ACUPUNCTURE USER HEALTH PROFILE - A CROSS-SECTIONAL STUDY

Perfil de saúde do utente de acupuntura - um estudo transversal

Perfil de Salud del usuario de Acupuntura - un estudio transversal

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ABSTRACT

Background: the potential for the use of acupuncture in population health and care management has been recognized by several entities, supported by a growing evidence of its effectiveness. At a time when the current challenge is the integration of acupuncture professionals in the National Health Service, Portugal lacks representative epidemiological studies of the population using this therapy. **Objective**: to know and evaluate the health profile of the acupuncture user. **Methodology**: a cross-sectional study was conducted with a sample of acupuncture **users** from the northern coastal region of Portugal. Data were collected through a survey composed of sociodemographic questions and the application of the Nottingham Health Profile Scale (NHP). Results: the sample was mostly composed of female users who were middle-aged and professionally active. Musculoskeletal complaints were the most commonly reported. The medians of the different dimensions of the NHP did not exceed 12.57. Conclusion: in general, the self-perception of health status is good; however, complaints tend to affect the health dimensions "pain", "energy", "emotional reactions", and "sleep" in particular.

Keywords: health profile; acupuncture; health-related quality of life; surveys and questionnaires

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RESUMO

Enquadramento: o potencial para o uso da Acupuntura na saúde das populações e na gestão dos cuidados tem vindo a ser reconhecido pelas mais variadas entidades, apoiada num crescimento da evidência da sua efetividade. Num momento em que o desafio atual se prende com a integração dos profissionais de Acupuntura no Serviço Nacional de Saúde, Portugal carece de estudos epidemiológicos representativos da população que recorre a esta terapêutica. **Objetivos**: conhecer e avaliar o perfil de saúde do utente de Acupuntura. **Metodologia**: realizou-se um estudo transversal a uma amostra de utentes de Acupuntura do litoral-norte de Portugal. A recolha de dados foi realizada através de um questionário, composto por questões sociodemográficas e pela aplicação da escala do Perfil de Saúde de Nottingham (PSN). **Resultados**: a amostra foi maioritariamente constituída por utentes do sexo feminino, de meia idade e profissionalmente ativos. As queixas musculoesqueléticas foram as mais frequentemente reportadas. As medianas das diferentes dimensões do PSN não ultrapassam os 12,57. **Conclusão**: no geral, a autoperceção do estado de saúde é boa, contudo, as queixas tendem a afetar em particular as dimensões de saúde "dor", "energia", "reações emocionais" e "sono".

Palavras-chave: perfil de saúde; acupuntura; qualidade de vida relacionada à saúde; inquéritos e questionários

RESUMEN

Marco contextual: el potencial del uso de la Acupuntura en la salud de las poblaciones y en la gestión de los cuidados ha empezado a ser reconocida por las más variadas entidades, apoyada en el aumento de la evidencia de su efectividad. En un momento en que el reto actual es la integración de los profesionales de la Acupuntura en el Servicio Nacional de Salud, Portugal carece de estudios epidemiológicos representativos de la población que utiliza esta terapia. **Objetivo**: conocer y evaluar el perfil de salud del usuario de Acupuntura. **Metodología**: se realizó un estudio transversal en una muestra de usuarios de acupuntura de la región costera norte de Portugal. Los datos se recogieron mediante un cuestionario, compuesto por preguntas sociodemográficas y la aplicación de la escala del Perfil de Salud de Nottingham (PSN). **Resultados**: la muestra estaba compuesta mayoritariamente por usuarias, de mediana edad y profesionalmente activas. Las molestias musculoesqueléticas fueron las más frecuentes. Las medianas de las diferentes dimensiones del PSN no superaron el 12,57. **Conclusión**: en general, la autopercepción del estado de salud es buena; sin embargo, las quejas tienden a afectar a las dimensiones de salud "dolor", "energía", "reacciones emocionales" y "sueño" en particular.

Palabras claves: perfil de salud; acupuntura; calidad de vida relacionada con la salud; encuestas y cuestionario

INTRODUCTION

Acupuncture is recommended for over 200 health conditions in more than 2000 guidelines published by several public or private institutions and entities. Over the past years, this number of recommendations has grown along with the increase in the number of systematic reviews with meta-analyses providing positive statements on the efficacy of acupuncture, supporting the notion that the recommendations follow the evidence (Birch et al., 2018).

