



Symptomatic treatment for migraine. Drugs used and related variables. Results of the european survey on work and migraine

Tratamiento sintomático en migraña. Fármacos utilizados y variables relacionadas. Resultados de la encuesta europea sobre trabajo y migraña

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ABSTRACT

Objectives: To know the use of symptomatic treatments for migraine attacks in different countries of Europe and the differences observed in terms of social and demographic variables.

Material and methods: Cross-sectional observational study by using anonymous web survey of 3342 patients from Spain. Italy. France. Portugal. Ireland. the United Kingdom. Germany and other countries of the European Union. Study variables: Age. gender. country. type of locality. level of education and rural or urban setting. The symptomatic treatments that were reported are: simple analgesics. non-steroidal anti-inflammatory drugs. triptans. other treatments. various treatments. no treatment. lack of knowledge of symptomatic treatment.

Results: In simple analgesics. the largest consumers are between 41-60 years old ($p < 0.0001$). Spain and Germany are countries using more simple analgesics ($p < 0.0001$). The highest use of anti-inflammatory drugs is between 21-60 years ($p < 0.0001$). Spain. Italy. and Germany are the countries that use them most ($p < 0.0001$) and consume most in patients with higher education ($p < 0.003$).

The use of triptans is associated with age and sex. with increased use between 21-60 years ($p < 0.0001$) and in women ($p < 0.0001$). By country. the highest con-

RESUMEN

Objetivos: Conocer el uso de tratamientos sintomáticos para las crisis de migraña en distintos países de Europa y las diferencias que se observan en función de variables sociales y demográficas.

Material y métodos: Estudio observacional transversal mediante encuesta anónima vía web a 3342 pacientes de España, Italia, Francia, Portugal, Irlanda, Reino Unido, Alemania y otros países de la Unión Europea. Variables de estudio: edad género, país, tipo de localidad, nivel de estudios y ámbito rural o urbano. Los tratamientos sintomáticos que se recogen son: analgésicos simples, antiinflamatorios no esteroideos, triptanes, otros tratamientos, varios tratamientos, sin tratamiento, desconocimiento de tratamiento sintomático.

Resultados: En analgésicos simples los mayores consumidores están entre 41-60 años ($p < 0,0001$). España y Alemania son los países con mayor uso ($p < 0,0001$). El cuanto a los antiinflamatorios el mayor uso se da entre 21-60 años ($p < 0,0001$). España, Italia y Alemania son los países que mayor uso hacen de ellos ($p < 0,0001$) y mayor consumo en pacientes con estudios superiores ($p < 0,003$).

El uso de triptanes muestra relación con la edad y el género, mayor uso entre 21-60 años ($p < 0,0001$) y en mujeres ($p < 0,0001$). Por países, el mayor consumo

sumption is in Germany, other European Union countries, Spain and the United Kingdom ($p < 0.0001$). Higher consumption was found in patients living in cities with more than 500 inhabitants ($p < 0.010$) and who have completed intermediate or higher education ($p < 0.0001$). In the intermediate and higher education group, the highest percentage of patients who do not know what symptomatic treatment means is found ($p < 0.0001$).

Conclusions: There is a great variability of results in each country and they are modified according to different social and demographic conditions, being age, sex, the rural or urban setting and the cultural level the factors that most condition the use of each symptomatic drug for migraine attacks.

Keywords: Migraine, symptomatic treatment, pain, occupational medicine, occupational health, survey.

es en Alemania, resto de países de Unión Europea, España y Reino Unido ($p < 0.0001$). Mayor consumo en pacientes que viven en ciudades de más de 500 habitantes ($p < 0.010$) y con estudios medios o superiores ($p < 0.0001$). En el grupo de estudios medios y superiores se encuentra por contraste el mayor porcentaje de pacientes que desconocen qué es un tratamiento sintomático ($p < 0.0001$).

Conclusiones: Existe una gran variabilidad de los resultados en cada país y se modifican en función de distintas condiciones sociales y demográficas, siendo la edad, el género, el ámbito rural o urbano y el nivel cultural los factores que más condicionan el uso de cada medicación sintomática para las crisis de migraña.

Palabras clave: Migraña, tratamiento sintomático, dolor, medicina del trabajo, salud laboral, encuesta.

