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Upward Communication About Cancer Screening—Adolescent Daughter to Mother

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Abstract

Substantial breast and cervical cancer disparities exist in the United States, particularly among African American women with low social economic status. There is considerable potential for discussions about cancer prevention between mothers and daughters. However, upward communication, from child to parent, remains a relatively novel research area, and it remains unclear how receptive mothers would be to messages from their daughter about cancer, a topic that may be considered culturally inappropriate for daughters to initiate. In this study, we simulated cancer message delivery to daughters and then conducted direct observation of daughters as they recalled and shared the message with their mother or female elder. We found that daughters were able to successfully recall and deliver a cancer appeal to their mother and mothers were generally receptive to this message. Not only did mothers listen to their daughters' appeals, but also daughters' knowledge of cancer was considerably improved by the opportunity to educate her female elder. Moreover, daughters' nonverbal communication suggested a surprisingly relaxed demeanor. The potential of young people to impact the screening behavior of their female elders is very promising in terms of reducing cancer disparities.

Substantial breast and cervical cancer disparities exist in the United States, particularly among African American women with low social economic status (SES) (American Cancer Society, 2012; Jones et al., 2010). African American women are more likely to die of breast and cervical cancer than any other racial group, despite the fact that both cervical and breast cancer screening program are widely available in the United States (American Cancer Society, 2012). Racial minorities and low SES women do not fully partake in screening programs due to structural and psychosocial barriers (Scarinci et al., 2010; Young, Schwartz, & Booza, 2011). Unemployment, violence, crime, drugs and homelessness, for example, can unfortunately be a part of the contextual reality of many poor and under-resourced African American women (Boyd-Franklin, 2003; Scarinci et al., 2010). Furthermore, the invasiveness of social systems such as the welfare department, clinics and hospitals may, at times, propagate a sense of suspicion among a population that must cope with racism, discrimination and oppression (Boyd-Franklin, 2003).

Poor and low resourced African American women may experience competing priorities, inadequate access to, and availability of, health care services and materials that are culturally mindful, limited knowledge of cancer prevention and screening recommendations, difficulties with literacy, mistrust of health care systems, as well as have fatalistic views of cancer (Documet et al., 2008; Wolff et al., 2003). These challenges could make it difficult for them to avail themselves of cancer preventive services. Young, Schwartz and Booza (2011), among others (e.g., Ahmed, Fort, Fair, Semanya, & Haber, 2009), suggest that African American women's participation in cancer screening could be increased through patient-provider communication focused on providing women with education to build knowledge, reduce fears and increase trust with health care providers. However, alternative innovative strategies that look beyond the patient-physician interaction are needed when women feel as if they do not have access as well as when they do not trust health services and/or providers, as many low SES, African American women indicate (Yancey, Ortega, & Kumanyika, 2006).

One viable approach, focused on the individual and family level, to reducing cervical and breast cancer disparities among African American women is through open communication between family members. Low SES and racial/ethnic minority adults represent a population that is underrepresented in health research and health care services (Yancey et al., 2006). Therefore, health promoters may be able to utilize adolescent children, who attend school, to deliver educational, health promoting messages to populations that are often hard to reach. The mother-daughter dyad may be a particularly promising family relationship to explore in regard to providing health promotion interventions because, as Fingerman (2001) reports, the mother-daughter relationship is one of the most stable relationships throughout life. Further, by encouraging adolescent girls to appeal to their mothers to obtain screening, health researchers are able to provide two generations with important health messages concurrently (XXX, 2006).

