

## Quality of life, cohesion and adaptability in beneficiary families of the “Bolsa Família” Program

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**Abstract** *We evaluated the association between quality of life, family cohesion and sociodemographic factors of beneficiary families of the Bolsa-Família Program (PBF). This was an analytical, cross-sectional study with exploratory methodology. The sample was composed of 385 respondents. The dependent variable was the quality of life (WHOQOL-BREF), and the independent variables were sociodemographic characteristics, self-rated health, family cohesion and adaptability (FACES III). The best quality of life was associated with an age younger than or equal to 36 years (OR = 2.15), higher educational level (OR = 1.54), good/very good health (OR = 6.39), not having current health problem (OR = 5.68), no treatment (OR = 1.76), moderate (OR = 3.39) and high (OR = 3.66) family cohesion and moderate adaptability (OR = 2.23). Individuals from families with moderate and high family cohesion were more likely to have a better quality of life than those from families with low cohesion. The male volunteers were 3.54 times more likely to have a better quality of life. It was concluded that moderate and high levels of cohesion may impact positively to the quality of life of persons receiving the PBF, indicating that social programs should seek to strengthen these dynamics.*

**Key words** *Quality of life, Family relations, Poverty, Adaptation, Public policy*

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## Introduction

Since the beginning of the 21st century, the greatest and most increasing difference among individuals of one and the same society has concerned the accumulation of capital. In the majority of countries, only 10% of the population is in the level above that of the mean wealth, but in the more unequal nations 1% of this income bracket may accumulate up to a hundred thousand times above this mean level<sup>1</sup>. In spite of still being considered a nation with a very high level of inequality<sup>1</sup>, between the years 2000 and 2007 there was a certain reduction in the inequality of the distribution of income in Brazil, which may be explained by economic growth associated with the political conjuncture focused on income transfer programs<sup>2</sup>.

One of the means proposed by the Brazilian State to achieve this improvement was the “BolsaFamilia” Program (PBF) Implemented in 2003, it was one of the central axes of social protection, with the purpose of combating the hunger and poverty of families in a situation of poverty or extreme poverty<sup>3</sup>. The emancipation of 13.8 million beneficiary families was promoted by monthly monetary transfers and mandatory conditionality requirements related to access to health and education, as well as participation in complementary actions of integration into the labor market<sup>4</sup>.

The PBF had positive impact on the assisted populations<sup>5</sup>, however, it was hardly measured in relation to quality of life. Furthermore, in this scenario of egalitarian opportunities there is a portion of the population that is not benefited by the same conditions as those offered by the policy, due to external<sup>6</sup> or possibly intrinsic factors.

In communities in which the inequalities and heterogeneities are very strong, the standards and concepts of well-being are stratified, since the idea of quality of life is related to the well-being of the upper layers and the passage from one threshold to the other<sup>7</sup>. To Schuler<sup>8</sup>, subjective perceptions of health in low income individuals may be better indicators of quality of life than the presence of systemic changes.

Trajectories marked by negative occurrences have a repercussion on the dynamics of families and the development and maturation of its members, thus having repercussions even on the adult stage of life<sup>9</sup>. In the process of socialization, some constructs of family relations, such as the dimensions of cohesion and adaptability are used to analyze their functionalities. Family cohesion

is defined as a variation between separation and connection of the family members or the emotional ties their members have with one another, while adaptability refers to the capacity of the family to be flexible to changes, by variation in the power structure and rules of relationship, instead of new obstacles or stressing events that occur within them<sup>10</sup>. From previous studies it is known that worse socioeconomic situations are associated with low family cohesion and behaviors that are harmful to health<sup>11,12</sup>. Understanding how the individuals in a family relate to each other and knowing the degree of union among the family members; that is, family cohesion, are essential elements for optimizing the relations and improving conditions of health and quality of life among the family members.

In turn, the topic of quality of life with many meanings is a social construct marked with cultural relativity; it is an eminently human notion close with approximation to the degree of satisfaction found in family, love, social and environmental life and with existential esthetics itself<sup>7</sup>. Indeed, few studies have been dedicated to entering into family meandering to obtain the perceptions of families, which are in vulnerable conditions and live within contexts of social inequality, about relations, and whether these interfere in their health, and consequently in their quality of life. Thus, knowledge about these perceptions may be an important indicator for the implementation of improvements in these programs. Bearing in mind the foregoing discourse, the aim of this study was to investigate the association between quality of life, family cohesion and adaptability, and sociodemographic variables in beneficiary families of the “BolsaFamilia” Program.

