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Lessons learned from self-efficacy of healthcare professionals for advance care planning

Authors: Vilma Adriana Tripodoro, María Stella Di Gennaro, Julia Fila, Verónica Inés Veloso, Celeste Quiroga, Cristina Lasmarías Martínez

Original article

Vilma Adriana Tripodoro[1–3] https://orcid.org/0000-0003-2328-6032, María Stella Di Gennaro[2, 4], Julia Fila[2, 5], Verónica Inés Veloso[2, 3] https://orcid.org/0000-0002-8472-6989, Celeste Quiroga[2, 6], Cristina Lasmarías Martínez[7, 8] https://orcid.org/0000-0002-5679-2962

[1]ATLANTES Global Observatory of Palliative Care, University of Navarra, Pamplona, Spain

[2]Instituto Pallium Latinoamérica, Buenos Aires, Argentina

[3]Institute of Medical Research A Lanari, University of Buenos Aires, Argentina

[4]Clínica Reina Fabiola, Córdoba, Argentina

[5]National University of La Plata, Buenos Aires, Argentina

[6]Hospital Cosme Argerich, Buenos Aires, Argentina

[7]Instituto Catalán de Oncología, Barcelona, Spain;

[8]Asociación Española de Planificación Compartida de la Atención (AEPCA), Barcelona, Spain

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[Running title: Self-efficacy for advance care planning]

Address for correspondence:

Vilma Adriana Tripodoro

Cádiz 3817 (1431) Buenos Aires, Argentina

e-mail: vilma.tripodoro@gmail.com

Abstract

Background: Advance care planning (ACP) is a reflective, deliberative, and structured process based on dialogue and free agreement between the person concerned and healthcare professionals. Argentina has no national ACP program or systematic approach for patients diagnosed with advanced chronic disease. Healthcare providers who treat these patients highlight some main obstacles in initiating the ACP process. Perceived self-efficacy is one of the main predictors of success in learning processes and promotes the acquisition of new behaviours and positive results in implementing ACP. We aimed to sensitise professionals and explore their self-efficacy for ACP before specific training.

Participants and methods: This exploratory, prospective, descriptive study used the self-efficacy ACP-SEs scale already validated in Argentina. We surveyed 236 healthcare professionals (n 125 physicians/n 111 non-physicians) before specific training courses (2019–2021).

Results: Participants' experience, training needs, and practices. Most respondents were females (43 years old). Non-physicians (n 111) were 40 nurses, 32 psychologists, 16 social workers, 15 physiotherapists, and 8 other health backgrounds. Over 50% had 5–20 years of professional and primary care experience. When comparing professions, half of the physicians increased by up to 5.23 points higher on the self-efficacy scale than non-physicians. Most participants had no personal advance directives and neither helped a relative nor a patient sign a document. Half of the participants had previously undergone training. Half of the professionals who had done ACP significantly increased their value on the scale by up to 7.5 points more than those who did not. Differences between physicians and non-physicians revealed areas of improvement involving communication skills, roles and tasks, and legal issues.

Conclusions: Healthcare providers' skills improve with experience and require training to increase self-efficacy. Our findings should encourage tailor-made training programs in the future. One of the goals of this study was to spark discussions before specific training courses and develop appropriate teaching methods based on perceived self-efficacy in Argentina.

Key words: palliative care, shared care planning, health care education, self-efficacy, advance care planning

Introduction

Advance care planning (ACP) is a reflective, deliberative, and structured process based on dialogue and free agreement between the person concerned and the healthcare professionals or social agents involved [1, 2]. The core element of the definition is that ACP is seen as a shared process that includes identifying values and defining goals and preferences regarding medical and future care. These aspects were discussed with the patients and their families. However, healthcare providers who treat patients with advanced chronic diseases highlight some of the main obstacles in initiating the ACP process. These included insufficient knowledge, inadequate communication skills, fear of discussing end-of-life processes with patients, difficulties in managing ethical-clinical dilemmas, and the absence of a clearly defined role for the professionals responsible for managing the ACP process [3–9].

