Rev Saúde Pública 2008;42(6)

Olga G Falceto[I]

Carmen L Fernandes[II]

Claudia Baratojo[III]

Elsa R J Giugliani[IV]

Factors associated with father involvement in infant care

ABSTRACT

OBJECTIVE: To identify factors associated with the lack of active father involvement in infant care at four months of age.

METHODS: Cross-sectional study involving families of 153 infants at four months of age, interviewed in their homes by two family therapists. In addition to father involvement in infant care, sociodemographic, parental mental health (using the Self Report Questionnaire-20 scale and Diagnostic and Statistical Manual of Mental Disorders-IV criteria assessment) and quality of couple relationship characteristics (using the Assessment of Relational Functioning from Diagnostic and Statistical Manual of Mental Disorders-IV) were analyzed. Poisson regression was employed to assess the association between lack of father involvement in child care and the variables selected. Prevalence ratio was used to estimate the magnitude of associations.

RESULTS: Fathers of 13% of infants had no contact with their children. Among families whose parents lived together (78% of all), 33% of the fathers reported not actively participating in their children's care. Problematic couple relationship and mother as a housewife were associated with lack of father involvement in infant care.

CONCLUSIONS: High prevalence of families whose father is not actively involved with infant care, especially when couple relationship is problematic and the mother does not have a paid job.

DESCRIPTORS: Paternity. Paternal Behavior. Father-Child Relations. Family Relations. Child Care. Cross-Sectional Studies.

I Departamento de Psiquiatria e Medicina Legal. Faculdade de Medicina (FM). Universidade Federal do Rio Grande do Sul (UFRGS). Porto Alegre, RS, Brasil

II Gerência de Medicina de Saúde e Comunidade. Grupo Hospitalar Nossa Senhora da Conceição. Porto Alegre, RS, Brasil

III Programa de Pós-Graduação em Ciências Médicas. FM - UFRGS. Porto Alegre, RS, Brasil

IV Departamento de Pediatria e Puericultura. FM - UFRGS. Porto Alegre, RS, Brasil

Correspondence:
Olga Garcia Falceto
Departamento de Psiquiatria e Medicina Legal
Faculdade de Medicina da UFRGS
R. Ramiro Barcelos, 2350
90035-003 Porto Alegre, RS, Brasil
E-mail: olgafalceto@uol.com.br

Received: 1/8/2007
Revised: 4/3/2008
Approved: 5/20/2008

INTRODUCTION

Total or relative absence of the father figure during childhood has been associated with development disorders such as emotional problems, lower levels of cognitive development, drug abuse, behavioral disorders, and teenage pregnancy.[1,7,21]

Before the 1960's, only the socio-emotional role of the father was emphasized in the process of separating the symbiotic bond, viewed as normal between the mother and the child, and in the setting of limits while raising them. Additionally, the negative effects of the father's relative or total absence on the child's mental health also stood out. In the 1960's, a time when the feminist movement was consolidated, publications began to value the father's direct involvement in child care. His participation became necessary and expected by mothers, as they grew different from the previous generations, with their progressive involvement with professional activities outside the home.[23] This participation started to be frequently desired by the father as he discovered the pleasure of sharing his children's intimacy.

Currently, studies emphasize the differences in the type of care provided by the mother and the father, as fathers spend less time with their children and have a relationship with them through activities and games. There is consensus on the predominance of maternal responsibility in child care, despite women's professional activities.[9]

Some studies observed better child cognitive development when the father is involved in their care, once his interaction with the child differs from the mother's, with the introduction of novelties and challenges.[11] Greater social competence, lower behavioral disorder indices and better mental health were also observed among children who were directly cared by the father.[1,7,21] Comparative studies on the type of bond between the child and the mother/father suggest that: 1) men and women are equally capable of developing a sensible and consistent relationship with their children; 2) the type of bond the child develops in their interpersonal relationships is influenced by the style of their relationship with the father, but it is mainly associated with the relationship they share with the mother; 3) the type of relationship between the father and the child is greatly associated with the type of relationship between the child and the mother; 4) father involvement in care is associated with the child's better ability to empathize, develop cognitively, and have a relationship with other children, regardless of their relationship with the mother; 5) the development of the ability to control emotions seems to be more associated with the father-child experiences than the mother-child ones.[12,16,20]

There were no longitudinal studies that defined protection and risk factors to establish and maintain paternal involvement in child care. Given the importance of this issue for proper child development and the lack of related Brazilian literature, this study aimed to identify factors associated with the lack of father involvement in infant care.

