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COPING STRATEGIES IN CHRONIC RADICULALGIA⁵

Abstract:

Introduction. Pain is a valuable diagnostic symptom, but when it becomes chronic it negatively affects every aspect of a person's life, whether biological or psychological, and prevents them from fulfilling their existing social roles.

The objective of this paper was to identify coping strategies in chronic pain with a focus on patients with radiculalgia.

Methods. The study was conducted among 101 patients with chronic radiculalgia staying in one of the spa hospitals in the Podkarpacie region. The study was conducted between January and February 2019 using a diagnostic survey method, and the research tool was the proprietary survey questionnaire and the Coping Strategies Questionnaire (CSQ).

Results. The study population was predominantly female (59.4%), over 60 years of age (37.6%), with secondary education (43.6%), employed (41.6%), living in rural areas (53.5%), and overweight (54.5%). The largest group were

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respondents who declared coping (32.7%) and rated their quality of life as good (51.5%).

Conclusions. *In coping with chronic radiculalgia, respondents most often use a variety of strategies, the dominant one being coping self-statements and increased behavioural activity. The most common causes of chronic radiculalgia are neurological conditions. Patients suffering from chronic radiculalgia can partially reduce their pain by taking painkillers prescribed by their doctor. Subjects with chronic radiculalgia rate their quality of life as good. The chronic radiculalgia felt by the respondents is exacerbated by stressful situations, while the type of work performed does not influence it. Coping with chronic radiculalgia is slightly affected by lifestyle and frequency of medication, while other factors (age, education, place of residence) had no significant effect.*

Keywords:

pain, radiculalgia, chronic pain, pain coping strategies.

Pain is one of the basic symptoms in and a significant challenge for medicine. Moreover, it is part of our lives, accompanying us from birth until death, and its primary function is to warn our body of danger. It is a valuable diagnostic sign, but when its cause is unknown or it is the result of a chronic illness, it ceases to be something good, physiological for a person, and often becomes a disease itself requiring treatment.

Pain is defined as an unpleasant sensory and emotional experience, associated with or described in terms of actual or potential tissue damage.[5]

It is also defined as a sensation created by the irritation of the pain nerve endings of the sensory nerves by external or internal stimuli, usually as a result of a disease process occurring in the body's tissues.[11]

Subjects who experience pain take action to alleviate it, reduce the emotional tension felt because of it and lessen its impact on daily life. These actions are called pain coping strategies.

Objective

This paper identifies coping strategies in chronic radiculalgia.

Material and Method

The research was carried out in 2019 on the premises of one of the Spa Hospitals in the Podkarpace region among 101 subjects with chronic radiculalgia.

A diagnostic survey method was used in the research. The research material was collected by means of an interview technique, using the Coping Strategies Questionnaire (CSQ) and a self-administered questionnaire (17 questions on socio-demographic data).

The CSQ assesses the respondent's coping strategies in pain and their effectiveness in managing and reducing pain.

The Polish adaptation of this questionnaire by Z. Juczyński contains 42 statements describing different coping methods and two questions assessing the subject's ability to use different strategies to manage and reduce pain.[6]

The ways of coping with pain reflect six cognitive and one behavioural strategy, which in turn fall under three factors, i.e., active coping (i.e. re-evaluation of pain sensations, ignoring pain sensations, coping self-statements), distraction and taking vicarious action (distraction and increased behavioural activity), and catastrophising and hope-seeking (catastrophising, praying/hoping).

Pearson's independence test (χ^2) demonstrated the relationship between the variables.

Results

One hundred one subjects with chronic radiculalgia participated in the study, including 59.4% females (60 subjects) and 40.6% males (41 subjects).

Among the respondents, the largest group, 67.3%, were married. 13.9% declared that they were widowed, 12.9% were single, which accounted for 12.9% of the total, and 5.9% were divorced.

37.6% of subjects aged 60 and over participated in the survey, and 31.7% were 51 to 60. 16.8% were aged between 41 and 50, 9.9% were aged 31 to 40, and 4% were aged between 18 and 30.

The largest group of respondents, 43.6%, had secondary education, 29.7% had vocational education, 25.7% had higher education, and 1% had elementary education.

Of the respondents, 53.5% lived in rural areas, 37.6% in a town of up to 100,000 inhabitants, and 8.9% lived in a city of more than 100,000 inhabitants.