The Declaration of Astana, adopted at the Global Conference on Primary Health Care in October 2018, emphasised that the success of primary health will be driven by applying scientific as well as traditional knowledge and extending access to traditional and complementary medicines in health services, including acupuncture (World Health Organization [WHO], 2018).

Thus, WHO encourages a detailed assessment of population usage profiles to enable informed and appropriate policy decisions for the integration of these areas into health care systems (WHO, 2013). Additionally, these profiles serve as useful tools for service improvement and customisation, can lead to broader coverage by insurers, allow for cross-country health care system comparisons, identify relevant research fields for stakeholders, and enhance professionals' ability to promote health literacy among their patients (Austin et al., 2015; Fischer et al., 2014).

Portugal has aligned its national policies with WHO strategies, standing out at the European level in the legal framework governing the practice and profession of acupuncture, as well as in the regulation of higher education in this field (Amaral & Fronteira, 2021).

However, a comprehensive portrait of acupuncture users, both at the Portuguese and European levels, is not yet feasible. Fischer et al. (2014) attribute this to the weak methodological quality of epidemiological studies and the scarcity of such studies. Most studies do not provide individualised data for acupuncture, often aggregating it with other traditional therapies.

Based on these assumptions and recognising the need to support the growth of the acupuncture profession in Portugal with epidemiological studies, this research aims to answer the following research question: What is the health profile of individuals seeking acupuncture treatment in Portugal?

BACKGROUND

The Chinese roots of acupuncture and its diffusion across East Asian countries contribute to a different landscape of its use compared to Western countries (Robinson et al., 2012).

With reference to certain East Asian regions, recent literature (Huang et al., 2018; Wong et al., 2017; Wu et al., 2018) reports acupuncture use prevalences ranging from 10.9% to 26.8%, often associated with other practices (such as moxibustion, cupping therapy, and massage) and herbal prescriptions. According to these publications, the usage profiles typically represent older individuals, females, and those with chronic illnesses. Respiratory and musculoskeletal disorders are the primary reasons for seeking these services.

In publications regarding Western countries (Austin et al., 2015; Boccolini et al., 2022; Cui et al., 2017), the usage trend also involves older individuals and

females, but with lower prevalence rates, ranging between 1.5% and 1.7%. These studies also highlight a higher prevalence of use among individuals with higher educational attainment and socio-economic status. Meier-Girard et al. (2022) observed a prevalence of 4.9% and a usage peak between the ages of 25 and 44 in the Swiss population. Musculoskeletal disorders drive greater acupuncture use in the United States. In this country, individuals reporting better subjective health tend to be acupuncture users, seeking it due to the ineffectiveness of conventional medical treatments (Austin et al., 2015). In Portugal, two recent studies (Amaral, 2021; Marto et al., 2019) also describe higher use among middle-aged women with musculoskeletal complaints.

METHODOLOGY

Study design, setting, and participants

The research design is descriptive and cross-sectional through a questionnaire. A non-probabilistic convenience sample of patients seeking acupuncture treatment in clinics in the northern coastal region of Portugal was employed. To achieve this, 12 clinics offering acupuncture services in this region were contacted in March 2022. Out of these, ten agreed to participate in the on-site data collection conducted by the researchers themselves. Data collection took place during the month of June 2022. The sample included all adult patients who, during this period, visited the clinics for acupuncture treatments. For operational reasons, exclusion criteria were defined for patients who did not communicate in the Portuguese language, those with visual impairments, and those presenting cognitive dysfunction.

Data source and variables

The questionnaire was divided into two sections. The first section included the assessment of sociodemographic data (age, gender, professional status, educational qualifications, and monthly income), an open-ended question to assess pathologies or justifications that led to seeking acupuncture, and, regarding this reason, five additional dichotomous questions (yes or no) to understand some usage characteristics ("do you have prescribed medication?"; "are you undergoing other types of health treatment?"; "was acupuncture your first choice of treatment?"; "did someone recommend or prescribe acupuncture treatment?"; and "if so, who?"). In the second section, Part I of the Nottingham Health Profile (NHP) scale was applied, aiming to measure the subjective health status and quality of life of acupuncture users, validated for the Portuguese population by Ferreira & Melo (1999), made available and authorised for use by the first author, Professor Pedro Lopes Ferreira, director of the Centre for Health Studies and Research of the University of Coimbra.