INTRODUCTION

Migraine is a disease with a high global prevalence and disabling, and it is accepted that it is not properly diagnosed or treated. This is shown by the results of the EUROLIGHT study performed in 10 European countries (Germany, Italy, Lithuania, Luxembourg, the Netherlands, Spain, Austria, France, the United Kingdom and Ireland) with 9247 patients participating. This study shows that very few people with migraine in rich European countries visit the doctor and migraine-specific drugs are used inappropriately, even among those visiting the doctor, which suggests that there is a need to improve the care of people with headaches and the training aspects of health care managers and patients [1].

The study "My Migraine Voice", conducted in 31 countries in North and South America, Europe, the Middle East and North Africa, and the Asia and Pacific region, is also in this line. A total of 11266 people were involved in this study and it aimed at understanding the total burden and impact of the disease when attacks last more than 4 days per month. The results of this study suggest that correctly indicated and used treatments and future development advances would address current needs and allow people with migraine to maximize their contribution to society [2].

In Europe, the social and economic impact of migraine is related to the duration of attacks and its inadequate control, which has an impact on quality of life, loss of work productivity and the high use of health resources [3]. In addition, many migraine patients do not visit a doctor, or do not achieve adequate relief after consultation as a result of inappropriate or inadequate treatment, and there is still an unmet need for migraine care [4].

The aim of the present study is to know the use of symptomatic treatments for migraine attacks in different European countries and the differences found in terms of different social and demographic conditions, in order to be able to propose more effective and targeted actions in the future based on the results obtained.

MATERIAL AND METHODS

A cross-sectional observational study based on an anonymous web-based survey located on the European Migraine and Headache Alliance (EMHA) website and scientifically endorsed by the Spanish Association of Specialists in Occupational Medicine (AEEMT) to 3342 patients in Spain, Italy, France, Portugal, Ireland, United Kingdom, Germany and other countries of the European Union. A previous diagnosis of migraine, be working at the time of the survey or have been working in the previous year, and participate voluntarily were considered inclusion criteria. Data were collected from September 2018 to January 2019. The survey consists of 32 questions with multiple responses (Annex 1).

Based on the initial description, the symptomatic treatments used for the treatment of attacks are specifically analyzed according to a series of sociodemographic variables: Age (less than 20 years, between 21 and 40 years, between 41 and 60 years, more than 61 years), sex (male, female), place of residence (Spain, Italy, France, Portugal, Ireland, United Kingdom, Germany, another EU country), type of locality where they reside (up to 500 inhabitants, 500-10,000 inhabitants, 10,000-250,000 inhabitants, 250,000-1 million inhabitants, more than 1 million inhabitants), level of education (elementary, intermediate, higher), area in which they live (rural [town], urban [capital]).

The symptomatic treatments used are defined by question 13 of the questionnaire (Treatment for pain when you have migraine attacks: With simple analgesics, with nonsteroidal anti-inflammatory drugs [NSAIDs], with triptans, with other symptomatic treatments, with several symptomatic treatments not listed above, I am not taking symptomatic treatment, I do not know what symptomatic treatment means).

A bivariate analysis has been performed for each of the types of symptomatic treatments used according to each of the sociodemographic parameters.

Contingency tables showing absolute frequency (N) and percentage (%) for each variable combination are

presented. According to the nature of the questionnaire variables (categorical variables), Chi-square test or Fisher's exact test have been used to analyze the possible relationship between migraine characteristics and sociodemographic variables.

Since question 13 has multiple responses, the data analysis has been performed independently for each of the possible answers.

RESULTS

The sociodemographic characteristics of the population that responded to the survey are shown in Table I and indicate a heterogeneous distribution by country, with the highest percentage of responses corresponding to Spain and Germany. A total of 85.13% of respondents are in the middle age group and are mostly women (90%). The participants reside mainly in urban areas (68.63%), in intermediate-large cities (35% in localities of more than 250,000 inhabitants and 72.5% in localities of more than 10,000 inhabitants).

are skilled workers (69% with higher education and 27% with intermediate studies) and receive moderate support from their environment during migraine attacks (44.06%).

The overall results of the use of the different symptomatic treatments in migraine attacks and their percentage relation with the different sociodemographic variables studied are shown in Table II.

