# **Euthanasia Attitudes Questionnaire** in Medical Personnel (AHE-PM)

## Cuestionario de actitudes hacia la eutanasia en personal médico (AHE-PM)

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#### **Abstract**

The right to die is an international dilemma. Some countries and states already have laws regulating one of the most common applications of this right, the active voluntary euthanasia. The evidence from these countries highlights the importance of a bioethical framework to limit some of its applications. In this regard, the evaluation of attitudes towards euthanasia in medical personnel will allow to understand the attitudes of these professionals and how they can deal with such requests, whether this assisted death is decided by the patients or their surroundings.

Consequently, the aim of this study was

to develop a brief scale to evaluate attitudes, as well as to determine their significance according to the gender and seniority of the professionals in this situation.

A double design strategy was followed. On the one hand, a psychometric design with an exploratory and confirmatory factor analysis and, on the other, a descriptive analytical design for the comparison of groups.

A six-item scale (AE-PM) and two factors were extracted. The first focuses on attitudes towards euthanasia to alleviate suffering for medical reasons and the second one to alleviate the patient's emotional suffering.

The scale (AHE-PM) is useful for the rapid exploration of attitudes towards euthanasia in

physicians, a professional group with limited free time, who may also encounter relatively frequent requests for active voluntary euthanasia. The two factors obtained allow attitudes to be assessed from a bioethical perspective, providing information on the application under apparent medical justification and in situations based on the patient's subjective emotional suffering.

Keywords: attitudes, euthanasia, active voluntary euthanasia, psychometric study, cross-sectional design

#### Resumen

La eutanasia voluntaria activa se define como la petición de un paciente que quiere morir y la acción que es llevada a cabo por otra persona para provocar dicha muerte. El derecho a morir es un dilema sobre el que se debate a nivel internacional. Algunos países y estados ya cuentan con leves que regulan una de las aplicaciones más comunes de este derecho. Los datos aportados por estos países ponen de manifiesto la importancia de un marco bioético que permita limitar algunas de sus aplicaciones. En este sentido, la evaluación de las actitudes hacia la eutanasia en personal médico permitirá conocer las actitudes de estos profesionales y cómo estos pueden enfrentarse a dichas solicitudes, o no, sea de muerte asistida por parte de los pacientes o su entorno. Además, se ha reportado en la bibliografía diferentes actitudes según la experiencia o el sexo de los trabajadores, por lo que es de relevancia su exploración diferencial.

Por ello, el objetivo del presente trabajo un instrumento de evaluación de actitudes hacia la eutanasia diseñado y validado por y para profesionales médicos en ejercicio. En esta línea, los objetivos de este estudio son obtener una escala corta con propiedades psicométricas adecuadas, que proporcione información relevante sobre las actitudes hacia la eutanasia, así como la posible evaluación de algunas prácticas médicas relacionadas con

ésta que pueden ser bioéticamente dudosas.

La muestra estaba compuesta por 419 profesionales de la medicina procedentes de tres provincias del sur de España. Se siguió una doble estrategia en el diseño. Por un lado, un diseño psicométrico con un análisis factorial exploratorio y confirmatorio. Se dividió la muestra en dos submuestras aleatorias para realizar de forma paralela ambos análisis. Se utilizaron los estadísticos KMO, Bartlett, RMSEA, RMRS, CFI, NNFI, GFI y AGFI para explorar el ajuste de modelos. Po otro lado, se utilizó un diseño asociativo descriptivo para la comparación de grupos mediante la t de Student, ANOVA, Tukey y la prueba d de Cohen.

Se extrae una escala de seis ítems (AE-PM) y dos factores. El primero de ellos está centrado en las actitudes hacia la eutanasia para aliviar el sufrimiento por cuestiones médicas y el segundo para aliviar el sufrimiento emocional del paciente.

Respecto al estudio de las diferencias, no se observaron diferencias significativas según el sexo del profesional ni la antigüedad en la profesión.

