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ORIGINAL PAPER

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THE TRANSLATION, VALIDATION AND CULTURAL ADAPTATION OF FUNCTIONAL ASSESSMENT OF CHRONIC ILLNESS THERAPY - SPIRITUAL WELL-BEING 12 (FACIT-SP12) SCALE IN GREEK LANGUAGE

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ABSTRACT

Background: According to World Health Organization (WHO), spirituality is an important domain of quality of life especially in terminal, life threatens chronic diseases. For many people spirituality and religion are not just very important dimensions of their existence, but also a source of support that contributes to wellbeing and coping with everyday difficulties of life. **Aim:** Aim of the study was the translation of the Facit Spiritual Well Being Scale (Facit-Sp12) in Greek language and the validation of the scale for the Greek population. **Material and Methods:** The Facit-Sp12 questionnaire is an anonymous self-administered questionnaire that contains twelve, four point Likert scale, closed questions (0=Not at all, 1=A little bit, 2=Some-what, 3=Quite a bit, 4=Very Much). The questionnaire was translated into Greek language and then back translated in the English in order to be checked for any inconsistencies. The sample of the study was 183 chronic kidney disease patients, undergoing hemodialysis. Exploratory factor analysis, with principal components analysis with Varimax rotation was performed for checking the construct validity of the questionnaire. The test-retest reliability and the internal consistency were also examined. Statistical analysis performed by the use of SPSS 21.0. Statistical significance level was set at $p=0.05$ **Results:** The final Greek version of the questionnaire includes all of the twelve questions. The mean age of the participants was 61.81 ± 13.9 . Three factors were exported from the statistical analysis. The Cronbach- α coefficient was 0.77 for the total questionnaire and for each subscale was 0.70 for "meaning", 0.73 for "peace" and 0.87 for "faith". Between the three subscales "meaning" had the highest score (mean 12.49, SD=2.865). **Conclusions:** The Facit Spiritual Wellbeing Scale-Facit-Sp12, is a valuable and reliable questionnaire of three dimensions that can be used for assessing spirituality and spiritual wellbeing in Greek population.

Key Words: Validity, Reliability, spirituality, spiritual wellbeing, End stage renal disease.

1. INTRODUCTION

"My religion consists of a humble admiration of the illimitable superior spirit who reveals himself in the slight details we are able to perceive with our frail and feeble mind." - Albert Einstein

Spirituality is without a doubt a very complex issue that extends religion. Although it is a single word, yet it has many definitions and none of which is widely agreed (1). The term

"spirituality" is considered to imply as an open attitude toward spiritual sermons of religions and philosophers and not a dogmatic rejection of all those who do not come from our religious preference. Some argue that spirituality is a quest for an ultimate and sacred meaning, transcending material aspects of life and it is a sense of awe and reverence achieved via connection with the divine, nature and

the universe (2). The common elements that found between the various definitions of spirituality is the sense of meaning and purpose in life, union with himself, the environment or a higher power, and the belief in a power that connects everything (1-3). Likewise, many definitions have been given for spiritual wellbeing, such as having a subjective feeling of happiness, affirming the self-worth, managing interpersonal relationships with an open, accepting attitude and possessing an internal "energy" (4).

According to World Health Organization (WHO), spirituality is an important domain of Quality of Life (QoL) especially in terminal, life threatening and chronic diseases (5). Spirituality has been recognized as important aspect of human health. Thus, an increasingly worldwide research interest on this domain has been observed in the past decades (6). Despite the fact that spirituality is gaining ground on health research for the possible benefits that patients may have by integrating spirituality in their care, the link that has with health is documented since antiquity. For centuries health care facilities and religious places where either close by or one and the same (1).

It is a fact that, spirituality and religion are not just very important dimensions of their existence, but also are a source of support that contributes to wellbeing and coping with everyday difficulties of life. For many patients the integration of spiritual beliefs in the healing process is vital and has been found to be related to positive health outcomes (7, 8). The positive influence that spirituality and spiritual wellbeing may have on patients' perception of their health and on the adjustment and coping with a serious and life threatening disease has been documented in many studies. Specifically, studies in patients diagnosed with a life threatening disease such as end stage cancer, concluded that spirituality is an important resource of support factor that affects both adjustment on the disease, and the overall mental health status of patients (9, 10).

