

PAIN CENTERS PROFESSIONALS' BELIEFS ON NON-CANCER CHRONIC PAIN

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Abstract – The beliefs and attitudes of health professionals affect the care ultimately provided to patients. The objective of this study was to analyze health professionals' beliefs toward chronic no cancer pain in nine (82%) pain centers in the city of S.Paulo. The Survey of Chronic Pain Attitudes-Professionals was employed to evaluate pain professionals' beliefs toward emotions, control, disability, solicitude, cure and harm. A total of 75 health professionals (59%), most of whom were doctors (44), followed by physical therapist (11) and dentists (8), were interviewed. The professionals professed a belief in a medical cure for chronic pain, that solicitous displays were desirable behaviors in treating pain, that chronic pain is related to injury and that it is the cause of disability, all of which are erroneous beliefs. Contrary to the expected result, the health professionals with more experience and education did not express more appropriate beliefs. These beliefs may compromise the treatment of patients with chronic pain and should therefore be reviewed.

KEY WORDS: chronic pain, beliefs, assessment, instrument, knowledge, health professionals, attitudes, attitudes of health professionals.

Crenças de profissionais de centros de dor sobre dor crônica não oncológica

Resumo – Os profissionais cuidam dos doentes de acordo com seus conceitos e crenças. Este estudo objetivou analisar crenças sobre dor crônica não oncológica de profissionais que atendem doentes com dor crônica em Centros de Dor da cidade de S.Paulo, utilizando o Inventário de Atitudes frente à Dor-profissionais que possui 20 itens e 6 domínios que avaliam crenças sobre emoção, controle, incapacidade, solicitude, cura médica e dano físico. Foram entrevistados 75 profissionais de nove Centros de Dor que mostraram crenças “fortemente desejáveis” nos domínios controle e emoção; “moderadamente desejáveis” nos domínios dano físico e incapacidade; “fortemente não desejável” no domínio cura médica e “moderadamente não desejável” no domínio solicitude. Foram compostos 3 *cluster* visando identificar se diferenças nas crenças poderiam estar relacionadas às características demográficas e não se observaram diferenças. A existência de crenças “indesejáveis” indica a necessidade de incorporação de novos conceitos na prática clínica.

PALAVRAS-CHAVE: dor crônica, crenças, avaliação, instrumento, conhecimento, profissionais de saúde, atitudes, atitudes do pessoal de saúde.

Health professionals treat patients according to what they know and believe, that is, according to their beliefs. The knowledge, attitudes and beliefs of professionals interfere in the evaluation and treatment that they administer and personal experience affects their evaluation of a patient experiencing pain^{1,2}. “Beliefs are ancient, culturally shared concepts; they are pre-existing notions about reality that mold perceptions of ourselves, others and our environment; people consider their beliefs to be absolute truths”³. Beliefs “reside” in cognition and predispose behaviors⁴. Attitudes are learned culturally affective dis-

positions used to react to something (beliefs, people, institutions or events), leading one to draw nearer or farther away, accept or deny, agree or disagree. Attitude is preparation or readiness for action³⁻⁶. The etiopathogeny of chronic noncancerous pain is unlike acute pain or pain from cancer. Chronic pain is made up of physical, cognitive, emotional and behavioral elements and persists, intermittently or continuously, beyond a healing time considered reasonable; chronic pain may or may not be associated with tissue injury and, frequently, complaints of pain are disproportionate to the injury^{7,8}. The persistence

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of pain leads to modifications in the neurological and psychological apparatus which can manifest itself as depression, anxiety, catastrophic thoughts and behaviors of disability and dependence⁸. Therapy for chronic pain is more complex than that used to control acute or cancer pain, because it involves the use of medicines, physical means and identification and adjustment of emotions, attitudes and beliefs⁹.

We noted that acute, chronic and cancer pain are all very different. However, frequently, even among health professionals, inappropriate distinctions are made between them that can compromise treatment. Beliefs/attitudes related to acute and cancer pain are well described in the literature, from the point of view of patients and health professionals. The health professionals are wary of using opiates for fear of addiction and respiratory depression, believe that pain is a "natural" accompanying process and that it is difficult to control and not a priority, among others. These inappropriate beliefs are pointed to as reasons for the inadequate control of acute and cancer pain^{1,2,3,5,7,10}. However, the beliefs/attitudes of health professionals toward chronic noncancerous pain are even less well known¹¹.