When each of the types of symptomatic treatments are differentiated in relation to the variables studied, and considering only those results with statistical significance we found that:

- The group of 41-60 years is the one that most uses simple analgesics, with the least use of these drugs corresponding to those older than 61 years ($p < 0.0001$). Spain and Germany are the countries with the highest use of simple analgesics ($p < 0.0001$) (Table III).
- NSAID use is more widespread and corresponds to ages 21-60 years ($p < 0.0001$). Spain, Italy and Germany are the countries with the highest use of NSAIDs ($p < 0.0001$) (Table IV). Patients

TABLE I
SOCIODEMOGRAPHIC CHARACTERISTICS OF THE POPULATION SURVEYED

	Variable	%	n
Age	Less than 20 years old	11.79 %	394
	Between 21-40	42.97 %	1436
	Between 41-60	42.16 %	1409
	More than 61	3.08 %	103
Sex	Man	10.02 %	335
	Woman	89.98 %	3008
Level of education	Elementary	4.01 %	134
	Intermediate	26.94 %	900
	Higher	69.05 %	2307
Environment support	Good	28.11 %	939
	Intermediate	44.06 %	1472
	Bad	27.84 %	930
Country of residence	Spain	31.13 %	1039
	Italy	8.36 %	279
	France	2.61 %	87
	Portugal	3.95 %	132
	Ireland	6.65 %	222
	United Kingdom	8.96 %	299
	Germany	21.09 %	704
	Another EU country	17.26 %	576
Town size	Up to 500 inhabitants	4.08 %	136
	Since 500-10.000 inhabitants	23.43 %	782
	Since 10.000-250.000 inhabitants	37.49 %	1251
	Since 250.000-1 million inhabitants	13.52 %	451
	More than one million inhabitants	21.49 %	717
Area of residence	Rural (town)	31.37 %	1048
	Urban (capital)	68.63 %	2293

TABLE II
SYMPTOMATIC TREATMENT USED IN MIGRAINE ATTACKS AND RELATED VARIABLES

Variable	TREATMENT FOR PAIN													
	Simple analgesics		Anti-inflammatory		Triptans		Other symptomatic treatments		Several symptomatic		I am not under treatment		No sé qué es un tratamiento sintomático	
Age	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Less than 20 years old	192	14.7	168	13.01	44	2.31	38	7.35	24	9.2	43	32.82	44	30.77
Between 21-40	618	47.32	614	47.56	776	40.82	250	48.36	119	45.59	51	38.93	60	41.96
Between 41-60	467	35.76	483	37.41	1016	53.45	211	40.81	112	42.91	32	24.43	38	26.57
More than 61	29	2.22	26	2.01	65	3.42	18	3.48	6	2.3	5	3.82	1	0.7
Total	1306	100	1291	100	1901	100	517	100	261	100	131	100	143	100
Not available	4		5		2		0		0		1		1	
Sex	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Man	134	10.24	126	9.74	153	8.05	39	7.54	24	9.2	23	17.42	22	15.28
Woman	1174	89.76	1167	90.26	1747	91.95	478	92.46	237	90.8	109	82.58	122	84.72
Total	1308	100	1293	100	1900	100	517	100	261	100	132	100	144	100
Not available	2		3		3		0		0		0		0	
Country	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Spain	411	31.45	504	39.01	348	18.32	117	22.76	83	32.05	70	53.03	69	47.92
Italy	72	5.51	149	11.53	178	9.37	43	8.37	20	7.72	4	3.03	2	1.39
France	22	1.68	47	3.64	62	3.26	15	2.92	8	3.09	0	0	7	4.86
Portugal	51	3.9	72	5.57	60	3.16	33	6.42	7	2.7	1	0.76	2	1.39
Ireland	83	6.35	118	9.13	106	5.58	47	9.14	24	9.27	8	6.06	22	15.28
United Kingdom	115	8.8	127	9.83	208	10.95	60	11.67	37	14.29	14	10.61	19	13.19
Germany	341	26.09	130	10.06	489	25.74	129	25.1	43	16.6	23	17.42	10	6.94
Another EU country	212	16.22	145	11.22	449	23.63	70	13.62	37	14.29	12	9.09	13	9.03
Total	1307	100	1292	100	1900	100	514	100	259	100	132	100	144	100
Not available	3		4		3		3		2		0		0	
Locality Characteristics	n	%	n	%	n	%	n	%	n	%	n	%	n	%
< 500 inhabit.	50	3.82	49	3.8	78	4.12	29	5.62	16	6.18	5	3.79	7	4.86
500-10.000 inhabit.	299	22.86	292	22.62	414	21.85	110	21.32	59	22.78	40	30.3	42	29.17
10.000-250.000 inhabit.	497	38	503	38.96	699	36.89	193	37.4	107	41.31	51	38.64	47	32.64
250.000-1 million inhabit.	193	14.76	190	14.72	259	13.67	70	13.57	23	8.88	14	10.61	24	16.67
>1 million inhabit.	269	20.57	257	19.91	445	23.48	114	22.09	54	20.85	22	16.67	24	16.67
Total	1308	100	1291	100	1895	100	516	100	259	100	132	100	144	100
Not available	2		5		8		1		2		0		0	
Level of education	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Elementary	57	4.35	47	3.63	52	2.74	16	3.1	10	3.83	11	8.33	13	9.09
Intermediate	342	26.13	309	23.9	446	23.51	130	25.19	84	32.18	49	37.12	61	42.66
Higher	910	69.52	937	72.47	1399	73.75	370	71.71	167	63.98	72	54.55	69	48.25
Total	1309	100	1293	100	1897	100	516	100	261	100	132	100	143	100
Not available	1		3		6		1		0		0		1	
The area in which you live	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Rural (Town)	404	30.86	369	28.54	594	31.33	162	31.46	104	39.85	41	31.06	54	37.5
Urban (Capital)	905	69.14	924	71.46	1302	68.67	353	68.54	157	60.15	91	68.94	90	62.5
Total	1309	100	1293	100	1896	100	515	100	261	100	132	100	144	100
Not available	1		3		7		2		0		0		0	