End stage renal disease (ESRD) is a major public health problem with increasing rates every year. In Greece it is estimated that the new incidents of ESRD are increasing every year in a rate 5-8% (11). To be diagnosed with a chronic disease such as chronic kidney disease usually signals a long-term course with exams, procedures and hospitalizations. Those bio-physiological changes have serious social consequences and impact on the daily lives of the individual's social relations, identity and sense of self. Moreover they face problems in many aspects of their life, physical and social problems as well as mental such as stress, anxiety and depression (12-15). Studies on patients with CKD in regard with the spirituality, led to the conclusion that these patients declare an amount of spiritual needs, which relate and influence the psychological adjustment to the illness. At the same time, these studies indicated that the development of the therapeutic relationship between nurses and patients in renal units, is influenced by the positive experiences of these patients' spiritual care (16, 17).

As an emerging topic, spirituality has gain the attention of researchers worldwide and many valid tools that asses' spirituality has been developed (18). Those instruments may asses various aspects of spirituality and sometimes religiosity as well. Yet, since not all of people have a religious

preference, measures that assess only spirituality can be more useful. At the time, there is a lack of a brief and valid instrument in Greek language that assess spirituality and especially an instrument that is addressed to patients who suffer by a chronic disease.

The purpose of the present study was the translation of the Facit Spiritual Well Being Scale (Facit-Sp12) in Greek language and the validation of the scale for the Greek population.

2. MATERIAL AND METHODS

The Functional Assessment of Chronic Illness Therapy, Spiritual Well-being Scale 12 (FACIT sp12).

The Facit-Sp12 questionnaire was developed in the 1990 as a brief measure that assesses spirituality. It is an anonymous self-administered questionnaire that contains twelve, four point Likert scale, closed questions (0=Not at all, 1=little bit, 2=Some-what, 3=Quite a bit, 4=Very Much) and three sub-domains of spiritual well-being peace, meaning, and faith. It is an instrument that has been used in many studies and it has been translated and validated in many languages such as Arabic ,Chinese (Simplified and Traditional), Danish, Dutch, Farsi, French, German, Italian, Japanese, Korean, Norwegian, Portuguese, Spanish, and Swedish (19, 20).

The translation and cultural adoptions procedure.

Following the Facit organization, translation and linguistic validation methodology, at first two independent bilingual researchers made two forward translations from English to the Greek language. Then, a reconciliation of the 2 forward translations was provided by a third translator. Finally, a back translation into English was performed by a fourth translator. In the final step of this procedure the final translation was reviewed and finalized by a fifth translator. Then, it was tested on a small patient population of 10, who completed the test version of the questionnaire and answered questions from the cognitive debriefing script that was prepared from the Facit and translated by the research team. Duration of the interviews ranged from 20 to 30 min, of which less than 10 min were required for most of the patients to complete the Greek version of the Facit- sp 12. No individual found the Facit- sp 12 questions irrelevant, upsetting or disturbing.

Patients

A convenience sample of 183 hemodialysis patients was collected. Literature regarding validation studies suggest that for contacting factor analyses tests, the sufficient sample should be 10 patients per item, thus 183 patients for a 12 item scale is satisfactory (21,22). Eligible to the study patients were required to be adults (>18 years of age) and have adequate knowledge of the Greek language and satisfactory level of communication.

Ethics

Ethical approval for the study was obtained from the Ethics Committee and the scientific boards for each site. Patients were approached by a member of the staff and asked if they want to participate in this study and then were referred to the principal investigator. After providing all necessary information for the study a written informed consent was obtained from all study participants.

3. STATISTICAL ANALYSIS

Quantitative variables are presented as mean (\pm standard deviation) and qualitative variables as absolute and relative frequencies. For the evaluation of the internal consistency of the questionnaire was assessed with Cronbach a coefficient While for reliability of Facit sp 12 questionnaire the method of Test–Retest was used. For the construct validity of the questionnaire was applied the technique of factorial analysis with the Varimax rotation of axes method. For the statistical analysis of the data used in IBM SPSS Statistics 22 and as the statistical significance level was set to $\alpha = 5\%$.