Since 2017, shared care planning has been adopted mainly in Spain, focusing on relational autonomy [10, 11], which looks at the patient's biography and sociocultural context. This holistic conception of the ACP could strengthen the participation of all healthcare fields in the Process [3]. A multidisciplinary approach seems the most appropriate for guaranteeing a broad, multidimensional, and individualised ACP process [12]. In the same year in Europe, a formal Delphi consensus process defined ACP and provided recommendations for its application [1]. These recommendations were grouped into five categories: core elements and aspects of ACP, roles and tasks, timing, legislation and regulation, and evaluation. This consensus inspired us to design training courses for healthcare providers involved in shared decision-making and palliative care.

Latin America is well positioned to take a more relational approach to advance directives (ADs), as evidenced by its cultural traits [13, 14]. Mediterranean heritage is an essential factor in shaping the social environment. Patients usually emphasise trustworthiness, solidarity, and compassion from physicians and close people. Argentina has no national ACP program or systematic approach for patients diagnosed with severe or advanced diseases. Therefore, the population and healthcare personnel are yet to discover the concept of ACP. A law in the country establishes patients' rights in their relationship with health professionals and institutions [15]. This law guarantees a series of rights of patients, including those with terminal or irreversible illnesses (or family members when they cannot do so), to reject or withdraw therapies or medical

procedures when they are disproportionate or when it prolongs the agony. Likewise, the law regulates ADs as a legal instrument for prospective decision-making [16, 17]. ACP is not necessarily linked to euthanasia. However, therapeutic adequacy may arise as a consequence of the initiation of these conversations. Nowadays, euthanasia is recognised as the moral limit of the practises accepted in legislation. "Death with dignity" must be viewed as a living concept, a stage in which moral, scientific, religious, and political discourses construct socially acceptable modes of death. In Argentina, there still needs to be more studies that provide evidence on ACP, focusing on the experiences and skills of healthcare professionals to promote reflection.

In this sense, it is essential to consider a construct defined as "self-efficacy". It is a core aspect of the social cognitive theory developed by Bandura, who believes that self-reflection allows individuals to evaluate their own experiences and thought processes [18]. It defines self-efficacy as "belief in one's ability to organise and execute the actions required to handle future situations". People make judgments about their self-efficacy specific to the tasks and situations in which they are involved, and people use them to refer to a goal or task to be achieved [18]. Perceived self-efficacy is one of the main predictors of success in learning processes and promotes the acquisition of new behaviours and positive results in implementing ACP [3]. Enabling training among professionals who care for eligible people for ACP would allow them to reflect on and express their desires, expectations, preferences, and values regarding healthcare processes. Baughman et al. [19] initially developed and validated the ACP Self-Efficacy scale, the only scale to assess self-efficacy in English: the ACP Self-Efficacy (ACP-SE) scale. Later, Lasmarías et al. [120 validated it in Spanish (ACP-SEs) [12], and it was adapted culturally in the Argentinian context with high reliability (ACP-SEs Ar) [20].

Correct execution of the SPC process with patients and their families is a crucial component of the quality of care process. The combination of innovative educational strategies focused on the experience of professionals will facilitate recognition of their limitations in carrying out the SPC process. This will provide tools to solve these problems, including training in communication skills. We aimed to explore professional self-efficacy for ACP before specific training. In addition, this article explores the experience, training needs, and practices of ACP processes from the perspective of Argentina's multi-professional healthcare providers.

Participants and methods

This exploratory, prospective, descriptive study used the self-efficacy ACP-SE scale already validated in Argentina [3, 12, 20]. The ACP-SEs Ar scale consists of 19 items scored on a 5-point Likert-type scale (1 = not at all capable and 5 = completely capable). Sociodemographic and professional experience data were also added. The domains of the scale focus on the professional's competencies in communication (time available to perform ACP, knowledge of the patient's needs and wishes in the degree of information to be transmitted), treatment description and clarification, clearing up doubts and respecting choices. Additionally, these issues should be re-evaluated if the objective of treatment changes.

