

Information sources, donation knowledge, and attitudes toward transplant recipients in Australia

Context—Knowledge is linked consistently with organ donation attitudes, willingness, and consent. Negative information about donation and the recipients of donation can affect public opinion and donation willingness. However, it is unclear which information sources are most important in forming knowledge, particularly in Australia where little prior research exists.

Objectives—To identify information sources that may inform Australians' organ donation knowledge and attitudes toward transplant recipients.

Participants—1487 Australian residents aged 18 years or older who completed an online survey.

Main Outcome Measures—Self-reported knowledge, information sources, and attitudes toward transplant recipients.

Results—Participants felt fairly well informed about organ donation, particularly if they registered donation wishes, were female, and were older. More than half reported their driver's license, television news, and discussion with family/friends as donation information sources. However, information sources contributing to knowledge were personal experience, online, hospital, government campaign, discussion with family/friends, Medicare, doctor's surgery, and the newspaper. Differences based on registration status, sex, and age, were found. Discussion with family/friends and movies or television shows, as well as not having seen information in a newspaper or doctor's surgery, contributed to positive attitudes toward recipients, although the variance explained was small.

Conclusions—People felt more informed by personal, medical, and government information sources than by mass media. Family discussion was not only a common information source but also contributed significantly and positively to both donation knowledge and attitudes toward recipients. Further exploration of information sources contributing to donation knowledge and community attitudes toward transplant recipients among young men is needed. (*Progress in Transplantation*. 2014;24:169-177)

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Despite government and transplant organization initiatives, low rates of organ donation continue to limit the organ supply. In Australia particularly, the discrepancy between the donation rate of 15.1 donors per million population¹ (one of the lowest in the world) in the face of positive attitudes toward organ donation is difficult to reconcile. Accurate factual knowledge about organ donation (eg, the need for organs, the donation/transplant process) and how informed a person feels generally about donation have been positively associated with donation attitudes, willingness, and donor status/registration; this finding is one of the most widely

studied and robust in the literature.²⁻⁸ On this basis, public education and campaigns to improve knowledge and awareness of donation have been advocated as potential strategies to improve donation rates.

Although knowledge has been linked repeatedly to donation attitudes, willingness, and donor status/registration, what is less well known is how people's organ donation knowledge is formed. A range of information sources such as the media and personal experience most likely contribute to knowledge.^{8,9-12} Increased and more recent exposure to information is associated not only with willingness to donate and register

donation wishes,^{13,14} but also with actual family consent for donation of a loved one's organs.¹³ Yet the evidence regarding the exact nature of the relationship between information sources and knowledge⁸ and the information sources most important in forming knowledge remain unclear. It is the latter aspect that we focus on in the current study in identifying the information sources that may inform Australians' knowledge about organ donation.

International research shows that common sources of information about organ donation include television, newspapers or magazines, radio, the Bureau or Department of Motor Vehicles, health care professionals, family/friends, and campaigns,^{2,7,9,13-17} with these sources varying depending on the population studied and location. For example, in Spain,¹⁶ television and radio were reported as key information sources; however, health professionals and family/friends had the most positive impact on donation. In a US study with African Americans,¹⁷ discussion with family (especially for donor card signers) and the Department of Motor Vehicles were the most common information sources.

Very little research exists about Australians' exposure to organ donation information and how this information may inform knowledge. The few studies that could be located suggested that key information sources about organ donation were the media,¹⁸ knowing a donor or recipient,¹⁸ doctors, hospitals, and the Internet.¹⁹ Trusted information sources included hospitals/health/medical clinics (particularly for those who were more likely to register as a donor) and family/friends (especially males). However, 21% did not know and 16% did not trust any information source as reliable.¹⁹ Clearly, there is a need to explore further how the Australian community is informed about organ donation and whether information sources are similar to those reported in international studies.