METHODS

The article covers one aspect of broader research on family functioning and its relationship with several outcomes related to child mental and physical health. One of the research objectives was to investigate factors associated with early weaning, defined as the interruption of breastfeeding before four months. This cut-off point was used because there is scientific evidence that weaning before four months is associated with several child health problems.[10] Some results of this study have already been published.[4,5]

The study was performed in a district of the city of Porto Alegre, state of Rio Grande do Sul, where there are approximately 18,000 inhabitants. This district has three community health service units, from where the request came for an academic survey to provide subsidies to create a protocol to care for children aged between 0 and 5 years. The population of this area is economically heterogeneous, with a low middle class majority and some quite impoverished families. All homes have piped water supply and electricity, but around 10% of the homes do not have a sewage system or garbage collection.

To select the sample, birth records from the city hospitals were used (Birth certificates from the City of Porto Alegre Department of Health). All the families in the district (256), who had four-month-old infants born between November 1998 and February 2000, were visited in their homes and asked to participate in the survey. Identification data were collected; seven families refused to participate. These were considered losses and added to the 103 families that were not found after three attempts to have a second visit.

Interviews were performed by two family therapists qualified for diagnosis and treatment of family relationship disorders. Interviewers were especially trained and participated in the questionnaire's final preparation, without being aware of the research objectives. A pilot study was performed with ten families. During data collection, the main investigators conducted interviews in pairs, with different interviewers, to guarantee the team's uniformity of assessment. Pairs of interviewers changed after each interview to avoid assessment bias.

The interviews, which lasted around two hours, followed semi-structured guidelines and were filmed by a medical student. First, sociodemographic, obstetric, and infant characteristic data were collected. Next, there was an initial conversation with all the family members, followed by an interview with the couple. Finally, the father and mother were individually interviewed. Information was gathered in a way that prioritized the approach to the family, facilitating the formation of bonds that help in the fidelity of information. Simultaneously, the type and quality of interpersonal relationships that took place among family members were observed.

In the interview, different instruments were used to investigate the couple's personal, clinical and psychiatric histories, their relationship, the infant's birth and breastfeeding, and the relationship between the parents and the infant.

Father involvement in child care was assessed through the interviewees' reports on themselves, their spouses and their relationships, in addition to direct observation, during approximately two hours, of the way the father communicates with and cares for the child. Father involvement had been previously categorized, based on researchers' experience, into the following: 1) actively involved: daily contact between the father and the child and participation in activities such as comforting children, playing with them, feeding them and bathing them, whether spontaneously or at his partner's request; 2) without direct participation, but supporting the mother: father's display of satisfaction for the child care provided by the mother; 3) without participation: father is both physically and emotionally absent from care; 4) disrupting infant care: father negatively influences the mother's performance as care giver. In the statistical analyses, category 1 was compared to the sum of categories 2, 3 and 4.

Couple relationship was assessed with the GARF scale (DSM-IV Global Assessment of Relational Functioning). Scale scoring varies from 1 to 5 (relational unit assessed ranged from satisfactory to excessively dysfunctional to maintain contact and bond, according to participants' report and interviewers' observation). For the purpose of analysis, couple relationship was categorized as: "without relevant difficulties", when score reached 1 or 2; and "with moderate to serious difficulties", when score varied between 3 and 5 points.

In the mental health investigation, both father and mother answered the Self Report Questionnaire (SRQ) independently. The SRQ identifies symptoms that disrupt the day-to-day functioning, especially depression and anxiety. According to the validation of this instrument in Brazil,[15] a score equal to or higher than seven for women and equal to or higher than five for men leads to diagnostic suspicion of mental disorder. Interviewers also prepared the diagnostic impression using DSM-IV criteria.