## Methodology

### Ethical aspects

The research project was submitted to the Research Ethics Committee of the Piracicaba Dentistry School, FOP, State University of Campinas/UNICAMP for appreciation, and was approved.

### Study characterization, place of development and sample

This analytical, cross-sectional study with an exploratory nature and quantitative methodology, was conducted in 2012 in the city of São Carlos, São Paulo, Brazil. Because it concerned a gov-

ernment benefit, the names and number of beneficiaries of the PBF were in the public domain. Their addresses, however, were requested from the National Secretary for Income and Citizenship (“Secretaria Nacional de Renda e Cidadania - SENARC”) that belonged to the (now extinct) Ministry of Social Development and Combat of Hunger (MDS).

The beneficiaries represented approximately 2.3% of the total population of the municipality. Among the 5170 beneficiary families registered with the PBF at the time when the research was conducted, 5076 (five thousand and seventy-six) were used to calculate the sample, because some of the addresses were incomplete, making it impossible to include all the families in the studied population. The families were distributed in the following manner: Suburb Aracy, 2001 families; Suburb Sede, 626 families; Suburb Santa Eudóxia, 110 families; Suburb Santa Felícia, 777 families; Suburb Pacaembu, 831 families; and Suburb São Carlos VIII, 731 families.

The sampling used was of the probabilistic by conglomerate type in two stages, suburbs and beneficiaries. A sample number of 385 families was calculated with response for the population surveyed, considering a 95% level of confidence, sampling error of 5%, taking the criterion of calculation as being the proportion of 0.50 (50% of the same chance of participation among the beneficiaries of each suburb).

The following inclusion criteria were considered: subjects belonging to the beneficiary family, comprising the same residence, with or without a degree of family relations among them, who had been receiving the benefit for at least six months, and were over the age of 18 years. The beneficiaries, or persons who resided with the beneficiary family for a period shorter than six months, and beneficiaries who had with diction or cognition to express their responses, or who were under the age of 18 years, were excluded from the study.

#### **Instruments used for data collection**

Sociodemographic data: in a semi-structured, self-applied questionnaire filled out at the residence, data were collected consisting of the following information about the respondent: sex; age; educational level; number of persons in the family (family nucleus); How is your health, classified into 5 items, namely: very bad (1) weak (2) not bad or good (3) good (4) very good (5); present health problems, in which the respondent could choose among 18 options of

predetermined conditions and an item denominated “Others”, in which they could specify other problems, and lastly, the health care regimen that consisted of: Without treatment (1), Outpatient treatment, which corresponded to treatment at a Primary Health Care Unit (2) and, Hospitalization (3).

Level of Quality of Life: to evaluate the quality of life a short form of the instrument World Health Organization Quality of life (WHO-QOL-bref) was used; this allows evaluation of the quality of life of adult populations and was validated for Portuguese by Fleck et al.<sup>13</sup>. The WHO-QOL-bref consists of 26 questions with response alternatives given by the Likert scale; there are two general questions and 24 representing facets that composed the original instrument, related to 4 domains: physical, psychological, social and environmental relations. The results obtained were transformed into linear scales and the highest scores denoted better quality of life.

Cohesion and adaptability: to evaluate family functioning with regard to cohesion and adaptability, the *Family Adaptability and Cohesion Evaluation Scales* (FACES III) were applied, created by Olson et al.<sup>14</sup> and validated in Brazil by Falceto et al.<sup>15</sup>. The FACES III evaluation scale is a self-applicable questionnaire that proposes to evaluate family functioning and risk by means of evaluating family cohesion and adaptability. For each dimension, there are ten questions that have an attributed value from 1 to 5; with 1 being “almost never” up to 5, “almost always”. The score ranged from 10 to 50 for each domain.

#### **Variables analyzed and data analysis**

In the present study, groups were classified by means of obtaining the mean and standard deviation of family cohesion and adaptability of the studied population. For cohesion, values below and above the standard deviation corresponded to disengaged and enmeshed families (which were denominated low and high cohesion), respectively. Values between the standard deviation and mean corresponded to families with average cohesion (which was denominated *moderate cohesion*); separated families were those with *below average* family cohesion, and enmeshed families, those with *above average* cohesion, according to the study of Ferreira et al.<sup>11</sup>. For adaptability, values below and above the standard deviation corresponded to chaotic and rigid families (which were denominated low and high adaptability), respectively. Values between the standard deviation

and mean corresponded to families with average adaptability (which was denominated *moderate adaptability*); so that Flexible families were those with *below average cohesion* family and Structured families, those that were *above average*.

