamed about their body. The negative correlation between self-efficacy and sexual functioning also indicate that more these patients perceived themselves as able to overcome possible difficulties and obstacles related to their malformations, such as talking with others about their problem, manage to spend an entire day outside or sleep over, challenge the problems related to the malformation in the workplace etc., less they feel that their condition restrict their sexual activity and enjoyment.

Based on these results we conclude that therapeutic interventions designed to enhance patients and parents self efficacy in ARM patients, through modelling of positive experiences, and through opportunities structured to maximize success, carry the potential to build parental satisfaction concerning postoperative care of their children and better quality of life in the areas of body image and sexual functioning in adult patients.

According to Bandura [17] enactive attainments, offers the most influential source of self-efficacy by allowing a person to participate actively in the task, thereby providing hands-on interaction with the task and vicarious experience enhances self-efficacy in an observer by enabling that individual to observe a model and complete the task successfully [18]. By observing a model, the observer may be persuaded that his or her ability to achieve success in performing the task is higher than prior to the observation. The greatest increase in self-efficacy occurs when the model and the observer are peers. In several countries parents and families association of ARM patients exist [14, 19, 20 Vereniging Anusatresie-Dutch patients organization]. These contexts may be the eligible settings where mastery and modeling programs can take place since people have the possibility to share the same experiences and may acquire new skills, learning from other participants that have found and challenge the same difficulties.

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