La escala (AHE-PM) es útil para la exploración rápida de las actitudes hacia la eutanasia en médicos, un grupo profesional con limitado tiempo libre que, además, puede encontrarse con relativa frecuencia ante solicitudes de eutanasia voluntaria activa. Los dos factores obtenidos permiten evaluar, por un lado, las actitudes desde una perspectiva bioética. Es de especial relevancia en estas situaciones el conocimiento de las actitudes del personal médico hacia la eutanasia, exponiéndolo a un dilema bioético y personal. La autoconciencia de estos profesionales sobre sus propias actitudes hacia la eutanasia y su adaptación a los códigos éticos vigentes podría minimizar el impacto generado por estas situaciones y, por tanto, mejorar la relación terapéutica y la calidad asistencial. Por otro lado, el instrumento aporta información sobre la posible recomendación de estas prácticas bajo aparente justificación médica

y/o en situaciones basadas en el sufrimiento emocional subjetivo del paciente.

Estudios previos indican que los profesionales se ven afectados emocionalmente cuando se enfrentan a los conceptos de muerte y eutanasia en pacientes terminales. En este sentido, la escala también podría servir de evaluación de actitudes y el trabajo en planes de prevención de salud laboral en los centros sanitarios.

Palabras clave: actitudes, eutanasia, eutanasia active voluntaria, estudio psicométrico, estudio transversal

#### Introduction

Euthanasia is a term that requires an adequate definition, among other aspects, due to the different variants of assisted death that exist. Specifically, the so-called active voluntary euthanasia has been defined as the request of a patient who wants to die and the action taken by another person to bring about such death (McCormick, 2011). This practice has been involved in social and political debate in recent years, although it is relatively uncommon to find studies addressing this construct in scientific journals (Barboza-Palomino et al., 2020). Recently, in Spain, various legalization proposals have been made, although to date, this situation has not been resolved, and Spain remains one of the countries in Europe where it is not legal, with the exception of the Netherlands, Belgium, or Luxembourg (Schotsmans & Meulenbergs, 2005). In recent months, the debate has intensified following the case of Carmen in April 2019, who, after decades of illness, was helped to die by her partner, Angel, who is currently awaiting trial (García-Rada, 2019) and with the recent regulation of euthanasia in Spain with Organic Law 3/2021, of 24th March.

A recent study shows that 58.4 % of the Spanish population would support the regulation of euthanasia (del Rosal & Cerro, 2018). Its application varies among the places where there are laws governing this practice. For

example, in the Netherlands, there has been an increase of 57 % in just 5 years, going from 4 188 cases of euthanasia to 6 585 in 2017, in these cases increasing the percentage associated with psychological problems by up to 300 %. In Belgium, this increase in cases of euthanasia reaches 982 % from 2003 to 2017, with a total of 2 309 cases. These data highlight the need and importance of an adequate bioethical framework for the application of euthanasia (Hrvoje, 2018). A review by Cuman & Gastmans (2017) indicates the importance of patient decision-making, understood as competence, ability, discrimination, intellectual capacity, free determination, informed consent, sensitivity and pressure—even in minors, where the debate remains open. In this regard, in the places where euthanasia has been legalized, the controversy is stronger when high percentages of patients who had not completed the proposed treatments were tired of living or had not even explicitly requested euthanasia (Hrvoje, 2018). Other issues, such as a depressed emotional state following sentimental breakups, financial losses, or other stressful life situations that could momentarily affect mental health should be considered for a bioethical assessment of its application (Levin et al., 2018). To date, no studies have been located in Spain that provide these data.

Attitudes are understood as a set of beliefs that individuals hold about specific objects of reality that are the result of direct experience or identification with significant others (Ajzen, 1988). Specifically, attitudes towards euthanasia could modulate the manifestation or non-manifestation of behaviors in favor of euthanasia both in patients and professionals, either to express a favorable opinion or to address this option directly with the patient. Various studies show that addressing these decisions about a patient's life or death affects professionals' emotional state as well as their degree of job satisfaction (Flannery et al., 2016). In the same vein, favorable attitudes towards euthanasia related to age and sex were found in health workers who had worked

with patients in terminal stages or who had diseases with poor prognosis (Francke et al., 2016; Tamayo-Velázquez et al., 2012; Zenz et al., 2015).