TABLE III
 USE OF SIMPLE ANALGESICS AS SYNSYMMATIC TREATMENT FOR MIGRAIN ATTACK
 AND STATISTICAL SIGNIFICANCE VARIABLES*

Variable	TREATMENT FOR PAIN WITH SIMPLE ANALGESICS				p-value
	No		Yes		
Age	n	%	n	%	
Less than 20 years old	202	9.92	192	14.7	< 0.0001
Between 21-40	818	40.18	618	14.7	
Between 41-60	942	46.27	467	35.76	
More than 61	74	3.63	29	2.22	
Total	2036	100	1306	100	
Not available	4		4		
Country	No		Si		< 0.0001
	n	%	n	%	
Spain	628	30.92	411	31.45	
Italy	207	10.19	72	5.51	
France	65	3.2	22	1.68	
Portugal	81	3.99	51	3.9	
Ireland	139	6.84	8	6.35	
United Kingdom	184	9.06	115	8.8	
Germany	363	17.87	341	26.09	
Another EU country	364	17.92	212	16.22	
Total	2031	100	130	100	
Not available	9		3		

*Only variables with p-value < 0.05 are included. Sex, level of education, characteristics of the locality (number of inhabitants), area of residence (urban or rural) have been ruled out because of p-value > 0.05.

with higher studies are the largest consumers of these drugs (p < 0.003).

- The use of triptans as treatment of attacks shows a significant relationship with age, with increased use among patients aged 21-60 years (p < 0.0001), more in women (p < 0.0001). The highest consumption of these drugs was found in Germany, other countries of the European Union, Spain and the United Kingdom (p < 0.0001). The highest consumption was found in patients living in cities of more than 500 inhabitants but with little significant differences (p < 0.010) and in patients with intermediate or higher education (p < 0.0001) (Table V). In addition, in this group of intermediate and higher education, the highest percentage of patients who do not know what symptomatic treatment means for migraine attacks is found (p < 0.0001) (Table VI).

DISCUSSION

Recommendations for diagnostic criteria and migraine management are regularly updated by the International Headache Society (IHS), the most recent was

in 2018 (5). On this basis, the Spanish society of neurology (6) specifies that the suppressive treatment of migraine attacks is indicated for all patients and that it should be personalized. In general, two groups of treatments for attacks are found: Non-specific therapies (simple analgesics and NSAIDs) and specific therapies (triptans-agonists of the 5HT receptors- and ergotic).

Oral NSAIDs are the drugs indicated in mild to moderate attacks (level of evidence I, grade of recommendation A) and, when no response is obtained with these drugs, the recommendation is triptans (level of evidence II, III, and grade of recommendation C).

In severe attacks, the treatment indicated is triptans (grade of recommendation A).

While the criteria seem clear, our survey shows very variable results. We consider simple analgesics, NSAIDs, triptans, and other drugs or drug combinations as treatment options in the survey. The results reveal statistical significance in relation to age, so younger patients use more simple analgesics and/or NSAIDs, whereas patients with ages of 41-60 years use more triptans.

