Role of African-American Fathers in Child-Rearing and Oral Health Practices in an Inner City Environment - A Brief Communication

Hillary Broder, PhD; Susan Reisine, PhD; Robert Johnson, MD

Abstract

Objective: *This study assesses parenting behaviors, health behaviors and attitudes in a sample of disadvantaged African-American fathers and evaluates the potential of fathers as recipients of oral health promotion interventions.* ***Methods:*** *Participants were 60 African-American fathers whose children were enrolled in a childhood caries prevention study at Women and Infant Child Program (WIC) (n=25) or who were members of a Young Fathers' Program (n=35) at an urban health center. Demographic factors, oral health knowledge, dental self-efficacy, parenting behaviors, readiness to change, and health promotion behaviors were assessed.* ***Results:*** *Participants averaged 30.8 years of age (sd=8.6); children averaged 2.1 years (sd=0.9). Half of the fathers always have lived with their own children and 92% had regular physical contact with their children. Almost half of the sample reported 'fair/poor' oral health status, while less than 25% reported 'fair/poor' general health. Fathers had high oral health knowledge scores ($\bar{X}$=7.7 correct of 9 items), and high readiness for change scores at the action stage ($\bar{X}$=12.2 of 15; sd=1.9). dental self-efficacy scores were moderate ($\bar{X}$=15.7 of 24; sd=5.5). Half of the fathers shared or had sole responsibility for brushing their children's teeth; 90% report children's teeth were brushed daily.* ***Conclusions:*** *African- American fathers participated in childrearing and oral health promotion behaviors.*

Key Words: African-American fathers, early childhood caries, oral health promotion, oral health knowledge, self-efficacy, readiness to change, parenting behaviors

Introduction

Most studies of oral health among ethnic minority children rely on information from the mother as the primary caregiver with limited or no attention to the role of the father in oral health (1-3). This may in part be related to perceptions about minority fathers and their commitment to parenting. The stereotype of the "disinterested" black adolescent father is largely unfounded and oversimplified (4-10). Contrary to popular belief, young minority fathers do not routinely abandon their children. Minority inner city fathers often have strong commitments to their children, although the fathers' success in achieving strong emotional ties to their children may be limited by their financial and social circumstances (6). While a substantial literature on low-income, minority fathers is emerging, attitudes toward children's health status or involvement in health care or *oral* health care practices in the home are almost entirely unexplored. The omission of data on fathers is significant given the increasing role of fathers, including among ethnic minorities, in childrearing activities (11).

Studies analyzing risk factors associated with dental caries prevalence, a serious health problem among disadvantaged young children, reveal that parental or caregiver social, cognitive and behavioral factors contribute to dental caries in young children. Two major constructs recently have provided the impetus for developing oral/health promotion interventions that could provide a framework for assessing minority fathers' attitudes about oral health care behaviors. These include the cognitive behavioral theories of self-efficacy and readiness to change. Self-efficacy refers to peoples' confidence in their ability to execute certain behaviors (12). Self-efficacy is associated with one's beliefs that behavior can change and is reportedly associated with oral health promotion behavior. Self-efficacy is an important explanatory variable in brushing and flossing as well as in plaque scores (13) and the prevalence and incidence of dental caries among young children (14).

Readiness to change theory postulates that motivation for positive health promotion behaviors begins with cognitive understanding of the disease and its correlates, and this foundation knowledge is considered a prerequisite to initiating and maintaining behavioral change (15). Readiness to change is a powerful predictor of many health behaviors and adherence to preventive health programs (16, 17). Individuals are thought to modify behaviors through a series of five stages: from "precontemplation" at which there is

Send correspondence and reprint requests to: H. Broder, Department of Community Health, University of Medicine and Dentistry, Newark, NJ 07103. Phone: (973) 972-3612; Fax: (973) 972-8046. E-mail address: broder@umdnj.edu. Dr. Broder is the Hunterdon Endowed Professor, Acting Chair, Department of Community Health, University of Medicine and Dentistry of New Jersey, Newark, NJ. Dr. Reisine is a Professor and Associate Dean for Research, and Chair, Division of Behavioral Sciences and Community Health, Department of Oral Health and Diagnostic Sciences, University of Connecticut School of Dental Medicine, Farmington, CT. Dr. Johnson is a Professor and Acting Dean, Department of Pediatrics, UMDNJ-NJ Medical School, Newark, NJ. Acknowledgements: Thanks to Colgate-Palmolive for donating toothbrushes and toothpaste for the study participants. Sources of Support: UMDNJ Research Foundation, the NIDCR Northeast Minority Oral Health Research Center (P50DE10592). Manuscript received 7/29/05; accepted for publication 1/07/06.

no intention to change as individuals are unaware of the problem behaviors, to "maintenance" where people adopt behaviors that are consistently practiced over time. Given this theoretical perspective, if parents understand the importance of tooth brushing and proper dietary practices, and incorporate this understanding in their parenting behaviors, then oral health in their children can or will be promoted.