This prompted the present study which aims to analyze the beliefs of health professionals that work in pain clinics and who treat patients with chronic pain.

METHOD

The population sample was made up of professionals who work in pain centers in the city of S.Paulo (n=126). The entire staff was invited to participate and the 75 who accepted (59.5%) made up the sample of the present study. They were interviewed between August 2005 and March 2006.

A pain center is a facility designed to treat patients with pain, and is staffed by physicians with at least two specialties plus an additional health professional (social worker, nurse, physical therapist, dentist or psychologist)¹². The pain centers were located using the Sociedade Brasileira para Estudo da Dor (Brazilian Society for the Study of Pain - www.dor.org.br) website, from the book *História da Dor no Brasil* (History of Pain in Brazil)¹² and information from professionals in the field. Eleven pain centers were located and nine accepted to participate in the study (Clinica da Dor do Hospital Nove de Julho, Centro de Tratamento da Dor do Hospital Sírio Libanês, Central da Dor do Hospital A.C. Camargo, Ambulatório de Dor do Hospital do Servidor Público Estadual, Clínica de Dor da Irmandade Santa Casa de Misericórdia de São Paulo, Serviço de Dor do Hospital Alemão Oswaldo Cruz, Ambulatório de Dor e Neurologia do Hospital das Clínicas da Faculdade de Medicina da Universidade de São Paulo (HC-

FMUSP), Equipe de Controle de Dor Disciplina de Anestesiologia do HC-FMUSP and Unidade de Dor e Cuidados Paliativos do Instituto da Criança do HC-FMUSP.

The study was approved by the Research and Ethics Committees of all the institutions involved and the participants signed a free, prior and informed consent form. A Personal Data Record (age, sex, profession, time since graduation, highest degree earned and experience in the treatment of patients with chronic pain) and the Survey of Chronic Pain Attitudes-Professionals¹³ (Table 1) were used in the interview.

The Survey of Chronic Pain Attitudes-Professionals (SPA-professionals)^{13,14} was used to identify beliefs/attitudes of professionals toward chronic noncancerous pain. It was adapted from the Survey of Pain Attitudes-brief, developed for use with pain sufferers¹⁵⁻¹⁷.

The SPA-professionals contains 6 domains and 20 items. It is a self applied inventory where the respondents indicate their agreement with each of the statements, on a 5-point Likert scale, ranging from 0 to 4 (0=completely false, 1=false, 2=neither true nor false, 3=almost true, 4=completely true). Analysis of the inventory was performed by domain. The score for each domain was calculated by adding together the points from the responses to each item, and dividing this number by the total number of items answered. The final average score from each scale varied from 0 to 4. Some items were inverted (7, 14, 15, 17, 18, 19, 20) so their scores must be converted before they are added together. The conversion of the score was done by subtracting the score chosen by the respondent from four. There are no cutoff points, right or wrong answers and the scores from the domains are not added together. The responses deemed more "desirable" were labeled as such because they are considered to be hypothetically more adaptive by the author of the inventory. The desirable scores for each domain are: control=4, emotion=4, disability=0, physical harm=0, attentiveness=0 and medical cure=0 and 2 are neutral points^{17,18}.

The scores were classified as highly or moderately desirable, according to following the cutoff points.

	Score range	
	4	0
highly desirable	>3	<1
moderately desirable	>2-3	<2-1
highly undesirable	<1	>3
moderately undesirable	1-<2	>2-3

The domain control (items 1, 8, 11 and 13) refers to how much the health professional believes that pain can be controlled by the patient (personal control over pain). The

domain emotion (items 3, 6, 9 and 16) refers to how much the professional believes emotions influence pain (relationship between emotion and pain intensity). The domain disability (items 14 and 17) refers to how much the health professional believes that disability is due to pain (pain as a factor of disability). The domain harm (items 7, 10, 18 and 19) refers to how much the professional believes that pain means injury and that physical exercise should be avoided. The domain solicitude (items 2, 4, 5 and 12) refers to how much the professional believes that others, especially family members, should be more attentive toward the person who experiences pain (attentiveness of others toward the person with pain). The domain cure (items 15 and 20) refers to how much the health professional believes in a medical cure for chronic pain (cure through medical means).