One caveat that must be considered is that cancer is often perceived to be a difficult topic to discuss within the family (Zhang & Siminoff, 2003). In addition, some researchers have proposed that there is reluctance among African American adults to discuss family issues with children (Boyd-Franklin, 1989; Hines & Boyd-Franklin, 1982). However, youth overwhelmingly advocate for openness and honesty in family communication about cancer (Finch & Gibson, 2009), and a growing body of research underscores the value of downward communication, from parent to child, regarding gynecologic and reproductive health (Warren-Jeanpiere, 2006), as well as breast cancer (Sinicrope et al., 2008). These findings demonstrate that there is considerable potential for discussions about cancer prevention between mothers and daughters. However, upward communication, from child to parent, remains a relatively novel research area, so it remains unclear how receptive mothers would be to messages from their daughter about cancer; a topic that may be considered culturally inappropriate for daughters to initiate. Moreover, it is unknown how well daughters, who may have difficulty relating to a cancer message, can deliver a clear, compelling cancer appeal to their mothers. The Elaboration Likelihood Model (ELM) provides some insight into better understanding the variables that can increase the likelihood that upward communication persuasive appeals can be effective. Variables highlighted in this model include source credibility, message saliency and the cognitive and emotional

interpretation of appeals (Taylor, 2006). A deeper understanding of the role that these factors play in upward communication is critical, given that there is much unknown about how adolescent girls can communicate with their elders about a topic they do not often talk about.

Preliminary studies have begun to systematically explore the impact daughters can have on their mother's health decision making, and the findings are promising. For example, XXX and XXX (2009) found that African American daughters give their mothers unsolicited health advice, and mothers often take note of this advice. Further, XXX (2013) found that mothers overwhelmingly reported that they would be open to a daughter-initiated cancer screening message. Moreover, adult daughters have been found to play an important role in their mother's health-related decision-making and behavior (Washington, Burke, Joseph, Guerra, & Pasick, 2009). Mothers have also reported that their daughters are a source of health information and have influence over mammography decision-making (Browne & Chan, 2012). By utilizing daughters to deliver important health information to their mothers health, researchers may be able to develop culturally informed, socially acceptable ways to deliver health interventions to groups who are disparately impacted by cancer and who remain underserved by health care systems.

Assuming daughters are able to talk about cancer, how much information and what types of information are most salient during message delivery are important questions that must be answered. Effective communication during upward communication is of utmost importance, because it will serve to exchange information between daughter and mother and facilitate informed decisions about preventive care. The accurate transmission of information is a priority, because consequences from misunderstanding or dissatisfaction could lead to errors in knowledge regarding the targeted health issue, mothers' non-adherence to recommended preventive services, and/or a decrease in mothers' acceptance of daughter-initiated information. Of additional importance will be mother's ability to listen and recall the information her daughter presents to her. It is the authors' contention that delivery of an important health message by the daughter may be novel enough to become salient to the mother, making the message more impactful than if it had come from another source.

In this study, we simulated cancer message delivery to daughters and then conducted direct observation of daughters as they recalled and shared the message with their mother or female elder. This paper will explore the following: 1) Baseline information regarding mothers' current screening behaviors and beliefs, adolescents' knowledge of cancer screenings, and mother-daughter communication; 2) To what extent can adolescent girls deliver a screening appeal to their mother, when provided with a cancer screening message. More specifically, what components of the cancer message are perceived as salient by the daughter and delivered to the mother, what components of the delivered message does the mother find most salient, to what extent are the mothers' perceptions concordant with their daughters' perceptions, and how does the daughter's use of nonverbal communication convey her comfort level with the message, and; 3) What are daughter-perceived and mother-perceived challenges to a daughter-initiated cancer appeal, This information will give health researchers critical insight into not only whether children can deliver effective health interventions, but also how their female elder will respond. Understanding the

message delivery and receipt process is critical before determining whether a daughter-initiated cancer screening appeal will be effective.

Method

Design

This study recruited African American participants from low-income neighborhoods in an urban, Southern US city. We used census data to identify neighborhoods that had 70% or more African American residents and with income levels at or below the poverty threshold. The Institutional Review Board at Virginia Commonwealth University approved all study procedures.

Sampling—Sampling was stratified by neighborhood. Inclusion criteria included self-identifying as African American, female elders and girls had to be related either as the mother, guardian or kin (aunt, stepmother, grandmother, sister, etc.) and live in the same house. Girls had to be between 12 and 17 years old, and women had to be 40 and older. Girls could not be pregnant or have a baby.

