Randomized Trial Using Hair Stylists as Lay Health Advisors to Increase Donation in African Americans

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Abstract

Objective—To test the efficacy of using hair stylists as lay health advisors to increase organ donation among African American clients.

Design—This study was a randomized, controlled intervention trial where we randomized 52 salons (2,789 clients) to receive a 4 session, stylist-delivered health education program (comparison) or a four session brief motivational intervention that encouraged organ donation (intervention). Intervention stylists received a four-hour training in organ donation education and counseling. Organ donation was measured by self-report questionnaire at 4-month posttest as well as by verified enrollment in the Michigan Organ Donor Registry.

Setting—Hair salons in Michigan urban areas.

Participants—Blacks (*n*=2,449), non-Blacks (*n*=261) in Michigan.

Main Outcome Measures—Self-reported donation status, registration in Michigan Organ Donor Registry.

Results—At posttest, rates of self-reported positive donation status were 19.8% in the intervention group and 16.0% in the comparison group. In multivariate analyses, intervention participants were 1.7 times (95% CI=0.98–2.8) more likely than comparison participants to report positive donation status at posttest. Based on verified organ registry data, enrollment rates were 4.8% and 2%, respectively for the intervention and comparison groups. In multivariate analyses, intervention group members were 4.4 (95% CI=1.3–15.3) more likely to submit an enrollment card than comparison participants.

Conclusion—Clients of hair stylists trained to provide brief motivational intervention for organ donation were approximately twice as likely to enroll in the donor registry as comparison clients. Use of lay health advisors appears to be a promising approach to increase donation among African Americans.

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Keywords

Organ Donation; Lay Health Advisor; Randomized Trial; African American

Introduction

According to the Organ Procurement and Transplantation Network, approximately 100,000 Americans are waiting for an organ transplant. The need is particularly great among African Americans. Whereas, African Americans make up 12.4% of the US population (14.1% in Michigan), they comprise 28.7% of those on the waiting list nationwide and 37.9% in Michigan.[1] According to a 2005 Gallup survey,[2] 61% of Whites had signed their driver's license saying they were willing to donate their organs compared to only 31% Blacks. Furthermore, 82.3% of Whites were "very likely" or "somewhat likely" to have their organs donated after their death compared to 64.1% of Blacks, which was the lowest of the four race/ethnicity groups for which data are reported.[2] Lower willingness to donate organs among African Americans has been reported in numerous studies.[3,4]

Reasons for lower organ donation rates among African Americans (AAs) include beliefs that those who agree to donate their organs are hastened to their death in order for their organs to be harvested. In addition, some question the racial and economic blindness of the organ allocation system exists.[3–9] Therefore, educational and motivational interventions are needed to increase organ donation among African Americans.

One potentially effective approach to encourage AAs to enroll in organ donation programs is through lay health advisors. While peer-to-peer approaches have been used to address many health issues,[10–13] the use of lay health advisors to deliver the donation message to African Americans has not been evaluated in a controlled manner.

This article presents the results of a randomized controlled intervention trial that tested the efficacy of using hair stylists as lay health advisors to increase organ donation among their African American clients in Michigan.

The study had two primary aims:

- To determine the feasibility of using African American lay health advisors to deliver an organ and tissue donation intervention to their clients

- To determine the impact of a lay health advisor intervention on organ donor registration based on self-report and verified enrollment.

Methods

The design was a prospective cluster randomized trial, with salons randomly assigned to the Organ Donation or Usual Care conditions. Each salon comprised stylists from only one intervention condition. Salons could have multiple participating stylists. The study was approved by the Institutional Review Board of the University of Michigan Medical School.

Intervention Protocol

The organ donation intervention was added to a previously developed lay health advisor program for African Americans, entitled *Healthy Hair Starts with a Healthy Body*[14] and developed by the National Kidney Foundation of Michigan (NKFM), In this program, volunteer stylists work with individual clients during a three-month period to make healthy behavior changes in nutrition, physical activity, tobacco cessation and medication adherence. The core of the Healthy Hair intervention is a series of "health chats" conducted by the stylist.[14] During the chat, the stylist highlights disease risks faced by African Americans and asks the client to set goals for nutrition, physical activity, smoking cessation, and taking medication as prescribed. For this study, we added an organ donation component to the intervention. In addition, we provided more intensive training in peer counseling for stylists.