Regarding patients over 60 years, it should be taken into account that migraine especially affects the age group between 21 and 60 years, being less common

TABLE IV
 USE OF NSAIDS AS SYMPTOMATIC TREATMENT FOR MIGRAINE ATTACKS
 AND VARIABLES WITH STATISTICAL SIGNIFICANCE*

Variable	PAIN TREATMENT WITH NSAIDS				p-value
	No.		Yes		
	n	%	n	%	
Age					< 0.0001
Less than 20 years old	226	11.02	168	13.01	
Between 21-40	822	40.08	614	47.56	
Between 41-60	926	45.15	483	37.41	
More than 61	77	3.75	26	2.01	
Total	2051	100	1291	100	
Not available	3		5		
Country	No		Si		< 0.0001
	n	%	n	%	
Spain	535	26.15	504	39.01	
Italy	130	6.35	149	11.53	
France	40	1.96	47	3.64	
Portugal	60	2.93	72	5.57	
Ireland	104	5.08	118	9.13	
United Kingdom	172	8.41	127	9.83	
Germany	574	28.05	130	10.06	
Another EU country	431	21.07	145	11.22	
Total	2046	100	1292	100	
Not available	8		4		
Level of education	No		Si		< 0.003
	n	%	n	%	
Elementary	87	4.25	47	3.63	
Intermediate	591	28.86	309	23.9	
Higher	137	66.89	937	72.47	
Total	2048	100	1293	100	
Not available	6		3		

*Only variables with p-value < 0.05 are included. We have ruled out: sex, characteristics of the locality (number of inhabitants), area of residence (urban or rural) because of p-value > 0.05.

among those over this age in those who, moreover, the clinical characteristics of migraine are less typical, which makes it difficult to diagnose and treat and involves specific risk considerations due to multi-drug therapy or multi-pathologies that should be assessed [7]. The results of our study show that this age group is the group that uses analgesics, NSAIDs and triptans the least.

The results related to the use of pain killers and their sex differences show only statistical significance in the use of triptans, which is larger in women than in men.

This trend on the larger use of triptans in women appears to be consistent in other studies. In 2014, results were published in Piedmont, Italy, on patterns of

drug use and administration in patients seeking assistance from pharmacists to alleviate a migraine attack. All epidemiological studies on migraine have consistently shown that it is much more common among women than among men. This gender difference is also reflected in the higher percentage of women receiving treatment or advice for headache attacks. Among the drugs usually taken to relieve headache, there were no statistically significant differences between men and women in the usual use of NSAIDs, in consistency with the results obtained in our study. Statistically significant differences arose in the use of triptans and the use of combination drugs, but not in the use of simple analgesics [8].

TABLE V
 USE OF TRIPTANS AS SYMPTOMATIC TREATMENT FOR MIGRAINE ATTACKS
 AND VARIABLES WITH STATISTICAL SIGNIFICANCE*

Variable	PAIN TREATMENT: WITH TRIPTANS				p-value
	No		Yes		
Age	n	%	n	%	
Less than 20 years old	350	24.29	44	2.31	< 0.0001
Between 21-40	660	45.8	776	40.82	
Between 41-60	393	27.27	1016	53.45	
More than 61	38	2.64	65	3.42	
Total	1441	100	1901	100	
Not available	6		2		
Sex	No		Sí		
	n	%	n	%	
Man	182	12.61	153	8.05	< 0.0001
Woman	126	87.39	1747	91.95	
Total	1443	100	1900	100	
Not available	4		3		
Country	No		Si		
	n	%	n	%	
Spain	691	48.05	348	18.32	< 0.0001
Italy	101	7.02	178	9.37	
France	25	1.74	62	3.26	
Portugal	72	5.01	60	3.16	
Ireland	116	8.07	106	5.58	
United Kingdom	91	6.33	208	10.95	
Germany	215	14.95	489	25.74	
Another EU country	127	8.83	449	23.63	
Total	1438	100	1900	100	
Not available	9		3		
Characteristics Location of residence	No		Sí		
	n	%	n	%	
Up to 500 inhabitants	58	4.02	78	4.12	< 0.010
Since 500-10.000 inhabitants	368	25.52	414	21.85	
Since 10.000-250.000 inhabitants	552	38.28	699	36.89	
Since 250.000-1 million inhabitants	192	13.31	259	13.67	
More than 1 million inhabitants	272	18.86	445	23.48	
Total	1442	100	1895	100	
Not available	5		8		
Level of education	No.		Yes		
	n	%	n	%	
Elementary	82	5.68	52	2.74	< 0.0001
Intermediate	454	31.44	446	23.51	
Higher	908	62.88	1399	73.75	
Total	144	100	1897	100	
Not available	3		6		

*Only variables with p-value < 0.05 are included. Area of residence was discarded because of p-value > 0.05.

