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Misperceptions of Nicotine Replacement Therapy Within Racially and Ethnically Diverse Smokers

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Abstract

Underuse of evidence-based treatment for smoking cessation, including use of nicotine replacement therapy (NRT), is widespread, particularly among minority smokers. This paper examines perceptions of NRT among and between racially and ethnically diverse groups of smokers. Nine focus groups were held among homogenous groups of African American, European American, and Hispanic smokers (N = 70). Specific themes included perceptions of: (a) the mechanism by which NRT works; (b) NRT development and regulation (ie, purpose and methods of clinical trials, Food and Drug Administration oversight, etc); (c) efficacy; (d) safety; and (e) overall cost effectiveness. Across all groups, there was a general lack of knowledge of NRT effects and its efficacy, with only moderate knowledge of the mechanism by which NRT works. Concerns about NRT safety were expressed in all groups, with particular apprehension about addictive potential and possible interactions with other medications. Among African American smokers in particular, there was strong suspicion of pharmaceutical industry and government oversight, which coincided with the consensus view that there are too many unknowns about NRT. Among Hispanic smokers, there was less suspicion of NRT but a strong cultural belief in personal responsibility for smoking cessation. Results highlight enduring misperceptions about NRT that likely undermine usage. More education about NRT is needed, not only about its efficacy and safety, but also with regard to its development and regulation. Health care professionals, many of whom are viewed as trustworthy sources of health information, have a particularly important role to promote wider use of proven cessation strategies.

Keywords

tobacco; minority health; pharmacotherapy

INTRODUCTION

The efficacy of nicotine replacement therapy (NRT) for smoking cessation has been well documented,[1,2] including a number of studies based on nonwhite smokers.[3–5] However, only 22% of smokers use pharmacotherapy in a given year.[6] Underusage is even more pronounced among minority smokers[6–8]—this despite evidence to suggest that African Americans and Hispanics are more likely to make a quit attempt than are non-Hispanic whites.[9,10] For example, results of a recent population survey[11] found rates of

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pharmacotherapy use (including NRT and prescription bupropion) for smokers who made a past-year quit attempt to be significantly lower among African American smokers (17%) and Hispanics (17%) compared to white smokers (29%).

While cost is usually cited as a barrier, this alone cannot account for disparities in use of pharmacotherapy in smoking cessation efforts. Survey research indicates that many smokers remain misinformed about pharmacotherapy and specifically about NRT.[12–15] Misconceptions about NRT typically follow 2 themes: (1) beliefs about efficacy; and (2) beliefs about safety, which include concerns about side effects, risks of nicotine itself, and/or concerns about abuse liability.

Unlike survey research, which allows for examination of what smokers believe, qualitative research offers a distinct benefit by allowing for an in-depth examination of smokers' perceptions of NRT. A small number of recent studies have taken a qualitative approach to examine perceptions of pharmacotherapy for smoking cessation.[16] Fewer have taken a qualitative approach to examine perceptions of pharmacotherapy, or cessation treatment in general within specific demographic groups of nonwhite smokers,[17–19] and even fewer have made cross-group comparisons.[20] Collectively, these studies suggest that many smokers, particularly African Americans and Hispanics, remain uninformed about pharmacotherapy options for smoking cessation. However, interpretation of many of these studies is constrained because they have focused exclusively on 1 demographic group only (ie, intragroup description), with a specific content focus that is often not comparable to other studies. One exception that did make a direct, intergroup comparison[20] did so with a broad view of cessation methods in general and not an in-depth focus on pharmacotherapy. Thus, it is unclear to what extent racially and ethnically diverse groups of smokers compare and contrast with regard to (mis)perceptions of pharmacotherapy.

Our purpose in the present study was to add to this nascent qualitative literature with an in-depth, qualitative examination of perceptions of NRT and to examine how such perceptions might vary across racial and ethnic groups of smokers (African Americans, European Americans, Hispanics). Our focus is exclusively on NRT because it is the most ubiquitous medication option for smoking cessation. It is also the only option that is available over the counter, thus allowing for a focus on personal, attitudinal barriers to usage (ie, rather than systemic barriers such as access to health care, prescription coverage, etc, which are equally important but are not a focus here).

