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Recruitment of African Americans and Asian Americans with Late Life Depression and Mild Cognitive Impairment

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Abstract

Objective—The purpose of this study was to compare the relative effectiveness of several different strategies for recruiting elderly Asians, African Americans, and Caucasians to participate in mental health research.

Participants—A total of 35 African American, 24 Asian American, and 215 Caucasian participants were phone-screened for potential enrollment into a University of California, San Francisco Department of Psychiatry treatment outcome study for older adults (60+ years of age) with major depression and mild cognitive impairment.

Design—The methods by which participants were recruited were recorded, coded into composite categories, and statistically analyzed to determine whether certain recruitment strategies were disproportionately effective for recruiting participants from the three racial groups.

Results—Fisher's exact test analyses revealed that Asians and African Americans were significantly less likely than Caucasians to be recruited through mental health-based methods, and African Americans were significantly more likely than Caucasians and Asians to be recruited via referrals rather than solicitations. Logistic regression, which controlled for potential confounds, largely supported these findings.

Conclusions—Findings suggest that the recruitment of elderly African or Asian Americans into mental health treatment outcome research can be facilitated by a flexible consumer-oriented strategy that integrates multiple recruitment methods. Establishing study credibility through non-mental health media and professional referral sources may be especially effective in engaging the participation of elderly Asian Americans; and cultivating ongoing relationships with key gatekeepers, who can observe benefits to the community, may be particularly effective in recruiting elderly African Americans.

Keywords

recruitment; Asian; African American; minority; late life depression; cognitive impairment; executive dysfunction

Objective

There is a dearth of empirical evidence identifying effective methods for recruiting ethnic minority elders into mental health studies. Limited study resources, barriers to research participation, and the low prevalence of certain pathologies, such as major depressive disorder (MDD) and mild cognitive impairment (MCI), make recruitment of minority elderly into treatment outcome studies extremely challenging (1). Historically, racial and ethnic minority elders have been less likely or able to utilize mental health services (2,3), and they have been less likely to participate or be included in mental health research (1,4), including randomized clinical trials (RCTs) (3-5). The under-representation of older minorities in treatment outcome research suggests that the mental health care needs of these groups are not being met, and that services are not optimally suited to specific minority groups. In particular, despite indications that African Americans and Asians are two of the faster growing racial groups among the elderly in the U.S., both groups have been understudied and underserved in terms of mental health (5-7). Efforts are needed to identify which interventions are efficacious for older African Americans and Asians with particular conditions, and to conduct such research, these groups must be targeted and enrolled. Depression is one of the most common psychiatric problems among older Asians and African Americans, yet these groups are among those least likely to seek and use mental health services (8-11). Thus, efforts are needed to ascertain which single or combined methods of recruitment are most effective in engaging older African Americans and Asians with particular mental health problems, such as depression (1). Cumulative assessment and reporting of recruiting methods' effectiveness across studies may facilitate increased mental health research participation and service use among older minority adults.

Elderly African American and Asian populations experience barriers to participation in mental health research beyond those commonly experienced by all elderly populations, including a history of discrimination and resultant distrust of the medical and research establishment, and cultural stigma attitudes attached to mental illness and help seeking (1,6,12-15). In addition, the misattribution of symptoms by elderly individuals and their families prevent members of these groups from identifying and seeking treatment for real problems. For instance, symptoms of depression and symptoms such as forgetfulness, which may indicate mild cognitive impairment, are often interpreted as part of normal aging (6,12,16-20). Counteracting these barriers is critical to engaging elderly African Americans and Asians in mental health research.

Evidence suggests that a "consumer-centered" approach may be more effective than the traditional clinical referral method for recruiting older Asians and African Americans in RCTs (21-23). The consumer-centered model implores recruiters to be responsive to the various needs of participants and their communities, employing proactive interpersonal contact with potential participants' communities via presentations, event participation, and dialogue about mutual goals. Further, it has been recommended that recruiters interface with ethnic minority groups with appropriate cultural competence and sensitivity, build and maintain community trust, and provide mental health information to reduce stigma (1,13,24). Other investigators have recommended establishing relationships with community leaders who function as "gatekeepers" (1) and utilizing recruitment techniques and messages that are compatible with participants' cultural belief systems (13,24).