Recruitment—We recruited participants from recreation centers where we held informational meetings with eligible girls to inform them about the study. Interested girls were asked to contact their mother or kin (hereto referred to as mothers) telephonically. Mothers who were interested and eligible to participate in the study were asked to meet with the researcher in person to complete the informed consent. Study procedures took place at the same recreational centers participants were recruited from.

Consent—We scheduled a face-to-face meeting and the written informed consent and assent were completed separately with mothers and daughters. Mothers received \$50 cash incentive and daughters received \$36 for participation. In most cases, the informed consent was completed on the same day that the dyad came for the interview and message delivery. Most interviews were conducted at the recreational center within the neighborhood.

Measures and Procedures

First, baseline data was collected from mothers and daughters, including family cancer history, cervical and breast cancer knowledge, and mother-daughter communication. Sample questions included, “Have you or anyone in your family ever been diagnosed with breast cancer? (yes/no)”, “Have you ever talked to your daughter about cervical cancer? Has your mother ever talked to you about cervical cancer? (yes/no)”, “My daughter has an influence on some of my decisions about health / I have an influence on some of my mother’s decisions about health. (1: all the time - 5: never).” Questions for mothers mirrored questions for daughters when appropriate.

Message Delivery and Observation—XXX and XXX (2013) previously identified key message components that could aid in the delivery of persuasive health appeals from daughter to mother. Findings from the previous study demonstrated that appeals that included a combination of emotionally tailored aspects and factual information about

incidence, mortality and risks would be most persuasive. The salient aspects of persuasive messaging from this study were used to develop the cancer message. Statistical, fact-based information about cancer incidence and mortality among African American women comprised the cancer message and were derived from the American Cancer Society (2010) data.

Each dyad followed the same procedural format. In a one-on-one setting, daughters were given a five to ten minute presentation on breast and cervical cancer incidence, cancer disparities and the importance of breast and cervical cancer screening that included ten message points (See Table 1). Daughters had the opportunity to ask for clarification on any of the points. They were then asked to deliver the cancer message and make an appeal to their mothers to obtain screening. The same person who provided the cancer presentation observed the communication and recorded what was said.

In addition to the verbal content, the type of nonverbal communication was noted during the daughters' message delivery to mother, and included ten different channels identified by Johnson (2004). The research observer marked "yes" or "no" to indicate the presence of each nonverbal communication behavior during message delivery. Nonverbal communications included relaxed posture, fluid speech and eye contact (See Table 1). Using a structured interview guide, daughters and mothers were interviewed after the cancer message was delivered to ascertain which aspects of the message were effective and which aspects could be improved for future upward communication interventions. Daughters provided information about comfort with discussing the cancer appeal with their mother. Mothers were asked to provide information about the accuracy, sincerity and believability of the information presented by her daughter. In addition, mothers were asked to report the main points they remembered from their daughter's appeal.

Data Analysis

Descriptive statistics for demographic characteristics were calculated. Details and frequency of message components delivered by the daughter and retained by the mother are also provided, as well as concordance details for the mother-daughter dyads. After each interview notes from open-ended questions were typed, and later, manually coded according to grand thematic areas by co-author (XXX). The principle investigator (XXX) read all the transcribed data and provided an independent assessment of the adequacy and completeness of the list of themes. Frequencies for each theme are noted in the results, and when appropriate, accompanied by a relevant quote.

Results

Sample Descriptives

Twenty-six African American mother-daughter dyads (N=52) participated in this study. Mothers were between 40 and 80 years old (M=49.85). Daughters ranged from 13–17 years old (M=15.27). See Table 3 for additional sample sociodemographic characteristics.

Several of the mothers (11.5%) indicated that someone in their family had been diagnosed with cervical cancer. Half of the women indicated that they believed their family had a

history of breast cancer and 65.4% indicated that someone in their family had been diagnosed with breast cancer. All of the mothers recognized that they could get cervical cancer, but it could be treated if found early. Responses for breast cancer were similar. Responses regarding frequency of obtaining a Pap smear ranged from once a year to every five years. The majority (57.7%) of women believed once a year was appropriate. For mammography screening, the plurality (46.2%) reported that it should be done once a year followed by every 2 years (19.2%). The majority of the women strongly agreed (53.8%) or agreed (26.9%) that they go to the OBGYN on a regular basis for their check-ups; however, 23% of them had not had a Pap smear in the past two years and 7.7% had never had a mammogram.