The purpose of this study is to assess the role of African-American fathers in child-rearing practices, particularly those related to oral health, as well as cognitive and behavior factors associated with their own and their child's oral health. The objective is to determine the feasibility of targeting minority fathers in oral health promotion programs for their children.

Methods

This is a cross-sectional study using a structured interview with fathers recruited from two sites in the northeast. The study examines: 1) sociodemographic characteristics; 2) cognitive factors: perceptions about oral health status, oral health knowledge, dental self-efficacy, and readiness to change; and 3) behavioral factors: fathers' participation in child-rearing practices, including positive oral health behaviors for children and reduction of oral health risk factors.

Participants

The subjects included African-American fathers with children between 12 and 60 months old. Only fathers who lived in the home or had extended routine contact with their children at the time of the study were included. Such contact had to include 3 days per week with a minimum child contact of 3 hours per day on contact days. These criteria were consistent with contemporary theory on fatherhood: that is, fathers did assume parenting responsibility, which was often discounted if they did not reside in the home and/or did not provide most of the family income (18, 19). Fathers also had to be English-speaking and had to be willing to travel to the university-based health center to complete the consent form and interview.

The fathers were drawn from two groups. 1) WIC Study: This group included fathers of children whose mothers were enrolled in an intervention study located at the Women Infant and Children's (WIC) Program in Newark, NJ. The WIC intervention study was aimed at reducing the incidence of childhood caries in this group and only mothers and children participated. 2) Young Fathers' Program in the Newark, NJ area is aimed at improving the quality of life of its participants and generally strengthening individual family systems. Services include health education, counseling, GED or skills training, family/child support, health/medical and life skills training, and family planning interventions, but do not address oral health promotion issues. The program serves over 400 young fathers who are mostly African-American and between 16-30 years of age.

Procedures

Posters advertising this study were displayed at the university-based health center and WIC. Administrators from the Young Father's Program and WIC agreed to inform fathers about the study. The research assistant contacted all of the mothers who participated in WIC study in Newark. Approximately 50% of these mothers reported that their children had fathers (adult male caregivers) who qualified for participation. Initial contact with the fathers about participating in the study was accomplished by phone, mail, or in person at the health center. Scheduled appointments were made and consent forms were completed, as approved by the IRB, prior to the interviews. One RA trained by an experienced psychologist conducted all of the interviews. The multiple training sessions included general interviewing skills, role-playing, recording of responses and probing techniques. Debriefing and retraining was conducted periodically throughout the study period.

Following the interview, a modified educational program on childhood caries based on the materials developed by the Indian Health Service and the CDC was presented one-on-one to the fathers. The entire visit lasted approximately 50-60 minutes. Upon completion of these procedures, subjects received $25 to defray expenses, an oral health "start up kit" (toothbrush, toothpaste, dental floss), and a brochure on childhood and adult oral health. The same format was used with each participant.

Variables

Demographic/family factors. Data were collected on fathers' educational achievement, residence, and employment status, and whether the father was living with the mother of his child, his history of residence with his family of origin, or living in some other situation, and the amount of routine extended time spent with child per day/week.

Cognitive factors. Four cognitive constructs assessed in the interview were: dental self-efficacy, father's perceived oral health status, oral health knowledge, and readiness to change.

Dental self-efficacy scale. A nine-item Likert-like scale was developed previously to study predictors of dental caries among young children (11) with acceptable internal reliability (Cronbach's Alpha = .67). Fathers were asked to rate how sure they were from not at all sure (0) to extremely sure (3) on the following items: could brush child's teeth, keep sugar out of meals, take child to dentist, have child use a cup, take child to dentist if child had a toothache, keep child from getting cavities, keep child from losing teeth, make sure child does not get a toothache and keep child from getting rotten teeth. Scores could range from 0-27. The scale was highly reliable in this sample as measured by Cronbach's alpha, which equaled 0.83.

