Contribution to the validation of Italian version of Fear-Avoidance Beliefs Questionnaire

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Abstract. *Background aim:* propose further evidence for reliability and validity of Italian translation and adaptation of Fear Avoidance Beliefs Questionnaire, (FABQ) originally built-up by Waddel et al. (1993) Methods: 250 participants, inpatient and outpatient, suffering from acute or chronic back-pain have been consecutively recruited from various Italian physiotherapy and functional rehabilitation centres. All participants were administered FABQ and QUALEFFO, to evaluate if avoiding behaviors canprovoke disability independently from experimented pain. Results: Varimax rotation, point out a 4 factor structure: "Prognosis", "Work as cause", "Damage Expectancy", "Physical activity as cause". Statistical analysis underlined a good internal consistency. A good criterion validity resulted from correlation between FABQ scoring and QUALEFFO. The sample was splitted in "avoiders" (A) and "confronters" (C). Group A had no significant correlation between FABQ-W score and pain episode lasting, remission interval lasting, back-pain sick leave; no significant correlation emerged between beliefs and perceived pain. In group C a direct relation emerged between duration of sick leave, FABQ-W scores and FABQTOT scores, and an association between FABQ scores and reported pain. Conclusion: Pain-related fear and fear-avoidance beliefs are specific index which have to be considered in the first assessment phases, to prevent their effect on global functioning and on patients' quality of life. FABQ pointed out good reliability and validity propriety in Italian version. FABQ seems to be a brilliant instrument for multidisciplinary clinical practice in pain problem approach. (www.actabiomedica.it)

Key words: Assessment, Back-Pain, FABQ, Psychosomatic, Quality Of Life.

Introduction

Chronic back pain is one of the most widespread health problem in industrialized countries. Economic and social costs of this pathology are huge in terms of diagnosis and care and regarding the requests of sick leave, while the increasing number of elderly people in the world indicates the serious social impact of this condition (1). It is also well known that there is a consistent percentage of a-specific or idiopathic" back-pain cases (2). It has been largely demonstrate that

emotional, cognitive and behavioural variables have an important role in determining a general pain experience, and they could also be the basis of consequent disability (3). Those elements are: fear of pain, evaluation of the consequences of a pain with a special attention of avoiding behaviours. The link between fear and pain, catastrophic thoughts and avoiding behaviours has been underlined yet in many studies (4, 5). Despite an agreement on the weight of the cognitive evaluation influence on the intensity of the perceived pain has not been reached yet, the association between

psychological variables and perceived pain is clear and recognized, especially regarding perceived control on the pain symptoms and the consequent multi-factorial disability (6-9).

Moreover it's likely that classic conditioning and vicarious learning (9) go together to produce fear of movements and physical activities for some individuals with low back pain, with resultant reluctance to engage in normal physical activities, called fear-avoidance behaviors. In back pain clinical evaluation, different aspects, such as emotion-based fear, should be considered as relevant factors for some patients subset, while reason based beliefs is a common factor to all people suffering from back pain (10).

Kori et al. (11), introduced the concept of *kinesiophobia*, to describe an "irrational and debilitating fear of physical movements, resulting by a feeling of vulnerability of pain lesion". Avoiding behaviours, at the basis phobia maintenance, can start a vicious circle, characterized by fear, catastrophic thought, further avoidance and, at last, disability (4, 12-14). Waddel et al. (12), referring to the Fear Avoidance Theory (15), elaborated a questionnaire, the Fear-Avoidance Beliefs Questionnaire (FABQ), for the assessment of patients beliefs about physical activity or working attitude, which could be able to influence back-pain. FABQ is composed by 16 items on 7 points Likert scale (from 0, full disagreement - to 6, full agreement) split in two subscale, to evaluate beliefs on the possibility that physical activity on one side (FABQ-PHIS, 5 item) and working activities on the other one (FABQ-WORK, 11 item), may damage their spine or increase pain sensations, Monticone et al. (16) confirmed such structure also for the Italian validation of questionnaire. FABQ has already been translated and validated in German (6), Greek (17), Dutch (18), Swiss German (19), Brazilian Portughese (20), Norwegian (21),