After each interview, two interviewers discussed their assessments and tried to reach a consensus. Questions were debated with one of the researchers and, if necessary, the interview video was analyzed.

Double typing of data with subsequent comparison enabled correction of eventual mistakes.

To test the associations and their magnitude, chi-square test was employed with Yates' correction and prevalence ratio (95% confidence interval). Next, Poisson regression was performed with robust variance estimation, and the variables that were associated ($p<0.2$) with lack of active father involvement in the bivariate analysis were part of the model. The statistical level of significance adopted was 0.05. Analyses were performed in the SPSS 12.0 and Stata 7.0 software programs.

The study was approved by the *Grupo Hospitalar Conceição* (Conceição Hospital Group) and the *Hospital de Clínicas de Porto Alegre* (Porto Alegre Clinical Hospital) Research Ethics Committees. All fathers and mothers signed an Informed Consent Form.

RESULTS

Among the 153 families located, the father did not live with the mother and child in 34 families (11 had some contact with the child and supported the mother, 20 had no contact at all, two had died and one was in prison) and in one of them the involvement between the father and the infant could not be observed. Thus, 118 families whose couple lived together were analyzed, the father was interviewed and his involvement with the infant observed.

At first, comparative analysis between families that completed the study and those that were not interviewed was performed. This analysis involved identification data, aiming to verify possible selection bias. Infant and parent variables were analyzed, and a significantly greater number of non-white men ($p=0.016$) and low-weight infants ($p=0.001$) was found in the group that did not complete the study. These variables, nonetheless, did not show association with father involvement in infant care.

Among the population studied, 48.3% of the fathers did not have daily active involvement with their children. Of all the families whose parents lived together, this value was 33% (Table 1). None of the fathers seemed to disrupt child care provided by the mother.

Tables 2 and 3 show bivariate analysis results. The following variables were selected for the multivariate model as they showed association ($p<0.20$) with the outcome: family income, mother's ethnicity, mother's occupation, infant's gender, suspicion of mother's and father's mental disorder, and couple relationship with moderate to serious problems.

High indices of suspicion of mental disorder were identified by the SRQ scale, corresponding to 16.1% of fathers and 37.3% of mothers. These indices were higher according to the interviewers' clinical assessment, which identified signs of depression in 24.0% of the fathers and 36.8% of the mothers. In addition, 7.1% of the fathers and 8.8% of the mothers showed anxiety, and 10.1% of the fathers and 2.4% of the mothers showed signs of alcohol abuse. The proportion of couples in which both showed some disorder corresponded to 34.1% of the total sample.

Couple relationships with moderate to serious difficulties corresponded to 23.7% of the couples.

Poisson regression multivariate analysis (Table 4) confirmed the statistical significance of association between lack of active father involvement in infant care and the variables "couple relationship with moderate to serious difficulties" and "mother as a housewife".

Table 1. Distribution of parents who live with their infants, according to type of involvement with care. Porto Alegre, Southern Brazil, 1998-2000.

Variable	n	%
Father is actively involved	79	67.0
Father supports, but does not participate	34	28.8
Father is emotionally absent	5	4.2
Father disrupts care	0	0
Total	118	100.0

Table 2. Association between lack of active father involvement in child care and variables selected. Porto Alegre, Southern Brazil, 1998-2000.