We started with the hypothesis that the characteristics of health professionals can influence their beliefs. This

was tested through cluster analysis, by grouping the individuals according to socio-demographic variables, education and professional experience. The groups were named: physicians/graduate level education; non-physicians/specialists/little experience and college graduates/chronic cancer pain, as shown in Table 4. The groups were formed using the K-means method and a comparison between the groups was carried out with the Chi-square method. Sample adequacy was tested using Kaiser-Meyer-Olken (KMO) which measured 0.67; and by the Bartlett method which measured 0.000.

RESULTS

The instrument used to evaluate beliefs is shown in Table 1.

The characterization of the sample is shown in Table 2 and the descriptive statistics of the health professionals' beliefs are shown in Table 3.

Table 1. Survey of chronic pain attitudes-professionals.

	Completely false	Almost false	Neither true nor false	Almost true	Completely true
1 Oftentimes the patient can influence the intensity of pain.	0	1	2	3	4
2 Whenever someone experiences pain family members should treat him better.	0	1	2	3	4
3 Anxiety increases pain.	0	1	2	3	4
4 Whenever someone experiences pain people should treat that person with care and concern.	0	1	2	3	4
5 It is the responsibility of those who love the person with pain to help him when he experiences pain.	0	1	2	3	4
6 Stress increases pain.	0	1	2	3	4
7 Exercise and movement are good for people with pain.	0	1	2	3	4
8 Pain can be reduced through concentration or relaxation.	0	1	2	3	4
9 Depression increases pain.	0	1	2	3	4
10 Exercise can worsen pain.	0	1	2	3	4
11 Pain can be controlled by altering thoughts.	0	1	2	3	4
12 Oftentimes, when someone is in pain, that person does not get enough attention.	0	1	2	3	4
13 One can certainly learn to deal with pain.	0	1	2	3	4
14 Pain does not keep one from leading a physically active life.	0	1	2	3	4
15 Physical pain will never be cured.	0	1	2	3	4
16 There is a strong link between emotions and the intensity of pain.	0	1	2	3	4
17 A person with pain can do almost everything he did before the pain.	0	1	2	3	4
18 If a person with pain does not exercise regularly, the pain will continue to worsen.	0	1	2	3	4
19 Exercise can reduce the intensity of pain.	0	1	2	3	4
20 There is no medical procedure to alleviate pain.	0	1	2	3	4

Table 2. Characterization of sample (n=75).

Characteristics	n	%	Mean (dp)	Median	Variation
Sex					
Female	38	50.7			
Male	37	49.3			
Age	75		42.8 (10.5)	40.0	24 to 67
Time since graduation	75		17.8 (9.9)	16	1 to 39
Profession					
Physician	44	58.7			
Nurse	5	6.7			
Physical therapist	11	14.7			
Psychologist	6	8.0			
Dentist	8	10.7			
Social worker	1	1.3			
Degree					
Undergraduate	22	29.3			
Specialization	32	42.7			
Master's	11	14.7			
Doctorate	9	12.0			
Post-doctoral studies	1	1.3			
Self-evaluation of experience with chronic pain					
Little experience	12	16.0			
Average experience	45	60.0			
Extensive experience	18	24.0			
Number of patients with chronic non-cancerous pain seen per month					
From 1 to 5 patients	11	14.7			
From 6 to 10	12	16.0			
From 11 to 20	19	25.3			
21 or more	33	44.0			

Table 3. Descriptive statistics of professionals' beliefs.

	Desirable score	n	Mean	Median	Standard deviation	Minimum	Maximum
Control	4	75	3.1	3.2	0.6	1.0	4.0
Emotion	4	75	3.7	4.0	0.4	1.75	4.0
Disability	0	75	1.5	1.5	1.0	0.0	4.0
Harm	0	75	1.2	1.2	0.65	0.0	3.25
Solicitude	0	75	2.5	2.5	0.84	0.5	4.0
Cure	0	75	3.4	3.5	0.7	0.0	4.0

The professionals presented “desirable” beliefs for the domains control, emotion, harm and disability and “non-desirable” beliefs for the domains cure and solicitude, as shown in Table 3.

