



## Confident Perception of Primary Care Physicians Correlates to the Attitude Toward Donation and Organ Transplantation: A Multicenter Study of Medical And Nursing Spanish Students

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**ABSTRACT**

A primary care physician (PCP) not only accompanies the patient in the process of an illness, but throughout his or her life. The confidence we have in these health professionals is fundamental, and their favorable attitude toward organ donation and transplantation (ODT) has a significant influence on the population.

**Objective.** To analyze trust in PCPs among Spanish medical and nursing students, the relationship with their attitude toward ODT, and the factors that condition it.

**Methods and Design.** A sociologic, multicenter, and observational study. Population: medical and nursing students in Spanish universities. Database: Collaborative International Donor Project, stratified by geographic area and academic course. A validated questionnaire (PCID-DTO-RIOS) was self-administered and completed anonymously. A sample of 9598 medical and 10,566 nursing students (99% confidence and precision of  $\pm 1\%$ ), stratified by geographic area and year of study.

**Results.** Completion rate: 90%. With respect to students' trust in their physician, 18% ( $n = 3267$ ) of them totally trust (completely), 45% ( $n = 8101$ ) trust enough, 30% ( $n = 5478$ ) of them have not enough trust, and 7% not at all. Comparing groups, medical students totally trust more in PCPs than nursing students (55% vs 45%;  $P < .000$ ), however, nursing students have less than enough trust in their PCP than medical students (53% vs 47%;  $P < .000$ ). Students that totally trust in their PCP were more in favor toward ODT than students with not enough trust (83% vs 77%;  $P < .000$ ).

**Conclusion.** Only 18% of Spanish medical and nursing students totally trust in their PCP. Attitude toward ODT is related to a higher level of trust in PCPs among these students.

**T**HE awareness of organ donation among health professionals is important at the time of transplant promotion. In this sense, training and sensitization of future professionals is fundamental because they will soon join health workers in active service, and an important group who generates opinions regarding the attitude toward organ donation and transplantation (ODT) [1,2]. Primary health care is the first point of contact between the general public and the health system. Some studies emphasize that this first access to populational health could constitute an important channel for the communication and promotion of ODT. Therefore, it has been demonstrated that the information about ODT given by primary care physician (PCP) is of great significance in the population [3,4].

Patients' general trust in physicians theoretically contributes to elicit patients' trust in a specific physician on first acquaintance and to maintain that trust as the relationship develops. However, trust in physicians has declined, and surveys of public opinion show a poor level of public trust in physicians [5].

Given that health sciences students (medical and nurses) could be considered as an attitude-generating group and that the information with the greatest positive influence has been precisely the information provided by health care professionals, then it is a key piece to consider to promote ODT [2,6].

The objective of this study was to analyze trust in PCPs among Spanish university medical and nursing students, the relationship with their attitude toward ODT, and the factors that condition this attitude.

**METHODS AND DESIGN****Type of Study**

A sociologic, multicenter, and observational study was performed. The study population was medical and nursing students in Spanish universities from the database of the Collaborative International Donor Project [2,7-10], stratified by geographic area and academic year. The sample of 2 groups selected according to degree included 9598 medical and 10,566 nursing university students (99% confidence and precision of  $\pm 1\%$ ). The validated attitudinal questionnaire for ODT (PCID-DTO-RIOS: Collaborative International Donor Project: ODT) [11] includes questions distributed in 4 validated factors in the Spanish population, with a total explained variance of 63.203% and a Cronbach  $\alpha$  reliability coefficient of 0.834. The questionnaire was completed anonymously and is self-administered. Previously, the project was explained and it was indicated that the participation in the project was voluntary with verbal consent. A descriptive statistic was performed, and  $t$  test,  $\chi^2$  test, and Fisher exact test were performed.  $P$  values less than .05 were considered statistically significant.