Quality of Life was considered the dependent variable, dichotomized by the median of the WHOQOL-bref into  $\leq 13.69$  (worse quality of life), and  $> 13.69$  (better quality of life). The independent variables were categorized as follows: age (dichotomized by the median into  $\leq 36$  years and  $> 36$  years); sex (female and male); educational level (dichotomized by the median into  $\leq 8$  years of schooling and  $> 8$  years of schooling); "how is your health?" (dichotomized by the median into "not good" which linked the responses very bad, weak, and not bad; or "good/very good" which linked the responses good and very good); present health problem (have a problem and do not have a problem); health care regimen (as no participant marked the option "hospitalization", this variable was dichotomized into without treatment and with outpatient treatment), family nucleus (dichotomized by the median into  $\leq 4$  persons in the family and  $> 4$  persons), family cohesion (low, moderate and high) and adaptability (low, moderate and high).

The Chi-square test was applied to test association among the independent variables and the quality of life. The variables that showed  $p < 0.20$  in the bivariate analysis were tested in the multiple logistic regression models. The Odds Ratio (OR) and respective confidence intervals of 95% (IC) were estimated for the variables that remained in the final model, at the level of significance of 5%. All statistical tests were performed with SAS program<sup>16</sup>.

## Results

The larger portion of the sample was composed of women (94.81%), and 197 (57%) individuals were 36 years old or under. Among those researched, those had had 08 or fewer years of school prevailed (63.09%). The larger portion (59.16%) of persons evaluated their health as being good or very good. As regards having some type of health problem, 203 (52.73%) persons reported some health problem at the time of the research. The larger portion (62.34%) of persons also responded that they were being followed up at an outpatient section of a Primary Health Care Unit, and 60.26% of the families were composed of a number equal to or lower than four persons.

In the bivariate analysis (Table 1), the best quality of life was associated with age lower than or equal to 36 years (OR = 2.15); higher educational level (OR = 1.54); good/very good health (OR = 6.39) v having no health problem at the time (OR = 5.68); without treatment (OR = 1.76), moderate (OR = 3.39) and high (OR = 3.66) family cohesion and moderate adaptability (OR = 2.23).

In the final model (Table 2), the individuals coming from families with moderate and high family cohesion had more chance of having better quality of life than individuals from families with low cohesion. Volunteers of the male sex had 3;54 times more chance of having a better quality of life than those of the female sex. Moreover, those with good/very good health and without any present health problem had a higher chance of having better quality of life.

## Discussion

This study showed that family relations, with respect to their interpersonal limits and decision making processes in daily life, led to the beneficiary families of PBF having a higher chance of quality of life. This was the aspect that made this study unprecedented: the analysis of family cohesion and adaptability and their influence on the quality of life in families that were holders of the right to participate in the Bolsa Familia Program.

A family system that is in balance provides close emotional relations among its members, taking advantage of the opportunity to have independence and social support<sup>17</sup>. This moderate or high cohesion and moderate adaptability allowed a family that had experienced privation of essential goods to recover its self-esteem, recreate individual projects, react to unexpected changes and perceive life with better quality within the different aspects of it.

Ferreira e Pereira<sup>12</sup> demonstrated that the relationship between functional incapacity and quality of life is strong when sick individuals belong to a balanced family. Moreover, the type of family cohesion and adaptability has been associated with behavioral variables of health. A high level of family cohesion, for example, may be a protective factor against deleterious habits<sup>11</sup>.

Families that had a high rate of unemployment and accentuated and precarious educational, income and professional levels; or those that suffered a significant number of stressing occurrences, above all related to psychological and