Fathers' perceived oral health status. Fathers' oral health status was assessed with a single item. Fathers was asked to rate their perceived oral health status on a Likert-like scale from poor, fair, good to excellent.

Oral health knowledge scale. A nine-item true/false format oral health knowledge questionnaire developed for the WIC study assessed knowledge of oral health promotion and factors contributing to increased risk of childhood caries (11)

Readiness to change. A 15-item scale consisting of true/false statements examining readiness to change parenting-related health behaviors was developed for this study. These questions were based on Prochaska's theoretical framework of the five stages of change: precontemplation, contemplation, preparation, action, and maintenance stages (15, 16). Items included plans to stop using a bottle, use of cariogenic foods, use of dental care, improved child rearing, interest in learning more about child rearing and cariogenic foods. Cronbach's alpha was 0.53, raising some questions about the internal consistency of the scale. However it is not expected that responses across stages are correlated but rather are mutually exclusive. In other words, individuals in the contemplation state are merely thinking about health promotion behaviors like feeding their children a balanced diet, whereas individuals in the action stage are procuring foods to ensure that their children are eating 'healthy' substances.

Behavioral factors. Three sets of behaviors were assessed: general parenting behaviors, oral and health parenting behaviors, and father's oral and health behaviors

General parenting behaviors. This measure included a 15-item subset from the well-validated National Survey of Families and Households (19) or families with the "focal child under five years of age." The items included type of activity and number of hours per week the father and other members of the household spent on various parenting activities in the child's home (i.e. meal preparation, home activities, bedtime procedures). These items were asked only of fathers residing in the same home as their children to gain an understanding of the fathers' roles in the children's homes. Father's participation in each activity was recorded by calculating whether he had spent at least one or more hours per week in the activity. The total number of activities was calculated by summing the number of activities meeting the above-stated criteria.

Oral/health parenting behaviors. These behaviors were measured by items specifically related to the child's general and oral health. Items also included rating of the child's oral health, feeding practices (e.g., use of the bottle), and care of the child's teeth (e.g., brushing or wiping teeth).

Sugar intake scale. This scale was used to ascertain the types and frequency with which the child ate cariogenic foods and drinks as snacks or at regular meals. The response set ranged from never, a few times per week, almost daily, every day, to several times a day. The scale had a range from 0-28 (11).

Fathers' oral/health behaviors. These questions pertained to health services utilization. Fathers identified the frequency and reason for their use of general health care and oral health care services. The responses regarding reasons for utilization were categorized by preventive/maintenance versus reparative. For example, a dental cleaning or a check-up was considered preventive; while a tooth extraction, treatment for fever, or surgery was considered reparative.

Data Analysis

The analytical approach for this feasibility study was primarily descriptive. Frequencies, means, medians and standard deviations were calculated to assess whether the variables met the required assumptions. Differences between the participants recruited from the two sites that might have affected the results were also assessed using chi-square for categorical data and analysis of variance for continuous variables. To better understand potential relationships among sociodemographic factors, behaviors and cognitive factors, the relations among these variables were examined separately for the two groups using chi-square, t-tests and analysis of variance. Significance was established at the $p < 0.05$ level.

Results

Demographic characteristics. The demographic characteristics of the fathers enrolled in the study are shown in Table 1. Of the 60 fathers, 35 were enrolled in a Young Fathers Program and 25 had a child enrolled in a WIC study on childhood caries. The average age of the fathers was 30.8 years (sd=8.6) with the fathers in the Young Fathers Program being somewhat younger than those associated with in the WIC group (27.4 and 35.5, respectively). The average age of the children was 2.1 years. The children whose fathers were involved in the Young Fathers Program were somewhat older than those enrolled in the WIC study (2.4 and 1.7 years, respectively; $p<0.05$). Thirty-three percent reported being married; two-thirds of the fathers reported that they were living with the child currently; 60% reported that they had lived with their own fathers, and 67% reported that they had had a male role model while growing up. Most participants (75%) had graduated from high school. Fathers in the Young Fathers Program were much less likely to be employed (43% to 72%), the only significant difference between the two groups.