4. RESULTS

Descriptive statistics

From the total of the 183 participants of the study the 69.9% were male and 30.1% female. The age range was from 26 to 88 years old, with mean 61.39 ± 14.11 . The majority of them were living in urban environment 44.3%, 67.8% of them were married and 52.0% had 1 to 2 children. 80.3% from the patients didn't live alone while 19.7% did. Regarding the educational status of the sample 45.9% had attended primary school, 36.6% high school, 17.5% had an undergraduate degree. The majority of them were Pension-

Descriptive statistics		n (%)
Sex	Male	128 (69.9%)
	Female	55 (30.1%)
Age	Mean \pm St. Dev.	61.39 \pm 14.112
	Min – Max	26 – 88
Place of residence	Rural	71 (38.8%)
	suburban	31 (16.9%)
Marital Status	Urban	81 (44.3%)
	Single	39 (21.3%)
	Married	124 (67.8%)
	Divorced	9 (4.9%)
Children	widowed	11 (6.0%)
	0	49 (26.8%)
	1	25 (13.7%)
	2	70 (38.3%)
Living Alone?	≥ 3	39 (21.3%)
	Yes	36 (19.7%)
Educational Status	No	147 (80.3%)
	Attend primary school	13 (7.1%)
	Finished primary school	71 (38.8%)
	High school	67 (36.6%)
	University degree	32 (17.5%)
	Unemployed	16 (8.7%)
Occupation	Household	32 (17.5%)
	Free lancer	27 (14.8%)
	Private sector	14 (7.7%)
	Public sector	13 (7.1%)
	Pensioner	81 (44.3%)
Religion	Christian orthodox	172 (94.0%)
	Christian catholic	3 (1.6%)
	Muslim	3 (1.6%)
	Other	5 (2.7%)
Duration of Hemodialysis	<1	33 (18.0%)
	1-5	92 (50.3%)
	6-10	42 (23.0%)
	11-16	12 (6.6%)
	>16	4 (2.2%)

Table 1.

Item	Not at all (0)	A little bit (1)	Somewhat (2)	Quite a bit (3)	Very much (4)
Sp.1	6.0%	13.1%	35.0%	35.0%	10.9%
Sp.2	1.1%	4.4%	9.8%	37.2%	47.5%
Sp.3	1.1%	2.2%	6.0%	42.6%	48.1%
Sp.4*	18.0%	19.1%	37.2%	18.6%	7.1%
Sp.5	4.4%	8.7%	17.5%	38.8%	30.6%
Sp.6	18.6%	13.1%	33.3%	26.8%	8.2%
Sp.7	9.8%	15.3%	33.3%	31.1%	10.4%
Sp.8*	49.2%	24.6%	15.8%	4.4%	6.0%
Sp.9	8.7%	17.5%	20.8%	25.1%	27.9%
Sp.10	7.1%	18.0%	22.4%	23.5%	29.0%
Sp.11	22.4%	18.0%	17.5%	20.2%	21.9%
Sp.12	2.7%	12.6%	35.0%	29.0%	20.8%

*Items with reverse scoring

Table 2. FACIT – sp12.

	Factor 1	Factor 2	Factor 3
Facit- sp 12 scale	“faith”	“Peace”	“Meaning”
Item 1	0.091	0.787	0.144
Item 2	0.134	0.380	0.691
Item 3	0.192	-0.048	0.725
Item 4	-0.158	0.506	0.139
Item 5	-0.110	0.334	0.746
Item 6	0.120	0.748	0.101
Item 7	0.068	0.803	0.255
Item 8	-0.110	0.226	0.542
Item 9	0.923	0.001	-0.020
Item 10	0.930	-0.011	0.007
Item 11	0.807	0.083	-0.077
Item 12	0.680	0.029	0.414
Eigenvalue	2.964	2.397	2.147
% variance	24.698	19.977	17.893
KMO=0.717			
Bartlett's test: $\chi^2(66)=1024.896$ $p=0.000$			
Principal Component Analysis with the Varimax method.			

Table 3. Items loadings in Factor Analysis of Facit- sp 12 scale (n=183).

ers 44.3%, household or unemployed were the 26.2% and the 14.8% were freelancers. About their religion, 94.0% were Christians Orthodox.