**Table 1.** Bivariate analysis for association of dependent variable (quality of life).

| Variables                              | Quality of Life |             | Raw OR (IC 95%)    | p-value |
|--|-----------------|-------------|--------------------|---------|
|  | Worse           | Better      |                    |         |
|  | N (%)           | N (%)       |                    |         |
| Age                                    |                 |             |                    |         |
| ≤ 36                                   | 81 (41.12)      | 116 (58.88) | 2.15(1.43-3.23)    | 0.0002  |
| > 36                                   | 111 (60.00)     | 74 (40.00)  | Ref                |         |
| Sex                                    |                 |             |                    |         |
| Male                                   | 6 (30.00)       | 14 (70.00)  | 2.45(0.92-6.52)    | 0.0725  |
| Female                                 | 187 (51.23)     | 178 (48.77) | Ref                |         |
| Educational Level                      |                 |             |                    |         |
| ≤ 8 Years of Schooling                 | 130 (53.94)     | 111 (46.06) | Ref                |         |
| > 8 Years of Schooling                 | 61 (43.26)      | 80 (56.74)  | 1.54(1.01-2.33)    | 0.0444  |
| How is your health/How healthy are you |                 |             |                    |         |
| Not good                               | 119 (75.32)     | 39 (24.68)  | Ref                |         |
| Good, Very good                        | 73 (32.30)      | 153 (67.70) | 6.39 (4.05-10.09)  | <0.0001 |
| Present health problem                 |                 |             |                    |         |
| Has a problem                          | 141 (69.46)     | 62 (30.54)  | Ref                |         |
| Has no problem                         | 52 (28.57)      | 130 (71.43) | 5.68 (3.66-8.82)   | <0.0001 |
| Health care regimen                    |                 |             |                    |         |
| Without treatment                      | 60 (41.38)      | 85 (58.62)  | 1.76(1.16-2.67)    | 0.0078  |
| With outpatient treatment              | 133 (55.42)     | 107 (44.58) | Ref                |         |
| Family Nucleus                         |                 |             |                    |         |
| ≤ 4 persons in the family              | 123 (53.02)     | 109 (46.98) | Ref                |         |
| > 4 persons in the family              | 70 (45.75)      | 83 (54.25)  | 1.34 (0.89 - 2.01) | 0.1629  |
| Family Cohesion                        |                 |             |                    |         |
| Low                                    | 41 (74.55)      | 14 (25.45)  | Ref                |         |
| Moderate                               | 128 (46.38)     | 148 (53.62) | 3.39 (1.77-6.49)   | 0.0002  |
| High                                   | 24 (44.44)      | 30 (55.56)  | 3.66 (1.63-8.23)   | 0.0017  |
| Adaptability                           |                 |             |                    |         |
| Low                                    | 39 (63.93)      | 22 (36.07)  | Ref                |         |
| Moderate                               | 115 (44.23)     | 145 (55.77) | 2.23(1.25-3.98)    | 0.0063  |
| High                                   | 39 (60.94)      | 25 (39.06)  | 1.14(0.55-2.35)    | 0.7296  |

The reference level of the dependent variable was a better quality of life; OR: Odds Ratio; CI: Confidence Interval.

**Table 2.** Multiple logistic regression models for the quality of life as the dependent variable. São Carlos/2012.

| Variable                             | Model 1* | Model 2 |            |         | Model 3 |           |         | Model 4 |            |         |
|--------------------------------------|----------|---------|------------|---------|---------|-----------|---------|---------|------------|---------|
|                                      |          | OR      | IC (95%)   | p-value | OR      | IC (95%)  | p-value | OR      | IC (95%)   | p-value |
| Cohesion (ref=low)                   |          |         |            |         |         |           |         |         |            |         |
| Moderate                             |          | 3.39    | 1.77- 6.49 | 0.0002  |         |           |         | 4.08    | 1.97-8.49  | 0.0002  |
| High                                 |          | 3.66    | 1.63-8.23  | 0.0017  |         |           |         | 3.93    | 1.58-9.77  | 0.0032  |
| Adaptability (ref=low)               |          |         |            |         |         |           |         |         |            |         |
| Moderate                             |          |         |            |         | 2.23    | 1.25-3.98 | 0.0063  |         |            |         |
| High                                 |          |         |            |         | 1.14    | 0.55-2.35 | 0.7296  |         |            |         |
| Sex (ref=female)                     |          |         |            |         |         |           |         | 3.54    | 1.18-10.59 | 0.0236  |
| How is your health<br>(ref=not good) |          |         |            |         |         |           |         | 3.76    | 2.15-6.59  | <0.0001 |
| Present health problem               |          |         |            |         |         |           |         | 3.15    | 1.82-5.47  | <0.0001 |
| - 2 Log L                            | 533.721  |         | 517.759    |         |         | 522.366   |         |         | 424.135    |         |
| AIC                                  | 535.721  |         | 523.759    |         |         | 528.366   |         |         | 436.135    |         |

\* empty model. The reference level of the dependent variable was a better quality of life; OR: Odds Ratio; CI: Confidence Interval.

marital problems with high emotional impact, could have their family adaptability affected<sup>18</sup>.

The data demonstrated that although they belonged to the PBF, and were defined as families in a situation of poverty, moderate cohesion and adaptability were shown to be present, in their perception of quality of life as well. These families could share this knowledge and transfer it to increasingly qualify the State social protection services through horizontal communication; so that together, social programs and beneficiaries strengthen social and family ties, factors that are so important for coping with social and economic vulnerabilities.