The response frequency for the 20 items of the 6 domains in the SPA-professionals is presented in Table 4.

Socio-demographic characteristics, education and experience of the groups are presented in Table 5.

Cluster analysis did not identify any difference in beliefs between the three groups of health professionals, as shown in Table 6.

DISCUSSION

Of the professionals evaluated (n=75), 59.5% of staff members from 9 pain clinics in the city of S.Paulo), a significant portion has academic education, with specializa-

Table 4. Response frequency to SPA-professionals, by item and domain.

Item	Domain/statement	Completely false (%)	Almost false (%)	Neither true nor false (%)	Almost true (%)	Completely true (%)
Control						
1	Oftentimes the patient can influence the intensity of pain		5.3	14.7	37.3	42.7
8	Pain can be reduced through concentration or relaxation	–	2.7	12.0	34.7	50.7
11	Pain can be controlled by altering thoughts	2.7	4.0	25.3	41.3	26.7
13	One can certainly learn to deal with pain	1.3	4.0	13.3	41.3	40.0
Emotion						
3	Anxiety increases pain	–	–	5.3	12.0	82.7
6	Stress increases pain	–	–	5.3	6.7	88.0
9	Depression increases pain	–	2.7	1.3	18.7	77.3
16	There is a strong link between emotions and the intensity of pain	–	1.3	1.3	16.0	81.3
Disability						
14	Pain does not keep one from leading a physically active life	5.3	8.0	24.0	34.7	28.0
17	A person with pain can do almost everything he did before the pain	12.0	14.7	26.7	34.7	12.0
Solicitude						
2	Whenever someone experiences pain, family members should treat him better	14.7	14.7	45.3	12.0	13.3
4	Whenever someone experiences pain, people should treat that person with care and concern	9.3	10.7	24.0	25.3	30.7
5	It is the responsibility of those who love the person with pain, to help him when he experiences pain	2.7	4.0	20.0	25.3	48.0
12	Oftentimes, when someone is in pain, that person needs to receive more attention	8.0	9.3	37.3	33.3	12.0
Cure						
15	Physical pain will never be cured	45.3	28.0	18.7	6.7	1.3
20	There is no medical procedure to alleviate pain	88.0	6.7	2.7	1.3	1.3
Harm						
7	Exercise and movement are good for those with pain	1.3	2.7	20.0	33.3	42.7
10	Exercise can worsen pain	14.7	21.3	36.0	14.7	13.3
18	If a person with pain does not exercise regularly, the pain will continue to worsen	4.0	8.0	36.0	32.0	20.0
19	Exercise can reduce the intensity of pain	1.3	–	10.7	44.0	44.0

tion, master's and doctorates in various fields, and extensive professional experience. One would suppose that their beliefs on chronic pain would be entirely appropriate and that the most qualified and experienced would present the most desirable beliefs, but this was not always the case. Most of the health professionals demonstrated desirable beliefs on the influence of emotion on pain, on the possibility of personal control over pain and that worsening pain is not always related to a worsening injury; a significant portion believed that pain and disability are not related. However, 50% believed that solicitude is desirable and 84% professed to believe in a medical cure for chronic pain, which is undesirable (Tables 3 and 4). Desir-

able and undesirable mean these beliefs are more or less functional/adaptive, aiding or not in recovery and not "right" or "wrong" as such. Less functional/adaptive beliefs contribute to disability and unrealistic expectations¹⁵.

In the domain control, 78% of the responses were in the desirable range (personal control over pain is possible), which shows that a portion (22%) of those interviewed still has doubts about this belief. Pain is made up of both sensation and emotion, and modulated by the interaction between the harmful stimulus, cognitive and emotional factors such as mood, beliefs, expectations, previous experience, attitudes, knowledge and the symbolic meaning attributed to the complaint¹⁹. Not believing

Table 5. Socio-demographic characteristics, education and experience of the groups.