Specific challenges have been associated with recruiting older Asians into mental health research. First, the belief in mind-body holism, which is commonly held in Asian cultures, can impede the identification of distress as psychological (2). Second, even when older Asians acknowledge psychological distress, they tend to be reticent to report it (2,8,25). Additionally, there are notable differences *within* Asian populations that may impact

recruitment. Older Asians are more likely to maintain their traditional beliefs and values (6) and are less likely to acculturate to Western views than younger Asians, who tend to hold more-positive attitudes toward mental health and help-seeking (2). Also, the Asian population is heterogeneous, composed of at least 25 ethnic groups that have different histories, traditions, and values (4,6), as well as differing conceptualizations and levels of reported depression (6,8,26). It is possible that certain Asian ethnicities may have distinct barriers to recruitment. Thus, investigators attempting to enroll elderly individuals of a particular Asian ethnicity or level of acculturation might need to cater their recruitment strategy.

The existing literature that identifies effective strategies for recruiting older Asians into mental health research is underdeveloped and imperfect. Lau and Gallagher-Thompson found that the most effective strategy for recruiting elderly Chinese and Japanese Americans into the Asian Memory Project was procuring the help of key gatekeepers in the community (4). Several studies have also suggested that Asians are more apt to seek help for psychological problems or participate in psychological research when a perceived credible authority (e.g., physician) is involved (2,8,18). Unfortunately, Asians are less apt to seek initial help from mental health professionals, reducing their likelihood of being referred to RCTs by mental health professionals.

Particular challenges have also been associated with recruiting older African Americans into mental health research. Specifically, practical costs of participation and researchers' inabilities to comprehend community dynamics have been acknowledged as barriers to research participation (1,27). A developing evidence base has begun to identify recruitment methods that might address some of these challenges. For example, a consumer-centered style of solicitation may be equally or more effective in recruiting older African American adults than traditional clinical referral methods when health conditions (e.g., major depression, cognitive impairment) are not well understood by the general public (3,21).

Recruiting a large sample of geriatric participants who meet strict inclusion and diagnostic criteria for a relatively low base rate condition, such as MDD, adds another layer of complexity and requires considerable project resources (15,28). Similarly, the gradual onset of symptoms that characterizes mild cognitive impairment makes identifying and engaging cognitively impaired individuals in research studies very difficult (29). Thus, recruiting an ethnically diverse sample of participants with MDD and cognitive impairment represents a formidable challenge.

The present study sought to identify effective strategies for recruiting elderly African Americans and Asians into a 12-week psychotherapy outcome study for individuals with depression and mild cognitive impairment. We evaluated recruitment strategies via three composite category comparisons: referrals versus solicitations, mental health versus non-mental health, and nontraditional (i.e., Internet-based) versus traditional methods. Based on the reviewed research, we predicted that both Asians and African Americans would be less likely to be recruited via mental health than non-mental health methods as compared to Caucasians. We also predicted that African Americans would be more likely to be recruited by solicitations than by referrals as compared to Caucasians. Lastly, we sought to examine whether nontraditional Internet-based methods would be effective in recruiting older adults into a mental health RCT, and whether effectiveness would vary by racial group. We did not encounter previously reported findings of relevance, and therefore we did not render *a priori* predictions. Given the paucity of published research examining methods for recruiting individuals from the community with mild cognitive impairment and geriatric depression, findings could inform future efforts to recruit these populations.

Methods

Participants

A total of 274 participants (35 African Americans, 24 Asians, 215 Caucasians) directly contacted research staff and were screened by phone for potential enrollment into the Collaborative Psychotherapy for Elderly with Depression (COPE-D) Project, a five-year National Institute of Mental Health-funded treatment outcome study for older adults (60+ years of age) with major depression and mild cognitive impairment. In cases where friends, relatives, or professional care providers of a potential participant called the study, research staff emphasized that the potential participant would need to contact the study if he or she were interested. Some participants included in the present study did not ultimately enroll in the COPE-D Project, however all were characterized by a subjective (i.e., self or referral source report) degree of depression and/or cognitive impairment, and English language proficiency.