Assessing the occupational status of the respondents, it was found that the largest group was employed (41.6%), 38.6% were pensioners, 15.8% were persons with disability pension, 3.8% were employers, and one was self-employed.

Among the respondents, the majority were overweight (55 people, i.e. 54.5%), 20.8% were found to be grade I obese, 19.8% had a normal weight, 4.0% were identified as grade II obese, and 1% were underweight.

Among the respondents, 36.6% indicated a type of work other than physical or mental, 33.7% declared that they did mental work, while 30.7% did physical work.

When analysing the results, reference was also made to the duration of pain experienced by the respondents. Among respondents, the largest group were those who did not currently feel pain (27 subjects, 26.7%). 17.8% had experienced pain for about a week, 15.8% had experienced pain for about a month. 8.9% had experienced pain for several months to a year, and 8.9% for 1–3 years. 7.9% had been in pain for 3 to 5 years, 6.9% for 5 to 10 years, and 6.9% more than ten years.

Analysis of situations that exacerbate pain confirmed that the most frequent (39.6%) exacerbation of pain was influenced by lifting. In 24.8%, the pain was exacerbated by sitting and walking, and in 10.9%, by other causes.

As part of chronic pain management, 37.6% have undergone surgery, 24.8% take medication on our, 24.8% exercise with a physiotherapist, 7.9% take medication prescribed by a doctor, and 5.0% indicated other alternative treatments.

When analysing the reasons for the pain experienced by the subjects, it was found that the largest group were those who experienced pain due to neurological disorders (38.6%). Post-traumatic or post-accident complications were indicated as the cause of chronic pain by 19.8% of respondents, while post-disease complications were indicated by 14.9%.

26.7% indicated reasons other than the alternative options included in the survey, including 16% who did not give a reason for their pain, 6% who stated degeneration as the cause, and AS, RA, old age, hard work, and osteoporosis were indicated by 1% respondents each.

Respondents rated their ability to reduce their pain on a scale of 0–6, where 0 meant no ability to reduce pain, and 6 meant the respondent could ultimately reduce pain.

The vast majority, i.e., 62.6%, declared that they could partially reduce pain, 17.2% estimated that they could more than partially reduce their pain, 7.1% could almost entirely reduce pain, 6.1% could completely reduce pain, and 7.1% could less than partially mitigate their pain.

In the context of experiencing chronic pain, a self-assessment of quality of life showed that 51.5% of respondents declared their quality of life as good, 31.7% as average, 14.9% as very good, and 2.0% as “none of the above”, i.e., bad.

For pain management, 56.4% choose a GP as support, 18.8% a neurologist, 11.9% another person (without further details), 7.9% indicate a pain management specialist, and 5.0% choose a doctor with an irrelevant speciality.

Respondents indicated their strategies based on a CSM sheet containing coping strategies in pain (distraction, re-evaluation of pain sensations,

catastrophising, ignoring pain sensations, praying/hoping, coping self-statements, and increased behavioural activity).

32.7% of respondents reported coping with chronic pain, 18.8% showed increased behavioural activity, and 16.8% chose a praying/hoping strategy. 13.9% chose distraction, 6.9% chose to ignore sensations, and 2% chose to re-evaluate pain sensations.

The pain coping strategies declared by the respondents were related to gender.

Statistical analysis of gender and coping strategies showed that among men, the predominant attitudes were coping self-statements and praying/hoping attitudes, whereas among women, coping self-statements and increased behavioural activity. The result confirms the correlations between the studied characteristics $p=0.062$ (Table 1).

Table 1. Chronic Pain Coping Strategies by Gender.

Gender / Pain Coping Strategy		Female	Male
Distraction	[n]	12	2
	[%]	20.0%	4.9%
Re-evaluation of pain sensations	[n]	2	0
	[%]	3.3%	0.0%
Catastrophising	[n]	4	5
	[%]	6.7%	12.2%
Ignoring pain sensations	[n]	2	5
	[%]	3.3%	12.2%
Praying/hoping	[n]	9	8
	[%]	15.0%	19.5%
Coping self-statements	[n]	18	15
	[%]	30.0%	36.6%
Increased behavioural activity	[n]	13	6
	[%]	21.7%	14.6%
In total	[n]	60	41
df	6		
α	0.05		
χ^2	12.0105		
critical value	1.635383		
p	0.062		

Source: own study.