Multiprofessional healthcare providers who took ACP training courses in 8 groups between 2019 and 2021 were included in our purposive sample. Professionals who integrated all groups had experience assisting advanced chronic patients with life-limiting illnesses. Each group comprised 15 to 20 postgraduate attendees. Virtual courses were conducted by the first author in collaboration with other authors. All participants were prepared to apply course concepts to solve real-world complex tasks related to the subject.

The scale was formatted in Google and emailed to participants the day before the course. All professionals agreed to participate in the survey. Participants were inquired about their professional background and personal experience with ADs documents before administering the ACP-SEs Ar scale. The research team had no access to participants' email addresses. Participation was voluntary and anonymous. Email addresses or IPs were not saved. Immediate feedback was given to the participants at the beginning of the courses for incentive discussions looking for effects on the achievement of course goals. This report was guided by the Perspective: Guidelines for reporting team-based learning activities in the medical and health sciences education literature [21]. The University ethics committee approved the study protocol.

Statistical analysis

Descriptive univariate and bivariate analyses of qualitative variables were performed by calculating absolute and relative frequencies. Quantitative variables are described by the mean, median, and standard deviation or interquartile range (ICR) according to the distribution. The Shapiro-Wilk test was used to evaluate the normality of the distributions. The two highest categories of the Likert scale (scores 4 and 5) were considered professional ability achievement

when conducting a difference-of-proportions test to assess the professionals' ability in the various questionnaire items according to their profession (physicians or non-physicians). We assumed that physicians had different backgrounds concerning prognostication and treatment goals for decision-making based on the current medical and non-medical curricula. If there were statistically significant differences in the means of the various questionnaire items based on profession (physician or non-physician), they were assessed using the t-test or Mann-Whitney U test according to distribution.

The total score on the ACP-SEs Ar scale was calculated by summing the 19 items of the questionnaire, which were rescaled from 0 (minimum) to 100 (maximum). There is no cut-off point for this scale. Generalised linear models (gamma density function and identity link) were fitted using the total score as a response varies according to the covariables of interest: profession, age, experience working with people with advanced chronic illness, and training and expertise in ACP. A multivariate analysis was conducted to determine the scale's reliability by calculating Cronbach's alpha coefficient. Results were expressed with a 95% confidence interval. A p-value of less than 0.05 was considered statistically significant using Stata 17 software.

Results

In three years of short ACP training courses, 236 healthcare professionals were trained in eight groups (Table 1). Most of the respondents were females (median age: 43 years). Non-physicians (n = 111) comprised 40 nurses, 32 psychologists, 16 social workers, 15 physiotherapists, and 8 other professionals (nutritionists, occupational therapists, and phono-audiologists). Over 50% had 5–20 years of professional and primary care experience. Half of the participants reported receiving training in ACP, either as part of a course, a workshop, or a postgraduate course; none were part of specific ACP training. Most participants had no personal ADs and helped a relative (29%) or a patient sign an ADs document (44.2%).

We were forced to remove them from the current analysis due to discrepancies in the answers to two questions about when professionals last performed an ACP on a patient or had received training. In the first question, some respondents (n = 124) said they had received training before, but some more (n = 177) needed to remember when they were trained. In the second one, since the last ACP was done with their patients, some respondents (n = 130) confirmed that they

had done ACP with their patients, but some more (n = 188) needed to remember when. These inconsistent answers may be due to the design of the form because of non-exclusive answers.

The answers to 19 ACP-ESs Ar scale items are detailed by median and ICR in Table 2. Questions 2, 5, 6, 7, 8,12, 13, 14, 15, and 17 showed significant differences between the two groups (physicians and non-physicians). These questions were mostly related to communication skills regarding prognosis, treatment options, goals, wishes and preferences for treatments, changes in time, and re-evaluation of goals of care. However, other questions related to autonomy, respect, family involvement, and documentation of decisions (1, 3, 4, 9, 10,11, 16, 18, and 19) did not show significant differences between the groups.

