



## Quality of life and motivation to change in eating disorders. Perception patient–psychiatrist

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### ABSTRACT

**Purpose:** To assess motivation to change (Mch) of patients with an eating disorder (ED) and its relationship with quality-of-life (QoL) by comparing patient and psychiatrist perceptions.

**Method:** Patients (n = 358) with an ED completed the disease-specific Health-Related Quality of Life for Eating Disorders (HeRQoLED) questionnaire, the Eating Attitudes Test (EAT-26) and the Short-Form Health Survey (SF-12) at baseline; 273 completed them after 1 year of treatment. The relationship between health-related quality of life (HRQoL) and the Mch stage was assessed using analysis of variance. Chi-square and Kappa statistical analysis assessed congruence in motivational change perception of the patients and psychiatrists.

**Results:** Higher patient-reported Mch was associated with higher HRQoL at the study beginning and end but not using the patient Mch as perceived by the psychiatrist. Initially, the patient and psychiatrist perceptions of Mch differed (kappa coefficient,  $-0.01$ ); after 1 year they tended to converge ( $k = 0.34$ ).

**Conclusions:** Higher Mch and higher QoL are positively associated. However, patient and psychiatrist perceptions of Mch and the relationship with QoL differ. After 1 year of treatment, these differences decreased.

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## 1. Introduction

A primary obstacle in treating eating disorders (EDs) is the lack of motivation to change (Mch) by patients and their ambivalence regarding treatment (Geller, Cockell, & Drab, 2001).

The transtheoretical model of Prochaska (Prochaska & Di Clemente, 1992) describes this concept well, and several authors have attempted to apply it to EDs (Blake, Turnbull, & Treasure, 1997; Engel & Wilms, 1986; Hasler, Delsignore, Milos, Buddeberg, & Schnyder, 2004; Sullivan & Ch., 2001; Vansteenkiste, Soenens, & Vandereycken, 2005; Wilson & Schlam, 2004). According to this model, patients are said to be at different disease stages based on their degree of motivation and attitude toward change.

The aims of the current study were to assess the evolution of the MCh stage in patients with an ED after 1 year of treatment and its relationship with patients' health-related quality of life (HRQoL) and with their psychopathology, and identify potential differences between patient and psychiatrist perceptions of these variables.

## 2. Method

### 2.1. Participants and procedures

Four psychiatrists experienced with EDs from three health centers in Bizkaia, Spain, collaborated in the patient recruitment. The criteria for study inclusion were that participants were diagnosed with an ED according to the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) (American Psychiatric Association, 1994); be treated on a regular basis in one of the three centers; not have a clinically serious multiorgan disorder, cerebral organic deterioration, or acute psychosis preventing them from completing questionnaires; and agree to participate voluntarily after being informed personally by his or her psychiatrist of the details of the study and after providing informed consent. The ethics review board of each center approved the study.

A total of 435 patients fulfilled these criteria. All the measurement instruments were mailed to the participants.

During the year, each patient participated in a psychopharmacologic and psychotherapeutic treatment program consisting of cognitive behavioral therapy, nutritional orientation and counseling, psychoeducation; motivational therapy, social skills training, and therapy to modify a distorted perception of body image. Evaluation

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of the effect of the treatment on the Mch stage was beyond the scope of this study.

2.2. Measures

Patients completed the following questionnaires at baseline and after one year of treatment. The EAT 26 (Garner & Garfinkel, 1979; Garner, Olmsted, Bohr, & Garfinkel, 1982), the SF-12 (Ware, Kosinsky, & Keller, 1996) and the Health-Related Quality of Life in Eating Disorders (HeRQoLED) (Las Hayas, Quintana, Padierna, & Muñoz, 2003a; Las Hayas, Urresti, Madrazo, & Cook, 2003b; Las Hayas et al., 2007, 2006) questionnaires are the first version of a new specific questionnaire for evaluating the impact of an ED on the quality of life of the individual. Lower scores indicating better QoL.