Research Design and Methods

Participants were asked about how they had become aware of the COPE-D project, and this information was catalogued in a database. Participants were recruited through a variety of methods, each of which communicated inclusion criteria (e.g., sadness, anhedonia, cognitive difficulties) and exclusion criteria (e.g., no concurrent antidepressant medication use) of the treatment outcome study. Recruitment methods, which were executed primarily by the recruitment coordinator and the project coordinator, emphasized focused outreach and relationship maintenance efforts with community gatekeepers (e.g., community center activities coordinators, senior housing and senior nursing facility administrators, newspaper editors, etc.).

Based on the ratings of three independent raters, who were familiar with the recruitment sources, each recruitment method was recoded to fit into three meaningful composite recruitment category contrasts: 1) traditional versus nontraditional; 2) mental health versus non-mental health; and 3) referral versus solicitation (see Table 1 for full breakdown of methods and composite categories). Composite category contrasts were discrete such that each individual recruitment method fit into one composite category per contrast (e.g., participants encouraged to call by family were coded referral, traditional, and non-mental health). As a rule, category contrasts were also all-inclusive. For example, the *nontraditional* category consisted of Internet postings of study information, whereas the *traditional* category included all remaining methods previously described in the recruitment literature. *Mental health* sources included referrals and presentations by mental health professionals, whereas *non-mental health* sources consisted of the remaining recruitment avenues not directly related to mental health. We operationalized *referrals* as participants who were directed to the study (i.e., by mental health, general health, or social service agency professionals, or by friends or family) and *solicitations* as participants who were approached by the study. However, we excluded senior centers from this contrast because we did not differentiate those who responded to direct outreach from those who were referred by staff during data collection.

Statistical Analyses

Because racial and ethnic minorities typically show low participation in research, we expected that our recruitment data would be unbalanced with a smaller sample approximation in the African American and Asian American groups than Whites. Thus, a series of Fisher exact probability tests were performed to determine whether there were significant differences in racial group makeup among those recruited via traditional versus nontraditional, mental health versus non-mental health, and referral versus solicitation

methods. Logistic regression analyses were then utilized to evaluate racial group membership as a predictor of recruitment method category after adjusting for possible confounding variables.

Results

Table 2 details the racial composition of participants recruited by each method. Fisher's exact tests showed that the proportion of those recruited from mental health vs. non-mental health sources was greater in the Asian American group compared to the White group ($p=.009$, Fisher's exact test), and the African American group compared to the White group ($p=.032$, Fisher's exact test). No significant relationship was indicated between Asians and African Americans for the mental health recruitment category. Results also showed a significant relationship between racial group and referral/solicitation group status exhibited by the African American compared to White ($p=.011$, Fisher's exact test) and African American compared to Asian ($p=.030$, Fisher's exact test) groups, with African Americans more likely to be recruited to the study via referral than solicitation. No significant relationship was indicated between Asians and Whites in referral/solicitation recruitment. Fisher's exact test analyses for the traditional versus nontraditional recruitment groups were non-significant for racial group differences.

To further explore racial differences suggested by these Fisher's exact probability analyses, a series of logistic regression analyses were performed to examine racial group membership as a predictor of recruitment method category, after controlling for the influence of potential third variable confounds. Age, gender, and years of education were assessed as possible confounding variables. Accordingly, a series of one-way ANOVAs, t-tests, chi-square analyses were first performed to identify any significant differences in age, gender, and education among both racial groups and recruitment category groups (traditional and nontraditional, mental health and non-mental health, and referral and solicitation groups). Demographic variables that were significantly different among racial groups and recruitment groups were included as covariates in future regression analyses. Results of these analyses are shown in Table 3. Chi square analyses indicated no significant racial or recruitment group differences by gender, and this demographic variable therefore was not treated as a possible confound. Analyses revealed significant racial group differences in education ($F_{(2, 105)}=7.53$, $p=.001$) but no recruitment group differences; thus, education was not included as a covariate. However, a one-way ANOVA did indicate an overall difference in age between Asian American, African American, and White groups ($F_{(2, 181)}=7.02$, $p=.001$). T-tests also showed significant differences in age between those recruited via traditional versus nontraditional methods ($t_{(180)}=4.04$, $p=.001$). Age was therefore included as a covariate in future analyses involving traditional/nontraditional recruitment methods only.