In addition to information sources having the potential to inform the community's general knowledge about donation, media attention is often focused on organ transplant recipients. For example, newspaper stories commonly focus on the well-being of donors and recipients after transplant.⁹ Media coverage on donation and transplant can be both positive and negative, with negative stories remembered more and used to justify donation attitudes and decisions.¹¹ It follows that negative information about donation/transplant or recipients such as unfairness in organ allocation, judgments about recipients' deservingness for transplant, or responsibility for their health condition could adversely affect public opinion and willingness to donate.^{10,20,21}

Lack of knowledge about the reasons transplants are needed may also lead to increased associations between particular organs and unhealthy behaviors, which can be exacerbated by media coverage; examples include the association between a liver transplant

and alcohol dependency or a lung transplant and smoking.^{20,22,23} Such associations have far-reaching implications not only for people's willingness to donate or register^{21,24} but also for treatment and community attitudes toward people with health conditions more broadly.^{22,25} Our second aim then, was to examine Australians' attitudes toward transplant recipients and identify information sources that may inform these attitudes. A third aim, based on prior research, was to explore differences in knowledge and information sources based on demographic characteristics (eg, age, sex)⁷ and donor registration status^{5,26} because there is little consensus regarding these differences.^{7,15,27}

Objectives

Specifically we had the following questions: (1) How informed do people feel about organ donation? (2) What information sources have the community been exposed to and how recently? (3) Which information sources contribute to knowledge and are there differences based on donor registration status, sex, and age? (4) Are the community's attitudes toward transplant recipients positive and do these attitudes differ depending on donor registration status (as found in prior research²¹)? (5) Which information sources contribute to attitudes toward recipients?

Methods

Participants and Procedure

A total of 1487 Australian residents aged 18 years or older residing predominantly in Queensland (53%) and New South Wales (34%) completed a 15-minute online survey. After gaining approval from the ethics review board, we used a number of recruitment strategies. Survey invitations were delivered to community residences by using the unaddressed mail service (no residential address required) with a low response rate of 8.88% (delivery of 4000 flyers resulted in 355 responses; however, it is not possible to verify that all flyers were received as intended), via online university alumni and workplace mailing lists, postings on community websites, and snowballing (response rate could not be calculated).

Surveys were hosted via the university's secure online site from March to August 2010. Responses were anonymous and confidential. Participants entered a prize drawing to win 1 of 7 gift cards (each worth A\$100) to a department or music store.

Measures

Background Characteristics and Donor Variables. Participants self-reported their age in years by selecting 1 of 3 age categories (18-35, 36-55, ≥ 56 years) approximating categories used in the Australian and New Zealand Organ Donor Registry Report,^{28(p10)} as well as their sex (male, female), ethnicity (white, other),

religious/spiritual orientation (identify with religion vs not), relationship (in a relationship vs not), and perceived medical eligibility (medically eligible vs not). Participants also reported their donation preference (yes, no, undecided), whether they had registered consent on the Australian Organ Donor Register or discussed donation wishes with their partner/family, and whether they knew an organ/tissue donor or recipient, or personally needed or had received a transplant (all scored yes, no).

Donation Knowledge. A 1-item measure with a 7-point response scale measured self-reported donation knowledge, scored from 1 (very poor) to 7 (excellent).²⁷

Source of Organ Donation Information. Participants indicated where they had previously seen information about organ donation by selecting from 15 items (multiple information sources could be selected): television news, newspaper, television or radio advertisements, hospital, Medicare office (administers the Australian Organ Donor Register on behalf of the Australian government), online, shopping mall, driver's license (before the register, donation preference was recorded on the license), magazine, personal experience, government campaign (eg, Organ Donor Awareness Week), discussion with a family member or friend, doctor's surgery or medical practice, movies and/or television shows (eg, *ER*, *Grey's Anatomy*), and other.

Recency of Organ Donation Information. One item measured when participants had last seen/heard organ donation being promoted in Australia (eg, television, radio, Internet, newspaper, magazine): in the past month, 3 months ago, 6 months ago, 12 months ago, or more than 1 year ago.