The psychiatrists completed the clinical record sheet which gathered information regarding various patient aspects, including the diagnosis according to the DSM-IV criteria, sociodemographic and family data, weight and height, referring center, family history, time elapsed since disease onset and treatment, current treatment, previous admissions and previous suicide attempts.

The Mch stage was measured using one item that reflected the various stages of Prochaska (Prochaska & Di Clemente, 1992).

2.3. Statistical analysis

The mean and standard deviations were calculated for the HeR-QoLED domains and numbers in each category and corresponding percentages for the Mch levels. Analysis of variance (ANOVA) was used to compare the means of the HeRQoLED domains, the EAT-26 and the SF-12 summarized scales as a function of the different Mch stages. The Scheffe method was used for post-hoc comparisons.

To assess the association between the Mch perceived by the psychiatrist and that of the patient, the chi-square test was used. Finally, weighted Kappa coefficients with their confidence intervals (CI) at 95% level were calculated to measure the agreement between the clinician and the patient.

All statistical analyses were calculated with the SAS statistical software (v9.1).  $p < 0.05$  was considered significant.

3. Results

A total of 358 patients returned the battery of tests completed (response rate, 82%) of which 61 were diagnosed by their psychiatrist with anorexia nervosa, 47 with bulimia nervosa, and 245 with an ED not otherwise specified (EDNOS). In five cases, reaching a diagnosis was impossible. A total of 96.6% patients were women (mean age, 27 years; mean body mass index, 21.4). Each of the 358 patients in the initial sample received the battery of questionnaires again 1 year later. The protocol followed was the same as in the first phase. The response rate this time was 76%, meaning that the final list of participants included 273 patients.

Table 1 shows the change in the HRQoL and the psychopathological severity over 1 year as a function of the Mch stage as perceived by the patient at the start of the study.

According to the HeRQoLED questionnaire, the HRQoL improved after 1 year of treatment. A higher Mch stage was associated with a higher level HRQoL ( $p < 0.001$ ). The highest reported HRQoL corresponded to patients who were classified in stage 5 (maximum motivation) at the beginning of the study. Patients at this stage reported significantly better QoL in most of the HeRQoLED domains ( $p > 0.001$ ), while the QoL worsened from Mch 1 to Mch 2.

However, patients who classified themselves as stage 1 and those who consistently classified themselves in stage 5 had the best QoL scores. Patients who denied the disorder (stage 1) also denied its impact on the QoL.

**Table 1** Evolution of the Health-Related Quality of Life for Eating Disorders (HeRQoLED) and EAT-26 scores as a function of patients' motivation to change (Mch), as assessed by the patient, at the beginning of the study.