Table 4 shows the results of three logistic regression analyses examining racial group differences between participants who were recruited via traditional versus nontraditional, mental health versus non-mental health, and referral versus solicitation methods. For pairwise comparisons between African Americans, Whites, and Asians, race was dummy-coded and each racial group was rotated to serve as the baseline or comparison group. Overall, results were similar to those indicated by initial Fisher's exact test analyses.

The logistic regression analysis with traditional/nontraditional recruitment as the dependent variable yielded a significant overall model ($\chi^2 (3, N=184) = 20.98$, $p=.001$), however racial group status did not significantly predict the traditional versus nontraditional recruitment group membership. The logistic regression analysis with referral/solicitation recruitment as the dependent variable yielded a significant overall model ($\chi^2 (2, N=261) = 6.03$, $p=.05$), and had a correct-classification rate of 59.0%. Racial group status was a significant predictor

of the referral versus solicitation group membership, with African Americans more likely to be recruited by referral than Whites and Asians. The logistic regression analysis with mental health/non-mental health recruitment as the dependent variable also yielded a significant overall model (χ^2 (2, N=274) =10.33, $p=.006$), and had a correct-classification rate of 78.1%. In particular, Asians were more likely to be recruited from non-mental health sources compared to Whites. However, unlike Fisher Test analyses, the difference between African Americans and Whites in non-mental health recruitment reached only a nonsignificant trend.

Conclusions

The main goal of this study was to compare the effectiveness of various strategies for recruiting Asian and African American elders experiencing depression and MCI to participate in a psychosocial treatment outcome study. These groups have been underrepresented in mental health clinical trials (1,3-5) and share common barriers to treatment-seeking, but each exhibits distinct barriers as well (2,8,25,30). The present findings suggest that certain approaches may be differentially effective in recruiting African Americans and Asians into clinical treatment outcome research, irrespective of between group differences in socioeconomic status (SES) or age.

First, as predicted, Asian and African American participants in the current study were less likely to have been recruited through mental health sources than non-mental health sources, as compared to Caucasians. Previous findings suggest that cultural stigma toward mental health help-seeking may partly explain this result (2,8,25,30). Simply put, because these minority groups tend to be less likely to seek initial help from mental health professionals for cognitive or emotional difficulties, they are less likely to be referred to treatment outcome research by mental health professionals. As suggested by other studies, non-mental health methods such as media placements, social service agency outreach and church outreach can be vital components of a multi-method strategy for recruiting elderly Asian and African Americans into mental health research (28,31-33).

When evaluating the constituent contributions of non-mental health sources in the present study, two other patterns from the literature might have explanatory value. First, Asians tend to be more likely to seek mental health services when referred by a credible authority (2,8). Gallagher-Thompson and colleagues found that media methods (e.g., advertisements, articles, fliers), which connote professional legitimacy, effectively recruited Chinese female dementia caregivers, whereas non-professional referrals did not (18). In the present study, 12 of the 25 Asian participants (48%) were recruited through fliers, senior centers, or general physicians, supporting the idea that professional legitimacy facilitates Asians' willingness to seek help/participate. Secondly, the non-mental health referrals category also included nonprofessional sources (i.e., friends and family). This is significant considering Barry and Grilo (2002) reported that East Asian immigrants often seek advice regarding mental health concerns from friends (25). In the present study, 12% of the Asian sample came from friend or family referrals. Synthesizing the current findings with what has been recommended previously, investigators seeking to recruit elderly Asians should foster mutually beneficial referral relationships with non-mental health professionals that interact regularly with older Asians (18) and emphasize the professional credibility of the study in all communications (8).