METHODS

General Design

Based on established focus group methodology,[21,22] we conducted 9 focus groups, 3 each among African American, European American, and Hispanic smokers (4–12 participants per group, total N = 70). We opted against individually administered semiscripted interviews on the rationale that group discussion would promote a wider and deeper breadth of commentary. Groups were conducted in community settings to enhance participation, were homogenous in race and ethnicity, and were heterogeneous in both gender and prior use of NRT. Group discussion centered exclusively on NRT as a strategy for smoking cessation, as our preference was depth over breadth. Pictorial depictions and brief descriptions of NRT products were presented to each group in order to remind/acquaint participants with each product and to facilitate discussion. This study was reviewed and approved by the institutional review board.

Participants

Participants (Table) were drawn from the general community through local advertising, flyers in community venues, and through established community partners. The only eligibility requirements were that participants be age 18 years or above, and smoke at least 10 cigarettes per day (ie, the intended population of smokers who should use NRT). Participants were paid $75 for their effort and time.

Focus Group Procedures

Each group lasted approximately 120 minutes, after which a brief survey was administered (see below) and participants were reimbursed for participation. Discussion was digitally recorded and later transcribed for data analysis. Hispanic groups were conducted in Spanish and later translated and transcribed by individuals with bilingual proficiency.

Moderator

We attempted to race-match each focus group moderator to each group in an attempt to further increase homogeneity and minimize potential barriers to free and open discussion. In the case of the Hispanic focus groups, however, the moderator was European American but with strong knowledge of Latino culture (director of translation services with close involvement with local Hispanic health initiatives). All moderators had prior experience in focus group implementation, but were generally unfamiliar with the standards of care associated with smoking cessation so as to not bias participants' responses with expected information. Each group was co-led by an assistant who helped document the discussion.

Discussion Themes

Our discussion guide was based on prior literature and was semiscripted to address key topics: (1) how smokers viewed the mechanism by which NRT is intended to work; (2) how it is developed and regulated, (3) its efficacy, with particular focus on efficacy vs "cold turkey" approaches to smoking cessation; (4) safety, including discussion of side effects and addictive potential; and (5) overall cost-benefit. Discussion around other themes was encouraged as necessary.

Data Analysis

Transcriptions from each focus group were analyzed using software specifically designed for qualitative data analysis (NVivo 7; QSR International Pty Ltd, Cambridge, Massachusetts). Each transcript was checked for accuracy against the digital recording and notes taken during each group. Transcripts were coded independently by 2 authors (M.J.C. and M.E.F.), who met repeatedly to develop consensus and to organize themes. Content analysis[21] was conducted to identify interrelated theme nodes within each discussion topic presented above.

RESULTS

Sample Description

A total of 70 smokers were recruited to participate—27 African American, 27 European American, and 16 Hispanic (Table). Consistent with national estimates,[11] past-year quit attempts were more common among African American and Hispanic smokers, as compared to European American smokers. Most smokers, particularly those of African American and Hispanic descent, had never used NRT or any other pharmacotherapy to help them quit.

Knowledge of Nicotine Replacement Therapy

Most smokers knew that NRT contains nicotine for the purpose of reducing craving and withdrawal (see Box 1 for relevant quotes). They also viewed NRT as being "less strong" than cigarettes, with "lighter nicotine." Some smokers, European Americans in particular, were quick to note that NRT is meant to be used on a scheduled basis (eg, every 3–4 hours or for a limited duration), and this perception of rigid scheduling was seen as a hindrance to use. Some European American and Hispanic smokers also expressed a belief that prescription-based NRTs must be stronger or better than over-the-counter products, or that only certain types of smokers (eg, more dependent) should use prescription products. A modest number of smokers (across all racial groups) thought that NRT worked by making you sick, particularly if used concurrently with regular cigarettes. While in general Hispanic smokers were knowledgeable about NRT's intended effect to abate craving, a few held the distinctive opinion that NRT "kills" or "fights" nicotine, or that NRT "is not the same nicotine. It is something similar to nicotine that has the same effect." One Hispanic individual likened nicotine to morphine.

