Romanian Laypeople's and Health Professionals' Views Regarding Living Organ Donation

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ABSTRACT

Background. Romanian laypeople's and health professionals' views on living organ donation were examined.

Methods. From July 2015 to May 2016, 263 adults (among them 31 physicians and 20 nurses) judged the acceptability of living organ donation in 42 realistic scenarios composed of varying levels of 6 factors: 1. type of organ, 2. whether it could have been obtained from a cadaver, 3. donor-recipient relationship, 4. donor's level of autonomy, 5. financial compensation, and 6. patients' level of responsibility for their illness. In all scenarios, the patients were in need of either a kidney or liver transplantation.

Results. The ratings were subjected to cluster analysis and analyses of variance. Seven qualitatively different positions were found that were termed never acceptable (12%), free market (44%), compensation (12%), altruism (6%), always acceptable (16%), responsibility (4%), and undetermined (6%). Physicians were more frequently in the free market or in the compensation clusters (81%) than laypeople (51%).

Conclusion. Only a few participants held the altruism model, even though this model has been promoted as the normative model by the World Health Organization and by most national legislations, including the legislation in Romania. Instead, the free market position and its variant—the compensation position—can be considered the majority positions (66%) in Romania.

In any country (except Iran [1]), the supply of organs from deceased people's bodies for transplantation is inadequate, and mortality of patients on waiting lists is increasing. Living organ donation (LOD) has, therefore, been encouraged. Specific ethical issues are, however, associated with this procedure [2–4]. Removing an organ or part of an organ from a donor's body may be seen as acting in a malevolent way toward this person [5]. Offering financial compensation to potential donors may be considered as a threat to their autonomy [6]. Designating the individual to whom the donated organ must be transplanted may be seen as contrary to the justice principle [7].

Despite these ethical issues, most people in Western countries accept the principle of LOD. In the United States, and as early as 2001, 90% of adults agree with living kidney donation to a relative, and 80% to a stranger [8]. In France, 98% of medical students reported that they would be willing, as a living donor, to donate a kidney to a relative [9]. In Spain, 89% of medical students were in favor of living liver donation to a relative, but only 32% to a stranger [10]. In Denmark, 85% of adults reported in a telephone survey that they would be willing to donate a kidney to a person of their choice [11]. Most people, however, disapprove of payment [6]. In England, only 21%

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of adults agreed with the suggestions that donors should receive financial compensation [12].

A study conducted in France has shown that when people are examined in a more analytical way, their opinions considerably vary as a function of the concrete circumstances of living donation (eg, whether the donor has been pressured by family members or whether the organ could have been obtained from a cadaver). Using a combination of vignette technique and of cluster analysis, Muñoz Sastre et al [13] found that French adults may hold 1 or another of 4 qualitatively different positions on the acceptability of LOD, which were termed altruism, free market, pragmatism, and always acceptable.

People holding the altruism position (48%)—mostly health care professionals and older participants—considered that when would-be donors were aware of the risks and not pressured by the recipients' family members, that is, when they were fully autonomous people and also when they were not offered financial incentive, then LOD was acceptable. People holding the free market position (22%)—mostly younger and more educated participants—considered that in all cases when would-be donors were autonomous people, LOD was acceptable, even if financial compensation was given. As people holding the altruism or free market positions, people holding the pragmatic position (15%) shared a strong concern regarding the donor's autonomy but, in their view, 1. financial compensation did not imply systematic rejection, and 2. LOD was less acceptable than posthumous donation. Finally, people holding the always acceptable position (7%) considered that the "gift of life" was so beautiful that it must be accepted in all cases [14]. Interestingly, 65% of these participants were regular church attendees.

THE PRESENT WORK

The present work was conducted in Romania, a country where LOD is permitted if it is approved by a panel of 3 independent practitioners. According to Article 144 of Law 95/2006, the donor has "to be an adult, fully competent, to give one's informed consent in writing, freely, preceding the donation and to the express purpose of it" [15]. Donation is not limited to close relatives, but it implies that the donor is fully informed of the risks associated with organ removal and that the organ is not sold.

As in Muñoz Sastre et al [13], participants were presented with realistic scenarios depicting situations in which after a person had been asked to donate an organ by a relative or by a member of an unrelated patient's family, she tells the transplantation service that she is willing to donate the organ. Participants judged the extent to which the transplantation service should, ideally, agree with her decision. In the scenarios, 6 factors were taken into account: 1. the type of organ (kidney vs liver), 2. whether it could have been obtained from a cadaver before the patient's health deteriorated irremediably or not, 3. whether the patient was responsible for her illness, 4. the type of donor-recipient relationship (family member vs friend), 5. the donor's level of autonomy, and 6. the financial compensation (present vs absent).