Spanish (22), Arabic (23), Chinese (24), French (25) . There are interesting data regarding the role of fear-avoidance beliefs on treatment outcome, physical performance level, general disability and working disability (7, 8, 12, 14, 19, 26-30).The aim of this study is to contribute with further evidence to the Italian translation and adaptation of Fear Avoidance Beliefs Questionnaire.

Methods

Study design and sample

250 participants, 130 males (52%) and 120 females (48%) aged between 18 and 63 (mean 41,84±11.06), suffering of acute or chronic back-pain of various nature (disc hernia, arthritis, functional back-pain with or without sciatica) have been consecutively recruited from various physiotherapy and functional rehabilitation centres to these observational prospective study. Participants suffering of osteoporosis with vertebral collapse, serious chronic-degenerative pathologies of the muscular-skeletal apparatus, fybromialgia, cancer diabetes and psychiatric disease have been excluded. Socio-demographic and medical data as sex, age, profession, education, symptoms length, presence and/or period of remission length, medical diagnosis were collected (Table 1).

Questionnaires

All participants were individually administered two questionnaires: the FABQ and the QUALEFFO, a quality of life questionnaire made by European Foundation for Osteoporosis; the second one have been used to evaluate the possibility that avoiding behaviours can provoke disability quite independently from experimented pain. The Fear-Avoidance Beliefs

Table 1. Description of sample

	N	Min	Max	Mean	SD
Age	250	18	69	41.84	11.069
Education	250	5.0	18.0	11.024	3.6755
	N	Min	Max	Median	Mode
Duration of symptoms (in weeks)	250	1	>24	24	24
Duration of remission (in weeks)	250	0	24	2	1

Questionnaire was elaborated by Waddel et al. in 1993 to evaluate working disability. Today it is often used to evaluate dysfunctional beliefs that can provoke disability due to chronic back-pain. The questionnaire is composed by 16 items arranged in two subscales, one for physical activity (for example bending over, standing up, arching over, sitting down, etc.) and one for working activities, and the sum of subscales provides a total score. The questionnaire QUALEFFO has been made by a group of clinicians and quality of life specialists (31) and validated in Europe by a multicentre study, (32). It has been translated and standardized in French, German, Sweden, Dutch and Italian languages. This instrument, born to evaluate quality of life in patients with vertebral fracture due to osteoporosis, can also be usefully administered to subjects suffering from low back-pain, as it evaluates the same problematic areas (there is only one item specific for osteoporosis). Moreover, evaluating a wide range of areas, it is an economic instrument and easy to be fulfilled by patients. Regarding the structure, Italian questionnaire is composed by 57 items and 6 visual-analogue scale. Questions regard 7 areas:

- pain (Scale A);
- physical functioning, divided in daily activity (Scale B), housework (Scale C), walking and skeleton mobility (Scale D);
- social functioning (Scale E);
- perceived status of health (Scale F);
- mood (Scale H);

Answers to every question have a 1 to 5 score, except items E28, E29, E31 (score from 1 to 3) and E32, E33, E35 (score from 1 to 4). A 0 score is assigned to "non assessed" answers. Score of 1 or 2 are assigned to items from H46 to H68. There are also 6 visual-analogue scales, not visible by the participants, with a scoring from 1 to 7 regarding different areas: pain at its worst (VAS 40), pain in general (VAS 41), global perception of quality of life (VAS 42), status of health perception (VAS 43), social life satisfaction (VAS 44), economical condition satisfaction (VAS 45). Questions scores are in reverse order, from "health" to "non health": more high the score, more high the disability. Final score is obtained by the sum of the single obtained scores. Some items of QUALEFFO have been eliminated following statistical analysis of the original

version (32). Data distribution was checked by Shapiro-Wilks test for normality attribute, and because a non normal distribution a non parametric statistics for analysis were used. Test-retest reliability has been checked for all patients, by Spearman's ranks correlation. Furthermore, a possible correlation between FABQ and other clinical variables has been individuated calculating Spearman's correlation coefficient, considering: - total score of administered questionnaire;
- subscale score;
- other external criteria, as remission period duration between a pain episode and the sequent, request and eventual duration of sick leave.