		Cluster (Groups)					
		1		2		3	
		n	%	n	%	n	%
Age	Under 37 years	6	31.6	10	38.5	10	33.3
	37 to 45 years	7	36.8	9	34.6	8	26.7
	over 45 years	6	31.6	7	26.9	12	40.0
Sex	M	13	68.4	7	26.9	17	56.7
	F	6	31.6	19	73.1	13	43.3
Profession	Physician	17	89.5	1	3.8	26	86.7
	Nurse	1	5.3	0	–	4	13.3
	Physical therapist	–	–	11	42.3	–	–
	Psychologist	–	–	6	23.1	–	–
	Dentist	1	5.3	7	26.9	–	–
	Social worker	–	–	1	3.8	–	–
Degree	Undergraduate	1	5.3	4	15.4	17	56.7
	Specialization	–	–	19	73.1	13	43.3
	Master's	8	42.1	3	11.5	–	–
	Doctorate	9	47.4	–	–	–	–
	Post-doctoral studies	1	5.3	–	–	–	–
Acute pain	Infrequent/Moderate	13	68.4	17	65.4	23	76.7
	Frequent	6	31.6	9	34.6	7	23.3
Chronic cancerous pain	Infrequent/Moderate	17	89.5	23	88.5	22	73.3
	Frequent	2	10.5	3	11.7	8	26.7
Chronic noncancerous pain	Infrequent/Moderate	8	42.1	12	46.2	13	43.3
	Frequent	11	57.9	14	53.8	17	56.7
Number of patients with chronic noncancerous pain seen per month	From 1 to 10	3	15.8	15	57.7	5	16.7
	From 11 to 20	6	31.6	8	30.8	5	16.7
	21 or more	10	52.6	3	11.5	20	66.7
Self-evaluation of experience with chronic pain	Little experience	3	15.8	2	23.1	3	10.0
	Average experience	11	57.9	15	57.7	19	63.3
	Extensive experience	5	26.3	5	19.2	8	26.7

that the patient is capable of controlling/influencing his own pain may dissuade professionals from teaching self-care strategies thus increasing the feeling of helplessness and disability^{15,20}. In the domain emotion, roughly 96% of the responses were “almost true” or “completely true” for emotions influence pain, which is desirable.

Considering that emotion and perception of control are cognitive processes, it was expected that the mean scores for these beliefs would be similar. Greater acceptance of pain and emotion is perhaps related to greater verbalization by the patient of this fact or a way of blaming the patient for therapeutic failures. It is common for professionals to state, in an almost condescending manner, that “emotional problems” are responsible for exacerbating pain, ignoring the fact that fear, depression, anxiety, stress, interfere in the mechanism for perceiving painful phenomena^{8,15,16,20,21}. There are few nurses and psycholo-

gists in the pain clinics, leading one to wonder about the availability of psychosocial treatment at these facilities.

In the domain disability, 55% of the responses showed that pain, on various levels, is not the cause of disability. This belief may be related to excessive dismissal from work, family dependence and withdrawal of the patient. Complaints of disability vary greatly between individuals and appear to be a culturally learned attitude and behavior. Disability can be inadvertently reinforced by friends, family members, colleagues from work^{22,23} and health professionals²⁴. When the health professional has appropriate beliefs and knowledge on the control of pain and not necessarily a cure, on dysfunction and not necessarily injury, on pain and not necessarily disability, he can advise patients to enroll in educational and rehabilitation programs⁸. Rehabilitation programs are costly and require time, both for the patient and healthcare provider.

Table 6. Comparison of the beliefs (domains) among the clusters.

		Cluster (groups)			p-value
		1	2	3	
Emotion	n	19	26	30	0.329
	Mean	3.62	3.88	3.78	
	Median	4.00	4.00	4.00	
	Standard deviation	0.56	0.25	0.47	
	Minimum	2.50	3.00	1.75	
	Maximum	4.00	4.00	4.00	
Harm	n	19	26	30	0.114
	Mean	1.46	1.09	1.21	
	Median	1.50	0.75	1.25	
	Standard deviation	0.58	0.76	0.58	
	Minimum	0.50	1.00	0.00	
	Maximum	2.50	3.25	2.75	
Control	n	19	26	30	0.591
	Mean	3.05	3.13	3.17	
	Median	3.00	3.00	3.25	
	Standard deviation	0.54	0.59	0.68	
	Minimum	2.00	2.00	1.00	
	Maximum	4.00	4.00	4.00	
Solicitude	n	19	26	30	0.398
	Mean	2.24	2.47	2.67	
	Median	2.00	2.63	2.63	
	Standard deviation	0.72	1.01	0.75	
	Minimum	1.00	0.50	1.00	
	Maximum	3.50	4.00	4.00	
Cure	n	19	26	30	0.625
	Mean	3.50	3.29	3.53	
	Median	3.50	3.50	4.00	
	Standard deviation	0.55	0.87	0.69	
	Minimum	2.00	0.00	1.00	
	Maximum	4.00	4.00	4.00	
Disability	n	19	26	30	0.284
	Mean	1.80	1.65	1.44	
	Median	1.00	1.50	1.33	
	Standard deviation	0.75	0.94	0.87	
	Minimum	0.00	0.33	0.00	
	Maximum	2.67	3.67	2.67	