HYPOTHESES

We expected to find the 4 qualitatively different positions reported by Muñoz Sastre et al [13]: altruism, free market, pragmatism, and always acceptable. As Romania has the lowest acceptability rate regarding transplantation [16], we also expected to find a never acceptable position.

METHODS

Participants

The participants were 263 adults (among them 20 nurses and 33 physicians) living in the towns of Bucharest, Curtea de Arges, Cluj-Napoca, Iasi, Pitesti, and Sibiu and in the rural areas around these towns and aged 18–80 years (mean = 43.90 years, standard deviation = 15.47 years). Table 1 shows the demographic characteristics of the participants. The participation rate was of 53%. The main motive given for not participating was lack of time. The study conformed to the ethical recommendations of the Romanian Society of Psychology; that is, participants' anonymity was respected, and informed consent was given [17]. Data gathering lasted from July 2015 to May 2016.

Material

The material was composed of 42 vignettes showing a realistic story and a response scale. The first set of 24 stories was created by orthogonally combining the levels of 4 factors: level of responsibility (responsible for his illness vs not responsible) × donor-receiver's relationship (member of the family vs friend) × level of autonomy (the donor understands the surgical procedure and the consequences of the donation, does not fully understand, or does not understand and, in addition, has been pressured by the family) × financial compensation (present or absent). In these 24 stories, it was indicated that the organ was part of a liver and that it could not have been obtained from a cadaver.

A second set of 24 stories was created by combining the levels of 5 factors: type of organ (kidney vs liver) × alternative way (the organ could have been obtained from a cadaver or not) × relationship × autonomy × compensation. In these stories, it was indicated that the patient was not responsible for his illness and that the organ was part of a liver. Six stories were identical in both sets.

An example of a scenario is the following: "Domnul Măculescu suffers from severe liver malfunction, which is the consequence of his intemperance. He has abused alcohol during his entire life. He needs transplantation. According to the transplantation center, there is no chance that before his health irremediably deteriorates, he is able to receive part of a liver obtained from a cadaver. Domnul Emanueleanu, a person whom Măculescu's family knows, has, however, been approached by the family and solicited to give a lobe of his liver. This lobe could be transplanted without any delay. Domnul Emanueleanu understands perfectly the risk associated with the extraction and has not been pressured. He has, nevertheless, been offered a non-negligible financial compensation for the donation. He has, finally, expressed his willingness to donate a lobe of his liver to Domnul Măculescu. To what extent do you think that the donor's decision can be considered as receivable by a transplantation center?" The response scale was an 11-point scale with 2 anchors labeled "Not at all receivable" and "Completely receivable."