Contrary to our prediction, African Americans, compared to Caucasians and Asians, were significantly more likely to be recruited through referral rather than by solicitation. These results appear consistent with Stack et al. (1995), however, in that study, the "referred" categorization was restricted to traditional clinical referrals (34). Our study's broader

definition also included referrals from general healthcare providers, social service agency professionals, or friends and family. This is particularly relevant, as 15 of 35 African American referrals came from non-mental health sources, of which 10 came from a relationship that had been established with an African American nurse at an adult day health care facility. These findings are consistent with past studies, which have suggested that establishing ongoing mutually beneficial relationships with trusted leaders or gatekeepers of institutions within the African American community is an effective strategy (24, 33).

Importantly, results indicate that online methods can be an effective, economical means of recruiting older adults for treatment outcome research. This fits with AARP estimates that Internet access and usage by older adults have increased rapidly since 2000, with 25% using the Internet for email, purchases, and health information (7). No significant differences in effectiveness of traditional and nontraditional methods were found among the three racial groups.

Overall, findings from the present study reiterate the importance of a consumer-centered approach and its recommended community visibility and interaction when recruiting elderly African American and Asian samples. Further, findings indicated that an integrated multi-method approach, which takes into consideration the group's specific barriers, goals, and community dynamics, is likely to be most effective (35). The consistent presence of several individual methods can lead to synergistic convergence. For example, a skilled nursing facility staff member might decide to refer a patient after having been mailed fliers, seen advertisements online, and having met study recruitment staff at a community event.

To our knowledge, this is the first study to evaluate the effectiveness of various methods to recruit a racially diverse population affected by late life depression and mild cognitive impairment. Also, to our knowledge, this is the first study to report that the Internet can be an effective means of recruiting older adults. Clinical trials targeting elderly African or Asian American participants should continue to publish recruitment findings to develop a comprehensive literature that not only captures between-group differences but also describes potentially important within-group variation (e.g. age, SES, acculturation, ethnicity). There is much to be learned about factors that enable the engagement of these groups with mental health research and/or treatment.

Our study had several limitations. First, although we were able to recruit Asian and African American participants at proportions that parallel other psychiatric clinical trials in the region, the size of our minority sample was nonetheless modest. Therefore, we grouped specific recruitment methods into composite recruitment categories in order to maximize the study's power to detect meaningful differences. Such an approach is subject to the disproportionate influence of a select few specific highly productive methods influencing the significance or non-significance of more than one composite category. For example, the high number of African American referrals from adult day health care and senior centers helped drive African Americans' disproportionate preferences for referrals and non-mental health sources. However, greater statistical power from a much larger sample of African Americans and Asians would have been required to evaluate the differential effectiveness of individual methods. Related to this, our sample lacked a sufficient number of Hispanic participants to compare the effectiveness of methods for recruiting individuals from this important, underrepresented group. Future research should examine these issues across studies via meta-analytic techniques.

In addition, the study only included individuals who responded to recruitment efforts. Some individuals who did not respond may have been the most in need of services (18). Symptoms of MDD or MCI had to be recognized by the individual experiencing them or by

another person for engagement to occur. Related to this, collecting only the primary recruitment source from each participant negated the opportunity to examine possible multiple source pathways to recruitment. Future research should employ methodologies to assess this. Furthermore, a comparative time and cost analysis of methods was not conducted (see 28,36 for examples), and because the amount of time and effort spent on each recruitment category was not precisely measured, results could have been affected by differentially allocated efforts. It is more likely that our informal cost-benefit monitoring of recruitment methods during the RCT influenced subsequent recruitment planning, which could have inflated “true” differences. Recruitment objectives dictated that our strategy remain flexible to ongoing feedback, as has been previously recommended (36). Lastly, the relatively small Asian and African American sub-samples and regional differences in English proficiency among Asians might limit the generalizability of the present findings. Future studies should strive for larger minority samples and examine whether these results can be replicated in different geographical regions.

Nonetheless, studies such as this one can inform researchers' decisions on how to allocate finite resources efficiently. Our study suggests that non-mental health sources may be more effective than mental health sources in recruiting elderly Asians and African Americans, and referrals may be more effective than solicitations in recruiting elderly African Americans. More research is needed to develop a comprehensive literature of which methods effectively recruit Asian and African American elders into mental health research. However, because there is no one-size-fits-all proportional mix, a multi-method integrated recruitment plan that monitors and adapts mid-stream to outcomes and study constraints may be most effective.