Box 1

Selected and Representative Comments Within Focus Group Content Areas

African Americans	European Americans	Hispanics
A. NRT Mechanism		
• "I would say that it would give you a certain amount to keep you okay. So that when you didn't have it you wouldn't feel sick or it would slowly make you lose that urge to make you want a cigarette. It would take away the urge."	• "They put you on a scheduled dose of nicotine. I mean, it would be helpful for people to be able to use it when they needed it."	• "These products have nicotine or something similar that fights nicotine."
• "They cut the craving and the desire to have a cigarette. It's supposed to help with the urge to light a cigarette."	• "You get so much nicotine in your body in a certain amount of time, and that is what you are going on, but you only have a certain amount of time overall to do that in."	• "Because it kills the nicotine in the body slowly and then the person stops smoking."
• "I mean, in my opinion, it is basically a cigarette but in a different form because it is still giving you nicotine but I guess it is meant to give you a smaller dose, you know, to control the cravings."	• "The other ones that you don't have to get a prescription for has another different type of medicine added to it that would help you better."	• "Cigarettes have more nicotine than these products, because the nicotine has to be released slowly into the body."
	• "I tried the patches like 3 years ago and while I had the patch on, I smoked a cigarette and it made me feel really sick and weak."	• "I think if you inhale it goes straight to your lungs, the others through your mouth, and the patch probably opens up pores in your skin. But all of them will end up in your blood. I guess the inhaler and the spray are more direct."
B. NRT Development and Regulation		

African Americans	European Americans	Hispanics
• "Are the cigarette companies selling those [NRT products]? I'm pretty sure they are. When the price of cigarettes goes up, the price of NRT goes up too. The cigarette company is probably selling that product too." • "It's all part of the government. Everyone gets part of the reward from the sale of cigarette tobacco. If there's something they could do to stop, they would stop, but they don't want to do that because the change is going to affect a lot of people." • "You know that's how they put this stuff on the market…a lot of these things have gotten recalled back because it's killing people or causing the healthy problems." • "So the question is: is there really medication in there to help you stop smoking, or we just told that there's medication in the NRT products and there really is none, they just make us think that it's in there." • "You give it to 10 people—3 of them get side effects and 7 of them do not. Something is still wrong. That is only a 70% chance that it is going to do well."	• "You know that there are lobbyists in there who pay money to the government and have billions of dollars invested in a drug, and someone has a piece of paper that says, 'Uh-oh this is going to kill 300 people out of 100 000, so we are just going to push this over to the side. We have $2 billion invested in this drug and just can't deep six this project right now.'" • "A lot of online pharmaceutical sales companies are putting all kind of things out there." • "Personally I don't take any medication that hasn't been on the market for 5 years because you see that after 2 or 3 years on the market, the FDA is pulling stuff that is killing people. In essence, you are guinea pigs until after 5 years and they release it as a generic drug. I am not taking anything that hasn't been on the market for 5 years."	• "All products go through a series of requisites before getting to the pharmacy." • "If a product is on the market, it is already studied in many people."
C. NRT Efficacy		
• "I think it's pretty much a mental thing. You've got to be strong. There are people who have stopped smoking without even doing that [using NRT]." • "Cold turkey has no nicotine." • "Nicotine is bad for your body."	• "They work but the person has to want to quit smoking or they won't work." • "I don't think that people can follow directions very well, so that is one main reason why it doesn't work." • "I guess cold turkey when your body gets	• "It is like a diet … if you really want to quit, it will help you, but if you don't you can buy these products, use or chew them and still keep smoking anyway." • "I think that cold blood is