Row data have been transformed in percentiles score, in order to define cut-off values to define participants as "avoiders" or "confronters". Then the sample has been splitted in two groups, considering as "avoiders" participants whose Z was ≥ 1,5 matching with the 75° percentile on FABQ total score (cut-off 65, range 0-96). Relations between FABQ scores and other clinical variables have been evaluated in the two groups, and afterwards have been compared, in order to individuate group differences in disability degree, concerning working activities and general functioning.

Results

Fear-Avoidance Beliefs Questionnaire Analysis
No item has been excluded from analysis because of lacking of comprehension of linguistic ambiguity, but item 8 ("I have a claim for compensation for my pain"), has been excluded because its variance was equal to zero. All participants in fact, said to be in "full disagreement" with this affirmation. Detailed single item analysis is resumed in Tab. 2.

Subscales and total score of FABQ
Principal component analysis, Varimax rotation, applied on remaining 15 item (Tab. 3), point out a 4 factorial structure (eigenvalues 3.65/3.27/2.56/1.69, screen test), versus the 2 scales of the original version of Waddel et Al. (1993). The first factor contains affirmations about prognosis expectance, as perception of the possibility of continuing one's habitual activity

Table 2. Descriptive statistics: Mean (M) and Standard Deviation (SD) of individual items. subscales and total score of FABQ.

	N	Min	Max	Mean	SD
Item1	250	.00	6.00	3.6040	1.99779
Item2	250	.00	6.00	3.6600	1.66719
Item3	250	.00	6.00	2.7040	1.68872
Item4	250	.00	6.00	3.5640	1.70927
Item5	250	.00	6.00	3.1200	1.76353
Item6	250	.00	6.00	2.5960	1.85216
Item7	250	.00	6.00	3.8080	1.84411
Item8	250	.00	1.00	.0040	.06325
Item9	250	.00	6.00	2.4360	1.77836
Item10	250	.00	6.00	3.7000	1.89323
Item11	250	.00	6.00	2.6280	1.66273
Item12	250	.00	6.00	2.4040	2.03009
Item13	250	.00	6.00	2.0920	1.98071
Item14	250	.00	6.00	1.5680	1.75090
Item15	250	.00	6.00	.7080	1.27642
Item16	250	.00	6.00	.3080	1.02828
FABQ-PHIS	250	.00	30.00	16.6520	6.34507
FABQ-WORK	250	.00	58.00	22.2520	12.69050
FABQ TOT	250	.00	88.00	38.9040	16.40694

FABQ–PHIS=Beliefs about Physical Activity; FABQ-WORK=Beliefs about work; FABQ TOT=Total score of the questionnaire.

(item 12, 13, 14, 15, 16, "Prognosis") and it's responsible of the 24,4% of the variance.

The second component ("Work as cause", item 6, 7, 9, 10, 11) with explained variance 21,8%, concerns the perception of working activity as cause, either of the damage, or the eventual worsening of physical conditions. The third factor concerns the presumed damage coming from physical activity for example bending over, standing up, arching over, sitting down, etc. ("Damage expectancy", item 3, 4 e 5), with 17,1% explained variance. At last, the fourth factor refers to carrying out physical activity, ("physical activity as cause", item 1 and 2) as cause of symptoms, with explained variance 11,3%. The presence of the "Prognosis" factor, confirms what Pfingsten et al. (2000) found in the German version analysis of FABQ.