Cognitive factors. Table 1 also depicts the results from the cognitive scales (Dental Self-Efficacy, Dental Knowledge and Readiness to Change). No significant differences on the cognitive scales between the two groups were observed. Fathers generally scored in the mid-range on Dental Self-Efficacy with a mean score of 15.7 (sd=5) of a possible 27. Fathers had very high scores on the Dental Knowledge Questionnaire with an average of 7.7 (sd=1) of a possible 9 or 86% correct. Finally, fathers scored relatively high on the Readiness to Change Scale, with an average of 12.9 (sd=2) of a possible 15. Fathers scored well on all subscales, as well with a mean score of 2.4 (sd=0.8) on Precontemplation, 5.6 (sd=0.7) on Contemplation, 0.63 of 1 (sd=0.5) on Preparation and 4.3 (sd=1) on Action. The findings support the notion that these fathers were interested in positive parenting be-

haviors. Although many of the fathers reported not always giving their children healthy foods, 95% of the respondents indicated an "interest in learning more about ways to help their children have healthy teeth and gums."

Health behaviors and health status ratings. Finally, Table 1 presents data on the use of health care services, oral health behaviors and global ratings of general and oral health. Most participants visited a physician in the past two years, but those from Young Father's Program were significantly more likely to have had a visit largely because of their affiliation with the Division of Adolescent and Young Adult Medicine Of those with a visit, the majority (65%) received preventive health services. In contrast, only 40% of the fathers had visited the dentist in the past two years and among these fathers, 17% reported receiving preventive services rather than reparative care.

Fathers' health status ratings. Regarding fathers' self-reported health status, 23% reported "fair/poor" general health compared to the 45% reporting "fair/poor" oral health across groups. Fathers reported their general health as being better than their oral health and report higher utilization of medical services than dental services for preventive care.

Oral health parenting behaviors. The overwhelming majority of fathers (92%) reported that their children had their teeth wiped or brushed daily with 58% of the participants reporting that their children's teeth were brushed more than once a day. Over 40% of the fathers reported that their children used the baby bottle at night. Fathers who reported that their children used the bottle also reported high frequency (84%) of putting sweetened drinks, such as juice, soda or sweetened milk in the bottle. More than 80% said that children were put to bed with a bottle "almost every time." In examining the children's diets, the fathers reported relatively low intake of sugar among their children, with an overall mean score of 6.2 of 28 (sd=4) on the Sugar Intake Scale.

Table 1
Sociodemographic characteristics, cognitive factors and health status of study participants

Variable	Total (n=60)
Demographic Characteristics	
Father's Age (Mean (sd))	30.8 (8.6)
Child's Age (Mean (sd))	2.1 (0.9)
% Married	33%
% Living with Child	67%
% Lived with Biological Father	60%
% Had Male Role Model	67%
High School Grad	75%
%Employed*	55%
Personal Income	
%<$5,000	23%
%$5-$19,999	43%
%>=$20,000	33%
Dental Self-Efficacy (0-27) (Mean (sd))	15.7 (5)
Oral Health Knowledge (0-9) (Mean (sd))	7.7 (1)
Readiness to Change (0-15) (Mean (sd))	12.9 (2)
Precontemplation (0-3)	2.4 (0.8)
Contemplation ((0-6)	5.6 (0.7)
Preparation (0-1)	0.63 (0.5)
Action (0-5)	4.3 (1)
Health Status/Behaviors	
% with Medical Visit in Past 2 years*	62%
% Health Promotion Visit	65%
% with Dental Visit in Past 2 years	40%
% Health Promotion Visit	17%
Does child have teeth brushed?	
Yes	92%
Brushing Frequency	
Once a day	33%
More than Once a day	58%
% Currently using the Bottle	42%
Bottle Contents (n=25)	
Milk or Water	16%
Sweetened drinks	84%
Sugar Intake Scale (0-28) (Mean (sd))	6.2 (4)
General Health Status Rating	
% Good/Excellent	77%
% Fair/Poor	23%
Oral Health Status Rating	
% Good/Excellent	55%
% Fair/Poor	45%

General parenting activities. Table 2 presents data on the parenting activities. Most fathers were currently living with their children, but there were significant differences between the WIC and fathers in Young Father's Program on whether they had always lived with their children (data not shown). Eighty percent of the WIC fathers compared to 37% of the fathers in the Young Father's Program ($p<0.01$) always lived with their children. More than 90% of the participants saw their child every day across groups. Fathers also participated in a variety of activities with or for their children, shown only for fathers who lived with their children. These parenting behaviors included preparing meals, cleaning up, paying bills, as well as feeding and dressing their children. The only significant differences between the fathers were that WIC fathers were more likely to shop for groceries and do yard work compared to the fathers in the Young Father's Program (data not shown). On average, the fathers participated