Table 1. Demographic Characteristics for the Whole Sample and for Each Cluster

Factor	Cluster							Total
	Never	Free Market	Compens.	Altruism	Quite Always	Resp.	Undet.	
Sex								
Male	22 (14)	64 (41)	20 (13)	11 (7)	23 (15)	7 (5)	7 (5)	154
Female	9 (8)	52 (48)	11 (10)	5 (5)	20 (18)	4 (4)	8 (7)	109
Age								
18–29 y	3 (6)*	31 (56)*	3 (5)*	3 (6)	7 (13)	4 (7)	4 (7)	55
30–39 y	5 (9)	23 (42)	8 (14)	2 (4)	12 (22)*	1 (2)	4 (7)	55
40–49 y	7 (16)	16 (35)*	5 (11)	3 (7)	12 (27)†	1 (2)	1 (2)	45
50–59 y	5 (9)	21 (39)	6 (11)	4 (8)	9 (17)	4 (7)	5 (9)	54
≥60 y	11 (20)*	25 (46)	9 (17)*	4 (7)	3 (6)*,†	1 (2)	1 (2)	54
Status								
Single	3 (7)	23 (51)	4 (9)	2 (4)	9 (20)	1 (2)	3 (7)	45
Cohabit	2 (7)	11 (39)	1 (4)	2 (7)	8 (29)	2 (7)	2 (7)	28
Married	24 (15)	66 (43)	21 (13)	9 (6)	20 (13)	6 (4)	9 (6)	155
Divorced	0 (0)	9 (48)	3 (16)	1 (5)	4 (21)	1 (5)	1 (5)	19
Widowed	2 (13)	7 (44)	2 (12)	2 (13)	2 (12)	1 (6)	0 (0)	16
Milieu								
Rural	9 (7)	54 (45)	8 (7)	9 (7)	25 (21)	7 (6)	8 (7)	120
Urban	22 (15)	62 (43)	23 (16)	7 (5)	18 (13)	4 (3)	7 (5)	143
Religious involvement								
Atheists	1 (5)	9 (45)	6 (30)*,†	0 (0)	3 (15)	0 (0)	1 (5)	20
Believers in God	20 (14)	65 (44)	18 (12)†	11 (8)	19 (13)	7 (5)	6 (4)	146
Regular attendees	10 (11)	42 (43)	7 (7)*	5 (5)	21 (22)	4 (4)	8 (8)	97
Personal experience								
No	30 (13)	109 (46)	30 (13)	13 (5)	34 (14)*	9 (4)	13 (5)	238
Yes	1 (4)	7 (28)	1 (4)	3 (12)	9 (36)*	2 (8)	2 (8)	25
Group								
Laypeople	28 (13)	89 (42)	19 (9)*	15 (7)	35 (17)	10 (5)	14 (7)	210
Nurses	2 (10)	9 (45)	3 (15)	0 (0)	6 (30)*	0 (0)	0 (0)	20
Physicians	1 (3)	18 (54)	9 (27)*	1 (3)	2 (6)*	1 (3)	1 (3)	33
Education (laypeople only)								
Primary	6 (13)	17 (38)	6 (13)	3 (7)	8 (18)	1 (2)	4 (9)	45
Secondary	10 (13)	33 (44)	8 (11)	7 (9)	13 (17)	2 (3)	2 (3)	75
Tertiary	12 (13)	39 (43)	5 (6)	5 (6)	14 (15)	7 (8)	8 (9)	90
Total	31 (12)	116 (44)	31 (12)	16 (6)	43 (16)	11 (4)	15 (6)	263

Abbreviations: Cohabit., cohabitating; Compens., compensation; Resp., responsibility; undet., undetermined.
*The figures in parentheses are percentages.
†Figures with the same symbols are significantly different, $P < .05$.

Procedure

The site for the laypeople was a vacant room at the local university or the participant's private home; and for the health professionals, a vacant room in the hospital or their office. Each person was tested individually. The procedure followed Anderson's recommendations for this kind of study [18,19], as well as those of Shanteau and Skowronski [20] and Muñoz Sastre et al [13,21]. The 6 common scenarios were presented only once. Participants took 20 to 40 minutes to complete the ratings. No participant voiced any complaint about the number of vignettes or about the credibility of the proposed situations.

RESULTS

As in Muñoz Sastre et al [13], a cluster analysis using the K-means procedure [22,23] was first applied to the whole set of ratings to detect qualitatively different patterns of ratings. A 7-cluster solution was retained. Two sets of 7 separate analyses of variance were conducted at the cluster level. Owing to the great number of comparisons, the significance threshold was set at .001. The patterns of data that correspond to five of the seven clusters are shown in Figure 1 and the distribution of participants in each clsuter is shown in Table 1. The results of the corresponding ANOVAs are shown in Table 2.

The first cluster (12% of the sample) was the expected never acceptable cluster. All ratings were lower than the middle of the acceptability scale (mean = 0.72 out of 10). Ratings were slightly higher in the case of full autonomy (mean = 1.53) than when autonomy was low (mean = 0.19) or intermediate (mean = 0.44). As shown in Table 1, ≥60 year olds were more often members of this cluster than 18 to 29 year olds.

The second cluster (44% of the sample) was the expected free market cluster: the impact of remuneration was weak and the impact of autonomy was, by far, the strongest. Ratings were higher in the case of full autonomy (mean =