HeRQoLED	Mch stage at the beginning (patient) quality of life at the beginning mean (SD)					Mch stage at the beginning (patient) quality of life 1 year later mean (SD)					p
	1 <sup>a</sup> n = 4	2 n = 23	3 n = 50	4 n = 166	5 n = 109	1 <sup>a</sup> n = 4	2 n = 13	3 n = 38	4 n = 129	5 n = 86	
Symptoms	35.0(26.77)	49.9(19.03) <sup>5</sup>	48.1(20.12) <sup>5</sup>	41.9(19.3) <sup>5</sup>	28.4(16.87) <sup>2,3,4</sup>	30.6(27.26)	46.5(17.28) <sup>5</sup>	39.7(20.04) <sup>5</sup>	35.6(18.35) <sup>5</sup>	24.(17.55) <sup>2,3,4</sup>	<.0001
Restrictive behaviors	37.3(33.88)	48.2(24.79) <sup>4,5</sup>	37.8(22.15) <sup>5</sup>	32.6(22.70) <sup>5</sup>	18.2(18.61) <sup>2,3,4</sup>	40.(46.90)	41.1(28.05) <sup>5</sup>	34.3(24.28) <sup>5</sup>	28.(25.97) <sup>5</sup>	13.(19.17) <sup>2,3,4</sup>	<.0001
Body image	57.2(41.15)	65.3(25.83) <sup>5</sup>	66.9(22.09) <sup>5</sup>	60.7(25.30) <sup>5</sup>	47.4(25.73) <sup>2,3,4</sup>	52.7(51.20)	70.(24.09) <sup>5</sup>	63.3(23.69) <sup>5</sup>	57.7(25.45) <sup>5</sup>	43.5(25.08) <sup>2,3,4</sup>	<.0001
Mental health	53.1(23.21)	64.7(21.09) <sup>5</sup>	56.7(18.96) <sup>5</sup>	53.4(18.96) <sup>5</sup>	42.9(19.90) <sup>2,3,4</sup>	43.1(35.96)	58.8(22.18)	51.7(19.03)	51.1(20.29) <sup>5</sup>	40.6(20.20) <sup>4</sup>	0.0009
Emotional role	48.7(31.98)	47.2(26.08)	47.3(30.21) <sup>5</sup>	42.5(26.83) <sup>5</sup>	31.2(23.97) <sup>3,4</sup>	33.7(38.16)	50.7(29.07) <sup>5</sup>	42.8(27.42) <sup>5</sup>	38.2(24.83) <sup>5</sup>	24.8(22.20) <sup>2,3,4</sup>	<.0001
Physical role	36.2(17.96)	44.7(29.93) <sup>5</sup>	36.(29.59) <sup>4,5</sup>	31.6(26.41) <sup>3,5</sup>	20.9(20.19) <sup>3,4</sup>	20.(28.28)	45.(25.49) <sup>5</sup>	29.7(23.65)	30.3(25.68) <sup>5</sup>	19.3(20.53) <sup>2,4</sup>	0.0008
Personality traits	46.(31.06)	58.0(27.61) <sup>5</sup>	60.0(22.56) <sup>4,5</sup>	57.4(23.87) <sup>3,5</sup>	45.8(24.12) <sup>2,3,4</sup>	45.(40.18)	54.4(22.83)	60.8(22.11) <sup>5</sup>	50.9(24.19)	42.3(22.12) <sup>3</sup>	0.0014
Social relations	42.7(33.74)	55.5(29.50) <sup>5</sup>	57.8(26.07) <sup>4,5</sup>	51.3(27.25) <sup>3,5</sup>	26.4(25.72) <sup>2,3,4</sup>	36.4(41.01)	46.7(27.89)	47.2(24.75) <sup>5</sup>	43.5(27.93) <sup>5</sup>	23.9(26.43) <sup>3,4</sup>	<.0001
EAT-26	23.7(28.33)	34.8(17.69) <sup>5</sup>	31.7(16.59) <sup>4,5</sup>	26.9(16.62) <sup>3,5</sup>	14.6(14.22) <sup>2,3,4</sup>	24.2(29.53)	28.2(16.11) <sup>5</sup>	27.7(16.92) <sup>5</sup>	23.9(17.58) <sup>5</sup>	12.8(14.16) <sup>2,3,4</sup>	<.0001
PCS-12	45.4(8.39)	44.6(10.52)	46.2(9.37)	47.5(9.88)	51.5(8.30)	44.3(11.73)	47.6(5.60)	49.4(9.60)	50.(9.78)	51.7(8.03)	0.3925
MCS-12	33.9(14.77)	37.1(13.31)	35.7(10.56)	38.9(10.76)	41.6(11.04)	30.(13.75)	45.1(10.85)	35.1(11.70)	38.6(11.04)	41.1(11.4)	0.0402

EAT-26: Eating Attitudes Test-26. PCS-12 and MCS-12: physical and mental summary components of the SF-12 Health Survey. Superscripts make reference to the Mch stage with respect to which there is a significant difference according to the Scheffe test. SD: standard deviation. <sup>a</sup> Prochaska stages: 1 Lacking consciousness of their illness and motivation to change; 2 Consciousness of illness without intention to change; 3 Motivation to change without taking action; 4 Working to solve the problem; and 5 She/he has solved their problem totally or almost totally.