The first section of the questionnaire underwent a pre-test with a selected group of ten individuals with characteristics similar to the sample to evaluate the acceptability, clarity, and understanding of the questionnaire.

Part I of the NHP consists of 38 dichotomous questions (yes or no), encompassing six dimensions related to self-perceived health status assessment: Physical Mobility, Pain, Energy, Emotional Reactions, Sleep, and Social Isolation. The dimensions are analysed separately, and the score is based on an associated score for each question, depending on the severity of

the symptom as described by McKenna et al. (1981). The sum of the scores from various dimensions results in a health profile on a scale of 0 to 100, where 0 corresponds to the absence of any health problems and 100 to the maximum level of problems.

Ethical considerations

This study was conducted in accordance with the Declaration of Helsinki. The study project obtained approval for its execution from the Research and Development Unit and the Ethics Committee of the Escola Superior de Saúde Norte da Cruz Vermelha Portuguesa, under number 2022-034. Participation in the questionnaire was voluntary and entailed no risk, cost, or compensation in case of withdrawal for the participants. Throughout the study, procedures were adhered to ensure the participants' rights regarding voluntariness, confidentiality, and anonymity.

Statistical methods

The collected data were statistically analysed by the researchers themselves using the SPSS® (Statistical Package for the Social Sciences) software, version Statistics 26. Descriptive statistics were employed to analyse the variables. Non-parametric tests were used to assess the association between the variables in Section I and the dimensions of the NHP scale. The choice of these tests is attributed to the floor effect in the NHP results, where healthy individuals or those with minor illnesses tend to exhibit perfect scores, leaving no room for better scores (McDowell, 2006).

Regarding the open-ended responses related to patients' pathologies, a content analysis was conducted. The analysis considered keywords that best reflected the complaint, categorizing them into 21 groups based on their association with a physiological system coded by the pattern of the 11th revision of the International Classification of Diseases (ICD-11). Responses with no possibility of association with the ICD-11 classification were categorised into a 22nd group ("other reasons"). It was established that any questionnaire that did not allow the calculation of the score for any of the six dimensions of the NHP due to missing data would be excluded from the final analysis.

The NHP scale underwent reliability tests using the Cronbach's alpha coefficient. With the same objective, dimension scores were analysed using Spearman's bivariate correlation.

RESULTS

A total of 110 individuals were recruited to participate in this study, and none refused to fill out the requested questionnaire. Out of the 110 questionnaires, four were excluded due to the impossibility of calculating the score in any dimension of the NHP due to incomplete responses, resulting in a total of 106 questionnaires for the final analysis.

Sociodemographic characterization

The frequency distribution for sociodemographic characterization can be seen in Table 1. A higher frequency of female participants was observed (80.0%). The most common age group was between 30 and 39 years (33.0%), followed by the 40 to 49 age group (25.5%). The mean age of the sample was 45.19 years (±13.948). The average age for women was 44.99 years (±14.469), and for men, it was 45.62 years (±12.213). The proportion of individuals employed was higher compared to other options (79.8%). The proportion of individuals without higher education (51.9%) was slightly higher than those with such

qualifications (48.1%). 30% of the sample has incomes above the average national salary in Portugal.

Table 1

Sociodemographic characterization

Variables	Frequency (%)	N valid
Sex		**105**
Female	80,0	84
Male	20,0	21
Age group		**106**
18-29	9,4	10
30-39	33,0	35
40-49	25,5	27
50-59	15,1	16
60-69	10,4	11
70-79	4,7	5
≥ 80	1,9	2
Professional status		**104**
Active	79,8	83
Unemployed	2,9	3
Retired	15,4	16
Student	1,9	2
Educational qualifications		**106**
Non-higher education	**51,9**	**55**
Level 1	9,4	10
Level 2	5,7	6
Level 3	11,3	12
Level 4	25,5	27
Higher education	**48,1**	**51**
Level 5	0,9	1
Level 6	30,2	32
Level 7	15,1	16
Level 8	1,9	2
Monthly income		**100**
≤ €710 (minimum salary)	24,0	24
€711 - €1300	46,0	46
> €1300 (average salary)	30,0	30

Pathologies or justifications that led to seeking acupuncture

Regarding the analysis of the motivating complaints for visiting the acupuncture service, three cases were omitted. After the content analysis of the remaining 103 cases, a frequency of 128 responses was recorded. The distribution of these frequencies can be seen in Table 2.