African Americans	European Americans	Hispanics
• "Cold turkey is easier." • "I wouldn't try it because I would do it on my own. Really know that I did it for myself, that I did it on my own."	over that initial shock of getting over the toxins. Cold turkey would probably be the best bet."	for people that do not smoke a lot, but I believe that really addicted people need more help." • "I think that you have to bear in mind that these products are intended to help. I believe it does not help in everything, because if you stop smoking your body will ask for it, so you will need a lot of will power. You use the products as a means to help, and as the days go by, maybe you will not have the urge to smoke." • "I guess cold blood is good because you suffer a lot and when you think about starting smoking again you will also think about all the suffering you endured and if all that was for nothing."
D. NRT Safety		
• "You're replacing nicotine with nicotine. You're replacing one nicotine for another. So in reality it's never really leaving your system." • "If you put down something and pick up something else, it's not worth it." • "They [NRT] could cause death. Some of them could cause cancer. I am not sure of some of them like the nicotine gum, but I think they need to do extra studies." • "I have never used them but one thing leads to another. It	• "You're not stopping, you aren't stopping anything. All you are doing is replacing the cancerous lung with some narcotic in your body." • "If you read the fine print on anyone of those, it says something about the risk of heart attack but I mean you can't even take a bottle of Tylenol without consulting your physician if something happens. There isn't anything completely safe drug for everybody." • "I'm sure that there's some mild health	• "You really should get information, because I'm afraid of getting addicted to something else besides the cigarettes." • "If they are taken in excess, it can be bad for you." • "If you have an overdose, then they can cause harm."

African Americans	European Americans	Hispanics
may slow you down or stop you from smoking but somewhere down the line it is going to harm you some way." • "Because somebody might be taking high blood pressure pills and you know the injection for a diabetic, you know, so the medication they might be taking might react with the stuff and cause serious more problems than the good it's all doing. " • "I have to know what I'm putting in my body. The intake, the side effects. 'Cause I feel with the medication I take, I have to be careful about the side effects with my blood pressure pills." • "When you smoke, you know what harm you're doing to yourself. When you take NRT, you don't know what kind of reaction it's going to have with other medications." • "Some people have different illnesses, and a lot of this stuff will not connect with (those illnesses). So, it causes you more harm than good."	risks associated with all these, but it's overshadowed by the idea that you're going to quit smoking in the long-term." • "It is just a lesser evil. I mean it is hard when you don't know any of the ingredients that they put into those products anyways. I mean, we don't know what the chemicals are or what harm they are going to do to us, the nasal passage spray or the inhaler. So I mean you might get nosebleeds from it. Or you might get a headache from the inhaler. So you try it at your own risk, pretty much just like smoking." • "Well I know that when I tried to quit smoking, before I went cold turkey for 2 years, I was chewing the gum and smoking at the same time. After a few weeks, I started throwing PVCs [premature ventricular contractions] jeez, try to figure that one out. Yeah, I got all this nicotine from the gum and the cigarette I was smoking, and my heart was doing flip flops. I wonder why, well, it says right there on the box, do not smoke while using."	
E. Overall Cost-Benefit		
• "[is it worth it?] No… because you're going to wind up getting addicted to those along with the cigarettes. And it costs more." • "If someone could tell me that guarantees that I would never smoke again, that I would never have a heart attack or whatever, I would take it."	• "'Cause they work and that means that you are going to stop taking them eventually, right, not going to transfer, your money spent on cigarettes to money spent on medicine for the rest of your life." • "Anything that can help. It doesn't matter what the product is, whether it's your product or someone else's product. If it	• "I believe it is. Because if you want to quit and have made your decision, this is priceless."

African Americans	European Americans	Hispanics
• "If the patch did help, and there's a way that you can guarantee that you won't get addicted, I don't see a problem with the cost, because look how much money you spend on cigarettes over the years that you've been smoking."	can help you quit smoking in your livelihood, or whatever. If it can help, that's good. It doesn't make a difference whether it's your thing or someone else's thing. If it can help that's great. Anything positive."	
• "No because it needs more studies. We don't know what causes us to stop smoking. We know it is a habit and addicting, but we don't know what caused addiction to date, and what happens if you break addiction."		

Abbreviation: NRT, nicotine replacement therapy.