TABLE VI
DISKNOWLEDGE OF SYMPTOMATIC TREATMENT FOR MIGRAINE ATTACKS
AND VARIABLES WITH STATISTICAL SIGNIFICANCE*

Variable	TREATMENT FOR PAIN. I DO NOT KNOW WHAT SYMPTOMATIC TREATMENT MEANS				p-value
	No.		Yes		
	n	%	n	%	
Elementary	121	3.78	13	9.09	< 0.0001
Intermediate	839	26.24	61	42.66	
Higher	2238	69.98	69	48.25	
Total	3198	100	143	100	
Not available	8		1		

*Only variables with p-value < 0.05 are included. Age, gender, country residence, characteristics of the place of residence (number of inhabitants), area of residence (urban or rural) have been ruled out because of p > 0.05.

Our survey shows differences by country in the use of pain treatments. Spain and the United Kingdom are the least users of treatment and, together with France and Ireland, they are the most unaware of symptomatic treatment. Ireland, United Kingdom and Germany are the countries that use most other treatments, with triptans being the most widely used in all countries except Spain, Portugal and Ireland. NSAIDs are used in all countries participating in the survey, except in Germany and in the group of other countries in the European Union, and simple analgesics are the first choice in Spain and Germany. The results are consistent with the Eurolight study, although this study did not include the differentiation by pharmacological groups that has been performed in our study.

In our study, the use of symptomatic treatments is not influenced by the number of inhabitants of the locality, but the level of education does condition the symptomatic treatment used, being higher the use of NSAID and triptans in people with higher education and, in contrast, lack of knowledge of or use of treatments is prevalent in patients with elementary or intermediate qualifications.

Regardless of the educational level of patients, there seems to be consensus in the scientific community on the advantages of training and information on the disease. Patients consider that having basic information, such as an understandable educational booklet on migraine, means an increase in their general knowledge of the disease and it is useful in increasing attack management [9].

In our study, the area of residence seems to show a trend toward the use of NSAIDs in urban areas and the use of other treatments in rural areas. In most countries, barriers to seeking or accessing health care in rural areas are larger than in urban areas, especially in small areas and those far from urban centers. Literature reviews show disparities in rural and urban health care in countries such as the United States and are oriented toward continuous reform programs aimed at improving the provision of health services, promoting recruitment, training and professional development of health care providers responsible for rural health care.

increase comprehensive health insurance coverage, and involve rural residents and health care providers in health promotion [10]. This is in line with the observed in countries from very diverse socio-cultural areas and which include aspects linked to deficiencies in access to medical and nursing care [11].

The results of our study reveal a great variability of the results in each country and that they are modified according to different social and demographic conditions. These results are consistent with the suggested by other authors who state that this variability facilitates the evolution toward chronic migraine processes and that all classes of drugs can induce this chronification of the pathology. Drugs that have a higher risk of abuse are among those preferred by patients who are more difficult to treat because of their poor response and a particular impulse toward the consumption of "everything that can be perceived as provider of some relief." Although these drugs are perceived to be "more potent," they are often indicated as second- or third-line drugs [12].

The treatment recommendations for migraine attacks are based as a starting point on the correct diagnosis, based on consensus criteria and with personalized therapies according to the conditions of each patient. Several medications are available for the treatment of acute migraine, but not all are effective for all patients, or equally effective in all attacks. Currently, the group of serotonin (5-HT) 1B/1D receptor agonist drugs, called triptans, is the mainstay of acute therapeutic regimens, although there are other approaches to acute treatment, such as simple analgesics, non-steroidal anti-inflammatory drugs (NSAIDs), ergotamines, and combined drugs. Another more recent treatments, in use or under clinical research, are currently assessed [13].

Safety profiles of migraine drugs limit their use in patients with certain comorbid conditions, and adverse effects can also reduce the compliance level of the patient. NSAIDs are often associated with gastrointestinal and possibly cardiovascular side effects. Ergotic alkaloids may induce arterial vasoconstriction, while administration of triptans is contraindicated in cardiovascular.

cerebrovascular and peripheral vascular diseases. A number of newly synthesized experimental drugs appear to be effective and promising in the treatment of migraine, but currently experience with them is still limited, and further studies are needed [14].