Concerning musculoskeletal complaints, the vast majority of descriptions were related to pain conditions. Only six responses referred to "pain" or "generalised pain" without any association with musculoskeletal conditions. These were categorised within the group of signs and symptoms not classified in other groups (group 21), along with two descriptions of "fibromyalgia." As for genitourinary complaints, the dominant description was "infertility" (n=18), with three references to "menopause," one to

"polycystic ovary syndrome," one to "endometriosis," and one to "kidney colic." Mental, behavioural or neurodevelopmental disorders were mostly described as "anxiety" and "stress," with two references to "depression." Seven responses did not fit into the ICD-11 groups ("prevention," "tapering off psychiatric medication", "lack of energy," "post-COVID," "weight loss," "discomfort").

Table 2

Analysis of frequencies after content analysis of responses regarding the pathologies or justifications that led to seeking acupuncture

Pathologies/justifications (ICD-11)	**Frequency (%)**	**N**
Certain infectious or parasitic diseases	0	0
Neoplasms	3,1	4
Diseases of the blood or blood-forming organs	0	0
Diseases of the immune system	0,8	1
Endocrine, nutritional or metabolic diseases	0	0
Mental, behavioural or neurodevelopmental disorders	14,1	18
Sleep-wake disorders	1,6	2
Diseases of the nervous system	4,7	6
Diseases of the visual system	0,8	1
Diseases of the ear or mastoid process	0,8	1
Diseases of the circulatory system	0,8	1
Diseases of the respiratory system	3,1	4
Diseases of the digestive system	3,9	5
Diseases of the skin	0	0
Diseases of the musculoskeletal system or connective tissue	35,2	45
Diseases of the genitourinary system	19,5	25
Conditions related to sexual health	0	0
Pregnancy, childbirth or the puerperium	0	0
Certain conditions originating in the perinatal period	0	0
Developmental anomalies	0	0
Symptoms or signs (Pain)	6,3	8
Other reasons	5,5	7
Total	**100,0**	**128**

Other usage characteristics

Figure 1 presents the found response frequencies for understanding some usage characteristics regarding the pathologies or justifications that led to seeking acupuncture. Concerning the 71.7% of individuals who had a recommendation or prescription for acupuncture treatment, 68.0% of them mentioned it was from a friend or family member, 24.0% from a healthcare professional, 6.7% mentioned it was from both, and one case (1.3%) mentioned another form of recommendation ("television").

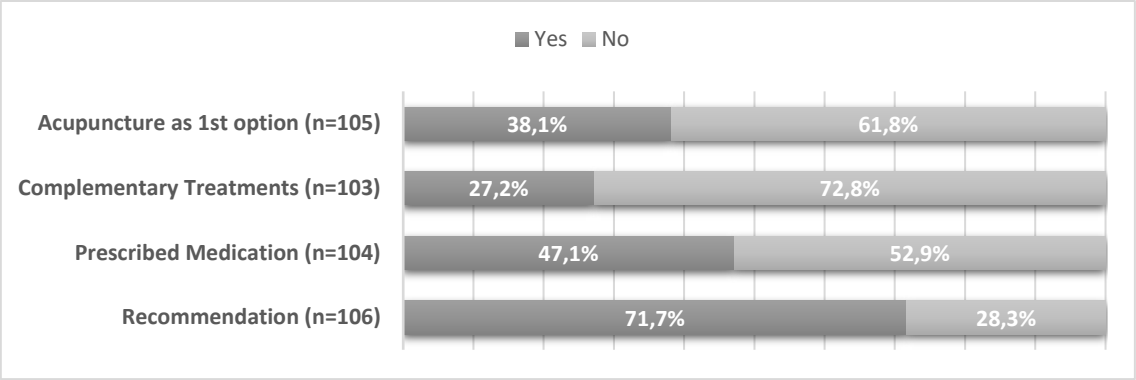

Figure 1

Analysis of frequencies for other usage characteristics

Health Profile of the sample

The results of NHP dimensions scores are depicted in a boxplot in Figure 2. The presence of a floor effect is identified for all dimensions, as three of them exhibited medians with a value of zero, and the maximum median reached was 12.57