Nicotine replacement therapy development and regulation—Many African American smokers believed that NRT is tested on animals (eg, "they try everything on rats"), or, in the case of "using humans as guinea pigs," that the process of NRT development is somehow dishonest (Box 1). African American smokers were also mindful of prior ethical violations and abuses in research among African Americans (eg, Tuskegee), which translated into general suspicion of pharmaceutical and governmental oversight of NRT. European American and Hispanic smokers were less suspicious of government regulation and were generally knowledgeable about the process of testing NRTs, involving many groups of people and using placebo controlled, double-blind trials; and that outcomes must be weighed in context with side effects. European American smokers were cynical, however, with regard to product development on the part of the pharmaceutical industry.

Nicotine Replacement Therapy Efficacy

General efficacy—Most smokers recognized the potential efficacy of NRT, but with varying degree of optimism (Box 1). A number of African American smokers were skeptical that NRT could work for them or, if it did, for any extended duration. European American and Hispanic smokers were mixed in their opinions as well, noting that some products (patch or inhaler) could likely work better than others (gum), but that NRT is generally meant as an aid towards quitting.

As compared to "cold turkey"—We specifically asked smokers about their perception of NRT efficacy as compared to quitting on your own, ie, cold turkey. It is worth noting that there is no direct Spanish translation of "cold turkey;" this was translated as "cold blood." There was a strong belief in the importance of willpower among all smokers, and this was often discussed in the context of superiority of cold turkey over NRT. Almost universally, smokers endorsed the belief that motivation is the key to quitting and that, without it, nothing would help a smoker quit. There was a recurrent theme among African American smokers that with cold turkey, "at least it doesn't cost you any money" and "you're not putting anything in your body." The perception that cold turkey is superior to NRT was

partly based on concerns of safety (see below), but it was equally based on the belief that quitting via cold turkey provides a sense of accomplishment. Hispanic smokers seem to take this a bit further, expressing what may be a cultural belief in personal responsibility and the importance of taking a personal investment in quitting smoking.

Nicotine Replacement Therapy Safety

There were near universal concerns about NRT safety (Box 1), particularly with regard to addictive potential (eg, "replacing one drug for another") and general side effects (eg, "increase blood pressure" or "cause rapid heartbeat"). A number of smokers across all racial groups expressed concern about how NRT might interact with other medications, and more than a few held the belief that nicotine was carcinogenic, and that NRT would not mitigate this risk. European American smokers, while still concerned with the overall safety of NRT, generally believed it to be safer than continued smoking. Hispanic smokers were also more accepting of NRT as compared to smoking, noting that problems can occur if NRT is taken in excess. The general consensus among African Americans was that it was better to use nothing at all. Concern for contraindications with other illnesses and medications was a particularly strong sentiment expressed among African American smokers, leading to the general sense that the risks of NRT may not be worth the benefits. Perhaps as a consequence of these misgivings, a number of African American smokers seemed more ready to accept the known harms of smoking over the unknown harms of NRT.

We specifically asked about concurrent smoking and use of NRT. Again, across all racial groups, most smokers were cautious, often citing anecdotes of people who had a heart attack or even died. Even those who were less critical expressed concerns of overdosing, "passing out," or simply that "it would defeat the purpose." Most smokers were mindful that package instructions for NRT explicitly warn against concurrent use.

Overall Cost-Benefit

We concluded each focus group with a question about the overall cost-benefit of NRT, asking participants to consider all they knew or believed about NRT, both positive and negative, and to assess whether it was in their best interest to use it (Box 1). African American smokers tended to convey apprehension, judging safety and cost concerns as being paramount. A few expressed slight acknowledgment that NRT could be helpful, but only if there was assurance that it would both work and not cause additional harm. European American and Hispanic smokers were somewhat more agreeable and noted the long-term benefit if NRT were to help smokers quit.

Emergent Issues Unique to African American smokers

One spontaneous theme to emerge among African American smokers in all groups was an expression of strong trust in physicians to provide health information and advice (Box 2). Despite their misgivings about NRT, focus group members stated that a respected and trustworthy personal physician could potentially alleviate concerns and address lingering doubts.

Box 2

Unique Emergent Themes Among African American Smokers

Trust In Physicians

- I think it should be prescribed by a doctor, and let the doctor determine the prescription or what should be done…You know, a doctor can analyze that feeling, that whatever, or analyze that motivation from the patient, then it's up to the doctor to give them that.