The complexity of the phenomenon and the heterogeneity of health services has led to the proliferation of various euthanasia attitude assessment tools. Specifically, the Frommelt Attitude Toward Care of the Dying (FATCOD; Frommelt, 1991) scale has been widely used and translated into various languages. including Spanish (Edo-Gual et al., 2018). In its version for medical staff, it has been validated in medical students (Loera et al., 2018). In addition to the FATCOD, other instruments have been validated in medical students or samples with low indicators of internal consistency (Billings et al., 2009; Rogers, 1996). These instruments reveal certain psychometric limitations, either because of the validation with students and non-professionals or, as has been seen in other cases, because they provide inadequate psychometric properties.

The present study proposes the creation of an euthanasia attitude assessment instrument designed for and validated by practicing medical professionals. In this line, the objectives of this study are to obtain a short scale with appropriate psychometric properties, which provides relevant information on attitudes towards euthanasia, as well as the

possible evaluation of some medical practices related to this that may be bioethically dubious.

#### Method

A dual strategy for research design was followed to perform this work. On the one hand, it is a psychometric study, which aims to explore in depth the properties of the scale, and on the other hand, it is a quasi-experimental, cross-sectional study (Ato et al., 2013).

#### **Participants**

The sample was composed of 419 physicians (40.1 % women) aged between 22 and 72 years old (M = 43.67, SD = 12.21) and mean tenure in the profession of 15.89 years (SD = 11.38), from 3 Spanish provinces belonging to the autonomous community of Andalusia (Table 1).

The inclusion criteria of the sample were to answer all the items related to attitudes towards euthanasia, to be practicing the medical profession at the time of completing the questionnaire, and to sign the informed consent. Cases that did not meet all three criteria were excluded.

**Table 1.** *Overview of sociodemographic and socio-occupational variables* 

Variables	N (%)
Sex	
Male	213 (51.1)
Female	205 (48.9)
Province	
Seville	21 (5)
Cordoba	41 (9.8)
Cadiz	357 (85.2)

Variables	N (%)
Years in the profession	
0-9	149 (34.8)
10-19	86 (20.5)
20-29	84 (20)
30-40	75 (17.9)
Missing values	28 (6.7)

#### **Instruments**

An ad hoc protocol with a total of 46 items was applied. It included the sociodemographic variables described above, as well as the 39 items that were subject to factor analysis.

#### **Procedure**

The works of Barroso et al. (1992) and Pacheco et al. (1988, 1989) were a precedent for the proposed questionnaire. This information was complemented by an unpublished qualitative study following the recommendations of various authors (e. g. Flores & Medrano, 2019) with practitioners identifying themes and serving as the basis for item formulation. For sample collection, a simple random sampling was carried out among the professionals of the hospitals of the Spanish provinces of Cadiz, Seville, and Cordoba. Then, a group of interviewers made up of senior undergraduate medical students personally visited each participant. In the interview, the professionals were informed about the study, and requested to sign the informed consent. They were also informed of the anonymous and voluntary nature of their participation in the study. After acceptance by the professional, the interviewer provided them with the complete protocol to fill in. Data collection took place between 2016 and 2018.

The ethical considerations proposed by the American Psychological Association (APA, 2017) and the favourable report of the Research Ethics Committee of the University of Murcia were taken into account.