The association analysis between the variables in Section I of the questionnaire and the NHP dimensions can be observed in Table 3. For this purpose, in the "professional status" variable, as only five cases corresponded to unemployed or students, it was decided to analyse the association only in relation to those professionally active and retired. From the same perspective, it was decided to analyse the association only with the three groups of most reported pathologies, as they corresponded to a larger number of cases. To enhance objectivity in the analysis, in the "educational qualifications" and "monthly income" variables, it was decided to analyse the association in relation to individuals with higher and non-higher education and with incomes above and below the average Portuguese salary (1300€), respectively.

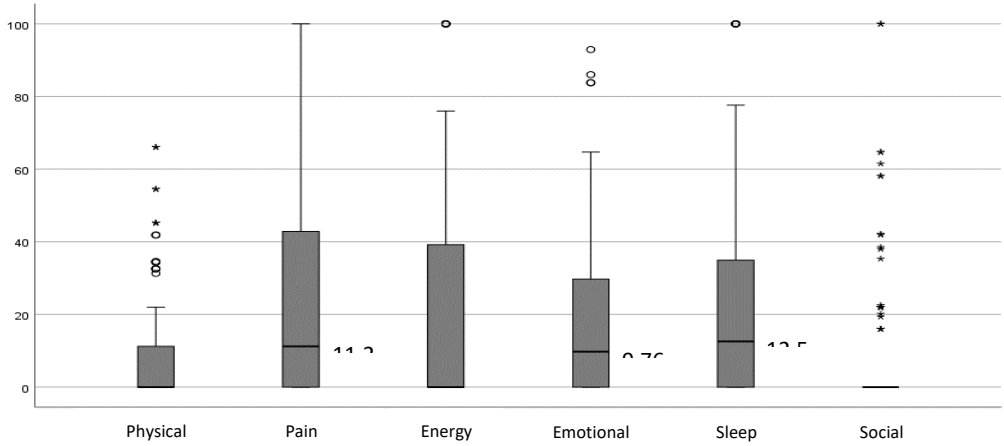

Figure 2

Boxplot of each NHP dimension

For the age factor, the Spearman correlation coefficient was used. Positive correlations were observed with the 'sleep' and 'social isolation' dimensions, and statistically significant positive correlations were found with the 'physical mobility' and 'pain' dimensions. In the 'energy' and 'emotional reactions' dimensions, the correlation approaches zero.

For the remaining variables, the Mann-Whitney U test was used. The mean rank of cases for each variable with NHP dimensions and the corresponding p-value are presented. It is noteworthy that the median of the 'sleep' dimension is significantly higher in women than in men, and the medians of the 'energy,' 'emotional reactions,' and 'sleep' dimensions are also significantly higher in individuals with prescribed medication.

Internal Consistency

Table 4 presents the reliability statistics for the total scale and individually for each of its dimensions, along with statistics for the total scale and a summary of valid case processing. After analysing the item-total statistics, none of the scale items needed to be eliminated from the analysis, as there were no negatively signed correlation values. The alpha coefficient value (0.900) indicates good internal consistency of the scale. Table 5 displays the correlation coefficients among the various NHP dimensions. The inter-correlations between the dimensions are consistently high, with an acceptable level of statistical significance. Theoretically, factors associated with health status assessment are expected to influence each other. As each NHP dimension serves as an indicator of distinct distress, these results suggest that the scale is serving its purpose.

DISCUSSION

Key results

This study aimed to understand the health profile of acupuncture users. To achieve this, the research assessed sociodemographic characteristics, justifications, and patterns of usage, applying a self-perceived health scale. The study sample was predominantly composed of females, middle-aged, professionally active, and with incomes below the

national average salary. Musculoskeletal complaints were the most common reason for seeking acupuncture. Acupuncture services were predominantly used without additional complementary treatments and often based on recommendations from friends or family. The self-perceived health status of individuals seeking acupuncture is generally positive.