Program coordinators from NKFM recruited stylists who had previously participated in a Healthy Hair campaign. Stylists were told that the program would have an organ donation education component and that it was a research project. They were also informed that they may have to attend a second day of training on peer communication skills.

In both conditions, stylists attended a one-day, four-hour training session lead by the NKFM Program Coordinator covering the following:

- Study overview and program forms, including informed consent

- Nutrition, exercise, diabetes, and chronic kidney disease

- An interactive, 30-minute presentation on organ donation which provided key information on organ donation as well as counter points to common myths

The stylists received handouts to help them answer questions that might come up from their clients. At the end of the initial training session, stylists (by salon) were randomized to the control or intervention condition. Stylists in the intervention group came back for a second day of training in Motivational Interviewing techniques to help them deliver the organ donation counseling. Stylists receive $50 for attending the first day of training and an additional $25 for attending the second day of training.

The second day of training took place during four hours and covered the following:

- Motivational Interviewing/Communication skills: open/closed ended questions, reflective listening, eliciting change talk, rolling with resistance, putting it all together

- Discussion of ways to integrate organ donation into the client interaction

- Practice using skills with health chat demos

Stylists in both the control and intervention groups were asked to conduct four brief health chats with each client. Stylists in the intervention group were asked to address organ donation during at least two of their four chats. During Chat 1, stylists encouraged the client to set a chronic disease behavior change goal to work on over the next three months. Organ donation was not explicitly addressed. During Chats 2 and 3, the stylist reviewed progress of their prior goals, and raised the topic of organ donation. During the final chat, the discussion

focused on enrolling in the organ donation registry. Conversely, stylists in the control group were asked to use their health chats to discuss goal setting for chronic disease behaviors. They were not asked to discuss organ donation. Clients in both conditions received a folder containing educational brochures on diabetes, healthy eating, chronic kidney disease, hypertension, and organ donation. And for both groups, Michigan Organ Donor Registry cards were distributed at Chat 1 and Chat 4.

Recruitment

Stylists received a steel box containing 50 client packets and they were given one month to enroll their target of 50 clients. Stylists received a poster to display at their station informing clients that they were participating in a research study. Each client packet comprised a manila envelope that included a passive client consent letter which required no signature, coded baseline survey, a coded Progress Chart (to report on progress toward their health goal), a coded posttest survey and two coded Michigan Organ Donor Registry Cards. Stylists wrote the name of the client on the outside of the envelope and kept all of a particular client's forms together for the duration of the campaign cycle in a safe location. All of the forms contained a unique client code and clients were instructed not to write their name on any of the forms. Clients completed the surveys themselves. However, in cases where there were literacy concerns, stylists were permitted to ask the questions verbally and record the client's responses. At the end of the four-month program, clients were asked to complete a posttest survey. Stylists received $10 per set of completed surveys they returned at the end of the program.

The interventions were carried out in four cycles each lasting 4 months. During each cycle one or two stylist training sessions were held in cities with a large proportion of African American residents (Detroit/Southfield/Pontiac, Grand Rapids/Muskegon area, and Flint area). In all, 34 stylists participated in the intervention group and 34 participated in the control group.

Measures

Self-Reported Organ Donation Status—To assess self-reported current donation status we queried "Have you signed the back of your driver's license giving permission to donate your organs?" and "Have you ever signed an organ donor registry card or signed up on-line for the donor registry?" Respondents answering yes to either were considered having a positive donation status.

Organ Donation Attitudes—We developed a 10-item attitude measure based on prior instruments.[3,5,15] We modified some items and added others relevant to organ donation among African Americans. The measure was then pilot-tested among 10 African American stylists and revised based on their input. All items were scaled 1 "strongly agree" to 7 "strongly disagree." See APPENDIX for items. Factor analysis yielded three scales. The first scale, labeled Pro Donation beliefs, comprised seven items and had an internal consistency of .71 The second scale, labeled Altruistic Beliefs, comprised two items, and had an internal consistency of .66. The third scale comprised a single item, Organ donation is part of my responsibility to the Black community, and was labeled Cultural

Responsibility. Items were recoded so that higher scores on all subscales are considered more positive, pro-donation attitudes. Additional details about the attitude measure can be obtained from the first author.