Item with weight superior to 0.50 in one factor, and inferior to 0.35 in all others factors, have been accepted; no membership ambiguity was found, but for item n. 11, which resulted respectively with saturation of 0,518 to the component "Work as cause" and 0,511

in "Prognosis", seen the content of the sentence ("My work might harm my back") was included in factor 2.

Test Re-Test Reliability And Internal Consistency (N=250)

In order to determine FABQ stability, the test has been administered to all patients both in recruitment phase and 3 months after the first time. The time interval wideness has been established in consideration of memory effects, and also to verify the stability of beliefs during possible therapies. Spearman's rank correlation test pointed out a test-retest correlation coefficient of 0.883 in the FABQ-PHIS scale (p<0.000), of 0.940 in the FABQ-WORK scale (p<0.000) and of 0.938 for the total scoring (FABQ-TOT). Facing those data with Waddel's original work (1993), there are some discrepancy in the reliability coefficient of some original scales: "physical activity" and "work", respectively 0.950 and 0.880, probably also due to the difference in the time elapsed between the two administration, very different in those two studies (48 hours in Waddel's e coll. work, 3 months in the present

Table 3. Results of the principle component analysis with varimax rotation of 15 item ot the FABQ (N=250)

Factor 1: 'PROGNOSIS' (Variance explained 24.4%)

ITEMS	LOADING	Mean	SD	ES	Median
12....'should not do my work'	.703	2.40	2.03	0.12839	2
13....'cannot do my normal work'	.733	2.09	1.98	0.12527	1
14....'wait until pain is treated'	.811	1.56	1.75	0.11074	1
15....'no return within 3 months'	.854	0.70	1.20	0.08073	0
16....'no return at all'	.739	0.30	1.02	0.06503	0

Factor 2: 'WORK AS A CAUSE (Variance explained 21.8%)

ITEMS	LOADING	Mean	SD	ES	Median
6.....'Caused by work'	.761	2.59	1.85	0.11714	2
7.....'Work aggravated pain'	.873	3.80	1.84	0.11663	4
9.....'work too heavy'	.631	2.43	1.77	0.11247	2
10....'work makes pain worse'	.825	3.70	1.89	0.11974	4
11....'work might harm my back'	.518	2.62	1.66	0.10516	2

Factor 3: 'EXPECTANCY OF DAMAGE' (Variance explained 17.1%)

ITEMS	LOADING	Mean	SD	ES	Median
3.....'physical activity might harm'	.645	2.70	1.68	.10680	3
4.....'better no physical activity'	.864	3.56	1.70	.10810	3
5.....'cannot do physical activity'	.868	3.12	1.76	.11154	3

Factor 4: 'PHYSICAL ACTIVITY AS A CAUSE' (Variance explained 11.3%)

ITEMS	LOADING	Mean	SD	ES	Median
1......'caused by physical activity'	0.881	3.60	1.99	0.12	4
2......' physical activity worsens pain'	0.702	3.66	1.66	0.10	4

work). The statistical analysis underlined also a good internal consistency, with a Cronbach's of 0.885.

Construct Validity

Previous research (33), showed a good correlation between FABQ and Tampa Scale for Kinesiophobia, also Monticone et al. (2012) showed moderate convergent validity with Italian version of Tampa Scale for Kinesiophobia ($r = 0.440$), and discriminant validity showed moderate-poor correlations with a visual analogue scale ($r = 0.335$), and Roland Morris Disability Questionnaire ($r = 0.414$) however data an auto-administered test for pain fear evaluation (14, 16, 32). Discriminant validity analysis related to other anxiety estimation, such as the anxiety trait measured by State Trait Anxiety Inventory (Spielberger et al., 1983), showed indirect correlation which is, in later analysis, a poor prediction pointer of

disability, compared to data deriving from more specific instruments linked with reaction to pain (18, 34). Moreover, it seems that pain anxiety has reference to anxiety symptoms fear (e.g. "fear of fear"), that is fear of negative sensations and emotions, caused by pain expectation and by catastrophic meaning attributed to such pain events (35).