Variable	Father involvement: Inadequate n=39 n	%	Active n=79 n	%	p	Prevalence ratio (95%CI)*
Family income <3 minimum wages per month	18	46.2	25	31.6	0.181	1.5 (0.90;2.48)
Poor housing**	2	5.1	6	7.6	0.911	0.7 (0.21;2.54)
Mother's age <20 years	10	25.6	12	15.2	0.263	1.5(0.87;2.61)
Father's age <20 years	4	10.3	4	5.1	0.505	1.6 (0.75;3.31)
Non-white mother	16	41.0	33	41.8	0.999	1.0 (0.58;1.65)
Non-white father	14	38.9	32	40.5	0.778	0.9 (0.51;1.50)
Mother's level of education ≤4 years	13	33.3	12	15.2	0.042	1.9 (1.13;3.06)
Father's level of education ≤4 years	14	35.9	11	13.9	0.012	2.1 (1.29;3.38)
Mother as a housewife	36	92.3	60	75.9	0.058	2.8 (0.93;8.13)
Father does not have a steady job	11	28.2	15	19.0	0.368	1.4 (0.81;2.40)
Female child	16	59.9	44	55.7	0.192	1.5 (0.88;2.52)
Child's birth weight <2,500g	5	12.8	5	6.3	0.401	1.6 (0.80;3.13)
Child is not firstborn	27	69.2	45	57.0	0.278	1.4 (0.81;2.54)
Cesarean section	7	17.9	23	29.1	0.278	0.6 (0.32;1.30)
Gestational age <37 weeks	11	28.2	14	17.7	0.300	1.4 (0.84;2.48)
Child was hospitalized when delivered	4	10.3	13	16.5	0.483	0.7 (0.27;1.62)
Father did not participate in pre-natal care	22	56.4	43	16.5	0.995	1.1 (0.63;1.80)
Child was not breastfed at 4 months of age	11	28.2	27	34.2	0.657	0.8 (0.46;1.48)

* Chi-square test with Yates' correction
** Small space, poor lighting, without floor, wall or ceiling covering, piped water and/or flush toilet.

DISCUSSION

The importance of the father-infant bond in the first months of life is more and more valued in society. Like the mother-infant bond, the first months of life together are crucial to establish the father's role. However, this issue is still little mentioned in the literature.

Father involvement in infant care refers to the tasks the father develops on a daily basis and which can be identified by any person. Nonetheless, participation in the infant care tasks does not guarantee this is done with affection, nor does it guarantee the quality of bond formed, as a result.

Results from the present study show that, in this urban population from Southern Brazil, at four months of age, 13% of the infants had no contact with their fathers, while 30% had fathers who, despite their living together, were not actively involved in their care. When fathers who do not live with their infants were also included in the analysis, the frequency of non-active involvement with the children rose to 48.3% of the sample.

Results from Poisson regression analysis, involving all risk factors identified as associated with the outcomes in the bivariate analysis, showed maintenance of the association between two risk factors: mother's lack of involvement with work outside the home and the couple

Table 3. Association among parents' mental health level, difficulties in couple relationship and active father involvement in infant care. Porto Alegre, Southern Brazil, 1998-2000.

Variable	Father involvement: Inadequate n=39 n	%	Active n=79 n	%	p	Prevalence ratio (95%CI)*
Suspicion of mental disorder**						
Father	15	38.5	16	20.3	0.059	1,8 (1.07;2.90)
Mother	20	51.3	24	30.4	0.027	1.8 (1.07;2.93)
Moderate to serious couple relationship difficulties***	17	43.6	11	13.9	0.000	2.5 (1.55;3.97)

* Chi-square test with Yates' correction
** SRQ scale
*** GARF scale

Table 4. Poisson regression analysis to assess association between lack of father involvement in child care and variables selected. Porto Alegre, Southern Brazil, 1998-2000.

Variable	Prevalence ratio Crude (95%CI)	Prevalence ratio Adjusted (95%CI)	p
Father's level of education ≤4 years	2.1 (1.29;3.38)	1.1 (0.93;1.27)	0.302
Mother's level of education ≤4 years	1.9 (1.13;3.06)	1.1 (0.90;1.23)	0.515
Mother as a housewife	2.8 (0.93;8.13)	1.2 (1.02;1.39)	0.028
Family income <3 minimum wages per month	1.5 (0.90;2.48)	1.0 (0.84;1.12)	0.716
Female child	1.0 (0.40;1.14)	0.9 (0.82;1.04)	0.218
Father with suspicion of mental disorder*	1.8 (1.07;2.90)	1.1 (0.95;1.25)	0.221
Mother with suspicion of mental disorder*	1.8 (1.07;2.93)	1.0 (0.90;1.20)	0.602
Problematic couple relationship**	2.5 (1.55;3.97)	1.2 (1.00;1.42)	0.046