For each unit change in age, half of the professionals statistically increased their value on the scale by 0.32 (Table 3). When comparing professions, half of the physicians scored up to 5.23 points higher on the scale than non-physicians. Half of the professionals with experience with people with ACP significantly increased their value on the scale by up to 6.1 points more than those without such experience. Half of the professionals who had training in ACP significantly increased their scale score of self-efficacies to 5.56 points higher than professionals who did not have such activity. Half of the professionals who had done ACP significantly increased their value on the scale by up to 7.5 points more than those who did not.

Discussion

Healthcare providers' skills in ACP only improve with experience. We sensitised and trained 236 healthcare providers in short courses for the inception of essential information and skills based on their previous self-efficacy perceptions to start ACP processes in patients with advanced chronic diseases. One of the goals of this study was to spark discussions before a specific training course and to aid in developing appropriate teaching methods based on professional perceived self-efficacy in Argentina.

Healthcare workers caring for patients with chronic illnesses need training to increase their self-efficacy. By training, we refer not only to specific knowledge about ACP but also to acquiring skills that can be enhanced by increasing the professional's perceived ability to perform ACP [3, 12, 19, 22]. Nevertheless, they can be learned, showing that professionals feel more prepared to start an ACP process after training, leading to better patient outcomes [23].

Regarding self-efficacy, we identified areas for improvement based on the recommendations of the European Consensus [1]. Physicians were more confident than non-physicians in terms of the core elements of ACP: communication, degree of desired information, individualised treatment, and goals of care discussions (ACP-ESs Ar questions 2, 5, and 8). Because of the aspects related to diagnosis and prognosis, physicians are more trained in these areas of expertise. However, in other essential core elements, such as finding the time to talk to the patient about their prognosis, preferences, and plan of care (question 1), or involvement of the patient in the conversation about ACP (question 18), no differences were found between the two groups. Specific needs for communication skills emerged in our analysis. For instance, re-evaluate a patient's wishes when the care goals are changed. These findings help us design a tailored teaching program for physicians and non-physicians, looking carefully at their weaknesses and strengths in breaking bad news and compassionate communication. Healthcare professionals must be able to respond to the opinions and concerns of the patient's family during the decision-making process, such as by informing family members of the decision's repercussions and helping them prepare for end-of-life care [22]. Before leaking and risking a patient and family, it is crucial to encourage patient autonomy and consider individual preferences. This study aims to provide a jumping–off point for discussions of official ACP policies.

Patients in Latin America may prioritise their families in decision-making, requiring improvements in patient-physician-family relationships [13]. We identified no differences between physicians and non-physicians based on their backgrounds and experience regarding this issue. For example, to determine the person (from the patient's dynamic environment), the person would like to be involved in decision-making (question 4). Nevertheless, concerning the recommendations for roles and tasks, we did so. Physicians were more confident in these aspects. This suggests that nurses or psychologists must likely recognise their role and the time to explore these conversations.

Other crucial aspects, with no differences and low self-efficacy found in both groups, were those related to legal aspect recommendations (questions 9 and 10). In the first question, "to ensure that, as far as your responsibility is concerned, the patient's preferences will be respected", the mean was more than four Likert points. However, regarding self-confidence, the answers were under four points if the patient had been hospitalised. Latin American societies are

becoming more committed to patient autonomy, and the ACP legislation is essential to that process [13]. However, the mere existence of laws allowing patients to make ADs does not guarantee that ACPs will be correctly implemented. Consequently, it is necessary to determine the proper way to use these legal instruments in clinical practice and identify potential facilitators and barriers that can be found in our cultural context. This confirmed that owing to various factors, the implementation of ACP still needs to be improved in practice [5, 12].