Today, different types of drugs for acute migraine are discussed, with particular attention to safety problems and possible adverse effects. Although triptans are widely used in the acute treatment of migraine, there is uncertainty about the comparative efficacy of each other and against other specific or used migraine treatments. Triptans used at standard doses are associated with better results than ergotamines and with equal or better results compared to NSAIDs, salicylates, and simple analgesics [15]. The frequent use of analgesics, ergotamine alkaloids, and triptans may have an impact on the development of chronic headache due to excessive use of medications. In addition, the onset of a migraine attack is not fully understood, and treatment targeting causal factors is not currently available. The tolerability and adverse effects of currently

available drugs limit their use in certain groups of patients, together with the fact that frequent use of these drugs raises the risk of developing adverse effects and, therefore, the need for drugs based on pathological mechanisms within a concept of personalized medicine is imposed [16].

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CONFLICT OF INTEREST

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ANNEX 1

MIGRAINE AND WORK QUESTIONNAIRE. SITUATION STUDY

Approximate time to complete this survey: 6 minutes



The objective of this study is to know the situation of the worker with migraine within the work environment and to compare the situation in the different participating countries.

The resulting data would allow the implementation of actions to improve the working environment and the maximum integration of the migraine worker within companies.

The implementation of preventive and adaptive measures with common benefit for the worker, the health care provider and the employer is desirable.

*This survey was performed with the scientific backing of the Spanish Association of Specialists in Occupational Medicine (AEEMT).

CHECK IF MEETING THE INCLUSION CRITERIA FOR THE STUDY

- | |
|---|
| <input type="checkbox"/> Participation is voluntary |
| <input type="checkbox"/> Responding patients know that the data obtained will be for confidential use |
| <input type="checkbox"/> Responding patients meet migraine criteria |
| <input type="checkbox"/> Responding patients are working at the time of the survey, or have been working in the previous year |

PATIENT/WORKER ISSUES: REGARDING YOUR PERSONAL DATA

- Age:
 - Less than 20 years

- 21-40 years
- 41-60 years
- More than 61 years
- 2. Sex:
 - Man
 - Woman
- 3. Country of residence:
 - Spain
 - Italy
 - France
 - Portugal
 - Ireland
 - United Kingdom
 - Germany
 - Another EU country
- 4. Characteristics of your place of residence: Approximate number of inhabitants:
 - Up to 500 inhabitants
 - 500-10.000 inhabitants
 - 10.000-250.000 inhabitants
 - 250.000-1 million inhabitants
 - More than one million inhabitants
- 5. Education level:
 - Elementary
 - Intermediate
 - Higher
- 6. Support that the worker receives from the environment during migraine attacks:
 - Good
 - Intermediate
 - Bad
- 7. Living area:
 - Rural (town)
 - Urban (capital)

PATIENT/WORKER ISSUES: RELATED TO MIGRAINE

- 8. Type of migraine:
 - With aura
 - Without aura
 - Both types
 - Chronic
- 9. Duration of migraine attacks:
 - Less than 4 hours
 - 4-6 hours
 - More than 6 hours
- 10. Frequency of migraine attacks:
 - Less than 3/month
 - 3-6/month
 - More than 6/month
- 11. Medical supervision (CHOOSE APPLICABLE OPTIONS; MORE THAN ONE CAN BE CHOSEN):
 - By a neurologist
 - By a general practitioner/family physician/primary care doctor
 - By a work doctor
 - By another doctor/other specialties
 - By a nurse
 - I am not under medical supervision/self-management
- 12. Preventive treatment of migraine attacks (CHOOSE APPLICABLE OPTIONS. MORE THAN ONE CAN BE CHOSEN):
 - I am always under one preventive treatment
 - I am under one preventive treatment at certain periods
 - I am always under several preventive treatments

- I am under several preventive treatments at certain periods
 - I am not under preventive treatment
 - I don't know what a preventive treatment means
13. Treatment for pain when you have migraine attacks (CHECK REQUIRED OPTIONS; MORE THAN ONE CAN BE CHOSEN):
- With simple painkillers
 - With anti-inflammatory drugs
 - With triptans
 - With other symptomatic treatments
 - With several symptomatic treatments not listed above
 - I am not under symptomatic treatments
 - I don't know what symptomatic treatment means
14. Do you use other complementary treatments (diet. physiotherapy. mindfulness. etc.)?
- Yes
 - No