TABLE 2
Family and parenting characteristics of fathers recruited from YFP, WIC and in total

Variables	Total (n=60)
Always lived with child	55%
Currently living with child	67%
Sees child every day	94%
Parenting Activities	(n=37)
Prepares meals	76%
Wash dishes	81%
Clean house	98%
Yard work	32%
Shop	84%
Iron	73%
Pay Bills	49%
Car Care	41%
Drive	49%
Take child to school	32%
Take to physician	26%
Total Number of Activities (Mean(sd))	8.3 (1.7)

in more than eight activities (mean = 8.3; sd =1.7) of the thirteen "routine" parenting activities. There were no significant differences between the fathers' groups on average number of activities.

Discussion

This study assessed the role of African-American fathers in child-rearing practices, particularly those related to oral health, as well as cognitive and behavior factors associated with their own and their child's oral health in the context of examining the feasibility of including fathers in oral health programs for their children. Over 90% of the fathers reported regular contact with their children, two-thirds resided with their children, and over three-fourths of those who resided in the home indicated weekly participation of over one hour in activities like food shopping and preparing meals. Although this high level of contact is a function of the study's recruitment strategy, the authors' efforts have identified a group of men who could be the foundation for future health and oral health interventions to reduce the caries risk of their children. Fathers are involved in tooth brushing and meal preparation. Interventions with fathers could include behavioral interventions to reduce sugar in the diet, increase tooth brushing and reduce or eliminate the use of the baby bottle, particularly with sweet liquids.

The results from the assessment of cognitive dimensions indicate, first, that fathers have a good understanding of factual information about oral health care for their preschool children. Second, fathers' scores on the dental self-efficacy scale are in the mid-range, suggesting that although fathers are knowledgeable about oral health practices, they are not very confident in their ability to prevent cavities or to stop behaviors that put their children at risk of cavities, toothaches or losing teeth. Dental self-efficacy is a strong predictor of the initiation of oral health promotion behaviors (13, 14). Improving self-efficacy among fathers could be an effective cognitive intervention to prevent dental diseases in their children. Finally, fathers have moderately high scores on the readiness to change scale. Approximately 95% of the fathers indicated that they were interested in learning more about improving the oral health of their children and the overwhelming majority of them were consistently beyond the "pre-contemplation" stage regarding oral and general health promotion for their children. Fathers appear to be receptive to behavior change related to their children's oral health.

Fathers' low utilization of oral health services and low rating of oral health status relative to general health services and overall health status is noteworthy. In this sample only 40% of the fathers had visited the dentist in the past two years and of these only 17% received preventive rather than reparative care. In the United States in 1999, more than 75% of adults had a dental visit in the past year. The relatively poor oral health status may represent access to care problems as well as a lower priority given to dental care and oral health among these fathers. An intervention to improve fathers' oral health through better oral hygiene and dental care could help establish a relationship with dental care providers as well as improve the behaviors of fathers as role models of good oral health.

The preliminary results from this feasibility study suggest that an identifiable subgroup of African-American fathers may be an appropriate target in efforts to reduce childhood caries. Considering the stress of parenting and the prevalence of unmet dental needs among poor children of ethnic minorities, tapping viable resources within the children's support system seems worthy of consideration. Given the presence and involvement of the fathers such as those observed in this study, the authors believe that health professionals may overlook the fathers who can be an important resource to the well-being of their children (8, 20).

A family systems approach (20) may be effective in preventing childhood caries rather than traditional methods that target only female caregivers in health promotion programs for preschoolers. It has been suggested that promoting paternal participation, apart from providing economic support to ease the burden of child rearing, can be significant (20). Jackson (21) emphasized the importance of factors other than economic contributions that might impact on the well being of low-income black children. In summary the findings support developing and testing oral health promotion programs that include poor African-American fathers

who can be identified through outreach programs, such as the Young Fathers Program in Newark, or government programs, such as WIC.

Limitations

The results should be viewed cautiously. There is considerable bias in the sample by virtue of being a convenience sample of fathers enrolled in social services related to improving their children's quality of life. Also, generalizability is limited since the sample is not representative of young African-American fathers as all participants had to spend at least three days for three hours with their children, and they all self-selected to participate. The most likely bias is that these fathers are more involved in parenting than the average African-American father, thus the results overestimate disadvantaged African-American fathers' participation in parenting behaviors. However, this sample provides a unique dataset among African-American fathers who are not often included in oral health promotion efforts.