#### Data analysis

In this study, the factorial analysis procedure proposed by Brown (2014) was used. Following this author, it is necessary to apply a double study of the data, first with an exploratory factor analysis (EFA), from the data group to a structure, and then with a confirmatory factor analysis (CFA), starting from a theoretical proposal to confirm it in the set of data. To apply this procedure, one of the two following conditions is needed: two independent samples, one for each analysis, or a sample large enough to be able to divide it to 50 %, always seeking to have sample sizes greater than 300 cases. Given the characteristics of the present sample (medical professionals in professional practice) it was impossible to meet these requirements, therefore, the recommendation of Brown (2014) were followed and the program Factor 10.8 was used (Lorenzo-Seva & Ferrando, 2007), as it provides fit statistics for EFA and CFA. This program generates multiple random subsets of the sample, compensating the size and providing the indicators recommended in the bibliography (Brown, 2014). Polychoric correlations were applied using the unweighted least squares method. Parallel analysis (PA) was used for factor selection in a scaling process until obtaining the parsimonious model with the best fit.

The Kaiser-Meyer-Olkin (KMO) and Bartlett sphericity statistics were used as criteria for the definition of dimensionality in the EFA. Statistics based on the root mean square error of approximation (RMSEA) and the root mean square residual (RMRS) were also calculated, and the structure was explored with CFA, using the comparative fit index (CFI) and the non-normalized fit index (NNFI). In addition, the goodness of fit index (GFI) and the adjusted goodness of fit index (AGFI) were explored. Cronbach's alpha values were also used.

For item selection, items with factorial loads higher than .40 and items not loading simultaneously higher than .30 on two or more factors were accepted. The criteria for decision-making of dimensionality were that the values were within the recommended range for KMO, Bartlett's sphericity statistic was significant, the GFI and AGFI values were greater than .95, the CFI and NNFI values were greater than .90, and the RMSEA and SRMR statistics were lower than .08.

Student's t statistics were used to the compare the means between factors with two levels, and ANOVA for factors of more than two levels. Tukey's post hoc test was employed with the ANOVAs to establish differences between the different groups. In addition, in order to quantify the effect size,

the Cohen's d was estimated. These analyses were performed with SPSS (Statistical Package for Social Sciences) version 25.

#### Results

### Structure of the factor analysis

In relation to the first objective, factor analysis was performed using the unweighted least squares method with normalized Varimax rotation to individually explore the multidimensionality of the proposed items. The analysis (Tables 2 and 3) extracted a scale, called Attitudes towards Euthanasia in Medical Personnel (AHE-PM) with two dimensions and three items each. Items were grouped by EFA into: Factor I, Attitudes towards euthanasia to avoid suffering due to poor prognosis, which explained 58.32 % of the variance ( $\alpha = .86$ ) and Factor II, Attitudes towards euthanasia to avoid emotional suffering, which explained 34.91 % of the variance. (α = .86). The CFA indicators provided by the program also reported adequate properties for this structure. (KMO = .750, 95 % CI [.725, .779]; Bartlett's sphericity test 3 = 2 085.0, p < .0001).

**Table 2.** Final scale, factorial loads, and descriptive statistics

Item	Factor I	Factor II	M (SD)	R IT-c	Alpha Corrected	Sk	K
1. To avoid the suffering of a chronic illness	.91	-	2.44 (1.99)	.76	.75	.48	-1.26
2. To avoid suffering from a severe physical disability	.85	-	2.42 (2.02)	.79	.88	.41	-1.40
3. To prevent the suffering of a terminal illness	.75	-	3.29 (2.40)	.66	.78	45	-1.38
4. To avoid suffering for unrequited love	-	.99	1.12 (0.369	.93	.91	5.66	32.00

Item	Factor I	Factor II	M (SD)	R IT-c	Alpha Corrected	Sk	K
5. To avoid suffering from insolvency, bankruptcy, and/or eviction	-	.96	1.15 (.42)	.92	.91	4.93	24.39
6. To avoid suffering from the loss of a loved one	-	.95	1.18 (.53)	.86	.96	4.38	18.58
Alpha	.86	.95					
Explained variance	58.32 %	34.91 %					

Note. M = Mean, SD = Standard deviation, R IT-c = Item-factor correlation, Alpha Corrected = Corrected alpha when deleting the item (values above .70 are considered acceptable), Sk = Skewness (values close to 0 reflect symmetry in the data), K = Kurtosis (values close to 0 reflect normality in the distribution).