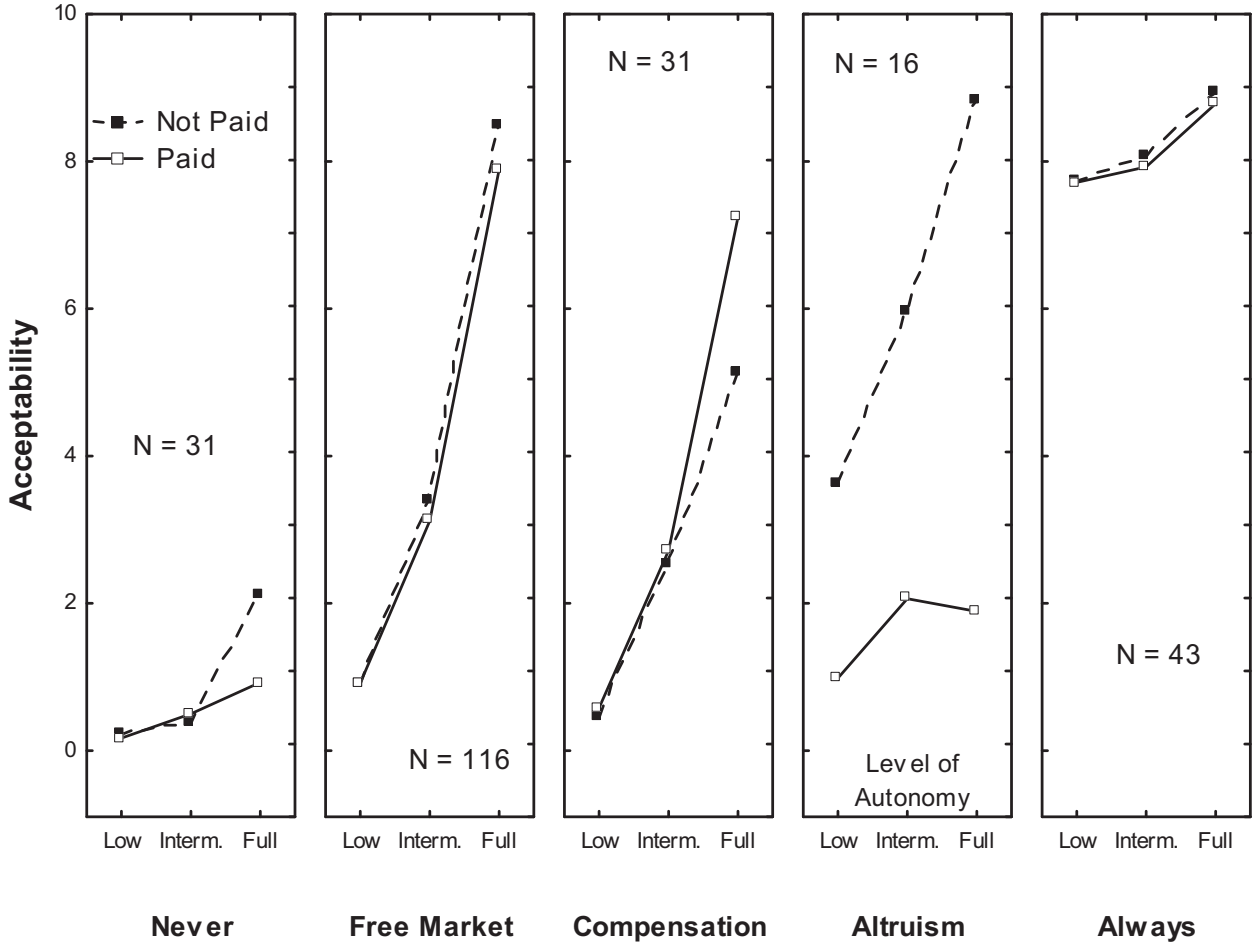

Fig 1. Patterns of results corresponding to 5 of the 7 clusters. In each panel, the mean acceptability ratings are on the y-axis, the levels of donors' autonomy are on the x-axis, and the 4 curves correspond to the 2 levels of the financial compensation factor. Interm., intermediate.

8.19) than when autonomy was low (mean = 0.91) or intermediate (mean = 3.27). The effects of 3 other factors, including the responsibility factor, although significant, were small. Ratings were only slightly lower when the patient was responsible for his illness (mean = 3.71) than when he was not (mean = 4.53). As shown in Table 1, 18 to 29 year olds were more often members of this cluster than 40 to 49 year olds.

The third cluster (12%) was a variant of the free market cluster. As in this cluster, ratings were higher in the case of full autonomy (mean = 6.19) than when autonomy was low (mean = 0.51) or intermediate (mean = 2.62), but the autonomy × compensation interaction was significant. When the donor was fully autonomous, ratings were higher in the case of financial compensation (mean = 7.24) than in the case of no compensation (mean = 5.14). As a result, this cluster was called compensation. As shown in Table 1, ≥60 year olds, atheists, and physicians were more often members of this cluster than 18 to 29 year olds, regular church attendees, and laypeople.