Criterion Validity

The role of beliefs in determining the degree of disability has been acknowledged, and sometimes it is independent to perceived pain intensity (36, 14); criterion validity of the questionnaire has been tested in consideration of the relation between FABQ scoring and QUALEFFO's functionality and quality of life index. A positive correlation on the whole sample resulted between PHIS, WORK, TOT scales of FABQ and

QUALEFFO. Subsequently we splitted the sample in two groups, "avoiders" (Z ≥ 1,5; n=27) and "confronters" (Z ≤ 1,49; n=223), we analysed clinical variables, as resumed in Table 4.

No significant correlation emerged between FABQ score and pain episode lasting, remission interval lasting, back-pain sick leave request and duration, (both for present episode and for last year) in working area functioning of the "avoiders" group (A); however, in percentage, "avoiders" participants' sick leave resulted to be wider than "confronters" (82,1% versus 15,3% for the present pain episode). Moreover, in A group, no significant correlation between beliefs and perceived pain has been found (Scale A, VAS 40 and VAS 41 of QUALEFFO questionnaire). Analysis of "confronters" group (C) showed a direct correlation between duration of sick leave and both FABQ-W scores (Rho=0.332, p<0.000) and FABQ-TOT scores (Rho=0.343, p<0.000), and an association between FABQ scores and reported pain has been found. Particularly we found a positive correlation between: QUALEFFO's A Scale with FABQ-PHIS (Rho=0.195, p<0.004) and FABQ-TOT (Rho=0.198, p<0.003), VAS 40 (pain at its worst) with both indicated scales and total FABQ score, VAS 41 (pain in general) with FABQ-W and FABQ-TOT scales. Regarding other clinical indexes, obtained by QUALEFFO, in group A there are direct and significant correlation between FABQ-TOT and Scale D (Walking), FABQ-TOT and Scale F(Health perception), while correlation between FABQ TOT and Scale H (Mood) is negative. In this case too, the C group presents tighter associations between beliefs and general functioning (pain, daily living, housework, walking, free time and social activities, mood) while no significant correlations between FABQ (and its subscales) and perceived health, have been found. Results are resumed in Tab. 5.

Comparison of results obtained by participants in both questionnaires, by Mann-Whitney's test, pointed out statistically significant higher scores in "Avoiders" group in all scales (Tab. 6).

Discussion

The aim of this work was to verify if the Italian version of Fear-Avoidance Beliefs Questionnaire has such

Table 4. Description of clinical variables in Avoiders and Confronters (QUALEFFO and FABQ)

Confronters (N=223) vs avoiders (N=27)		Mean	SD	SE
Actual sick leave	C	2.35	8.642	.580
	A	9.71	11.366	2.148
Last year sick leave	C	3.86	10.265	.689
	A	20.71	14.527	2.745
FABQ-PHIS	C	15.6757	5.91900	.39726
	A	24.3929	3.81361	.72071
FABQ-WORK	C	19.4234	10.22998	.68659
	A	44.6786	6.42365	1.21395
FABQ-TOT	C	35.0991	12.91774	.86698
	A	69.0714	7.33802	1.38676
Scale a*	C	16.5586	3.08165	.20683
	A	19.3929	4.00314	.75652
Scale b*	C	5.5135	1.38096	.09268
	A	6.7857	1.57191	.29706
Scale c*	C	8.2838	2.88632	.19372
	A	9.9643	3.09698	.58527
Scale d*	C	11.8153	3.35355	.22508
	A	14.7500	4.21307	.79620
Scale e*	C	17.0586	3.13659	.21051
	A	19.7500	2.88835	.54585
Scale f*	C	7.2838	1.80136	.12090
	A	8.6071	1.89227	.35761
VAS 40*	C	5.6261	1.18048	.07923
	A	6.1786	1.21879	.23033
VAS 41*	C	3.1126	1.31848	.08849
	A	4.0714	1.38587	.26190
Scale h*	C	26.3333	2.44332	.16399
	A	28.4286	2.42561	.45840