Regarding the health related parameters of the sample, 5 or less years on hemodialysis stated the 68.3% of them while 6 to 10 years the 23.0%. 53.0% of the participants stated that they dealing with an additional health problem while 47.0% didn't. Regarding their current activity level most of them, 49.2% had a normal activity without any symptoms and some symptoms, but do not require bed rest during waking day. The 31.7% of the patients stated that They require bed rest for less than 50% of the day and finally 19.1% of them require bed rest for more than 50% of waking day (table 1).

The Functional Assessment of Chronic Illness Therapy – spiritual wellbeing 12 Questionnaire. The distribution of patients' answers (n=183) in the Functional Assessment of Chronic Illness Therapy – sp12 is presented in table 2 .

The validation of the facit-sp12 questionnaire

The Greek version of Facit-Sp12 12 was checked for its validity and reliability.

Construct Validity of the Greek version of Facit-Sp12

12

Facit sp 12	Test (A) Mean ± St. Dev.	Retest (B) Mean ± St. Dev.	Pearson's r Correlation between A and B	Paired t-test (t) Difference A and B
Subscale Meaning	10.90 ± 3.086	10.69 ± 2.634	0.910**	0.862*
Sp.2	2.83 ± 1.071	2.83 ± 1.104	0.880**	0.000*
Sp.3	3.14 ± 0.743	3.10 ± 0.618	0.668**	0.328*
Sp. 5	2.48 ± 1.056	2.45 ± 1.152	0.696**	0.215*
Sp. 8	2.45 ± 1.213	2.31 ± 1.039	0.821**	1.072*
Subscale Peace	7.41 ± 3.386	7.69 ± 2.892	0.874**	-0.903*
Sp. 1	1.83 ± 0.966	1.93 ± 1.163	0.847**	-0.902*
Sp. 4	1.86 ± 0.953	1.79 ± 0.978	0.773**	0.571*
Sp. 6	1.83 ± 1.071	2.03 ± 0.823	0.736**	-1.535*
Sp.7	1.90 ± 1.012	1.93 ± 0.884	0.790**	-0.297*
Subscale Faith	7.07 ± 3.770	7.24 ± 3.562	0.932**	-0.680*
Sp. 9	1.76 ± 1.154	1.66 ± 1.078	0.906**	1.140*
Sp. 10	1.83 ± 1.136	1.83 ± 1.071	0.826**	0.000*
Sp. 11	1.86 ± 1.093	2.03 ± 1.180	0.890**	-1.722*
Sp. 12	1.62 ± 0.903	1.72 ± 0.797	0.792**	-1.000*
Total	25.38 ± 7.979	25.62 ± 7.128	0.942**	-0.480*

*p>0.05 **p<0.001

Table 4. Test- retest reliability of Facit-sp12 (3 week period between test-retest, n=29).

Facit-sp 12	Mean ± St. Dev.	Min - Max	Cronbach's a	Alpha if item deleted	Item-to-total correlations
Subscale Meaning	12.49 ± 2.865	3 - 16	0.70		
Sp.2	3.26 ± 0.886	0 - 4		0.58	0.562
Sp.3	3.34 ± 0.782	0 - 4		0.68	0.370
Sp. 5	2.83 ± 1.095	0 - 4		0.51	0.631
Sp. 8	3.07 ± 1.170	0 - 4		0.70	0.378
Subscale Peace	8.64 ± 3.345	0 - 16	0.73		
Sp. 1	2.32 ± 1.031	0 - 4		0.61	0.607
Sp. 4	2.22 ± 1.157	0 - 4		0.75	0.340
Sp. 6	1.93 ± 1.214	0 - 4		0.69	0.469
Sp.7	2.17 ± 1.119	0 - 4		0.56	0.672
Subscale Faith	9.49 ± 4.319	1 - 16	0.87		
Sp. 9	2.46 ± 1.300	0 - 4		0.78	0.834
Sp. 10	2.49 ± 1.275	0 - 4		0.77	0.848
Sp. 11	2.01 ± 1.471	0 - 4		0.86	0.649
Sp. 12	2.52 ± 1.042	0 - 4		0.88	0.562
Total	30.62 ± 7.215	6 - 48	0.77		

Table 5: Internal consistency of the facit - sp12 (n=183).