Attitudes Toward Organ Transplant Recipients. We used a modified version (to address prior limitations of dichotomous end points and clarity of items) of an attitudes toward transplant recipients scale developed in prior research.^{20,21} Participants were instructed to first think about the type of person who needs an organ transplant and then to rate on a 5-point scale (scored from 1 [not at all true] to 5 [always true]) how descriptive 6 positive and 8 negative statements were of transplant recipients: selfish, ordinary person, substance user, blameworthy for their illness, someone who is similar to me, deserving of an organ transplant, responsible for their illness, smoker, alcohol dependent, deserving of their illness, unfortunate, someone who looks after their health, accountable for their illness, and grateful for a transplant. To create the attitudes toward transplant recipients scale, negative statements were reverse scored and combined with positive statements so that higher scores indicated more positive attitudes. The scale had adequate reliability (Cronbach

$\alpha=0.76$), with a mean score of 4.01 (SD=0.38, minimum=1.86, maximum=5.00).

Statistical Analysis

Cross-tabs (χ^2) or *t* tests were used to examine differences in background characteristics and donor variables. Descriptive statistics (percentages) were used to examine the proportions of participants exposed to each source of information on organ donation and the recency of their exposure. Independent groups *t* test or 1-way analyses of variance were used to compare means for (1) self-reported knowledge based on donor registration status, sex, and age, and (2) attitudes toward recipients based on registration status. Separate hierarchical multiple regressions were used to identify information sources associated with (1) donation knowledge and (2) attitudes toward transplant recipients. Also, differences in information sources predicting knowledge were explored in regressions for donor registration status (registered vs nonregistered) and combined sex and age groupings (men 18-35 years old, men 36-55 years old, men ≥ 56 years old, women 18-35 years old, women 36-55 year old, women ≥ 56 years old).

Results

Background Characteristics and Donor Variables

Respondents were predominantly female (67.4%), white (94.5%), in a relationship (72.5%), and less than 55 years old (18-35 years, 34.5%; 36-55 years, 41.7%). Approximately half (50.8%) did not identify with a formal religious or spiritual orientation, and most believed that they were medically eligible to donate (91.6%). Most wanted to donate their organs upon death (84.7%). Although the majority had discussed their donation wishes with their partner/family member (73.4%), more than half had not registered consent on the Australian Organ Donor Register (57.7%). Most participants did not know an organ/tissue donor (84.9%) or recipient (63.7%) and did not personally need a transplant (99.7%), nor had they received a transplant (99.4%). Background characteristics, donation preference, communication of consent, and donation experience did not differ significantly according to donor registration status, sex, or age.

Organ Donation Knowledge

Overall, participants self-reported an above average level of knowledge about organ donation (mean, 4.80; SD, 1.24; range, 1-7). Participants who had registered donation wishes had significantly higher knowledge (mean, 5.14; SD, 1.13; range, 2-7) than nonregistered participants had (mean, 4.56; SD, 1.25; range, 1-7; $t_{1462}=9.18$; $P<.001$). Female (mean, 4.89; SD, 1.2; range, 1-7) rather than male (mean, 4.63; SD, 1.30; range, 1-7; $t_{1475}=3.78$, $P<.001$) and older (≥ 56 years old: mean, 4.93; SD, 1.17; range, 2-7)

Table 1 Exposure to organ donation information sources overall and comparisons by donor registration status, sex, and age

Information source	Overall (N = 1487)		Donor registration				Sex			
	No.	%	Yes (n = 620)		No (n = 847)		Male (n = 483)		Female (n = 997)	
	No.	%	No.	%	No.	%	No.	%	No.	%
News on television	947	63.7	410	66.1	525	62.0	330	68.3	611	61.3
Newspaper	634	42.6	280	45.2	344	40.6	224	46.4	407	40.8
Ad on television/radio	709	47.7	332	53.5	370	43.7	219	45.3	488	48.9
Hospital	556	37.4	255	41.1	297	35.1	175	36.2	380	38.1
Medicare	410	27.6	235	37.9	173	20.4	99	20.5	309	31.0
Online	366	24.6	181	29.2	179	21.1	120	24.8	245	24.6
Shopping center	50	3.4	22	3.5	26	3.1	13	2.7	36	3.6
Driver's license	1071	72.0	456	73.5	606	71.5	343	71.0	724	72.6
Magazine	243	16.3	109	17.6	131	15.5	64	13.3	177	17.8
Personal experience	270	18.2	123	19.8	146	17.2	93	19.3	175	17.6
Government campaign	663	44.6	315	50.8	339	40.0	185	38.3	476	47.7
Discuss family/friend	767	51.6	346	55.8	416	49.1	206	42.7	558	56.0
Doctor's practice	443	29.8	207	33.4	233	27.5	142	29.4	300	30.1
Movies/television shows	626	42.1	267	43.1	354	41.8	138	28.6	485	48.6
Other	97	6.5	42	6.8	54	6.4	30	6.2	66	6.6