Regarding the EAT-26, a higher Mch stage was associated with a lower level of psychopathology at the beginning and end of the study ( $p < 0.001$ ). Lower total EAT-26 scores in each Mch stage were observed after 1 year of treatment.

The change in the HRQoL measured by the generic SF-12 questionnaire showed that a higher Mch stage was associated with better QoL, although this improvement was only significant in the case of the physical component of the questionnaire at the beginning of the study ( $p = 0.0055$ ).

Table 2 shows the values on the battery of tests at the follow-up as a function of the Mch stage as perceived by the patient and psychiatrist at the end of the study.

At the end of the study, all HerQoLED factors indicated that both higher patient- and psychiatrist-perceived Mch stages were associated with higher QoL. Further, higher Mch stages also were associated with lower levels of psychopathology as measured by the EAT-26 scale.

The SF-12 also indicated that higher Mch stages were associated with higher QoL. Regarding the physical component of the SF-12 and its relationship with the Mch score according to the psychiatrist's assessment, there was improvement, although it was not significant ( $p = 0.1093$ ).

We assessed the correlation between the self categorization of the Mch stage according to the patient and the psychiatrist. At the beginning of the study, the percentages differed greatly between the patients at the various Mch stages as assessed by the patients themselves and by the psychiatrists. Only 1.72% of patients who classified themselves at stage 4 were classified in the same stage by their psychiatrist. This tendency expands for the rest of the categories. Patients generally tended to classify themselves in higher Mch stages than the psychiatrists did.

These percentages are significantly lower after 1 year of treatment. Indeed, these percentages tended to converge and become similar across the various levels of motivation especially at stages 2 and 5. We measured the agreement among patients and psychiatrists through the kappa coefficient. The weighted kappa coefficient changed from  $-0.01$  at the beginning to  $0.34$  at the end of the study.

#### 4. Discussion

The strengths of this study were its prospective nature and the follow-up involving the assessment of the Mch stage and its relationship with HRQoL in a large sample ( $n = 358$ ) of patients with an ED and the differences in perception between patients and psychiatrists and its relationship with the psychopathology of the illness.

The current results indicated that patients had improved HRQoL after 1 year of multidisciplinary treatment assessed using a generic and a specific questionnaire. However, there are notable differences regarding the evolution of the HRQoL, considering the variable of the Mch stage of the patient as perceived by the patient and the psychiatrist, and analyzing it at the beginning of the study or after 1 year of follow-up.

Analysis of the Mch stages as perceived by patients showed that at the beginning of the study, those who reported being at an earlier stage of motivational readiness for change had a poorer QoL as assessed by the specific HerQoLED questionnaire compared to those who reported being in later stages of readiness.

We assessed the potential differences in the perception of the Mch stage between patients and psychiatrists. We calculated the percentage of patients who were classified in each motivational stage by both the psychiatrists and the patients themselves. This showed that at the beginning of treatment, there were great differences in perception and that these remained, although they were smaller, after 1 year of follow-up 4. According to these findings, after 1 year of treatment and a closer patient–psychiatrist relationship, the patients' and the psychiatrists' perceptions of the stages tended to converge and

**Table 2**  
Comparison of the Health-Related Quality of Life for Eating Disorders (HerQoLED) and EAT-26 scores as a function of patient's motivation to change (Mch) as assessed by patient and psychiatrist at the end of the study.