*QUALEFFO Scales *: Scale a=pain; Scale b= daily living; Scale c= housework; scale d=skeletal mobility; scale f=general health perception; VAS 40=pain at its worst; VAS 41=pain in general; scale h=mood state.*

characteristics that make it useful in screening phase for patient suffering of back pain, todetect the presence of dysfunctional beliefs, and to offer a contribution to the reduction of cognitive variable effects on disability level, as underlined for other questionnaire versions (6, 30). Our data indicates that, for participant defined as "Confronters" (C, n=223, Z score FABQ TOT ≤ 1,49), working disability, measured in sick leave days (due to low back-pain), is related with subscaleFABQ WORK, but

Table 5. Correlational analysis of FABQ and QUALEFFO "avoiders" vs "confronters".

Confronters (N=223) vs avoiders (N=27)		FABQ-PH	FABQ-W	FABQ-TOT
Symptoms lenght	C	n.s.	n.s.	n.s.
	A	n.s.	n.s.	n.s.
Remission lenght	C	n.s.	n.s.	n.s.
	A	n.s.	n.s.	n.s.
Sick leave for pain (last year)	C	n.s.	ρ=0.332 p<.000	ρ=0.343 p<.000
	A	n.s.	n.s.	n.s.
Scale a*	C	ρ=0.195 p<0.004	n.s.	ρ=0.198 p<0.003
	A	n.s.	n.s.	n.s.
VAS 40*	C	ρ=0.221 p<.001	ρ=0.255 p<.000	ρ=0.306 p<.000
	A	n.s.	n.s.	n.s.
VAS 41*	C	n.s.	ρ=0.158 p<.01	ρ=0.181 p<.007
	A	n.s.	n.s.	n.s
Scale h*	C	ρ=0.143 p<.03	ρ=0.237 p<.000	ρ=0.275 p<.000
	A	n.s.	n.s.	ρ=-0.415 p<.03
Scale d*	C	n.s	ρ=0.282 p<.000	ρ=0.271 p<.000
	A	n.s	n.s.	ρ=0.381 p<.05
Scale f*	C	n.s.	n.s.	n.s.
	A	n.s.	n.s.	ρ=0.465 p<.01

Qualeffo* Scales: Scale a=pain; VAS 40=pain at its worst; VAS 41=pain in general; scale h=mood state; scale d=walking and mobility; scale f=health perception

the association is stronger with total score. Moreover, in group C there is a significant positive correlation between pain (VAS 40, "pain at its worst", A scale QUALEFFO) and FABQ TOT scores, and between pain and sick leave due to low back-pain (Tab. 5). Situation in "Avoiders" group is different (n=27, Z score FABQ TOT ≥ 1.5): the relation between pain and sick leave is maintained, but relation between FABQ and sick leave and FABQ and pain is missing (VAS 40, VAS 41 and QUALEFFO's A Scale). Those data partially agree with those of Waddel et al. (1993): while, incoherently with the original study, no association in group A between beliefs and pain has been found, and there is no concor-

dance of data for association between FABQ scores and sick leave duration. This discrepancy could be due to the meagre number of participants classified as "Avoiders" (n=27), for that reason an evaluation of same variables in numerically homogeneous groups could be interesting in order to better verify the prediction validity of the questionnaire. For that reason we suggest the possibility to use the factorial scale "Prognosis", which contains phrases like *"I cannot do my normal work with my present pain"*, as beliefs indicator on what could happen, because those beliefs can potentially guide avoiding behaviours (6). However in present work original scale have been considered and not factorial ones, results are consistent with

Table 6. Clinical differences between subjects Avoiders and Confronters.