Interpretation

The higher frequency of female cases with musculoskeletal complaints aligns with the trend found in the literature (Amaral, 2021; Austin et al., 2015; Boccolini et al., 2022; Cui et al., 2017; Huang et al., 2018; Marto et al., 2019; Meier-Girard et al., 2022; Wong et al., 2017; Wu et al., 2018). Middle-aged individuals are the most frequent users of acupuncture, with values close to those found by Amaral (2021), Marto et al. (2019), and Meier-Girard et al. (2022). Recommendations for acupuncture treatment and the use of this service without complementary treatments were more frequently reported, but for these characteristics, there is no data in the literature for comparison. It was not possible to verify in this sample a higher usage by individuals with better literacy or higher socioeconomic status, as concluded by Austin et al. (2015), Boccolini et al. (2022), and Cui et al. (2017).

Assessing the overall results of the NHP scale, acupuncture users in this sample have a good perception of their health status (the highest median was 12.57), similar to what Austin et al. (2015) reported for American users. Pain, Energy, Emotional Reactions, and Sleep dimension scores stand out the most in the profile of this sample.

There was a decrease in self-perception of Physical Mobility with age and a lower self-perception of sleep in women. The significance found in Table 3 for professional status and monthly income should be analysed considering data for the Portuguese population from Statistics Portugal (2022) and the Organisation for Economic Co-operation and Development & European Observatory on Health Systems and Policies (2021), where individuals with higher education and/or income report a better assessment of their health status.

Individuals with prescribed medication for their complaint obtained lower scores in the dimensions of Energy, Emotional Reactions, and Sleep. Future studies may confirm this association and explore other related relationships.

Table 3

Associations between Section I variables and NHP scale dimensions

	Physical Mobility		Pain		Energy		Emocional Reactions		Sleep		Social Isolation	
	Spearman correlation											
	r	*p*	*r*	*p*	*r*	*p*	*r*	*p*	*r*	*p*	*r*	*p*
Age	*0,347*	***<,001***	*0,201*	***0,042***	*0,016*	*0,875*	*-,055*	*0,581*	*0,141*	*0,150*	*0,164*	*0,092*
	Mann-Whitney U											
	Mean Rank	*p*	*Mean Rank*	*p*	*Mean Rank*	*p*	*Mean Rank*	*p*	*Mean Rank*	*p*	*Mean Rank*	*p*
Sex												
Female	50,35	0,087	49,30	0,123	53,51	0,429	54,22	0,120	55,33	**0,045**	54,65	0,124
Male	61,53		60,00		48,52		42,80		41,33		46,38	
Profissional status												
Active	46,30	**0,004**	45,49	**0,010**	48,76	0,486	49,40	0,786	47,84	0,162	47,05	**<,001**
Retired	65,88		64,73		53,28		46,97		58,03		65,28	
Educational qualifications												
Non-higher	59,89	**0,006**	56,86	0,083	56,38	0,162	58,71	**0,027**	58,01	0,067	56,91	0,106
Higher	45,71		47,05		49,28		45,79		47,70		49,82	
Monthly income												
- 1300€	49,56	0,785	48,27	0,689	50,75	0,631	54,78	**0,009**	53,20	0,074	53,49	**0,027**
+ 1300€	51,07		50,63		48,19		38,47		42,63		43,53	
Mental […] disorders												
Yes	40,56	**0,035**	41,25	0,092	60,22	0,163	70,06	**0,004**	63,67	0,069	57,86	0,312
No	55,00		53,70		50,88		48,18		50,16		51,99	
Musculoskeletal												
Yes	65,74	**<,001**	66,77	**<,001**	53,94	0,618	53,78	0,596	55,24	0,403	56,21	0,203
No	42,40		40,37		51,40		50,67		50,49		50,59	
Genitourinary												
Yes	42,50	**0,030**	35,24	**0,001**	44,36	0,070	49,38	0,610	50,04	0,622	48,90	0,294
No	55,66		56,78		55,08		52,84		53,28		54,28	
Medication												
Yes	50,99	0,705	50,50	0,867	58,41	**0,016**	60,35	**0,003**	59,80	**0,009**	54,43	0,404
No	52,92		51,44		46,41		43,32		45,19		50,78	
Complementary												
Yes	55,78	0,313	58,84	0,083	55,05	0,457	51,85	0,862	51,88	0,934	50,23	0,620
No	49,96		47,99		50,86		50,71		51,36		52,66	
Acupuncture as 1st option												
Yes	54,84	0,475	55,76	0,235	47,64	0,126	47,70	0,238	47,80	0,186	50,60	0,381
No	51,04		48,87		55,54		54,73		55,44		54,48	
Recommendation												
Yes	56,12	0,057	54,24	0,216	54,34	0,392	50,72	0,326	55,17	0,222	52,06	0,295
No	45,20		46,55		49,48		57,10		47,57		57,15	