Verified Enrollment (Primary Outcome)—Michigan Organ Donor registration cards were numbered so that they could be linked to specific individuals and salons. The Michigan Organ Donor registry (aka Gift of Life Michigan) provided the card numbers for those study participants who mailed in their registration cards.

Sample Size Calculations—To detect a 50% increase in organ donation enrollment with 80% power and an alpha of .05, we required 96 stylists and 1440 total clients or around 70 stylists and 2000 clients.

Statistical Analyses—The primary analytic model was multivariate regression, with baseline values and other potential confounds, entered as covariates. Only covariates missing for less than 10% of the analysis sample were included. These were: sex, city, age, insurance status, and education. We also present univariate analysis of attitude and self-reported outcomes, adjusting for baseline values. To adjust for non-independence of clients within salons, all analyses included a random term for salon with individuals nested within their salon. All analyses were implemented in STATA v10.1. Stylists who switched salons and/or might have crossed conditions were analyzed according to their condition originally assigned, ie, we used an intent-to-treat approach.

We were concerned about the authenticity of several questionnaires from a few stylists. In particular, we suspected that they had completed the surveys in order to obtain the incentive payment, without any input from the actual client. We therefore reviewed all completed surveys for data inconsistencies (eg, contradictory responses), extreme outliers compared to the overall sample, and whether any Organ Donor registration cards were returned from that stylist. Based on the review, we determined 272 questionnaires from six stylists were not completed by the client, but the stylist, and they were excluded. Of these, 223 were from control and 49 from intervention stylists. We re-ran all analyses with these 272 questionnaires included and the results obtained were essentially identical to the results with them excluded. That is, the same outcome variables were statistically significant and non-significant. For analyses of returned cards, all salons were retained as we assumed that all cards were submitted by actual clients.

The attitude items were removed from questionnaires at posttest for the final two campaigns due to concerns over questionnaire length. Therefore, the sample size for the pre-post analysis of attitude change is lower than other variables (n=1,216). All posttest questionnaires, however, included the self-reported donation items yielding a final sample of 2,685.

Results

Sample Description

We recruited 2,789 participants from 52 salons and 68 unique stylists. The average age of the participants was 40 years (range 18–100). Participants were 77% female and 90% African American. Forty percent reported income below $20k, 37% reported income between $20k and $40K, and 23% reported income above $40k. About half of the participants reported a high school education or greater. Most, 87%, had either public or private health insurance.

In terms of group equivalence at baseline, intervention and comparison group participants did not differ with regard to percent African American, organ donation attitudes, or organ donation status. However, comparison group participants were significantly more likely than intervention group members to be female, to earn more than $20k annually, to have greater than a high school education, and to have private health insurance.

With regard to attrition, 51 (2%) of the baseline 2,789 participants did not provide a follow-up questionnaire. Drop outs were significantly older than those retained in the cohort, and they were more likely to be female. Otherwise they were not significantly different from other baseline variables. See Table 2.

In terms of differential attrition, the 32 drop outs from the control group and 19 from the intervention group were similar for all variables in Table 1 other than age. Control group drop outs were significantly (P=.02) older, 52.2 years, than intervention group drop outs, 39.3 years. Data not shown.

Stylists were 77% female, 95% were African American/Black, and the average age of stylists was 43 years (with a range from 18–71 years old).

Outcomes

As shown in Table 3, for univariate analysis the adjusted posttest mean was higher in the intervention than comparison group for all three attitude scales. However, this difference attained statistical significance only for the Altruism scores. In multivariate analyses, again the adjusted posttest mean was higher in the intervention than comparison group for all three attitude scales. This difference was statistically significant for both the ProDonation and Altruism scores.

At baseline, 13.3% and 13.2% of intervention and comparison group participants reported a positive donation status. At posttest, the rates of positive donation status were 19.8% in the intervention group and 16.0% in the comparison group. In both univariate and multivariate analyses, intervention participants were 1.7 times more likely than comparison participants to report positive donation status at posttest. This difference was borderline significant in both analyses, P=.051.