Confronters (n=223) vs Avoiders (n=27)		Mean	Standard Deviation	p
FABQ-PHIS	C	15.6757	5.91900	p<.000
	A	24.3929	3.81361	
FABQ-WORK	C	19.4234	10.22998	p<.000
	A	44.6786	6.42365	
TOTAL SCORE FABQ	C	35.0091	12.91774	p<.000
	A	69.0714	7.33802	
Scale a*	C	16.5586	3.08165	p<.000
	A	19.3929	4.00314	
Scale b*	C	5.5135	1.38096	p<.000
	A	6.7857	1.57191	
Scale c*	C	8.2838	2.88632	p<.001
	A	9.9643	3.09698	
Scale d*	C	11.8153	3.35355	p<.000
	A	14.7500	4.21307	
Scale e*	C	17.0586	3.13659	p<.000
	A	19.7500	2.88835	
Scale f*	C	7.2838	1.80136	p<.000
	A	8.6071	1.89227	
Scale h*	A	26.3333	2.44332	p<.000
	C	28.4286	2.42561	
VAS 40*	C	5.6261	1.18048	p<.002
	A	6.1786	1.21879	
VAS 41*	C	3.1126	1.31848	p<.000
	A	4.0714	1.38587	
VAS 42*	C	2.8829	1.04850	p<.005
	A	3.3571	.86984	
VAS 43*	C	2.9279	1.02645	p<.001
	A	3.5357	1.03574	
VAS 44*	C	2.4054	1.18725	p<.000
	A	3.2500	1.10972	
VAS 45*	C	3.1261	.98051	p<.04
	A	3.4286	.74180	

Qualeffo Scales: Scale a=pain; Scale b=daily living activity; Scale c=Housework; Scale d=walking and mobility; Scale e=Social function; Scale f=Health perception; Scale h=mood state; VAS 40=Pain at its worst; VAS 41=Pain in general; VAS 42=Quality of life perception; VAS 43=Health perception. VAS 44=Social life satisfaction. VAS 45=Economic satisfaction.*

the hypothesis that avoiding behaviour is dysfunctional and it can cause disability when it's not justified by real presence of perceived threat, in this case pain symptoms. Regarding negative affections (Scale H QUALEFFO), an interesting data that need deepening and verification due to the poor representation of the "Avoiders" sample, regards negative correlation between QUALEFFO and FABQ TOT scores. If we consider avoiding behaviours

a protection answer to both perceived anxiety or pain expectancy, and catastrophic meaning attributed to the same pain events (35, 37), avoiding feared situations has a "positive" effect on emotional management, even if middle and long term consequence is a wider functional limitation in various areas and a worse health perception compared with "Confronters".

Conclusions

Resuming, total present study's data indicates that there is a direct correlation between FABQ score and other disability index measured with QUALEF-FO questionnaire. While there is a certain degree of coherence in association between beliefs, pain and disability in "C" group, this is not true for group "A", although scores relative to general functioning (QUALEFFO) indicate that lasts are more compromised than firsts. As indicated in other studies yet, pain-related fear and fear-avoidance beliefs, are not the same of other emotional reaction measurement, such as depression or anxiety, but they are specific index and they need to be considered in the first assessment phases, in order to prevent their effect on global functioning and on quality of life of patients suffering from back-pain (6, 12, 14, 37, 38). FABQ has already proved to be a useful instrument to predictive aims (30, 39), and it pointed out good reliability and validity propriety in Italian version too. Also if relation between beliefs and other cognitive variables that can influence disability degree and compliance to therapeutic protocols, are not yet clear (for example: coping), fear-avoidance beliefs have certainly an important role and they need deepening by longitudinal and case-control studies. FABQ seems however to be a brilliant instrument for actuation of a multidisciplinary clinical practice in pain problem approach.

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