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Table 1

Recruitment methods and their placement in composite recruitment categories

Recruitment Method	Referral (R) vs. Solicitation (S)	Traditional (T) vs. Nontraditional (NT)	Mental health (MH) vs. Non-mental health (NMH)
Newspaper articles	S	T	NMH
Print paid advertisements	S	T	NMH
Online solicitations	S	NT	NMH
Psychiatry clinics	R	T	MH
Social services (e.g., adult day health centers, tenant associations)	R	T	NMH
Friend or family referral	R	T	NMH
Medicine and primary care	R	T	NMH
Behavioral medicine	R	T	NMH
Senior centers	R	T	NMH
Off-site promotional presentations	S	T	NMH
Educational/promotional talks at UCSF Dept. of Psychiatry	S	T	MH
Mental health care providers (e.g., therapists, case managers, social workers)	R	T	MH
Skilled nursing facilities	S	T	NMH
Churches	S	T	NMH
Community center flier posting (YMCA, public library, stores)	S	T	NMH
Senior housing	S	T	NMH

Table 2

Racial breakdown of the three composite recruitment category comparisons

Recruitment Category	Asian	Race African American	White
Traditional vs. Nontraditional			
Traditional	21	33	190
Nontraditional	3	2	25
Mental health vs. Non-mental health			
Mental health	1 ^a	4 ^a	55 ^b
Non-mental health	23	31	160
Referral vs. Solicitation			
Referral	7 ^b	21 ^a	88 ^b
Solicitation	13	12	120

Note: Fisher's exact tests were performed, each with $df = 2$. Categories with different superscripts indicate a significant difference between racial groups with regard to referral category membership.

Table 3
Demographic characteristics of the three racial group categories and composite recruitment categories

Race	Age (in years)	df	Education (in years)	df	Gender		df
					Male	Female	
Asian	71.39(5.86) ***	2, 181	13.71(3.45) ***	2, 105	5	19	2
African American	67.17(5.13)		13.00(2.77)		13	19	
White	73.81(8.50)		16.01(2.88)		63	139	
Traditional vs. Nontraditional							
Traditional	73.47(8.18) ***	180	15.51(3.13)	106	73	159	1
Nontraditional	65.13(3.20)		15.44(2.56)		8	18	
Mental health vs. Non-mental health							
Mental health	73.68(8.68)	182	14.97(3.05)	106	18	39	1
Non-mental health	72.49(8.16)		15.73(3.07)		63	138	
Referral vs. Solicitation							
Referral	73.73(8.16)	176	15.41(3.38)	103	37	75	1
Solicitation	71.73(8.09)		15.63(2.72)		38	96	

Note: Standard deviations for age and education are presented within the parentheses in the table. For continuous variables age and education, t-tests were performed. For categorical variables, gender, omnibus chi-square tests were performed. Asterisks denote significant results for overall omnibus chi-square tests or t-tests.

*
p ≤ .05,

**
p ≤ .01,

p ≤ .001.

Logistic regression analyses examining racial group membership as predictors of recruitment category

Table 4

Variable	Traditional=1 versus Nontraditional=2			Referral=1 versus Solicitation=2			Mental health=1 versus Non-mental health=2		
	OR	CI	p	OR	CI	p	OR	CI	p
Age	0.80	0.70-0.91	.001						
Whites as the baseline comparison group									
Asians	1.38	0.26-7.49	.71	1.36	0.52-3.55	.53	7.91	1.04-59.92	.05
African Americans	0.48	0.10-2.46	.38	0.42	0.20-0.90	.03	2.66	0.90-7.89	.08
Asians as the baseline comparison group									
African Americans	0.35	0.04-3.12	.35	0.31	0.10-0.98	.05	0.34	0.04-0.96	.35

Note: For each Wald chi-square test, df = 1.; OR = odds ratio, CI = 95% confidence interval.