Acknowledgements

The authors thank: Constance Kearse who assisted in collecting the data; Charles Dixon who continues to pursue providing a resource for young fathers in the Newark area; Samuel Tuttle who assisted in the initial data analyses; to the UMDNJ Research Foundation and the NIDCR Northeast Minority Oral Health Research Center for their financial support; and Colgate-Palmolive for donating tooth brushes and toothpaste for the study participants.

Sources of Support

UMDNJ Research Foundation, the NIDCR Northeast Minority Oral Health Research Center (P50DE 10592). Colgate-Palmolive for donating toothbrushes and toothpaste for the study participants.

References

1. Weinstein P, Harrison R, Benton T. Motivating parents to prevent caries in their young children. JADA 2004; 135:731-8.
2. Tang C, Quinonez RB, Hallett K, Lee JY, Whitt JK. Examining the association between parenting stress and the development of early childhood caries. Community Dent Oral Epidemiol 2005;33:454-60.
3. Lopez del Valle LM, Riedy CA, Weinstein P. Rural Puerto Rican women's views on children's oral health: a qualitative community-based study. J Dent Child (Chic) 2005;72:61-6.
4. Taucher P. Support for the adolescent father. (Review). Nurs Forum 1991; 26:22-6.
5. Elster A, Panzarine, S. Teenage fathers, stresses during gestation and early parenthood. Clin Peds 1983;22:700-3.
6. Furstenberg F. Fathering in the inner city: Paternal participation and public policy. In: Marsiglio W, editor. Fatherhood: contemporary theory, research, and social policy. CA: Sage Publications; 1995. p. 119-147.
7. Palkavitz R. Father's birth attendance, early contact and father interaction at 5 months postpartum. Birth 1982;8: 173-7.
8. Westney OE, Cole OJ, Munford TL. Adolescent unwed prospective fathers: readiness for fatherhood and behaviors toward the mother and the expected infant. Adolescence 1986;21:901-11.
9. Gavin LE, Black MM, Minor S, Abel Y, Papas MA, Bentley ME. Young, disadvantaged fathers' involvement with their infants: An ecological perspective. J Adolesc Hlth 2002;31:266-76.
10. Rhein LM, Ginsburg KR, Schwarz DF, Pinto-Martin JA, Zhao H, Morgan AP, Slap GB. Teen father participation in child rearing: Family perspectives. J Adolesc Hlth 1997;21:244-52.
11. Coley RL. (In)visible men - Emerging research on low-income, unmarried and minority fathers. Am Psychologist 2001:743-53.
12. Bandura A. Social foundations of thought and action. Englewood Cliffs, NJ: Prentice Hall; 1986.
13. Galgut P, Waite M, Todd-Pokropek A, Barnby, G.J. The relationship between the multidimensional health locus of control and the performance of subjects on a preventive periodontal programme. J Clin Periodontol 1987;14:171-5.
14. Litt M, Reisine S, Tinanoff N. A multidimensional causal model of caries development in preschool children. Pub Hlth Rep 1995;110:607-18.
15. Prochaska JO, DiClemente CC. Stages of change in the modification of problem behaviors. Prog in Behav Mod 1992;28:183-218.
16. Prochaska JO, DiClemente CC, Norcross JC. In search of how people change. Amer Psych 1992;47:1102-14.
17. Broder HL, Slade G, Caine R, Reisine S. Oral health attitudes and behaviors among African American adolescents. J Pub Hlth Dent 2000;60:189-92.
18. Seltzer JA. What fathers say about involvement with children after separation. In: Marsiglio W, editor. Fatherhood contemporary theory, research and social policy. CA: Sage Publications; 1995. p. 148-92.
19. Sweet J, Bumpass L, Call V. The design and content of the National Survey of Families and Households, (NSFH Working paper No.1). Madison: Univeristy of Wisconsin, Center for Demography and Ecology; 1988.
20. Barth RP, Claycomb M, Loomis A. Services to adolescent fathers. Health and Soc Work 1988;13:277-87.
21. Jackson AP. The effects of nonresident father involvement on single black mothers and their young children. National Association of Social Workers, Inc. 1999;44:156-66.