At the baseline interview, most of the daughters did not know the name for the test that checks for cervical cancer (88.4%) or the name for the test that checks for breast cancer (58.6%). Three girls correctly identified Pap smear; 9 girls correctly identified mammography. Slightly less than half (46.2%) of the mothers reported that they had talked to their daughters about Pap smears, 31% had talked to their daughters about cervical cancer, and 62% had spoken to daughters about breast cancer. Mothers reported that they were likely to listen to their daughters' opinions ($M=1.65$, $SD=0.75$), and that their daughters' opinions were important ($M=1.23$, $SD=0.43$). Likewise, the daughters reported that they believed their mothers listen to their opinion ($M=2.00$, $SD=1.13$), and thought their opinions were important to their mothers ($M=1.72$, $SD=0.78$).

Message Delivery and Observation

On average, daughters remembered to tell their mothers 7.77 ($SD=2.4$) of the ten cancer message points (range: 3–10), and mothers reported hearing 7.77 ($SD=2.43$) of the message points (range: 3–7). Overall concordance among dyads (i.e., where daughters said the message point to their mother, and mothers accurately indicated that they heard/didn't hear the message) was 93.1%. Twenty-two dyads (84.6%) had 100% concordance on all ten of message points. The point that cervical cancer can be treated if detected early was the least remembered item among daughters (57.5%). The only message item with 100% concordance was telling the mother that African American women often go to the doctor when it is too late. This was also the message point that the daughters remembered to tell their mothers most frequently (88.5%) (See Table 2 for frequency and concordance of message points).

Daughters used a variety of personal/family reasons to try and convince their elder kin why they should obtain Pap smears and/or Mammograms. Many of the girls stated that they needed their mother to be around and, therefore, did not want anything to happen to her, especially not premature death. For example, one girl pleaded, "Mom you know we need you here for us. There is no one else for us." Another girl stated, "She could die while I need her. She won't be here. If she dies, it will be the end of everything." Other girls appealed to family history of cancer, "Because my grandmother had breast cancer and it might be genetic or hereditary, and I don't want my mother to be a African American female that dies of breast cancer because she waited too late to get checked." Several girls also mentioned that African American women were more likely to get breast cancer and that screening

could lower their mother's risk, prevent cancer, and make sure that they were healthy. Many of the appeals included an emotional statement. For example, one girl said, "I will be depressed if something happens to my aunt."

Nonverbal communications were totaled and overall scores were calculated (See Table 3). Higher scores represent the presence of more positive nonverbal communication during the message delivery. Positive nonverbal communication includes observed behaviors such as direct and spontaneous eye contact with mother, relaxed posture and forward leaning towards mother and affirmative head nods while in communication with the mother. Daughter's nonverbal communications ranged from six to ten ($M=8.85$, $SD=1.19$).

Daughters' Reflections on Cancer Message

The majority (92.3%) of girls indicated they felt knowledgeable during the message delivery. When asked if they would be nervous delivering this message at home, the majority (84.6%) of girls replied they would *not* be nervous at all, and only one girl said she would be very nervous. Daughters believed their ability to deliver the message could be improved by providing them with more information (26.9%). Specifically, they wanted more information about age for screenings (15.3%) and how screenings are performed (7.7%). The daughters also noted that they needed help remembering the information (7.7%).

Mothers' Reflection on Cancer Message

Mothers indicated that the message that the daughter shared with them was helpful, seemed accurate, sounded sincere, sounded believable, and was relevant to them. In general, mothers' reaction to the daughters appeal to get screened was it "made me want to do it (screening) more." Mothers felt that the message could be improved by having daughters talk freely in their own words (26.9%), be provided with written information (7.7%), and/or both (57.7%). For this message delivery, daughters were not provided with any written information.