Factor Analysis was applied to explore construct validity of the questionnaire. In particular, exploratory factor analysis was applied that shows if the correlation between items can be explained by a smaller number of factors. For extracting the factors principal components analysis with axes rotation with Varimax rotation method was applied.

High value of KMO index (KMO=0.717) and the statistical significance of Bartlett's Test of Sphericity ($\chi^2(66)=1024.896, p=0.000$), suggesting that there is a sampling adequacy and by applying factor analysis will give satisfactory results. The factor analysis resulted three factors, with Eigenvalue >1 (Kaiser criterion) that interpreted 62,568% of the total variance. All items loadings in factors had values >0.40 which is the marginal acceptance point. Moreover, none of the items had above 0.45 loading in more than one factor, as has been suggested by several researchers. Thus, all items had significant loadings and could be included to the factors

respectively. Table 3.

The first factor fully corresponds to the "faith" factor of the initial questionnaire, had Eigenvalue 2.964, and interprets the 24.698% of the total variance (Q. 9, 10, 11, 12). The second factor fully corresponds to the "Peace" factor of the initial questionnaire, had Eigenvalue 2.397, and interprets the 19.977% of the total variance (Q. 1, 4, 6, 7). The third factor fully corresponds to the "Meaning" factor of the initial questionnaire, had Eigenvalue 2.147, and interprets the 17.893% of the total variance (Q. 2, 3, 5, 8). These three factors covered all 12 items and represent the three subscale of The Functional Assessment of Chronic Illness Therapy – spiritual wellbeing 12 Questionnaire (table 3).

Reliability of facit-sp12

The Reliability of facit-sp12 questionnaire was tested for the characteristics of stability and internal consistency.

For testing the reliability of the Facit - sp12 the test-retest method was used. From the total of 183 patients, 29 of them completed the questionnaire for a second time (retest) after a three weeks period. A period of time sufficient that there is no remembrance of previous answers. For the statistical control the repeatability of measurements between test and retest, the Pearson's correlation coefficient was estimated and paired t-test for the difference between the two administrations of the questionnaire. Results of the test - retest reliability are shown in Table 4.

Correlations between the two administrations of the questionnaire, in scales total score (r=0.942 and p<0.001) and partial sums of the subscales (r=0.910 and p<0.001 "Meaning", r=0.874 and p<0.001 for "Peace", r=0.932 and p<0.001 for "Faith"), as well as in the level of individual questions had a value r >0.70, which is suggesting that a strong correlation between the two administrations exist. Moreover, t values in the Paired t-test between the two administrations, in scales total score (t=-0.480 και p>0.05) and partial sums of the subscales (t=0.862 and p>0.05 "Meaning", t=-0.903 and p>0.05 for "Peace", t=-0.680 and p>0.05 for "Faith"), as well as in the level of individual questions was not statistical significance. Thus, we can say there were not any differences between the two administrations and the questionnaire has high test-retest Reliability meets the characteristic of Stability.

Internal consistency

For testing the internal consistency of the Facit - sp12 Cronbach's Alpha coefficient was used. Internal reliability coefficient for the total score of the Facit-Sp12 12 questionnaire was 0.77 which showed that the scale has very good internal consistency. The internal consistency coefficient (Cronbach's α) for each factor of the Greek version of the Facit-Sp12 12 was: 0.70 for subscale "Meaning", 0.73 for the subscale "Peace" and 0.87 for the subscale "Faith". The scale and the subscales had $\alpha > 0.70$ fact that supports that the scale has a satisfactory internal consistency. Moreover, values of Cronbach's α in all subscales, in case that one item was deleted from the subscale, were checked. The audit showed that not any substantial increasing of the Cronbach's α will happened if an item was deleted from the subscales. Thus, we can say that all the questions were important internal coherence with the other. Results are presented in table. 5

5. DISCUSSION

The aim of our study was to assess the validity and reliability of the Greek version of The Functional Assessment of Chronic Illness Therapy – spiritual wellbeing 12 Questionnaire.

Spirituality and Spiritual wellbeing is recognized as a substantial element in palliative care and in health care generally, gaining more and more research interest worldwide. This increasing interest resulted in the development of various measurements assessing spirituality/ spiritual wellbeing. Some of these are suitable for both religious and non-religious people, some are one-dimensional or two dimensional and others are multidimensional. Those instruments intend to assess spirituality within various contexts such as coping, quality of life/well-being, spiritual needs and care and more (23, 24).