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Table 4

Internal consistency analysis

Cronbach's alpha	***Physical Mobility*** 0,761	***Pain*** 0,844	***Energy*** 0,630	***Emotional Reactions*** 0,774	***Sleep*** 0,739	***Social Isolation*** 0,751	***Total*** 0,900

Item-total statistics	**Mean** 7,00	**Variance** 41,778	**Std. Deviation** 6,464	**n.º of items** 38

Summary case	**Valid** 100	**Excluded** 6	**Total** 106

Table 5

Spearman correlation coefficients between NHP dimensions

	Physical Mobility	***Pain***	***Energy***	***Emotional Reactions***	***Sleep***	***Social Isolation***
Physical Mobility	1					
Pain	0,686*	1				
Energy	0,309*	0,279*	1			
Emotional Reactions	0,093	0,249†	0,460*	1		
Sleep	0,320*	0,367*	0,393*	0,500*	1	
Social Isolation	0,122	0,177	0,220†	0,461*	0,356*	1

*†p < 0,05 | * p < 0,01*

Strengths and limitations

Although there are existing studies in Portugal reporting data on acupuncture use, it is noteworthy that this study is the first to be conducted with a sample from a more extensive region of the northern coast of the country. It is also the first to assess, in a Portuguese sample, certain usage characteristics such as complementarity with prescribed pharmacological treatments or other types of therapies, the use of acupuncture as the first therapeutic option, or the existence of recommendations for treatment. It is also one of the initial studies to employ a self-perceived health scale to assess usage profiles. Given the exploratory nature of this study, the analysis and comparison of data are limited to this factor.

The temporal and spatial limitations of data collection should also be considered among the primary methodological limitations of this study. The future use of cohort and prevalence studies will help validate some of the obtained data as well as analyse data sensitive to the temporal dimension, such as the prevalence of pathology types, the number of appointments, treatment progression or satisfaction, among others.

Regarding the content analysis of the pathologies or justifications that led to seeking acupuncture, it was observed that responses were limited to individuals'

perceptions of their own complaints, and often it was not possible to associate a diagnosis.

The chronicity of pathologies was not addressed in this study. This could act as a confounding variable in the assessment of self-perceived health scores.

Results obtained for genitourinary conditions should be interpreted with a risk of bias, as one of the clinics that agreed to participate in this study specialises in women's health, particularly fertility, treating it with acupuncture. In fact, out of the 25 cases reported, 18 of them referred to infertility treatment. It is essential to mention that the researchers are aware of other clinics in Portugal with similar characteristics in the treatment of women's health and fertility. From a broader perspective, clinical spaces specialised in a particular type of pathology that also offer acupuncture may skew the user profile. Therefore, it is suggested that future studies take this factor into account when selecting research fields.

It is recommended that future studies incorporate additional tools to assess self-perceived health status to overcome the floor effect limitations of the NHP scale and facilitate better result comparisons with other studies.

CONCLUSION

This study aimed to understand the health profile of acupuncture users in Portugal. It was observed that the national and European scientific production on acupuncture was limited, highlighting the relevance of a more detailed evaluation of acupuncture user profiles. Ideally, establishing relationships between data analysis results could provide valuable insights for optimising acupuncture services, potentially reinforcing the integration of acupuncture into public healthcare and moving away from its almost exclusive association with private services.

Regarding the health profile, acupuncture users tend to have a good self-perceived health status. However, their complaints particularly affect the dimensions of "pain," "energy," "emotional reactions," and "sleep." In this respect, this study stands out for bringing new knowledge to the field.

Although methodological limitations prevent data extrapolation to the population, this study provides robust results and reveals some patterns of use similar to those found in other studies. The data obtained here can generate new hypotheses to support future research in the field of acupuncture.

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