The fourth cluster (6%) was the expected altruism cluster: the impacts of the compensation and autonomy factors were strong, and, more importantly, they interacted. When compensation was offered, ratings were always low (mean = 1.64). When it was not offered, ratings were very high in cases of full autonomy (mean = 8.83) and lower in both other cases (mean = 3.64 and 5.97).

The fifth cluster (16%) was the expected always acceptable cluster. All ratings were higher than the middle of the response scale (mean = 8.19). Ratings were slightly higher in the case of full autonomy (mean = 8.86) than when autonomy was low (mean = 7.72) or intermediate (mean = 7.99). As shown in Table 1, 30 to 59 year olds, participants with personal experience of donation, and nurses were more often members of this cluster than ≥60 year olds, participants without any personal experience of donation, and physicians.

The sixth cluster (4%, not shown) was called responsibility because this factor was by far the most important. Ratings were much higher when the patient was not

Table 2. Main Results of the 2 Analyses of Variance Performed at the Cluster Level

Factor	*df*	*MS*	F	*P*	η^2_p
Cluster never acceptable					
Responsibility (R)	1	35.27	12.18	.005	0.29
Relationship (P)	1	1.21	0.98	.33	0.03
Autonomy (A)	2	126.22	22.23	.001	0.43
Compensation (C)	1	26.34	3.36	.08	0.10
Organ	1	1.84	2.17	.15	0.07
Cadaver	1	0.59	0.29	.60	0.01
R × A	2	18.50	7.81	.001	0.21
A × C	2	32.78	4.88	.01	0.14
R × A × C	2	16.92	7.26	.005	0.19
Cluster free market					
Responsibility (R)	1	480.84	61.98	.001	0.35
Relationship (P)	1	89.44	27.21	.001	0.19
Autonomy (A)	2	12,783.69	608.00	.001	0.84
Compensation (C)	1	58.92	11.13	.005	0.09
Organ	1	2.91	1.59	.21	0.01
Cadaver	1	2.19	1.13	.29	0.01
R × A	2	73.77	11.96	.001	0.09
A × C	2	21.28	10.00	.001	0.08
Cluster compensation					
Responsibility (R)	1	9.26	5.50	.03	0.15
Relationship (P)	1	76.78	13.00	.005	0.30
Autonomy (A)	2	2045.57	279.29	.001	0.90
Compensation (C)	1	121.78	9.62	.005	0.24
Organ	1	36.15	6.86	.02	0.19
Cadaver	1	0.44	0.10	.76	0.00
P × A	2	26.02	7.71	.005	0.20
A × R	2	77.15	10.28	.001	0.26
Cluster altruism					
Responsibility (R)	1	10.01	1.08	.32	0.07
Relationship (P)	1	8.17	4.52	.05	0.23
Autonomy (A)	2	298.45	26.74	.001	0.64
Compensation (C)	1	1944.00	227.96	.001	0.94
Organ	1	3.19	2.22	.16	0.13
Cadaver	1	0.75	0.46	.51	0.03
A × C	2	155.09	18.01	.001	0.55
Cluster quite always acceptable					
Responsibility (R)	1	65.50	6.00	.02	0.13
Relationship (P)	1	8.56	1.33	.26	0.03
Autonomy (A)	2	120.62	21.93	.001	0.34
Compensation (C)	1	2.62	0.60	.44	0.01
Organ	1	2.62	2.30	.14	0.05
Cadaver	1	12.59	2.93	.09	0.07
Cluster responsibility					
Responsibility (R)	1	2880.24	305.30	.001	0.97
Relationship (P)	1	0.14	0.12	.73	0.01
Autonomy (A)	2	109.68	15.53	.001	0.61
Compensation (C	1	2.18	0.54	.48	0.05
Organ	1	0.24	0.17	.69	0.02
Cadaver	1	16.50	1.19	.30	0.11
R × A	2	120.47	30.70	.001	0.75
Cluster undetermined					
Responsibility (R)	1	102.40	3.92	.07	0.22
Relationship (P)	1	18.68	1.37	.26	0.09
Autonomy (A)	2	52.06	5.75	.01	0.29
Compensation (C)	1	1.88	0.34	.57	0.02
Organ	1	0.00	0.00	1.0	0.00
Cadaver	1	16.04	1.12	.31	0.07

Abbreviations: η^2_p, the partial eta squared; A, autonomy; C, compensation; *df*, degrees of freedom; F, F test; *MS*, mean square; P, relationship; R, responsibility.

responsible for his illness (mean = 6.85) than when he was responsible (mean = 0.24). The responsibility × autonomy interaction was strong. In the nonresponsibility cases, ratings were higher when the patient was fully autonomous (mean = 9.36) than when he was not (mean = 4.91) or not fully (mean = 6.27).