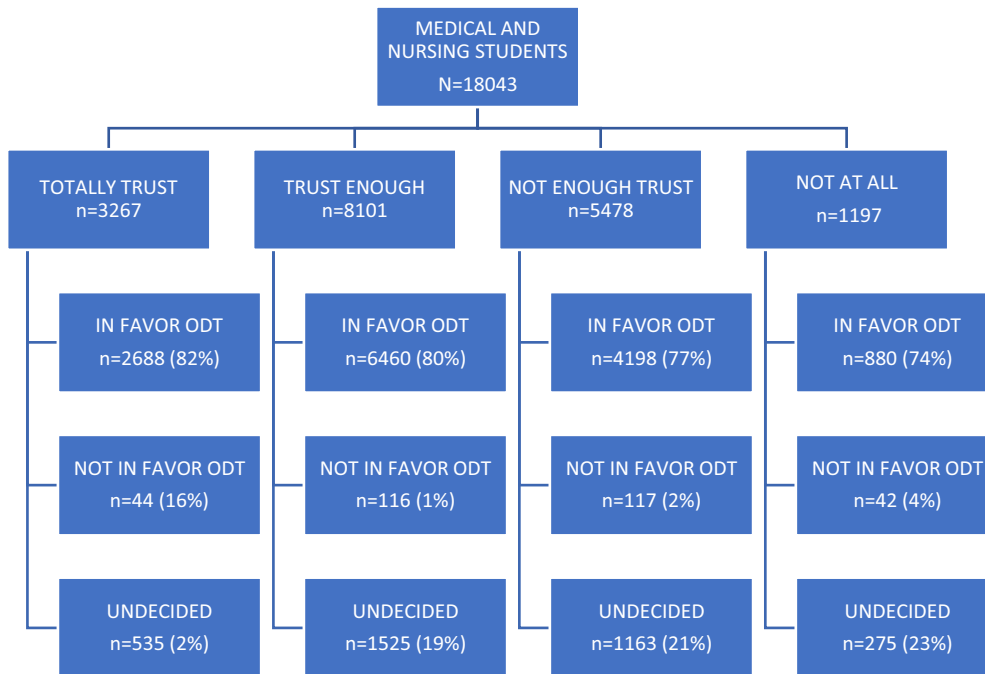
**RESULTS**

The completion rate was 90%. Socio-personal and university variables related to students' trust in their physician are in Table 1. With respect to students' trust in their physician, 18% ( $n = 3267$ ) of them totally trust (completely), 45% ( $n = 8101$ ) of students trust enough, 30% ( $n = 5478$ ) of them had not enough trust, and 7% ( $n = 1197$ ) not at all. When we compare the 2 groups, medical students totally trust more in PCPs (55% vs 45%;  $P < .000$ ), however more

**Table 1. Socio-personal and University Variables Related to Medical and Nursing Students' Trust in Their Physician**

Variable	Medical Students				Nursing Students			
	Totally Trust (n = 1809; 20%)	Trust Enough (n = 4108; 45%)	Not Enough Trust (n = 2587; 28%)	Not at All (n = 622; 6%)	Totally Trust (n = 1458; 16%)	Trust Enough (n = 3993; 45%)	Not Enough Trust (n = 2891; 32%)	Not at All (n = 575; 6%)
Socio-personal variables								
Age				.201				.108
Age (21 ± 3 y)	22 ± 4 y	21 ± 3 y	21 ± 4 y	21 ± 2 y	21 ± 3 y	22 ± 4 y	22 ± 3 y	21 ± 4 y
Sex				.952				<.001
Male (n = 4148)	520 (20)	1192 (45)	760 (29)	185 (7)	277 (19)	644 (30)	451 (30)	119 (8)
Female (n = 13,767)	1274 (20)	2889 (45)	1811(28)	431 (7)	1171 (16)	3325 (45)	2416 (33)	450 (6)
DS/DK (n = 128)	15	27	16	6	10	24	24	6
University variables								
Type of university			.498				.003	
Public (n = 16,051)	1608 (20)	3607 (45)	2299 (28)	550 (7)	1267 (16)	3587 (45)	2617 (33)	516 (6)
Private (n = 1992)	201 (19)	501 (47)	288 (27)	72 (7)	191 (20)	406 (44)	274 (30)	59 (6)
Year of course			.209				<.001	
First (n = 5112)	382 (19)	945 (46)	579 (28)	139 (7)	555 (18)	1420 (46)	939 (31)	153 (5)
Second (n = 4871)	412 (21)	894 (46)	508 (26)	124 (6)	478 (16)	1297 (44)	949 (32)	209 (7)
Third (n = 4269)	280 (20)	591 (44)	377 (28)	104 (8)	425 (15)	1276 (44)	1003 (34)	213 (7)
Fourth (n = 1285)	256 (20)	571 (44)	367 (29)	91 (7)				
Fifth (n = 1101)	224 (20)	494 (45)	315 (29)	68 (6)				
Sixth (n = 1405)	255 (18)	613 (44)	441 (31)	96 (7)				
Geographical location			.003				<.001	
North (n = 1165)	101 (18)	241 (43)	168 (30)	44 (8)	114 (19)	275 (45)	182 (30)	40 (6)
Northwest (n = 3593)	338 (21)	740 (45)	463 (28)	105 (6)	323 (17)	901 (46)	611 (31)	112 (6)
Central area (n = 4803)	483 (21)	1051 (45)	641 (28)	149 (6)	450 (18)	1135 (46)	744 (30)	150 (6)
South (n = 3996)	368 (17)	985 (45)	678 (31)	143 (7)	278 (15)	747 (41)	676 (37)	121 (7)
East (n = 4486)	519 (21)	1091 (45)	637 (26)	181 (7)	293 (14)	935 (45)	678 (33)	152 (7)
Attitude toward deceased donation				<.001				<.001
In favor (n = 14,226)	1494 (83)	3304 (80)	2010 (37)	450 (38)	1194 (82)	3156 (79)	2188 (40)	430 (36)
Against-undecided (n = 3817)	315 (17)	804 (20)	577 (11)	172 (14)	264 (18)	837 (21)	703 (13)	145 (12)