**Table 3.** *Fit statistics* 

	GFI	AGFI	KMO	Bartlett	CFI	NNFI	RMRS	RMSEA
Scale	.997	.987	.750*	.000*	.999	.999	.002	.001

Note. M = Mean, SD = Standard deviation, R IT-c = Item-factor correlation, Alpha Corrected = Corrected alpha when deleting the item (values above .70 are considered acceptable), Sk = Skewness (values close to 0 reflect symmetry in the data), K= Kurtosis (values close to 0 reflect normality in the distribution).

# Descriptive statistics and internal consistency

In the analysis of differences as a function

of gender and professional tenure, the relevant comparisons (Tables 4 and 5) revealed no significant differences in either factor or in the item-by-item analysis.

**Table 4.**Differences as a function of gender

Variable	Males M (SD)	Females M (SD)	T	p	d
Factor I	7.31 (3.85)	7.22 (4.26)	.224	.823	.02
Item 1	3.27 (1.99)	3.01 (1.61)	239	.811	.14
Item 2	2.49 (1.37)	2.37 (1.46)	.903	.367	.08
Item 3	2.41 (1.36)	2.43 (1.46)	130	.897	.01
Factor II	3.30 (1.51)	3.61 (2.21)	-1.685	.093	.16
Item 4	1.12 (.58)	1.25 (.85)	-1.866	.063	.18
Item 5	1.08 (.49)	1.16 (.70)	-1.385	.167	.13
Item 6	1.10 (.51)	1.20 (.76)	-1.537	.125	0.15

Note. M = Mean, SD = Standard deviation, t = Student's t-test; p = significance; d = Cohen's d effect size test.

**Table 5.**Differences as a function of Professional Tenure

Variable	Professional tenure (years)	M (SD)	f	gl	p	Tukey
	0-9	7.29 (3.92)	.335	387	.80	BCAD
Factor I	10-19	7.67 (3.88)				
racioi i	20-29	7.37 (4.22)				
	30-40	7.04 (4.44)				
	0-9	3.38 (1.44)	.235	387	.87	ACBD
Item 1	10-19	3.23 (1.57)				
	20-29	3.32 (1.56)				
	30-40	3.23 (1.69)				
	0-9	2.51 (1.38)	1.075	387	.359	BACD
Item 2	10-19	2.53 (1.38)				
Item 2	20-29	2.46 (1.47)				
	30-40	2.19 (1.45)				
Item 3	0-9	2.39 (1.39)	.288	387	.834	BCDA
	10-19	2.57 (1.37)				
	20-29	2.45 (1.50)				
	30-40	2.43 (1.54)				

Variable	Professional tenure (years)	M (SD)	f	gl	p	Tukey
	0-9	3.38 (1.61)	.396	387	.756	BCDA
Factor II	10-19	3.64 (2.48)				
ractor II	20-29	3.56 (2.04)				
	30-40	3.40 (1.79)				
	0-9	1.17 (.65)	.104	387	.958	BCDA
Item 4	10-19	1.22 (.83)				
Item 4	20-29	1.21 (.79)				
	30-40	1.19 (.80)				
	0-9	1.09 (.52)	.693	387	.557	BCDA
Item 5	10-19	1.21 (.83)				
item 3	20-29	1.13 (.65)				
	30-40	1.09 (.50)				
Item 6	0-9	1.12 (.54)	.635	387	.593	CBAD
	10-19	1.21 (.83)				
	20-29	1.21 (.75)				
	30-40	1.12 (.59)				

Note. M = Mean, SD = Standard deviation, f = Snedecor's f-test; p = significance; Tukey = Tukey's post hoc test. Initials A, B, C and D represent the 0-9, 10-19, 20-29 and 30-40 years Professional tenure groups respectively. Initials are ordered according to the mean and differences between groups are represented by a dash.