PATIENT/WORKER ISSUES: RELATED TO WORK

15. Worker's current work company sector:
- Freelancer/self-employed
 - Contracted/Employed:
 - Construction
 - Industry
 - Health
 - Hospitality
 - Public administration
 - Commercial services
 - Other services: Lawyer. engineer. architect. consultant. advisor
 - Teaching
 - Other professional sectors
16. Worker's current job position:
- Administrative
 - Commercial
 - Cleaning
 - Maintenance
 - Law enforcement
 - Healthcare provider
 - Industry operator
 - Dependent/Customer Service
 - Intermediate manager
 - Managerial position
 - Teacher/Lecturer
 - Others
17. Risks of the performed work (CHOOSE REQUIRED OPTIONS. MORE THAN ONE OPTION CAN BE CHOSEN):
- Load handling
 - Exposure to noise
 - Exposure to chemicals
 - Work stress
 - Rotating or night work shifts
 - Driving vehicles (more than 1/3 of the working day)
 - Vibrations
 - Jobs that require great attention or precision
 - Handling of hazardous machinery (forklift trucks or similar)
 - Poor environmental conditions (temperature. humidity...)
 - Inadequate ergonomics (unsuitable furniture and tools or work tools)
 - Use of computer/data display screens
 - Others
 - I do not know the risks of the job position

18. Size of company where you work:
 - Microenterprise (with less than 10 workers)
 - Small business (11 to 49 workers)
 - Intermediate-sized business (between 50 and 250 workers)
 - Large company (more than 250 employees)
19. Location of the company where you work:
 - Urban (capital or polygon of the capital)
 - Rural (town or isolated industrial estate)
20. Prevention service in the company where you work:
 - Own (Company)
 - Foreign (arranged with another company)
 - I do not know the type of prevention service
21. Medical service in the company where you work:
 - There is a full-time medical service
 - There is a part-time medical service
 - No medical service is available at the company
 - I do not know if there is a medical service at the company
22. Periodic examinations of health surveillance in the company:
 - Yes. I go every year
 - Yes. I go every two years
 - Yes. I go occasionally
 - I never go
 - I do not know if there are health surveillance examinations
23. Company management options:
 - Has migraine prevented you from accessing any job position?
 - Yes
 - No
 - Have you been fired from work or not renewed your contract because of migraine?
 - Yes
 - No
 - Have you had difficulties in your company because of migraine (reprimands. penalty for poor performance. job absences or doubts about my absences from work due to migraine attack...)?
 - Yes
 - No
 - In the case that you have had difficulties or labor conflict due to limitations-loss of productivity to properly perform your work due to migraine. how often?
 - Daily
 - Weekly
 - Once a month
 - Very occasionally
 - It does not affect my work
 - Have you requested to be considered as a particularly sensitive worker due to your migraine in relation to the job you are doing? (In Spain art. 25 LPRL):
 - Yes
 - No
 - I do not know what that is
 - Have you ever requested modification of your work conditions (location. schedule. assigned duties. etc.) because of migraine?
 - Yes
 - No
 - Have you ever applied for a change of position due to migraine?
 - Yes
 - No
 - If requested. have your position been adapted or adjusted in any way by your company due to your migraine (change of position or location. schedule. assigned duties. etc.)?
 - Yes
 - No
 - Have you felt understood or supported by your company because of the limitations that migraine involves?
 - Yes
 - No

- Have you felt understood and supported by your peers regarding the limitations of migraine?
 - Yes
 - No
- 24. Personal perception of your working capacity on days without migraine (self-perception):
 - The days you DO NOT HAVE A MIGRAINE ATTACK: are you feel limited to performing your job properly?
 - Yes. daily
 - Yes. weekly
 - Yes. once a month
 - Yes. but very occasionally
 - It does not affect my work
- 25. Personal perception of working ability on days without migraine (self-perception):
 - On days WITHOUT A MIGRAINE ATTACK. for what type of tasks do you consider yourself limited due to the after-effects of migraine or its treatments?
 - For none. I can do any work
 - I consider myself limited in some tasks
 - I consider myself limited in all tasks
- 26. Personal perception of your working capacity on days you suffer from migraine (self-perception):
 - On the days you DO HAVE A MIGRAINE ATTACK. do you think that migraine can make it impossible for you to perform your job?
 - Yes
 - No
- 27. Do you think you are a disabled person because you are affected by migraine?
 - No
 - Yes. but only during attacks
 - Yes. all the time
- 28. Do you think that working even if you suffer from migraine makes social integration easier for you?
 - Yes
 - No
- 29. Do you think the world of work facilitates the integration of a person with migraine?
 - Yes
 - No
- 30. What would you request from companies to improve the situation of workers who like you suffer from migraine? (CHECK REQUIRED OPTIONS. MORE THAN ONE OPTION CAN BE CHOSEN):
 - Time flexibility
 - Adaptation options within the job position
 - Chance to change job position
 - Work from home/teleworking
 - Have rest/silence areas in the workplace
 - Having a health service in my company (doctor/nurse)
 - Several or all of them

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