Sometimes it is more “advantageous” for both to opt for invasive treatment. These treatments, however, can add to frustration, worsen disability, lead to seeking out professionals that promise “magic” treatments and expose the patient to increasingly difficult situations.

With regard to the domain harm, roughly 63% of the responses show an understanding that pain is not related to a “physical injury.” The traditional biomedical model that focuses the treatment of chronic pain on the existence of physical injury is still the most widely understood and accepted by health professionals^{1,8,11,15}. The treatment of chronic pain requires an understanding of

how physical, psychological and social factors affect the neurophysiology of nociception, of the perception of pain, of the modulation of pain, of suffering and the behavior of pain^{1,8,11,19,20}.

With regard to the domain solicitude, most of the responses indicated a belief that solicitude is desirable, which is not always true. Attention and encouragement are almost universally accepted as having positive effects on suffering and adaptation to disability by chronic patients. However, if excessive, it can reinforce and encourage an increased occurrence of pain behavior, greater disability and difficulty in adjusting. Solicitude is acceptable

for acute pain, because of its short duration, the need for rest and immobilization due to the presence of injury, but this is not the case for chronic pain. Health professionals that believe that solicitude is highly desirable may be encouraging dependence and disability¹⁵.

In the domain medical cure, roughly 84% of the responses showed a belief in a cure for chronic pain, which is not considered desirable since, in many cases, it is difficult to achieve. If a cure is not always possible, control over pain and restored function are achievable objectives⁸. Believing strongly in a cure for chronic pain may lead health professionals to give patients false hope, unrealistic expectations, dependence on the health system, aggressive treatment and repeated surgeries⁸.

A study carried out at our facilities¹⁵ on the beliefs of patients with chronic pain toward chronic pain observed that most of the beliefs are not desirable. Of those evaluated, 41% believed themselves capable of controlling their pain, 49% considered attentiveness of others toward pain desirable, 51% associated the presence of chronic pain with the existence of physical injury, 56.9% recognized the relationship between their emotions and the intensity of pain, 57.5% believed that pain is the cause of their disability and 73.8% of the patients believed in the possibility of a cure for chronic pain. In the present study, a comparison of the beliefs of patients with health professionals showed that both expressed a strong belief in a medical cure for chronic pain. The health professionals believed more strongly than the patients that attentiveness is desirable, that emotion influences pain and that control over pain is possible. The patients believed more strongly than the health professionals in disability from pain and in the existence of injuries related to chronic pain. These results indicate the need for educating patients and professionals on chronic pain.

The health professional, regardless of educational background or experience, expressed the same beliefs. One would expect that psychologists and nurses, those most affected by psycho-social issues, would have a better understanding of the advantages and disadvantages of attentiveness, but this was not the case. One would also expect that physicians, who have a better understanding of the concepts of cure and are better familiarized with the responses of patients with chronic pain to treatment, showed less belief in a cure, but this was not the case. The literature corroborates the findings of the present study that the knowledge and attitudes of health professionals are not yet in line with current scientific findings^{8,11,14,20,21}.

In conclusion, the health professionals showed "highly desirable" beliefs for the domains control and emotion; "moderately desirable" for the domains physical injury and disability; "highly undesirable" for the domain medical

cure and "moderately undesirable" for the domain attentiveness. Educational interventions and belief realignment strategies are needed. A comparison of the clusters (physicians/graduate school education, non-physicians/specialists/little experience and college graduates/chronic cancer pain) showed no statistically significant differences in beliefs, indicating that variables such as profession, sex, age, educational level and experience do not influence beliefs of health professionals toward chronic pain. It is possible that "culture/professional jargon" is responsible for this similarity.

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