rather than younger (18-35 years old: mean, 4.73; SD, 1.23; range, 1-7; $t_{860} = 2.41$, $P = .02$) participants had significantly higher knowledge scores.

Sources of Organ Donation Information

Key sources of information on organ donation overall reported by more than half of the sample were a person's driver's license, television news, and discussion with family/friends. In addition to these sources, more than 50% of participants who were registered as organ donors listed advertisements on television/radio and government campaigns as information sources. The 2 information sources reported by more than half of participants who were not registered as organ donors, both male and female, were the driver's license and television news, with females also citing discussion with family/friends as a key information source. More than 50% of all age categories listed the driver's license and television news as important information sources. More than 50% of the following age categories listed discussion with family/friend (18-35 and 36-55 years only), advertisements on television /radio (36-55 years only), the newspaper (≥ 56 years only), and movies/television shows (18-35 years only) as important information sources (Table 1).

Recency of Organ Donation Information

Overall, respondents had last seen information about or promotion of organ donation in Australia in

the month preceding the survey (39.1%), 3 months prior (25.6%), 6 months prior (13.8%), 12 months prior (6%), and more than 1 year prior (15.5%). A significantly greater proportion of participants who were registered as organ donors (45.0%) than nonregistered (35.6%) had seen information or promotion in the month preceding the survey ($z = 3.86$, $SE = .03$, $P < .001$). Males and females and age categories did not differ significantly in the recency of their information exposure.

Information Sources Contributing to Knowledge

Regressions with information sources predicting self-reported knowledge for the whole sample, as well as comparisons based on donor registration status, and age by sex groupings are presented in Table 2 (including regression weights, variance explained, and F statistics). For the whole sample, significant information sources contributing to knowledge were personal experience, online, hospital, government campaign, discussion with family/friends, Medicare, doctor's practice, and the newspaper.

For registered and nonregistered respondents, common information sources significantly contributing to knowledge were personal experience, online, and discussion with family/friends. The hospital (registered only), Medicare (nonregistered), and government campaigns (nonregistered) were additional significant contributors.

		Age, y			
18-35 (n = 512)		36-55 (n = 325)		≥56 (n = 325)	
No.	%	No.	%	No.	%
285	55.7	423	68.4	235	66.8
175	34.2	268	43.4	188	53.4
233	45.5	316	51.1	157	44.6
206	40.2	240	38.8	108	30.7
155	30.3	153	24.8	99	28.1
170	33.2	132	21.4	63	17.9
11	2.1	22	3.6	16	4.5
352	68.8	453	73.3	262	74.4
70	13.7	96	15.5	77	21.9
65	12.7	127	20.6	78	22.2
219	42.8	276	44.7	165	46.9
297	58.0	309	50.0	161	45.7
179	35.0	165	26.7	97	27.6
272	53.1	257	41.6	96	27.3
37	7.2	45	7.3	15	4.3

The age by sex categories showed greater variation in the important information sources associated with knowledge. Notably, no information sources were significant contributors to knowledge for men 18 to 35 years old. For men 36 to 55 years old, significant information sources were online, television news, and doctor's surgery/medical practice, whereas for men 56 years old or older, the only significant information source contributing to knowledge was personal experience. Personal experience as an information source contributed significantly to knowledge for women regardless of age. Seeing information online (women 18-35 and 36-55 years old only) and at the hospital (women 18-35 and 56 years old or older only) were also significant sources of information associated with knowledge. Additional significant contributors to knowledge included government campaigns and Medicare as important information sources for women 36 to 55 years old and 56 years old or older, respectively, whereas discussion with family/friends was a significant information source associated with knowledge for women 18 to 35 years old only.