- If my doctor gave it to me, then I would use it. Because he knows my background.
- I think I would want my doctor to take my body's metabolism and my physical health and connect it to whatever one he feels is best for me. And to be straight up front as to what that the effects could be.
- You just have to believe. If you go to the doctor and they tell you, then you have to take the word of the doctor.
- I think you should see your physician before you start anything. You know because some things just don't combine. You know, it may have chemical reactions.
- As I was saying you might look healthy on the outside, but you should go for a complete physical to make sure that you are. There is nothing wrong, you don't need to try anything that may mess up your body…I myself would not try anything until I get a complete physical and I'm sure I'm in shape.

Willingness to Use if Free/Covered Through Insurance

- If there's no cost to me. If there's a chance that it will help me quit, with no adverse effects to my health, then yes. Or if there is a warning like for what it can do, if you're taking certain drugs, what it will do, as long as they give appropriate notice.
- If I could go to the doctor, and he could tell me the right amount of dosages to quit smoking, I would try it.
- I wouldn't try it because we still don't know … what the side effects are, whether the insurance pays or not… Free stuff doesn't always work for people, the question is still there.

Finally, as almost all smokers (in all groups) cited cost barriers to using NRT, we asked them if they would be willing to use NRT if fully covered by insurance or if they would be willing to sample the product for free on a short-term basis. European American and Hispanic smokers were generally agreeable (eg, "it wouldn't hurt"). However, among African American smokers, the overriding concern continued to be safety (Box 2), which coincided with the consensus view was that there are too many unknowns about NRT.

DISCUSSION

This study examined perceptions of NRT among and between separate groups of African American, European American, and Hispanic smokers. Our focus on intergroup comparisons builds upon prior work which has primarily focused on intragroup examination of attitudinal barriers, often with a content focus that has not been comparable across studies. In several ways, our findings mirror prior research,[16–18,20] in that: (1) there exists a general lack of knowledge of NRT effects, efficacy, and only moderate knowledge on mechanism; (2) there are universal concerns about NRT safety; and (3) there continues to be a reliance on ineffective strategies to quit smoking. Additionally, findings from the current study suggest that (4) among African American smokers, there is strong suspicion of pharmaceutical industry and government oversight; (5) among Hispanic smokers, there is less suspicion of NRT but a strong cultural belief in personal responsibility (ie, importance of taking a personal investment in quitting smoking); (6) more education is needed with regard to NRT development and the process of testing; and (7) most smokers, but African Americans in particular, could be educated through trusted physicians.

There were several (mis)perceptions of NRT common to all groups—namely, concerns of safety and efficacy. Many smokers remained skeptical about addictive potential, despite a lack of any clear evidence for such.[23] Further, many smokers falsely believed nicotine to be a cause of cancer and heart disease or that it is equally (or more) harmful as cigarette smoking. One smoker perhaps summed it best: "at least with cold turkey, it is free and you know you are not hurting yourself." It is challenging to refute this statement, yet more

education is clearly necessary to address safety-related fears and doubts of efficacy, either through health care delivery, marketing, or both.

Concern for safety was even more pronounced among African American smokers, perhaps in part because many were skeptical of the science and development behind NRT—how it is tested and regulated. For many, NRT was deemed as too big a risk to take. If smokers knew the process by which NRT is developed and tested through clinical trials, or if they knew of regulatory oversight, this could help relieve concerns. It is just as important to convey research findings from studies of nonwhite smokers, who may discount research if it does not generalize to them. However, one encouraging finding was that African American smokers seem to place great value in guidance provided by physicians, and this stands in contrast to prior work in this area[17] that found strong suspicion of doctors and healthcare systems in general. Unfortunately, African American (and Hispanic) smokers are consistently less likely to receive strong advice to quit than are Caucasian smokers.[24,25]

While Hispanic smokers expressed some positive perceptions of NRT, they stood out in their opinion that quitting on one's own reflects strong character, ie, that using a medication signifies weakness. This interpretation is consistent with prior research.[17] Hispanic smokers cited a few safety concerns but recognized that NRT was safer than continued smoking. However, these qualitative responses were largely incongruent with their responses on the attitudinal survey, in which they endorsed strong negative opinions of NRT. These inconsistencies may be a function of the very small number of Hispanics who participated in the focus groups, or it may be that they lacked some degree of acculturation to have sufficient exposure to NRT. Prior research has shown acculturation to play a significant role in smoking behavior and views of cessation.[26,27] Unfortunately, our study neither controlled for nor assessed acculturation.