Comparing the age of the respondents to the adopted pain coping strategy, it was found that there was no statistically significant relationship between the age of the respondents and the coping strategy ($p>0.999$) (Table 2).

Table 2. Impact of Age on Pain Coping Strategies.

Age / Pain Coping Strategy		18–30	31–40	41–50	51–60	60+
Distraction	[n]	1	0	0	3	10
	[%]	25.0%	0.0%	0.0%	9.4%	26.3%
Re-evaluation of pain sensations	[n]	0	1	0	0	1
	[%]	0.0%	10.0%	0.0%	0.0%	2.6%
Catastrophising	[n]	1	1	2	3	2
	[%]	25.0%	10.0%	11.8%	9.4%	5.3%
Ignoring pain sensations	[n]	1	0	2	0	4
	[%]	25.0%	0.0%	11.8%	0.0%	10.5%
Praying/hoping	[n]	0	1	1	11	4
	[%]	0.0%	10.0%	5.9%	34.4%	10.5%
Coping self-statements	[n]	1	5	9	10	8
	[%]	25.0%	50.0%	52.9%	31.3%	21.1%
Increased behavioural activity	[n]	0	2	3	5	9
	[%]	0.0%	20.0%	17.6%	15.6%	23.7%
In total	[n]	4	10	17	32	38
df	24					
α	0.05					
χ^2	1.723624					
critical value	13.84843					
p	>0.999					

Source: own study.

Analysis of the respondents' pain coping strategies in relation to education did not confirm the presence of a statistically significant relationship ($p=0.842$) (Table 3.)

Table 3. Impact of Education on Pain Coping Strategies.

Education / Pain Coping Strategy		Elementary	Vocational	Secondary	Higher
Distraction	[n]	1	5	7	1
	[%]	100.0%	16.7%	15.9%	3.8%
Re-evaluation of	[n]	0	0	0	2

pain sensations	[%]	0.0%	0.0%	0.0%	7.7%
Catastrophising	[n]	0	0	6	3
	[%]	0.0%	0.0%	13.6%	11.5%
Ignoring pain sensations	[n]	0	5	0	2
	[%]	0.0%	16.7%	0.0%	7.7%
Praying/hoping	[n]	0	3	5	9
	[%]	0.0%	10.0%	11.4%	34.6%
Coping self-statements	[n]	0	11	19	3
	[%]	0.0%	36.7%	43.2%	11.5%
Increased behavioural activity	[n]	0	6	7	6
	[%]	0.0%	20.0%	15.9%	23.1%
In total	[n]	1	30	44	26
df	18				
α	0.05				
χ^2	12.09933				
critical value	9.390455				
p	0.842				

Source: own study.

Statistical analysis did not confirm that the respondents' place of residence was statistically significant on the pain coping strategy they chose ($p > 0.999$) (Table 4).

Table I. Impact of Place of Residence on Pain Coping Strategies.

Place of Residence / Pain Coping Strategy	Village		Town with up to 100,000 inhabitants	City with more than 100,000 inhabitants
	Distraction	[n]	6	6
[%]		11.1%	15.8%	22.2%
Re-evaluation of pain sensations	[n]	0	2	0
	[%]	0.0%	5.3%	0.0%
Catastrophising	[n]	6	2	1
	[%]	11.1%	5.3%	11.1%
Ignoring pain sensations	[n]	5	2	0
	[%]	9.3%	5.3%	0.0%
Praying/hoping	[n]	8	7	2
	[%]	14.8%	18.4%	22.2%
Coping self-	[n]	19	11	3

statements	[%]	35.2%	28.9%	33.3%
Increased behavioural activity	[n]	10	8	1
	[%]	18.5%	21.1%	11.1%
In total	[n]	54	38	9
df	12			
α	0.05			
χ^2	0.699733			
critical value	5.226029			
p	>0.999			

Source: own study.

Based on the analysis of the correlation of population characteristics, it was observed that there was no correlation between the lifestyle of the respondents and the pain-coping strategy ($p=0.335$).

Based on Pearson's test of independence (chi-square χ^2), a strong statistical relationship was observed ($p=0.008$) between the studied characteristics, which means that those taking medication prescribed by a doctor are significantly more likely to be able only partially to reduce their pain (Table 5).

Table 5. Pain Relief Possibilities.