Attitudes Toward Organ Transplant Recipients

Overall, the following statements about recipients were perceived by respondents as true at least half of the time (5-point scale): ordinary person, someone similar to me, deserving of a transplant, unfortunate,

someone who looks after their health, and grateful for a transplant. Nonregistered respondents (vs registered) were significantly less likely to believe a recipient was an ordinary person, similar to them, or deserving of a transplant, and significantly more likely to perceive a recipient as responsible for their illness and alcohol dependent (although means were low; Table 3).

Information Sources Contributing to Attitudes Toward Organ Transplant Recipients

In step 1 of the regression, information sources explained a small but significant 2.5% (1.6% adjusted) of variance in attitudes toward recipients ($F_{14, 1449} = 2.68, P = .001$). Including donor registration status explained a further 1.5% of variance ($F_{\Delta 1, 1448} = 12.97, P < .001$). After entry of all variables, information sources significantly associated with more positive attitudes toward recipients were discussion with family/friends ($\beta = .07$) and movies/television shows ($\beta = .07$), and not having seen information about organ donation in the newspaper ($\beta = -.08$) or a doctor's surgery/medical practice ($\beta = -.06$).

Discussion

Summary of Findings

Overall, participants reported feeling fairly well informed about donation, particularly those who were registered donors,^{5,26} female, and 56 years old or older. The driver's license, television news, and discussion with family/friends were identified by more than 50% of the sample as the most common sources of information about organ donation. This finding is broadly consistent with prior research suggesting that television and the newspaper along with family discussion are the key sources of information on organ donation.^{2,7,13-17} The information sources that were commonly reported, however, did not necessarily contribute significantly to knowledge formation.^{2,16} Government (Medicare, government campaign), medical (hospital, doctor's surgery/medical practice), and personal (personal experience, discussion with family/friends) sources, as well as obtaining information from an online source and the newspaper, were significant contributors to knowledge for the whole sample. Information sources associated significantly with knowledge also differed depending on sex and age; particularly, we found that none of the information sources contributed to knowledge for men from 18 to 35 years old.

Notably, media sources did not feature strongly as contributors to knowledge. Similarly, Morgan et al⁸ reported that it was interpersonal sources (family/friends, personally knowing a transplant recipient) that had a positive effect on knowledge, rather than media sources. Importantly, our findings accord with

Table 2 Hierarchical multiple regressions (β weights^a) with information sources contributing to self-reported organ donation knowledge overall, and comparisons based on registration status, sex, and age groupings

Step	Variable	Overall	Donor registration		Age (in years) \times sex categories					
			Yes	No	18-35 Male	36-55 Male	\geq 56 Male	18-35 Female	36-55 Female	\geq 56 Female
1	R^2	0.18 ^b	0.14 ^b	0.18 ^b	0.14	0.27 ^b	0.30 ^b	0.22 ^b	0.13 ^b	0.33 ^b
	F	22.00 ^b	7.25 ^b	13.00 ^b	1.15	4.92 ^b	4.45 ^b	7.72 ^b	4.18 ^b	5.92 ^b
	(df)	(14, 1449)	(14, 603)	(14, 831)	(14, 99)	(14, 183)	(14, 144)	(14, 375)	(14, 397)	(14, 165)
	Television news	.05	.04	.05	.01	.18 ^c	.05	.05	.03	.10
	Newspaper	.05 ^c	.03	.07	.17	.08	.14	.02	.02	.03
	Television/radio ad	.00	.02	-.01	-.06	.07	.12	-.06	-.00	.09
	Hospital	.09 ^d	.14 ^d	.06	.05	-.03	.10	.14 ^d	.08	.19 ^c
	Medicare	.07 ^d	.05	.09 ^d	.08	.11	.01	.07	-.03	.22 ^d
	Online	.12 ^b	.11 ^d	.14 ^b	.12	.19 ^d	.03	.17 ^b	.16 ^d	.01
	Shopping center	.03	.05	.02	-.01	.02	.03	-.04	.03	.12
	Driver's license	.03	.02	.03	.08	.09	.06	.07	.01	-.13
	Magazine	.03	.08	.01	.03	.01	.13	.06	.00	.02
	Personal experience	.16 ^b	.11 ^d	.20 ^b	-.04	.11	.32 ^b	.13 ^d	.16 ^d	.26 ^b
	Government campaign	.08 ^d	.06	.09 ^c	.03	.01	.07	.09	.10 ^c	-.04
	Discussion with family/friend	.07 ^d	.09 ^c	.07 ^c	.04	.09	.02	.10 ^c	.05	.12
	Doctor's practice	.05 ^c	.02	.07	.02	.14 ^c	.11	.02	.04	.02
	Movies/television	-.02	-.04	-.01	-.06	-.09	-.15	.01	-.01	.00
2	$R^2\Delta$	0.03 ^b	-	-	0.04 ^c	0.03 ^c	0.01	0.05 ^b	0.02 ^d	0.01
	$F\Delta$	53.36 ^b	-	-	4.38 ^c	6.45 ^c	1.30	25.96 ^b	8.58 ^d	2.98 ^c
	(df)	(1, 1448)	-	-	(1, 98)	(1, 182)	(1, 143)	(1, 374)	(1, 396)	(1, 164)
	Donor registration status	.18 ^b	-	-	.20 ^c	.17 ^c	-.09	.24 ^b	.14 ^d	.11