Additionally, the lowest-ranked question in both groups was to discuss with the patient how to complete the ADs document (question 11). This was unsurprising because almost half of the professionals had never completed an ADs document with the patients. Considering all professionals involved in the process, our exploration highlights the opportunity to include this topic in undergraduate and postgraduate programs seeking put-in-practice communication skills and shared decision-making. A systematic review of ACP in patients with advanced chronic diseases revealed significant benefits, such as feelings of control/relief and refusal of unfavourable treatments [23]. Assuming that ACP should be a multidisciplinary task, our findings will help us design specific content and skills for both groups according to their needs.

In addition, professional reflection before and after systematised, reproducible, and evaluable training in specific ACP, using a validated scale to assess self-efficacy, will allow us to evaluate the impact of the teaching program. This study did not conduct a post-training self-efficacy evaluation because courses would not have been comparable, given how frequently our teaching program changed in response to advancements in the field. Empowering people and communities is one of the components of the new conceptual model of palliative care from the World Health Organization framework [24]. One of the actionable indicators to assess this component at the national level are groups dedicated to promoting the rights of patients needing palliative care, their caregivers, and disease survivors. Another indicator is national policy or guidelines addressing the ACP of medical decisions for life-sustaining treatment or end-of-life care. Aligned with this model, we tried sensitising primary care and palliative care professionals to ACP awareness.

Physicians in Latin America should only discuss end-of-life issues with patients upon their request [13]. Families, significant others, and healthcare providers should participate in the ACP's deliberative process. A decision-making process should respect patient autonomy while

considering cultural values. In an Argentine study, 86% of the participants preferred to participate in decisions about their health, while only 10% preferred not to be informed.

Future research is needed to evaluate teaching courses' cultural aspects and outcomes more deeply. Self-efficacy should introduce a way to self-evaluation, but the tangible effect of implementing ACP skills should be shared processes accomplished with patients. However, these outcomes were not part of our goals. Nevertheless, a teaching program triggered by a before-after self-efficacy evaluation, followed by an implementation program of effective ACP with patients and families in current practice, should be explored. A group conducted this study in Argentina, and the data supporting this research are available. Because healthcare providers are intensely engaged in palliative care training, our findings cannot be generalised to other contexts or Latin American countries. The validated tool for Argentina should encourage other national educational initiatives to reproduce this study.

Conclusions

We assessed the self-efficacy of ACP among a multi-professional group of healthcare providers assisting patients with advanced chronic conditions in Argentina. Healthcare providers' skills improve with experience and require training to increase self-efficacy. Our findings should encourage tailor-made training programs. Evaluation of self-efficacy and training outcomes should be included in future studies. These findings help multi-level discussions about ACP, which means not only at the professional level but also at the national and community levels.

Ethics statement

The Catholic University of Cordoba's (Argentina) ethics committee approved the study protocol (MEP20221114bP).

Author contribution

All authors contributed to the analysis of the results and interpretation and agreed with the final version of the manuscript.

Conflict of interest

All Authors declare no conflict of interest.

Supplementary material

ACP-ESs Ar Scale validated in Argentina (Spanish).

References

1. Rietjens JAC, Sudore RL, Connolly M, et al. European Association for Palliative Care. Definition and recommendations for advance care planning: an international consensus supported by the European Association for Palliative Care. Lancet Oncol. 2017; 18(9): e543–e551, doi: 10.1016/S1470-2045(17)30582-X, indexed in Pubmed: 28884703.

2. Lasmarías C, Júdez J, Pérez de Lucas N, Fernández J. Claves en la planificación compartida de la atención. Del diálogo al documento. Monografía SECPAL sobre.

3. Lasmarías C, Subirana-Casacuberta M, Mancho N, et al. Spanish cross-cultural adaptation and psychometric properties of the advance care planning self-efficacy: a cross-sectional study. J Palliat Med. 2021; 24(12): 1807–1815, doi: 10.1089/jpm.2020.0653, indexed in Pubmed: 34143670.