Discussion

There is much to be learned from research that investigates upward communication from adolescents to adults. This study lends support to the idea that adolescents may be useful in health interventions that utilize upward communication. Daughters in this study were able to successfully recall and deliver a cancer appeal to their mother and mothers were generally receptive to this message. While daughters' initial knowledge of cancer and prevention were low, they were able to deliver knowledgeable and persuasive messages to their mothers after participating in a brief educational intervention with explicit instructions to share the message appeal with their mother. Their mothers, in turn, correctly remembered what their daughters told them. Not only did mothers listen to their daughters' appeals, but also daughters' knowledge of cancer was also considerably improved by the opportunity to educate her female elder. Moreover, daughters' reported that they felt knowledgeable during the message delivery and their nonverbal communication suggested a surprisingly relaxed demeanor, despite some of the girls reporting that they were nervous.

Mothers had excellent recall of the information they received from their daughters demonstrating that the mothers were attentive to the message from their daughter. These findings are in line with previous research (Browne & Chan, 2012; XXX & XXX 2013), which has suggested that mothers are receptive to health information from their daughters. Findings from this study support that African American girls can successfully talk about cancer with their female elders, despite evidence that cancer is a difficult topic to discuss within families (Zhang & Siminoff, 2003). These dyads demonstrated that, for them, cancer was not an uncomfortable topic and the non-verbal checklist suggests that daughters were comfortable sharing this information. They generally had a relaxed posture, good eye contact and appeared engaged by virtue of their gestures and the way they positioned themselves in front of the adult. If, anything, it seemed that the young girls liked having the opportunity to provide information to their mother. Nevertheless, the interpretation of these responses is mediated by the fact that dyads were aware that they were participating in a study related to understanding health communication. Therefore, some of these dyads could have been more interested in health; similarly, some of them may have decided to participate in the study even though they may have been less comfortable communicating about health. At the very least, this data suggests that amongst dyads who have varying degrees of interest in health communication, there seems to be minimal discomfort sharing cancer screening information with their mothers. Daughters can also, by virtue of their role and family knowledge, make a tailored, salient screening appeal to their elder by highlighting the importance of that person in the family and why their health and well being is necessary. Furthermore, it may be that mothers considered their daughters to be credible messengers, an important aspect of the ELM (Taylor, 2006), and may be considered to have the female elders' best interests in mind.

Immediate recall of the cancer message was extremely high for both the daughters and the mothers. This is promising for health promotion messages delivered at home, where the daughters indicated they would be most comfortable. However, as time elapses, recall of health information will decrease and daughters may have difficulty remembering all aspects of the message. Given that initial recall was high, it is likely that the girls will remember several salient points that can be delivered to their elder female kin. In this study, message points related to African American disparities seemed to be most salient to the girls. For example, all of the girls remembered to tell their mother the message point about African American women waiting to go to the doctor until it was too late. It will be important for future interventions to identify and highlight components of salient points such as in-group identification (e.g., African American).

The point that cervical cancer can be treated if found early was the least remembered item by the daughters. It may be that girls experienced difficulties remembering this line, because it is counter to their existing attitudes toward cancer. This finding is in line with previous research that supports that a fatalistic view of cancer exists within African American communities (Mayo, Ureda, & Parker, 2001; Powe & Finnie, 2003). It is important that future interventions address cancer fatalism.

While recall of the information is encouraging and provides support for including daughters in cancer interventions, data from this study cannot be generalized and do not provide

evidence that mothers will actually respond to their daughters' appeals to participate in screening. Furthermore, we examined immediate recall, which was high, but does not provide information for delayed recall. The message recall occurred immediately and without any distractions, with the exception of calling the mother into the room. This uninterrupted scenario is not at all reflective of what girls may encounter, if they were given the message and then asked to go home and find an appropriate time to share the appeal with their female elder. The breadth and depth of distractions are also likely to increase for girls who live in under-resourced and poor neighborhoods. Not only do we anticipate environmental distractions, but the individuals may also be more likely to find themselves within a social context that is less predictable, further complicating timely message delivery. In that setting and with these added considerations, it is unknown how much of the information will be recalled by the daughter and mother. Future studies will need to examine delayed recall as well as the interval between learning about cancer and making the appeal, particularly, if adolescents will be delivering the health message at home after some time has elapsed from when they first learned about the message.