^a β weights are those presented at the final step of the regression.

^b $P < .001$.

^c $P < .05$.

^d $P < .01$.

the limited results of prior Australian research, which suggested that doctors, hospitals, and the Internet were prominent information sources (and also trusted sources in the case of doctors and hospitals).¹⁹ Increasingly, evidence indicates that although health professionals are an underused information source, they may have a positive impact on donation knowledge and decisions.^{2,7,16}

Overall, participants viewed transplant recipients fairly positively; however, when attitudes were compared on the basis of donor registration status, differences in attitudes toward recipients were apparent.²¹ Specifically, compared with participants who had registered their donation wishes, nonregistered participants were less likely to view transplant recipients as ordinary people, unfortunate, or similar to them and more likely to view recipients as being responsible for or deserving of their illness, or to believe that recipients' need for treatment stemmed from prior alcohol

misuse. Obtaining organ donation information via discussion with family/friends or movies/television shows but not the newspaper or doctor's practice was associated with more positive attitudes toward recipients. Potentially, this finding may reflect greater emotional engagement with information from important others or entertainment than what could be provided in clinical or factual contexts such as a doctor's practice or newspaper.^{29,30}

Study Limitations

Despite its strengths, results should be interpreted with caution. Participants represent a convenience sample of people who are willing to participate in a survey on organ donation, and are predominantly female, white, and most likely highly educated—a respondent profile that is similar to the profiles in recent Australian studies.^{21,27,31} Although we did not measure education status directly, the sample is most likely well

Table 3 Attitudes toward transplant recipients for the whole sample and by donor registration status

Attitudes toward recipients	Mean (SD)			<i>t</i> (df)	<i>P</i> ^a
	Overall	Donor registration			
		Yes	No		
Selfish	1.45 (0.67)	1.44 (0.66)	1.47 (0.68)	-0.81 (1462)	.42
Ordinary person	4.03 (0.97)	4.12 (0.91)	3.98 (1.00)	2.81 (1455)	.005
Substance user	1.98 (0.53)	1.96 (0.52)	1.99 (0.54)	-1.15 (1461)	.25
Blameworthy for illness	1.79 (0.65)	1.75 (0.65)	1.81 (0.65)	-1.79 (1460)	.07
Similar to me	3.40 (1.05)	3.47 (1.01)	3.36 (1.07)	1.97 (1457)	.049
Deserving of transplant	4.07 (0.89)	4.15 (0.83)	4.03 (0.92)	2.62 (1458)	.009
Responsible for illness	1.92 (0.62)	1.87 (0.60)	1.96 (0.62)	-2.74 (1460)	.006
Smoker	2.07 (0.54)	2.05 (0.50)	2.08 (0.57)	-1.24 (1455)	.22
Alcohol dependent	2.03 (0.54)	1.98 (0.47)	2.06 (0.58)	-2.96 (1400)	.003
Deserving of illness	1.37 (0.73)	1.34 (0.72)	1.39 (0.74)	-1.39 (1456)	.17
Unfortunate	3.77 (1.29)	3.83 (1.29)	3.73 (1.28)	1.37 (1458)	.17
Looks after their health	3.03 (0.89)	3.08 (0.89)	3.00 (0.88)	1.74 (1459)	.08
Accountable for illness	1.98 (0.76)	1.95 (0.77)	2.00 (0.75)	-1.25 (1458)	.21
Grateful for transplant	4.41 (0.78)	4.46 (0.69)	4.39 (0.81)	1.88 (1460)	.06