4. Minto F, Strickland K. Anticipating emotion: a qualitative study of advance care planning in the community setting. Int J Palliat Nurs. 2011; 17(6): 278–284, doi: 10.12968/ijpn.2011.17.6.278, indexed in Pubmed: 21727885.

5. Granero-Moya N, Frías-Osuna A, Barrio-Cantalejo IM, et al. [Primary care nurses' difficulties in advance care planning processes: A qualitative study]. Aten Primaria. 2016; 48(10): 649–656, doi: 10.1016/j.aprim.2016.01.008, indexed in Pubmed: 27083077.

6. Simon J, Porterfield P, Bouchal SR, et al. 'Not yet' and 'Just ask': barriers and facilitators to advance care planning – a qualitative descriptive study of the perspectives of seriously ill, older patients and their families. BMJ Support Palliat Care. 2015; 5(1): 54–62, doi: 10.1136/bmjspcare-2013-000487, indexed in Pubmed: 24644192.

7. Aradilla-Herrero A, Tomás-Sabado J, Gómez-Benito J. Death attitudes and emotional intelligence in nursing students. Omega (Westport). 2012; 66(1): 39–55, doi: 10.2190/om.66.1.c, indexed in Pubmed: 23495536.

8. De Vleminck A, Houttekier D, Pardon K, et al. Barriers and facilitators for general practitioners to engage in advance care planning: a systematic review. Scand J Prim Health Care. 2013; 31(4): 215–226, doi: 10.3109/02813432.2013.854590, indexed in Pubmed: 24299046.

9. De Vleminck A, Pardon K, Beernaert K, et al. Barriers to advance care planning in cancer, heart failure and dementia patients: a focus group study on general practitioners' views and experiences. PLoS One. 2014; 9(1): e84905, doi: 10.1371/journal.pone.0084905, indexed in Pubmed: 24465450.

10. Killackey T, Peter E, Maciver J, et al. Advance care planning with chronically ill patients: A relational autonomy approach. Nurs Ethics. 2020; 27(2): 360–371, doi: 10.1177/0969733019848031, indexed in Pubmed: 31122121.

11. Gómez-Vírseda C, de Maeseneer Y, Gastmans C. Relational autonomy in end-of-life care ethics: a contextualized approach to real-life complexities. BMC Med Ethics. 2020; 21(1): 50, doi: 10.1186/s12910-020-00495-1, indexed in Pubmed: 32605569.

12. Lasmarías C, Aradilla-Herrero A, Esquinas C, et al. Primary care professionals' self-efficacy surrounding advance care planning and its link to sociodemographics, background and perceptions: a cross-sectional study. Int J Environ Res Public Health. 2021; 18(17), doi: 10.3390/ijerph18179034, indexed in Pubmed: 34501624.

13. Barutta J, Vollmann J. Advance directives in Latin America. An ethical analysis with a focus on Argentina. Revista Latinoamericana Bioética. 2013; 13(1): 80–87.

14. Gracia D. The intellectual basis of bioethics in Southern European countries. Bioethics. 1993; 7(2-3): 97–107, doi: 10.1111/j.1467-8519.1993.tb00276.x, indexed in Pubmed: 11651542.

15. Ley de derecho del paciente, historia clínica y consentimiento informado. 26.742 May 24, 2012. https://www.boletinoficial.gob.ar/detalleAviso/primera/70105/20120524 (26.05.2023).

16. Macchi M, Pérez M, Alonso J. Planificación de los cuidados en el final de la vida. Perspectivas de profesionales de oncología y cuidados paliativos. Sexualidad, Salud y Sociedad (Rio de Janeiro). 2020(35): 218–236, doi: 10.1590/1984-6487.sess.2020.35.11.a.

17. Hjorth NE, Hufthammer KO, Sigurdardottir K, et al. ERANet-LAC CODE project group, Core scientific group. Hospital care for the dying patient with cancer: does an advance care planning invitation influence bereaved relatives' experiences? A two country survey. BMJ Support Palliat Care. 2021 [Epub ahead of print], doi: 10.1136/bmjspcare-2021-003116, indexed in Pubmed: 34848559.