Pain Relief Possibilities / Frequency of Medication	Less than partially		Partially		More than partially		In total
	[n]	[%]	[n]	[%]	[n]	[%]	
I don't take any medication for my pain	0	0%	1	25%	3	75%	4
I only take over-the-counter products for my pain	5	23%	7	32%	10	45%	22
I take ad hoc/periodic medication prescribed by my doctor	1	2%	37	73%	13	25%	51
I take regular medication prescribed by my doctor	2	10%	14	70%	4	20%	20
Despite the continuous treatment prescribed by my doctor, I still take additional medication because of my pain	0	0%	1	100%	0	0%	1
Others	1	33%	2	67%	0	0%	3
df	10						

α	0.05
χ^2	24.709
critical value	3.9403
p	0.008

Source: own study.

Based on Pearson's test of independence analysis results, the influence of lifestyle on respondents' pain perception can be confirmed. Respondents with an active lifestyle were less likely to experience pain, whereas those with a stressful lifestyle were significantly more likely to have problems. ($p=0.002$) indicates the presence of a strong statistical relationship between the studied characteristics (Table 6).

Table 6. Impact of Respondents' Lifestyles on Pain Experienced.

Impact of Lifestyle on Pain Experience	I do not feel pain		I feel pain		In total
	[n]	[%]	[n]	[%]	[n]
Active	9	40.9%	13	59.1%	22
Peaceful	6	18.8%	26	81.3%	32
Controlling	2	6.1%	31	93.9%	33
Mixed	1	7.1%	13	92.9%	14
df	3				
α	0.05				
χ^2	15.2939				
critical value	0.3518				
p	0.002				

Source: own study.

It was found that the type of work performed did not affect the chronic pain experienced by the respondents. The distribution of respondents appeared to be statistically insignificant ($p=0.478$).

Discussion

Pain is a valuable diagnostic symptom, but when it becomes chronic, it negatively affects every aspect of a person's life, whether biological or psychological and prevents them from fulfilling their existing social roles.

Based on our research, it was found that in coping with chronic radiculalgia, respondents most often use a variety of strategies, with the dominant one being coping self-statements and increased behavioural activity. The least frequent strategy is the re-evaluation of pain sensations.

In the study by Baczewska et al., the most commonly used coping strategies in chronic pain included praying, increased behavioural activity, and coping self-statements.

A significant relationship was found between the severity of pain, education, occupational activity of the subjects and the choice of strategy presented. Inactive subjects, as well as those with lower education were significantly more likely to have coping strategies considered to be a manifestation of ineffective pain management.[3]

Different results were found by Bielan O., Gutowska J., and Ejdyś M. in a study conducted among patients with chronic pain hospitalised in medical treatment wards, where patients' quality of life decreased significantly as the incidence of pain increased.[4]

The pain felt by respondents in our study is most often generated or exacerbated by stressful situations and the type of work performed.

The management of chronic pain is a difficult problem and a challenge for medicine, far from being satisfactorily resolved yet. The primary and most commonly used means of pain management is pharmacotherapy, unfortunately, related to a significant burden for the patient and the risk of side effects.

Chronic pain experienced by patients for a variety of reasons is the subject of numerous studies that demonstrate its destructive and negative impact on human health and life.

According to the research, chronic pain is a dynamic phenomenon, and the patients' coping strategies are influenced by factors related to the clinical nature of the pain experienced. There is a need to develop guidelines for working with patients suffering from pain, inter alia, in the course of lower limb ischaemic disease.[5.6]

When analysing coping strategies for chronic pain, the researchers also confirm that patients need appreciative, instrumental, informational, and emotional support in pain, which helps them cope effectively.[7]

Support and assistance in chronic pain require the implementation of a holistic model of a bio-psycho-social approach to the patient for nursing to be effective.[2]

Conclusions

Based on the analysis of the results obtained, the following conclusions were drawn:

1. The most common causes of chronic radiculalgia experienced by respondents are neurological conditions.
2. In coping with chronic radiculalgia, respondents most often use a variety of strategies, the dominant one being coping self-statements and increased behavioural activity.
3. Patients suffering from chronic radiculalgia can partially reduce their pain by taking painkillers prescribed by their doctor.
4. The chronic radiculalgia felt by the respondents is exacerbated by stressful situations, while the type of work performed does not influence it.
5. Coping with chronic radiculalgia was influenced by lifestyle and frequency of medication, while other factors (age, education, place of residence) have no significant impact on coping strategies in chronic pain.

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