*SRQ scale
** GARF scale

having moderate to serious relationship problems. Even though loss of significance of factors such as level of education, income (which could reduce the father's care conditions), and mental health (which could harm emotional availability)[19] is surprising, the findings are coherent. Social expectations observed in the community are characterized by traditional gender relations, with strict role division between parents, where women are destined to care for the home and children, whereas men are destined to support the family and care for the family customs and values.[3,14]

There is a social norm in which whenever the woman spends her time caring for her child, the father has less need and space to be involved. Also, as the woman is the main caretaker, if the man is in conflict with the woman, this hinders his access to the child, once the mother will request or facilitate the involvement between father and child less frequently. It is possible to infer that, if couples with little father participation had been assessed during pregnancy and postpartum period, they would have shown signs that they were already drifting apart and also of stereotyping of the roles they play in the family. Strictness of roles is usually a result of personal and family expectations related to current social rules in the group and/or to the emotional distance caused by the couple's chronic conflicts. The literature shows comparable family dynamics in other cultures.[6,8,18]

The changes that are taking place in modern society result from modifications in the socioeconomic profile, average life expectancy, level of education, use of contraceptive methods, women entering the labor market and expansion of social rights that have transformed family structure and functioning. These changes require that professionals acquire further knowledge about risk and protection factors involved with new family arrangements (single-parent and remarried families, co-habitating couples or those who live in institutions) and the new family tendencies towards fathers being more involved since pre-natal care, with active participation during delivery and post-partum period. Thus, when men actively participate in the delivery experience, their respect for and closeness to their partners grow.[17]

In a Brazilian literature review between 1990 and 1999,[13] the number of studies on motherhood observed is approximately three times higher than those on fatherhood. However, studies have pointed out that man's active participation in domestic tasks and direct child care promotes the mother's well-being, which is reported as positive experiences of motherhood,[6,22] and also provides evidence of better child social and cognitive development.[1,7,11,21]

Despite their lack of statistical significance, the variables "low level of education" and "presence of father and mother mental disorder" show prevalence ratios that must be taken into consideration, once they are factors usually regarded as associated with parent-child relationship quality, revealing damage to the father-infant relationship.[19]

The present study enabled the direct observation of family groups of all children born in a certain district at a particular time, as well as their interactions in their environment. Moreover, a research instrument scoring method with consensus of two observers was employed, thus minimizing possible measurement bias. However, caution is necessary when generalizing the findings from this study, once it was performed in a single community which is not representative of all social strata.

Findings from this study point to the need to identify couple relationship disorders at an early stage to detect father-infant relationship vulnerability. Health services must increase their focus of observation and care beyond the mother-infant relationship, promoting conditions for father participation in pre-natal visits and child care. This, as a result, can prevent the man from moving away from his role as a father, according to the changes in modern family life.