HerQoLED	Mch stage at 1 year (patient) quality of life 1 year after mean (SD)					Mch stage at 1 year (psychiatrist) quality of life 1 year after mean (SD)				
	2 <sup>a</sup> n = 10	3 n = 25	4 n = 126	5 n = 63	p	2 <sup>a</sup> n = 8	3 n = 61	4 n = 122	5 n = 79	p
Symptoms	46.2(13.01) <sup>5</sup>	48.9(21.79) <sup>4,5</sup>	35.(18.25) <sup>3,5</sup>	24.5(15.61) <sup>2,3,4</sup>	<.0001	42.1(22.70)	45.3(19.13) <sup>4,5</sup>	33.8(16.37) <sup>3,5</sup>	22.1(17.45) <sup>3,4</sup>	<.0001
Restrictive behaviors	48.7(29.70) <sup>5</sup>	46.6(26.98) <sup>4,5</sup>	26.4(24.98) <sup>3,5</sup>	14.5(20.41) <sup>2,3,4</sup>	<.0001	55.5(24.71) <sup>4,5</sup>	40.3(28.95) <sup>4,5</sup>	26.7(21.53) <sup>2,3,5</sup>	7.8(16.38) <sup>2,3,4</sup>	<.0001
Body image	79.9(21.59) <sup>5</sup>	67.8(20.93) <sup>5</sup>	58.2(25.17) <sup>5</sup>	41.5(24.21) <sup>2,3,4</sup>	<.0001	67.5(27.80) <sup>5</sup>	72.5(18.53) <sup>4,5</sup>	59.9(23.32) <sup>5</sup>	31.2(19.10) <sup>2,3,4</sup>	<.0001
Mental health	72.2(14.49) <sup>4,5</sup>	59.8(18.18) <sup>5</sup>	49.4(19.97) <sup>2</sup>	42.3(19.23) <sup>3</sup>	<.0001	64.1(23.05) <sup>5</sup>	60.1(18.17) <sup>4,5</sup>	49.5(18.42) <sup>3,5</sup>	35.3(19.26) <sup>2,3,4</sup>	<.0001
Emotional role	56.6(19.20) <sup>5</sup>	51.6(19.29) <sup>4,5</sup>	36.1(25.05) <sup>3,5</sup>	24.8(21.30) <sup>2,3,4</sup>	<.0001	50.6(29.93) <sup>5</sup>	47.5(24.77) <sup>5</sup>	36.5(24.14) <sup>5</sup>	21.3(22.31) <sup>2,3,4</sup>	<.0001
Physical role	42.2(27.51)	43.6(18.23) <sup>4,5</sup>	27.9(26.70) <sup>3</sup>	20.5(18.62) <sup>3</sup>	<.0001	36.8(30.34)	40.7(24.78) <sup>4,5</sup>	26.8(22.01) <sup>3,5</sup>	16.3(19.16) <sup>3,4</sup>	<.0001
Personality traits	67.6(17.12) <sup>5</sup>	64.7(19.34) <sup>4,5</sup>	49.3(23.64) <sup>3</sup>	43.4(19.58) <sup>2,3</sup>	<.0001	65.5(24.08) <sup>5</sup>	62.(21.13) <sup>5</sup>	51.9(22.22) <sup>5</sup>	35.(21.24) <sup>2,3,4</sup>	<.0001
Social relations	65.6(17.16) <sup>5</sup>	65.1(26.08) <sup>4,5</sup>	42.(27.20) <sup>3,5</sup>	23.5(22.94) <sup>2,3,4</sup>	<.0001	58.5(32.62) <sup>5</sup>	59.1(23.01) <sup>4,5</sup>	43.(25.46) <sup>3,5</sup>	11.7(14.67) <sup>2,3,4</sup>	<.0001
EAT-26	35.4(19.97) <sup>5</sup>	33.4(16.07) <sup>4,5</sup>	23.4(16.07) <sup>3,5</sup>	12.5(13.82) <sup>2,3,4</sup>	<.0001	37.6(18.23) <sup>5</sup>	34.(17.34) <sup>4,5</sup>	23.4(14.63) <sup>3,5</sup>	6.1(8.18) <sup>2,3,4</sup>	<.0001
PCS-12	44.6(4.77)	43.3(9.09) <sup>3</sup>	50.2(9.61) <sup>3</sup>	52.1(7.65) <sup>3</sup>	0.0012	50.(9.23)	47.9(10.08)	50.1(9.08)	52.4(7.99)	0.1093
MCS-12	22.6(6.92) <sup>4,5</sup>	31.8(9.92) <sup>5</sup>	38.8(11.50) <sup>2,5</sup>	41.8(10.55) <sup>2,3,4</sup>	0.0002	25.6(9.11) <sup>5</sup>	33.4(9.21) <sup>4,5</sup>	39.(11.55) <sup>3,5</sup>	44.9(9.87) <sup>2,3,4</sup>	<.0001