Finally, the seventh cluster (8%, not shown) was called undetermined. Ratings were always close to middle of the response scale (mean = 4.42).

DISCUSSION

As expected, several qualitatively different positions regarding LOD were found. The most common position (44%) was free market. According to this position, when would-be donors were autonomous people, LOD was acceptable, quite irrespective of other circumstances. This finding was consistent with Muñoz Sastre et al's [13] results, but in the study conducted in France, only 22% of participants held this position. Also, previous findings have shown that a variable percentage of participants consider that direct financial compensation is acceptable [24], but this percentage has never exceeded 28%. In addition, an unexpected compensation position was found that seemed, in some way, still more extreme than the free market position. For participants holding this position, it was when donors were remunerated that acceptability was at its highest level. As a result, the free market position, considering 1 or the other of its 2 variants, can be considered the majority position (66%) in Romania. As older participants tend to share the compensation position more often than younger participants and as younger participants tend to share the pure free market position more often than others, in particular more often than middle-aged people, it can be suggested that the pure free market position is likely to become, in the future, the majority position.

The expected altruism position was found, but contrary to what was reported in Muñoz Sastre et al's [13] study, this position was a minority position. Only 6% of participants considered that it was only when 1. would-be donors were aware of the risks, 2. not pressured by the recipients' family members, and 3. not offered financial incentive that LOD was acceptable. This finding was at variance with findings from previous surveys conducted in other Western countries that unanimously show that a majority of people tend to reject direct financial compensation.

The expected never acceptable position was found, and it was twice as frequent (12%) than the altruism position. This position is based on the view that people should not be allowed either to harm themselves (by removing organs) or to request that others harm themselves (by soliciting organs) [25]. Although rarely reported in recent studies conducted in the Western world, this view certainly exists. For example, Thomas et al [5] found that British health care practitioners disapproved of altruistic living anonymous liver donation because of the risks associated with the procedure. Also, this view is not infrequently expressed by organ recipients who, in some cases, do not feel at ease with the idea that others have decided to harm themselves in order to save their lives [26]. This finding suggests that the concerns evoked by Moore [25] at a time when living donation was not common practice have not faded away among many (20%) elderly people in Romania.

A minority responsibility position was found. Such a position was not completely unexpected in a country where the adult per capita consumption of alcohol is estimated at 19.30 liters, the highest level in the European Union [27]. According to this position, LOD was acceptable only when the donor was fully autonomous and the receiver was not responsible for his illness, irrespective of the other circumstances. Finally, 6% of participants were undetermined; that is, they expressed true uncertainty whether direct compensation and donation to a stranger were acceptable procedures. This percentage is similar to the percentage of undetermined participants found in the study conducted in France.

The expected pragmatism position was not found. This view is in fact similar to the altruism view except that according to people who hold it, financial compensation does not imply systematic rejection. As the altruism view was only rarely endorsed by the participants in the present study and as financial compensation, when it mattered, had the opposite effect than the one of making LOD unacceptable, the absence of this position is not surprising.

Implications

Regarding LOD, only a few participants in our sample of Romanian adults held the altruism model, despite this model having been promoted as the normative model by the World Health Organization and by most national legislations, including the legislation in Romania. Most participants in this study did reject altruism as a possible basis for organ donation. They simply considered that altruism was not a necessary condition for living donation to be acceptable. In some way, their position converged with views discussed by Schweda and Schicktanz [28], according to which the altruism model is largely eroded because it is no longer adequate. Populations grow older everywhere and age carries with it a cortege of dysfunctions. The challenge facing public health authorities is to devise new policies that retain altruism as a basis but allow compensation for donation. Most Romanian people would certainly be open to changes in policy that would include financial incentives, and some of them would even require it. They probably consider that living donors help their neighbors beyond what is usually required of ordinary people. Would it be that immoral to attribute them a reasonable financial help or to have them benefit of extra medical help, especially in light of the real, though very small, short- and long-term health risks associated with living donation [29]?

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