Returned Cards

A total of 97 cards were returned by study participants. Of these 68 were from intervention salons and 29 were from comparison salons. This equates to enrollment rates of 4.8% and 2%, respectively for the intervention and comparison groups. In multivariate analyses, intervention group members were 4.4 (95% CI=1.3–15.3) more likely to submit an enrolment card than comparison participants. Data not shown.

Discussion

The primary aim of this study was to determine the feasibility and efficacy of a peer-led motivational/educational intervention to increase organ donation among African Americans. For both our primary outcomes, self-reported donation and verified enrollment, intervention group participants were more likely to register to be an organ donor than those from comparison salons. Additionally, intervention group clients showed significantly more favorable attitudes regarding the altruistic benefits of donating their organs. The rates of verified Organ Donor enrollment were nearly 5% in the treatment group vs 2% in controls, and for self-reported positive donation status, rates were 19.8% vs 16.0%, in treatment and control groups respectively, which represents an increase of 7% vs 3% from baseline. Our study was powered to detect a twofold increase in registration between groups, which is approximately what we observed. Although these findings are encouraging, rates were still lower than the demand requires and more intensive interventions are needed to meet the demand for organs.

The project yielded many lessons regarding implementation of the research and intervention protocols that might inform future efforts. For example, after negative reactions from stylists to the first peer counselor training, we revamped the training materials and format. We decreased the number of slides and further tailored the training for the salon context. We also condensed the stylist training from two days to one day. Questionnaire length was a concern and we reduced the number of items so that the instrument would take no more than 10 minutes. Recruiting stylists required a delicate balance of explaining the potential benefits to the stylist and clients in terms of public health, while also discussing the extra income the stylist would receive for their efforts. We were concerned about the validity of some questionnaires. We concluded after careful review, that 272 questionnaires were probably completed by stylists rather than clients, most likely in order to obtain the financial incentive. Financial incentives, perhaps in difficult economic times, may be more problematic than typically thought. These questionnaires were excluded from all analyses, although results with these questionnaires included were essentially the same as results with them excluded. Excluding their data did not impact our primary outcome based on verified organ donation enrollment however, as no cards were received from any of these stylists.

Our primary outcome, verified enrollment on Michigan Organ Donor Registry, did not capture online registrations. This may have led to an underestimation of intervention effectiveness. However, online registration was included as an option on the self-report questionnaire, and may therefore have been captured through our secondary outcome.

This project demonstrates the feasibility and potential effectiveness of using peer counselors to encourage organ donation among African Americans. Whether this precise model should be or can be brought to scale in hair salons remains to be seen. Perhaps implementing the intervention in hair salons would be easier than implementing a randomized controlled research study. Thus, dissemination of the intervention may be easier than evaluating its efficacy. Regardless, the same general approach of brief peer intervention could be applied to other venues such as Black churches, sororities and fraternities, other workplace settings, and even online communities.

Acknowledgments

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Appendix. Attitude Survey Questions

Scale		Questions
Factor 1 ProDonation	•	If a person has signed the organ donor registry, doctors won't try as hard to save that person's life.
	•	Hospitals do not give African Americans the same quality of care that they give to Whites.
	•	Organs can be bought and sold in the United States.
	•	If a person has donated his or her organs, it is impossible for that person to have a regular funeral service.
	•	It costs a donor family money to donate organs.
	•	Organ donation is against the rules of my religion.
	•	In general, doctors give preference to White people over Black people when deciding who will receive an organ.
Factor 2 Altruism	•	Organ donation is an act of charity. (reverse coded)
	•	Organ donation allows something positive to come out of a person's death. (reverse coded)
Factor 3 Cultural responsibility	•	Organ donation is part of my responsibility to the Black community. (reverse coded)