18. Canto y Rodriguez J. Autoeficacia y educación. Educacion y Ciencia. 1998; 2: 45–53.

19. Baughman KR, Ludwick R, Fischbein R, et al. Development of a scale to assess physician advance care planning self-efficacy. Am J Hosp Palliat Care. 2017; 34(5): 435–441, doi: 10.1177/1049909115625612, indexed in Pubmed: 26764344.

20. Triodoro EV. Autoeficacia de los rofesionales en el roceso de Planificación Comartida de la Atención: Validación de Escala ACP–SES en Argentina. In: Paliat M. Editor. Resúmenes de comunicaciones óster.Triodoro EV. ed. 2023 p : 1–35.

21. Haidet P, Levine RE, Parmelee DX, et al. Perspective: guidelines for reporting team-based learning activities in the medical and health sciences education literature. Acad Med. 2012; 87(3): 292–299, doi: 10.1097/ACM.0b013e318244759e, indexed in Pubmed: 22373620.

22. Vermorgen M, De Vleminck A, Deliens L, et al. Do physicians discuss end-of-life decisions with family members? A mortality follow-back study. Patient Educ Couns. 2018; 101(8): 1378–1384, doi: 10.1016/j.pec.2018.03.004, indexed in Pubmed: 29550293.

23. Vandenbogaerde I, Miranda R, De Bleecker JL, et al. Advance care planning in amyotrophic lateral sclerosis (ALS): study protocol for a qualitative longitudinal study with persons with ALS and their family carers. BMJ Open. 2022; 12(5): e060451, doi: 10.1136/bmjopen-2021-060451, indexed in Pubmed: 35551085.

24. Assessing the development of palliative care worldwide: a set of actionable indicators. World Health Organization; 2021. https://play.google.com/store/books/details?id=23dyEAAAQBAJ (26.05.2023).

Table 1. Socio-demographic characteristics and professional experience on ACP

		Physicians n = 125 [%]	Non-physicians n = 111 [%]
Age (n234*)	Median (IQR)	44 (36.5–51.5)	41 (35–48)
Gender	Female	85 (68)	103 (92.8)
	Male	40 (32)	8 (7.21)
Professional experience [years]	< 5	8 (6.5)	16 (16.8)
	5–10	27 (21.8)	28 (25.2)
	10–20	43 (34.7)	48 (43.2)
	< 20	46 (37.1)	19 (17.1)
Experience in primary care [years]	None	11 (9.2)	23 (22.1)
	< 5	11 (9.2)	22 (21.2)
	5–10	27 (22.7)	20 (19.2)
	10–20	40 (33.6)	33 (31.7)
	> 20	30 (25.2)	6 (5.8)
Previous experience in caring for people with advanced chronic diseases (yes/no answer)	Yes	112 (89.6)	86 (77.5)
Did you have any previous ACP training? (yes/no answer)	Yes	69 (55.2)	55 (45)
Have you previously done an ACP with a patient? (yes/no answer)	Yes	75 (60)	55 (49.6)
Do you have a personal Advance directive? (yes/no answer)	Yes	16 (12.8)	10 (9)
Have you ever helped a friend or family member complete an Advance directive? (yes/no answer)	Yes	40 (32)	28 (25.5)
Have you ever helped a patient complete an Advance directive? (yes/no answer)	Yes	63 (50.4)	41 (37.3)
Number of Advance directives you have done with patients	None	48 (41.4)	49 (51)
	1 to 5	32 (27.6)	27 (28.1)
	6 to 10	17 (14.7)	8 (8.3)
	10 to 20	9 (7.8)	7 (7.3)
	> 20	10 (8.6)	5 (5.2)