Abbreviations: DK, does not know; DS, does not say.



**Fig 1.** Medical and nursing students' trust in their physician and the relationship with their attitude in favor of ODT. ODT, organ donation and transplantation.

nursing students had not enough trust in their PCPs (53% vs 47%;  $P < .000$ ).

With respect to the relationship with their attitude toward ODT, students that totally trust in their PCP were more in favor of ODT than students who had not enough trust in their PCPs (83% vs 77%;  $P < .000$ ) (Fig 1).

The multivariate analysis of the factors affecting students' trust in their physician has shown that an independent factor, attitude toward ODT, affected it (odds ratio = 2.146;  $P = .002$  in medical students and odds ratio = 1.263;  $P = .004$  in nursing students).

## DISCUSSION

Spain has managed to achieve a donation rate of 40 deceased organ donors per 1 million population, and the highest solid organ transplant activity in the world. However, Spain does not have an opt-out register, and in practice the family is always approached for consent, and their wishes are always final. Our success is more likely to be explained by the creation of a positive social climate for donation and generating trust in the donation system, as well as the use of trained requestors in the family approach [12].

It has been seen that the attitude of primary health care professionals and the information provided by them to the public is a fundamental factor for creating populational attitude in favor of donation. Thus, professionals who give out positive information generate a very favorable populational attitude toward ODT and vice versa. Furthermore, if

attitude is based on negative information, it is much more difficult to reverse to a positive attitude toward ODT [3]. We must not forget that trust is a critical component of a successful patient-provider relationship [13].

The results of this study show that when students take the role of patient, the situation changes. Analyzing students' trust in their physician, it should be noted that only 18% of Spanish medical and nursing students totally trust (completely) in PCPs and 37% have not enough trust. This data is surprising because these students will be colleagues in a short time. We must not forget that the quality of teamwork is related to trust in colleagues; and trust in health services facilitates the effectiveness of treatments. Thus, trust in the work of others is essential to reach the level of excellence of a group or service. We must not forget that most complaints about doctors are related to issues of communication, not clinical competency. Patients want doctors who can skillfully diagnose and treat their sicknesses, as well as communicate with them effectively [14]. The ultimate objective of any doctor-patient communication is to improve the patient's health and medical care [15]. Given that medical students can consider themselves as an attitude-generating group about health care matters and in the near future they will become health care professionals, their training on such important matters such as therapies like ODT should be improved, given that this a therapy that relies on the donation of organs by people. Including information about organ donation in the training program of medical and nursing schools is important to improve knowledge about this concept and generate a favorable

attitude toward ODT [1,16]. It would even be interesting to include information about other medical specialties, their skills and competencies are also important. We must not forget that the information given by PCPs is of great significance in the population.

To conclude, only 18% of Spanish medical and nursing students have total trust in their PCP. Attitude toward ODT is related with a higher level of trust in PCPs among these students.

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