#### Discussion

This study has led to the development of a useful scale (AHE-PM) to explore attitudes towards euthanasia in medical professionals. Given the characteristics of the health systems, these professionals often have difficulties with time availability, so the development of a simple tool, easy to apply and that requires only a few minutes, is especially useful to systematically determine individual and group attitudes of the medical staff. In this sense, a short scale with optimal psychometric properties was obtained, which provides information on two factors associated with attitudes towards euthanasia. First, Factor I provides information on attitudes towards the

application of euthanasia in situations where there seems to be some medical justification. Factor II refers to the application of euthanasia under criteria based on the patient's subjective emotional suffering.

In this way, the two factors conform an instrument that allows, on the one hand, to know medical staff's attitudes towards euthanasia, exposing them to a bioethical and personal dilemma. Some studies indicate that professionals are emotionally affected when faced with the concepts of death and euthanasia in terminal patients. These professionals' self-awareness of their own attitudes towards euthanasia and their adaptation to the current ethical codes could minimize the impact generated by these situations and,

therefore, improve the therapeutic relationship and the quality of care (Ay & Öz, 2018; Emanuel et al., 2016). The instrument can also facilitate the detection of professionals who might make liberal use of euthanasia through its Factor II (Sinclair, 2019).

Specifically, in Factor I, the three items that compose it show high or very high factor loadings. The same happens in Factor II where the factor loadings are, in all cases, equal to or greater than .95, indicating that the structure obtained in this study is likely to remain solid in subsequent works. With respect to the indicators of symmetry and normality, acceptable indicators are observed for Factor I while in Factor II these indicators show atypical values. These results are within expectations since Factor II is designed to detect atypical attitudes towards euthanasia and, therefore, shows a significant floor effect (or asymmetry) in the present sample. Overall, reliability indicators on both factors were very good, explaining a large percentage of the variance in the sample (Table 2). These results are supported by the fit estimators obtained using the CFA where all of them showed scores indicating that the model fit the data (Table 3).

In this line, the scale evaluates two aspects of attitudes towards euthanasia. On the one hand are the aspects that are more closely related to the current ethical and legal codes, where professionals can face their own attitudes and become aware of their congruence with the legal frameworks, and which may even lead to processes in which professionals question their own attitudes. The other aspect refers to more subjective issues and can serve as an indicator of controversial attitudes towards euthanasia that could generate cognitive dissonance in the professionals. Attitudes towards euthanasia could also be used as a risk indicator for the "liberal" recommendation of euthanasia in patients who may demand this type of intervention because of a perception of low self-efficacy, depression or social isolation, a state of mind that is, for example, common in the elderly (Patrão, Alves, &

Neiva, 2019). The proposed instrument and the study carried out aimed to emphasize the need to include in the medical faculties sufficient training about the end of life and the right to die, with the bioethical derivations that this process entails.

As mentioned above, although there are already tools published that evaluate attitudes towards euthanasia, many of them have been created and validated using medical students (Loera et al., 2018). In this sense, this instrument was designed and analyzed exclusively using practicing professionals. Along these lines, professional tenure or gender was explored as a differential variable in attitudes towards euthanasia showing that there appear to be greater attitudes towards euthanasia in males but years of professional tenure did not appear to be related to these attitudes (Tables 4 and 5). Although the years of experience do not seem to determine attitudes towards euthanasia in this study, it is considered that direct experience can play a key role in modifying previous attitudes. There may be differences between a student and a professional who has been exposed to at least one case (Francke et al., 2016; Tamayo-Velázquez et al., 2012; Zenz et al., 2015). Miltiades (2019) finds these differences in attitudes towards euthanasia in students who have had close experiences of serious hospitalizations with students who have not had such experiences. With regard to gender, the attitudes found in men could be explained by Western culture, where women have always been perceived as protectors/ caretakers, although this is only a hypothesis and more studies should be carried out in this area to study these differences in more depth.

It should be noted that this study may have a response tendency. In this regard, this limitation should be taken into account in its interpretation. Likewise, the design does not allow inferences beyond relationships and associations. This information can be supplemented by applying the questionnaire in other populations, at other moments, or over time. Finally, it would be advisable to scale other

models and study their psychometric properties in depth from other perspectives, such as the item response theory or Rasch models.

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