*2 age missing data

IQR — interquartile range

Table 2. Responses of the ACP-ESs Ar comparing physicians and non-physicians

Questions	Total (n236)*	Physicians (n125)*	Non-physicians (n111)*	p-value
1. Find the time to discuss the patient's prognosis. preferences. and care plan with the patient	3.81 (0.91)	3.90 (0.78)	3.70 (1.02)	0.20
2. Determine how much the patient wants to know about the prognosis	3.86 (0.92)	4.04 (0.72)	3.66 (1.07)	**0.01**
3. Determine the level of involvement the patient wants in decision-making	3.7 (0.9)	3.79 (0.75)	3.60 (1.04)	0.24
4. Determine who else (e.g. family members) the patient would like to be involved in decision-making	3.82 (0.9)	3.89 (0.81)	3.75 (0.99)	0.36
5. Provide the desired level of information and guidance needed to help the patient in decision-making	3.86 (0.9)	4.04 (0.74)	3.66 (1.01)	**0.004**
6. Describe the pros and cons of different life-sustaining treatments	3.7 (1.08)	4.18 (0.74)	3.16 (1.14)	**< 0.001**
7. Determine the patient's specific wishes for types of medical treatment	3.61 (1)	3.86 (0.76)	3.32 (1.16)	**0.0002**
8. Discuss and negotiate individualised treatment goals and plans with the patient	3.59 (1.03)	3.92 (0.76)	3.23 (1.16)	**< 0.01**
9. Ensure that the patient's treatment preferences will be honoured at your facility	4.16 (0.89)	4.28 (0.77)	4.03 (1.00)	0.09
10. Ensure that the patient's treatment preferences will be kept at a hospital if the patient is hospitalised	3.74 (1.12)	3.75 (1.07)	3.73 (1.19)	0.93
11. Discuss how to complete a living will with the patient	3.32 (1.2)	3.30 (1.20)	3.34 (1.20)	0.38
12. Determine when there should be a shift in care goals	3.5 (1.02)	3.69 (0.89)	3.29 (1.12)	**0.001**
13. Reassess the patient's wishes when a change in care goals is needed	3.73 (0.95)	3.89 (0.85)	3.56 (1.02)	**0.01**
14. Openly discuss uncertainty with the patient when it exists	4.11 (0.93)	4.27 (0.74)	3.93 (1.07)	**0.02**
15. Educate the patient and clarify any misperception about the disease or prognosis	4.00 (0.99)	4.19 (0.77)	3.77 (1.15)	**0.01**
16. Respond empathetically to patient's and family's concerns	4.28 (0.84)	4.35 (0.70)	4.21 (0.97)	0.62
17. Communicate "bad news" to patients and their families	3.98 (0.95)	4.25 (0.68)	3.68 (1.11)	**0.0001**
18. Involve the patient in discussing advanced care planning	3.83 (1)	3.94 (0.90)	3.71 (1.09)	0.13
19. Correctly register the decisions and care plan agreed to throughout the ACP	3.54 (1.1)	3.59 (1.06)	3.48 (1.15)	0.21

 * Median and IQR (interquartile range)

Table 3. Comparative analysis of self-efficacy by profession, ACP previous experiences, and training

Variable	Categories	Coefficient	Standard Error	p-value
Age	Years	0.323	0.12	0.01
Profession	Non-physicians	Reference	………	………
	Physicians	5.238	2.24	0.02
Previous experience with Advanced chronic illness	No	Reference	………	………
	Yes	6.100	2.79	0.03
Previous training in ACP	No	Reference	………	………
	Yes	5.560	2.41	0.02
Previous experience with ACP with patients	No	Reference	………	………
	Yes	7.500	2.47	0.002

- For each unit of change in age, 50% of the professionals increase their value on the scale by up to 0.32 statistically significantly
- 50% of physicians significantly increase their scale score by up to 5.23 points more than non-physicians
- 50% of the professionals with experience with people with chronic conditions significantly increase their value on the scale by up to 6.1 points more than those without such experience
- 50% of the professionals who have training in ACP increase significantly by up to 5.56 points more their value on the scale than professionals who do not have such training
- 50% of the professionals who did ACP significantly increase their value on the scale by up to 7.5 points more than those who did not do ACP