Table 1

Study sample demographics by cohort

	Intervention Group (*n*=1370)	Control Group (*n*=1419)	Total	*P* Value
Age, mean (standard deviation)	38.3 (14.8)	42.5 (16.5)	40.4 (15.8)	0.2
Age, range	18–100	18–93	18–100	
Race, n (%)				0.66
Black	1214 (89.7)	1235 (91.0)	2449 (90.4)	
Not Black	139 (10.3)	122 (9.0)	261 (9.6)	
Sex, n (%)				0.17
Female	974 (73.5)	1061 (80.8)	2035 (77.1)	
Male	351 (26.5)	253 (19.2)	604 (22.9)	
Income, n (%)				0.14
Under 20K	589 (47.1)	398 (33.0)	987 (40.2)	
20–39,999	381 (30.5)	529 (43.8)	910 (37.0)	
>40K	280 (22.4)	280 (23.2)	560 (22.8)	
Education, n (%)				0.14
High school or less	709 (53.9)	587 (45.2)	1296 (49.6)	
>High school	606 (46.1)	711 (54.8)	1317 (50.4)	
Insurance, n (%)				0.1
Private insurance	628 (49.5)	711 (57.7)	1339 (53.5)	
Public insurance	437 (34.4)	398 (32.3)	835 (33.4)	
No insurance	204 (16.1)	124 (10.1)	328 (13.1)	
Pro-donation beliefs				0.64
Mean (SD)	5.0 (1.3)	5.1 (1.1)	5.0 (1.2)	
Median	5	5.1	5.1	
Altruism				0.66
Mean (SD)	5.2 (1.8)	5.1 (1.8)	5.2 (1.8)	
Median	5.5	5.5	5.5	
Cultural responsibility				0.77
Mean (SD)	3.6 (2.2)	3.6 (2.0)	3.6 (2.1)	
Median	4	4	4	
Donation status, %				
Positive	13.3	13.2	13.2	0.96

Table 2

Study sample demographics by lost to follow-up

	Completed Study (*n*=2738)	Lost to Follow-Up (*n*=51)	*P* value
Age, mean (standard deviation)	40.2 (15.7)	47.6 (18.3)	0.03
Age. range	18–100	19–92	
Race, n (%)			0.78
Black	2404 (90.3)	45 (91.8)	
Not Black	257 (9.7)	4 (8.2)	
Sex, n (%)			0.02
Female	76.9	89.1	
Male	23.1	10.9	
Income, n (%)			0.74
Under 20K	972 (40.2)	15 (41.7)	
20–39,999	896 (37.0)	14 (38.9)	
>40K	553 (22.8)	7 (19.4)	
Education, n (%)			0.2
High school or less	1277 (49.8)	19 (40.4)	
>High school	1289 (50.2)	28 (59.6)	
Insurance, n (%)			0.48
Private insurance	1314 (56.5)	25 (56.8)	
Public insurance	818 (33.3)	17 (38.6)	
No insurance	326 (13.3)	2 (4.6)	
Pro-donation beliefs			0.78
Mean (SD)	5.0 (1.2)	5.1 (1.3)	
Median	5.2	5.3	
Altruism			0.65
Mean (SD)	5.2 (1.8)	5.0 (2.4)	
Median	5.5	6	
Cultural responsibility			0.58
Mean (SD)	3.6 (2.1)	3.3 (2.2)	
Median	4	3	
Donation status, %			
Positive	13.3	12	0.79

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Table 3

Multivariate analysis

	Univariate[†]			Multivariate[‡]		
	Intervention (*n*=1,338)	Control (*n*=1,347)	*P* value	Intervention (*n*=1,207)	Control (*n*=1,126)	*P* value
Pro-donation beliefs[*]						
Adjusted posttest mean	5.4	5.2	0.08	5.5	5.2	0.04
Altruism[†]						
Adjusted posttest mean	5.5	5	0.01	5.5	5.1	0.01
Cultural responsibility[†]						
Adjusted posttest mean	3.6	3.5	0.84	3.6	3.5	0.71
Donation status						
Odds (95% CI)	1.7 (0.997–2.9)	1	0.051	1.7 (0.997–2.8)	1	0.051

[*]Sample size for attitude scales was 1,216 for univariate and multivariate 1,099 analyses.

[†]Adjusted for baseline value and clustering by salon.

[‡]For multivariate analyses, we adjusted for pretest scale scores, city, age, sex, insurance group, education and clustering by salon.