REFERENCES

1. Aldous J, Mulligan GM. Father's child care and children's behavior problems. *J Fam Issue*. 2002;23(5):624-47. DOI: 10.1177/0192513X02023005003
2. Bowlby J. Apego. São Paulo: Martins Fontes; 1984.
3. Bustamante V. Participação paterna no cuidado da saúde de crianças pequenas: um estudo etnográfico com famílias de camadas populares. *Cad Saude Publica*. 2005;21(6):1865-74. DOI: 10.1590/S0102-311X2005000600036
4. Falceto OG, Giugliani ER, Fernandes CL. Couples' relationships and breastfeeding: is there an association? *J Hum Lact*. 2004;20(1):46-55. DOI: 10.1177/0890334403261028
5. Falceto OG, Giugliani ER, Fernandes CL. Influence of parental mental health on early termination of breast-feeding: a case-control study. *J Am Board Fam Pract*. 2004;17(3):173-83.
6. Feldman R. Parents' convergence on sharing and marital satisfaction, father involvement, and parent-child relationship at the transition to parenthood. *Infant Mental Health J*. 2000;21(3):176-91. DOI: 10.1002/1097-0355(200007)21:3<176::AID-IMHJ3>3.0.CO;2-4
7. Flouri E, Buchanan A. The role of father involvement in children's later mental health. *J Adolesc*. 2003;26(1):63-78. DOI: 10.1016/S0140-1971(02)00116-1
8. Gavin LE, Black MM, Minor S, Abel Y, Papas MA, Bentley ME. Young, disadvantaged fathers' involvement with their infants: an ecological perspective. *J Adolesc Health*. 2002;31(3):266-76. DOI: 10.1016/S1054-139X(02)00366-X
9. Glass J. Gender liberation, economic squeeze, or fear of strangers: why fathers provide infant care in dual-earner families. *J Marr Fam*. 1998;60(4):821-34. DOI: 10.2307/353627
10. Ip S, Chung M, Raman G, Chew P, Magula N, De Vine D. et al. Breastfeeding and maternal and infant health outcomes in developed countries. *Evid Rep Technol Assess (Full Rep)*. 2007;(153):1-186.
11. Kaplan MD. The role of fathers. *J Am Acad Child Adolesc Psych*. 1996;35(6):699-700.
12. Keller WD, Hildebrandt KA, Richards ME. Effects of extended father-infant contact during the newborn period. *Infant Behav Dev*. 1985;8(3):337-50. DOI: 10.1016/0163-6383(85)90022-0
13. Levandowski DC, De Antoni C, Koller SH, Piccinini C. Paternidade na adolescência e os fatores de risco e de proteção para a violência na interação pai-criança. *Interações*. 2002;7(13):77-100.
14. Levandowski D, Piccinini CA. A interação pai-bebê entre adolescentes e adultos. *Psicologia Reflexao e Critica*. 2002;15(2):413-24. DOI: 10.1590/S0102-79722002000200018
15. Mari JJ, WilliamS P. A validity study of a psychiatric screening questionnaire (SRQ-20) in primary care in the city of São Paulo. *Br J Psychiatry*. 1986;148(1):23-6. DOI: 10.1192/bjp.148.1.23
16. Matthey S, Barnett B. Parent-infant classes in the early postpartum period: Need and participation by fathers and mothers. *Infant Mental Health J*. 1999;20(3):278-90. DOI: 10.1002/(SICI)1097-0355(199923)20:3<278::AID-IMHJ5>3.0.CO;2-I
17. Mazzieri SPM, Hoga LAK. Participação do pai no nascimento e parto: revisão da literatura. *Rev Min Enf*. 2006;10(2):166-70.
18. McHale JP, Kazali C, Rotman T, Talbot J, Carleton M, Lieberson R. The transition to coparenthood: parents' prebirth expectations and early coparental adjustment at 3 months postpartum. *Dev Psychopathol*. 2004;16(3):711-33. DOI: 10.1017/S0954579404004742
19. Paulson JF, Dauber S, Leiferman JA. Individual and combined effects of postpartum depression in mothers and fathers on parenting behavior. *Pediatrics*. 2006;118(2):659-68. DOI: 10.1542/peds.2005-2948
20. Pedersen FA, Suwalsky JT, Cain RL, Zaslow MJ, Rabinovich BA. Paternal care of infants during maternal separations: associations with father-infant interaction at one year. *Psychiatry*. 1987;50(3):193-205.
21. Ramos S de P. What can we learn from psychoanalysis and prospective studies about chemically dependent patients? *Int J Psychoanal*. 2004;85(Pt 2):467-88. DOI: 10.1516/D7UK-ULMK-AT01-MYCQ
22. Rogers SJ, White LK. Satisfaction with parenting: the role of marital happiness, family structure, and parents' gender. *J Marri Fam*. 1998;60(2):293-308. DOI: 10.2307/353849
23. Seward RR, Yeatts DE, Zottarelli LK. Parental leave and father involvement in child care: Sweden and the United States. *J Comp Fam Stud*. 2002;33(3):387-99