^a Attitudes that differed significantly between participants who had registered as organ donors and participants who had not are in bold font.

educated given that recruitment efforts included university alumni lists, workplaces, and snowballing whereby participants may have forwarded the survey to people with a similar educational background. The cross-sectional nature of this study prevents inferences about causality, and future prospective research is needed. Responses may also be limited by recall of content about organ donation and exposure to information sources, with recall of information potentially greater for people who are registered donors.³¹ Further, we used a subjective assessment of how informed people feel they are about organ donation, rather than an objective assessment of their knowledge of donation facts. Using both types of measures in future research would give a clearer picture about the information sources associated with factual knowledge and whether these differ from self-reported levels of knowledge.

Study Implications

With these limitations in mind, our study findings suggest some directions for future research and practice. Participants felt more informed if they had seen/heard organ donation information from personal, medical, or government sources rather than mass media. Discussion with family/friends was not only a common information source but also contributed significantly and positively to donation knowledge and attitudes toward transplant recipients. The focus on family discussion in Australia, most recently with the “OK” campaign,³² has been to encourage people to tell

their family their donation wishes, which is vital for the purposes of increasing consent. Our results suggest that, in addition to this message, people should be encouraged to talk about organ donation more generally and to discuss others who are known to them personally or publicly who may have donated or received the benefits of a transplant.

Although we gained some insight into the information sources that may contribute to knowledge for middle aged (36-55 year old) and older (≥56 years old) men, such as television news, online, and the doctor’s practice and especially personal experience for older men, none of the information sources were associated with young men’s (18-35 years) knowledge. Therefore, it is not clear how young men are being informed about organ donation or how they can be encouraged to engage in discussion. Thompson et al³³ suggest that organ donation campaigns could appeal to a man’s status or his ability to take care of his family and community after death. With this in mind, it may be useful to more actively engage advocates for donation in Australia that young men can relate to. Alternatively, it may be worth capitalizing further on information dissemination points such as the Department of Motor Vehicles (Department of Transport and Main Roads in Australia where information about the donor registry is given when driver licenses are issued or renewed). The driver’s license was the most common information source in this study, and the Department of Motor Vehicles may be ideal to engage young

men in discussion with family/friends (eg, while waiting in line) or provide the opportunity for them to ask questions/seek further information.³⁴ A greater proportion of the donor population in Australia are men,²⁸ men are less likely to discuss donation,³³ and in this study reported feeling less informed about organ donation. Accordingly, it is essential to improve our understanding of how men, especially young men, are informed about, make decisions about, and communicate consent for organ donation.

Conclusion

Attitudes toward transplant recipients were more negative among people who had not registered their donation wishes in this study. Increasing perceived similarity between the community as potential donors and transplant recipients by focusing on shared life experiences and providing examples of recipients who do not fit the negative image to increase heterogeneity may be helpful.^{20,21} Furthermore, information sources explained only a small percentage of the variance in attitudes toward recipients. Qualitative and experimental studies to explore how attitudes toward recipients may be formed and the information sources that are most influential in this process are needed. Continuing to understand the information sources that contribute to the creation of accurate knowledge about organ donation and positive attitudes toward organ recipients has the potential to affect not only willingness and consent for donation of one's own and others organs, but ultimately improved access to lifesaving or enhancing treatment for those suffering waiting for an organ transplant.

Note

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None reported.

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