Individual misperceptions about NRT may be a consequence of broader, policy-level barriers to use. Many smokers cited the fact that NRT is packaged in a way that undermines their interest in it, ie, it is only available for purchase in large quantities (7–14 days), or packaged in a way that discourages flexible use (to be used only for long-term cessation efforts). If a single day's supply were available or if NRT could be indicated for noncessation purposes (eg, smoking reduction, temporary abstinence), this might diminish barriers to use. Likewise, sampling NRT might be a means to introduce smokers to NRT, allowing them to test products in short-durations to find which is best suited. Sampling NRT might also be a way to motivate otherwise recalcitrant smokers to consider quitting.

Aside from policy-level barriers to use, underuse of NRT may be a consequence of promotional methods. For example, one recent study found NRT to be less available and cost more within economically disadvantaged communities.[28] While NRT is available over the counter, sales are often restricted to pharmacy settings only, which stands in contrast to the near ubiquitous availability of cigarettes. Further, NRT products are usually displayed as drugs or medications, which often confer some degree of danger or harm. Differences in how NRT and tobacco products are marketed often convey relative risks to consumers, particularly nonwhite smokers.[18]

Qualitative research is designed to facilitate theoretical generalizability, and, as in our case, to be hypothesis generating. Findings from this study may not reflect the broader population. This is not the intent of qualitative research. Further, the inherent nature of qualitative research may make intergroup comparisons difficult, since discussion is subject to variation across groups. However, all groups followed the same general thematic structure and asked the same questions, which affords a unique opportunity to compare qualitative responses across groups. Further, groups were heterogeneous with regard to NRT history, and varied

rates of prior usage may have influenced discussion content. We considered separate groups for those who did vs did not have prior use of NRT, but this would have created a 3×2 (racial/ethnic group × prior NRT usage) design, with several groups within each cell. We also wanted to hear opinions from smokers who had a broad range of experiences with NRT, and believed that a mixed group would promote a balanced discussion and minimize bias that could result from groups that held strictly positive or negative opinions. For similar reasons of feasibility, groups were not homogenous with respect to gender. In the case of Hispanic smokers, among whom a gender-specific stigma against smoking may exist, this too may have biased group discussion. Finally, between-group differences during sample recruitment (Table) may have led to potential confounding of discussion content, though this may be an inevitable consequence of qualitative research using small samples.

CONCLUSION

Unaided smoking cessation remains the most popular,[29] yet least effective,[2] method of quitting. The divergent gap between evidence-based treatments and real-world practice is even more apparent among minority smokers, who are even less prone to use pharmacotherapy when quitting.[11,30] Translating effective cessation strategies to all smokers —and particularly to under-served populations—will require a strong and comprehensive approach to educate smokers about pharmacotherapy, dispel misperceptions, and ultimately increase usage of evidence-based treatment.

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Table

Sample Characteristics

Demographics and Smoking History	African Americans (n = 27)	European Americans (n = 27)	Hispanics (n = 16)
Age (SD)	41.2 (12.6)	33.2 (11.6)	32.9 (11.2)
Female, %	48%	33%	19%
Married or member of unmarried couple, %	22%	44%	50%
Never married, %	44%	44%	6%
≥ High school education, %	81%	85%	31%
Stage of change			
Preparation	31%	15%	75%
Contemplation	31%	38%	6%
Precontemplation	38%	46%	13%
Daily smokers, %	89%	89%	69%
Made quit attempt in past year	62%	42%	81%
Ever used nicotine replacement therapy in attempt to quit	25%	52%	13%
Ever used pharmacotherapy in attempt to quit	30%	56%	13%