The Facit – sp 12 was developed in the 1990s and cancer patients, psychotherapists, and religious/spiritual experts provided input on the development of the items. The meaning subscale assesses to what extent has a sense of meaning, Peace subscale assesses the individual experiences peace and harmony, and a Faith subscale evaluating the extent to which a patient finds strength or comfort in his religious beliefs. Facit – sp 12, has been successfully used to assess spiritual well-being across a wide range of religious traditions, including those who identify themselves as “spiritual yet not religious.” In addition, it has been used in numerous published studies of individuals diagnosed with a chronic and life threatening disease such as cancer, HIV and patients suffering by cardiovascular problems as well (19). The Facit-sp 12 was well accepted by hemodialysis patients as questions were considered as simple and in a clear manner as it could. Time required to complete this brief questionnaire was acceptable to (10 minutes). Moreover, compliance was high, and there were few missing values. One of the great advantages of the specific measurement is that does not require high levels of training. Furthermore, it is very easy to score (Total and subscales) thus, it can be an effectively usable tool in routine assessments of spirituality/ spiritual wellbeing in chronically ill patients and in the palliative care. The FACIT-SP 12 shows great promise as a spirituality instrument given its strong psychometric support (19,20,23-25), which was also confirmed for the Greek translation.

Although Facit – sp12 was developed as a two factor scale by Peterman et al., results of the factors analysis, suggest that the three factor model (Peace, Meaning, Faith) persists in the Greek version with acceptable internal consistencies for each factor. As it was mentioned, the initial version of FACIT-SP 12 supported a two factor solution “Meaning and Peace” as one combined factor and “faith” as a second factor. In the years followed, a three factor solution of the scale suggested by researchers and that solution confirmed by confirmed by instrument developers. Our results are in accordance with the studies suggesting the three factor model for Facit – sp 12, are providing substantial support for the validity of the 3-factor Facit-Sp12 12 structure in a Greek context (25-27).

Moreover, the results from the present study suggesting that the Greek version of FACIT-SP12 is a valid and reliable scale to assess spiritual wellbeing in Greek hemodialysis patients and generally among chronically ill patients. The

Cronbach’s coefficients of the subscales of the Greek version of FACIT-Sp 12 is 0.77 of the total scale and 0.70, 0.73, 0.87 for the subscales, “Meaning”/ “Peace”/ “Faith” respectively. The reported Cronbach’s coefficients in our study is low compared to the original scale and other studies, but yet is supporting a good internal consistency (25-29).

According to our findings, the higher value on the means of the three factors was noted on the meaning factor (12.49), followed by Faith (9.49) and Peace (8.64) respectively. As it was mentioned the initial interpretation for Facit- sp 12, had a two factor solution thus, many studies have been contacted, with combined meaning and peace as one subscale (19). Our results are in agreement with other studies, were meaning had the higher score among the Facit – sp subscales (25, 30), but in contrast to other researches were the subscale faith has the higher value among them (31).

Nonetheless, spiritual wellbeing seem to provide some protection against despair experienced by people who suffering from a serious and life threatening disease. Many studies regarding spirituality and health led to the conclusion that spiritual wellbeing is related with health, longevity and recovery from physical illnesses (32).

6. IMPLICATIONS FOR PRACTICE

Spiritual well-being seem to be an important aspect of health related quality of life. Thus, spiritual care should be incorporated in health care and patient’s spiritual needs must be met. Spiritual needs are not limited to religion, involve finding purpose and meaning for the days to come, forgiveness of others and receive forgiveness and acceptance of what the person has achieved during his life. Our study introduced the Greek version of FACIT-Sp as a valid and reliable tool for clinicians to use to assess spirituality/ spiritual well-being of patients in kidney replacement treatment.

7. CONCLUSIONS

In conclusion, the results of our study, show that construct validity, internal consistency, and concurrent validity of the Greek version of the Facit-Sp12 12, and its corresponding subscales, were generally supported by our population; thus, the 12 -item Facit-Sp12 seems to be a valid tool assessing spiritual wellbeing in chronically ill patients in Greece.

• Conflict of interest: None declared.

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