EAT-26: Eating Attitudes Test-26.  
 PCS-12 and MCS-12: physical and mental summary components of the SF-12 Health Survey.  
 Superscripts make reference to the Mch stage with respect to which there is a significant difference according to the Scheffe test.  
 SD: standard deviation.  
 In both cases, there were no patients at stage 1.  
<sup>a</sup> Prochaska stages: 1 Lacking consciousness of their illness and motivation to change; 2 Consciousness of illness without intention to change; 3 Motivation to change without taking action; 4 Working to solve the problem; and 5 She/he has solved their problem totally or almost totally.

become smaller. This positive evolution might continue with continuing follow-up.

This contribution of the study is interesting considering the usefulness of the Mch stage for ensuring that appropriate treatment is instituted. The differences found at the beginning of the study may result in the choice of an inappropriate treatment and early treatment withdrawal. Some recent studies actually reported that even when patients and professionals agree on the key areas of treatment, the value and importance that they give to each of them differ (de la Rie, Noordenbos, Donker, & Van, 2008). Accordingly, any measurement or analysis that may enable us to understand the motivational readiness for patient change may support their participation in treatment and a better medium and long prognosis.

It is noteworthy that patients with an ED are sometimes ambivalent toward treatment if not opposed to it. These difficulties may be explained partly by the differences in the perceptions of patients and doctors regarding the Mch stage, which may in turn lead to different evolution of the QoL and psychopathology, as indicated by the results of the current study.

We may even think that we are measuring different things, and the fact that a patient does or does not complete the questionnaires may indicate motivational differences with respect to the study but not to treatment adherence. We do not yet know the effect of these two scenarios on the final outcome.

While a good Mch stage seems essential for clinical improvement, we should not confuse the absence of motivation with rejection of or withdrawal from treatment. Patients in the chronic phase of these illnesses may seem unmotivated. Nevertheless, the patient may not see it like that and may regard themselves as total failures and/or totally incapable of addressing their condition despite an unequivocal desire to get better.

Our study had some limitations. Analysis of the patient–psychiatrist differences was based on Prochaska and Di Clemente's transtheoretical model. Vansteenkiste et al. (2005) pointed out that knowing the motivational stage does not tell us anything about the patient's underlying reasons for change or action. This apparent conceptual gap may introduce considerable bias when attempting to draw conclusions from the observed differences in the Mch.

Further, 1 year of follow-up does not enable complete evolution of the patient–psychiatrist differences regarding the perception of the Mch to be analyzed in detail.

To conclude, the current study followed the evolution of QoL as a function of the Mch stage in a large set of patients with an ED. According to the current results, a higher Mch stage is associated with better QoL (as reported by the patient using generic and specific QoL questionnaires) and a lower level of psychopathology.

We also found substantial differences regarding the perception of the Mch between patients and psychiatrists at the beginning of the study that tended to decrease after 1 year of treatment.

#### Conflict of interest

All authors declare that they have no conflicts of interest.

#### Authors disclosure

This research was funded through a 2007 Outpatient Mental Health Program contract from the Basque Health Service-Osakidetza and by a grant from the Spanish National Health Institute (ISCIII ref:00/0115) for a project to create and validate a specific QoL questionnaire for people with an ED.

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