A limitation to the study is that no comparison group was included. Thus, we are unable to evaluate optimal message content, length of the message and the points, which were more salient. Furthermore, the message delivery from daughter to mother was observed by a third party, which may have influenced the daughter-mother communication and, to some extent, even recall. It could be that the daughter may have experienced a "test-like" situation during the observation and was able to make herself work hard at recalling certain information, while she may be more apt to relay only the most salient parts of the message to the mother at home. Nevertheless, the high recall and their observed relaxed non-verbal communications do suggest that researchers can use this methodology with some effectiveness. Another important consideration for future research is current trends in population demographics, specifically, the growth of Hispanic populations. It would be fruitful to examine upward communication for targeted cancer interventions among different sociodemographic populations, particularly Hispanic females.

Despite limitations, the findings from this study suggest that upward communication, where adolescents deliver important cancer messages to their mothers or female relatives, can be an innovative way to deliver health interventions within the family, especially to hard to reach populations. Furthermore, this study demonstrates that a potentially difficult subject such as cancer can be demystified when young people are provided with "expert" knowledge to share with their elders and, importantly, mothers responded positively to hearing the appeal from their daughter. Upward communication, especially when youth are the messengers, is still a very novel area of research and investigators need to explore optimal messaging for the purpose of disseminating to an adult relative as well as issues associated with recall and delivery in a natural setting. Finally, the challenges and optimal conditions for promoting behavioral changes, actual screening behavior in this case, needs to be rigorously documented. The potential of young people to impact the screening behavior of their female elders is very promising, especially in terms of reducing cancer disparities.

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Table 1

Daughter's nonverbal communication.

Nonverbal Communication	N	Percentage
Looking directly at mother when speaking	24	92.3
Relaxed posture, slight forward lean	24	92.3
Body facing mother	25	96.2
Gestures for emphasis	10	38.5
Arms across chest*	2	7.7
Calm, expressive facial movements	25	96.2
Frowning*	2	7.7
Face rigid*	1	3.8
Monotone*	2	7.7
Fluid speech	25	96.2

Note.

* Items were reverse coded

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Table 2

Cancer message components.

Message Point	Daughter		Mother		Concordance*	
	N	%	N	%	N	%
Breast cancer is the most common cancer that African American women are diagnosed with	19	73.1	21	80.8		92.3
How many African American women died of breast cancer in 2009	22	84.6	20	76.9		92.3
How many African American women often go to the doctor when it's too late	23	88.5	23	88.5		100
More African American women die of breast cancer than do white women	21	80.8	21	80.8		92.3
Asked her mother to get a mammogram	22	84.6	21	80.8		88.5
Why it was important for family reasons why she should get a mammogram	20	76.9	20	76.9		92.3
Cervical cancer can be treated if found early	15	57.7	18	69.2		88.5
How many women died from cervical cancer in 2009	19	73.1	18	69.2		96.2
Asked her mother to get a pap smear	21	80.8	20	76.9		96.2
Why it was important for family reasons why she should get a pap smear	20	76.9	20	76.9		92.3

Note.

* Concordance is the percentage of mother-daughter dyads where the daughter remembered to tell a specific point and the mother accurately reported that she heard this point.

Table 3

Mothers' sociodemographic characteristics.

Variable	% (N=26)
Age in years, M (SD)	49.85 (9.85)
Biological Mother	73.1
Marital Status	
Single, Never Married	42.3
Divorced or Separated	26.9
Married	19.2
Widowed	11.5
Education	
< Than high school	7.7
High school diploma	46.2
Some college or more	46.1
Mean household income (\$)	
<20,000	26.9
20,000 – 39,999	46.1
>40,000	27.0
Employment	
Full-Time	65.4
Part-Time	3.8
Unemployed	30.7
Insurance	
Government-Assisted	34.6
Private	57.7
Have a regular doctor	88.5

Note. M = Mean; SD = Standard Deviation; % unless otherwise indicated