Analysis of the relations between the health of populations, inequalities in the conditions of life, and degree of development of the network of ties showed that it was not the richer societies that had better levels of health, but rather the more egalitarian societies with high social cohesion<sup>19,20</sup>. However, according to Rosalini<sup>21</sup>, assistential actions directed towards the development of citizenship must seek strategies that they can “construct together with” the communities, by recognizing the learning of individuals who have developed their own resources in the face of exclusionary contexts.

The economic challenges faced by poor families, within in the scope of both national and local contexts with refer to work, income and professional qualification demand structural politics, That is to say, it cannot be expected that all the changes necessary for overcoming poverty can be accomplished by a conditioned transfer of income program, however, given present social equalities, the PBF has been pointed out as being one of the factors responsible for the reduction in inequality of income between the years 2004 to 2013<sup>22</sup>.

The program design is normative and requires a complex structure of the foreseen conditionalities, backed by intersectoral and federal cooperation<sup>23</sup>.

In the first place, participating families must have a monthly per capita income between R\$ 77.00 and R\$154.00; secondly, they must make their children and adolescents go to school with a certain frequency, and lastly, families must follow-up the development of children and women, right from the time of undergoing pre-natal care through to monitoring the health of the mother and baby<sup>24</sup>.

Access of the population to primary health care combined with income transfer has contributed to various aspects of health, such as food

security<sup>25</sup> and changes in basic indicators such as post-natal infant mortality<sup>26</sup>. Considering the most comprehensive concept of quality of life as being the list of biological needs resulting from the interaction between health, diet, environment, housing, economic resources, relationships, leisure and satisfaction with psychological, self-esteem, identity and spirituality factors<sup>27</sup>, it would have been expected that the promotion of health and education would contribute to the quality of life of the beneficiaries.

In the present study, quality of life was also associated with good/very good health (67.7%). Noronha *et al.*<sup>28</sup>, in a population-based study with adults, pointed out that the health-related quality of life was associated with the possession of goods and absence of chronic diseases. In Norway, 405 beneficiaries of a social assistance program reported chronic pain (29.7%); this fact contributed to negative impact on the physical and mental state of the subjects, as it interfered in their daily activities and work commitments<sup>29</sup>.

Data have increasingly demonstrated that age had an influence on quality of life<sup>30,31</sup>. In the understanding of these authors, older individuals may have higher chances of compromised mental and physical states. In spite of the self-reported health status was reported as being good/very good, and absence of treatment at the time (47.2%), in analysis of the results, the volunteers over the age of 36 years (48%) had a perception of low quality of life. With regard to age, this may be associated with an overload of work and family responsibilities, or even personal care, such as absence of physical activities and deleterious habits common among adults<sup>28</sup>.

The sample of the present study was predominantly composed of women, as was the case in other population studies with persons assisted by social support<sup>32,33</sup>. This was a datum that represented the responsibility undertaken by the female gender to decide about the application of the resources received. The net effect of being a beneficiary of the program was positive for women, whose work gained recognition and value in the work market, instead of the previous status of being considered almost free-of-charge<sup>34,35</sup>.

However, the beneficiary family of the PBF reinforces the traditional hierarchic composition, with specific definitions?/specifically defined functions(?) distributed between the husband and wife<sup>36</sup>. According to Pires<sup>36</sup>, women's participation in the PBF was marked by tension, because although women exerted authority in domestic financial management, this relationship



was only established due to their role as mothers. According to the results found, men had a better perception of quality of life when compared with that of women. Therefore, in spite of women being included in a policy with confirmed rights, this inclusion did not guarantee them equality of genders.

Although the design of the present study was carefully traced, due to being of a cross-sectional nature, it did not allow verification of the relations identified over the course of time, which made it impossible to establish cause and effect relations, in addition to more in-depth verifications about the origins of the findings. This pointed out the need for further studies, in order to check the results here found. In addition, it is

suggested that qualitative designs should be used in future studies, so that better understanding may be acquired of the perceptions and meaning of the family relations, as well as of the quality of life of persons who live within the contexts of poverty and extreme poverty.

Thus, it was concluded that moderate and high levels of cohesion may have a positive impact on better quality of life of persons in a state of poverty in the municipality of São Carlo. These findings deserve in-depth consideration, in the sense of verifying their possible inference relative to the entire beneficiary population of PBF in Brazil, since the socioeconomic characteristics of the beneficiaries of this program are the same throughout the country.

## Collaborations

MHP Rosalini participated in conception of the initial project, data collection and writing the article. LF Probst, IP Cunha and BVC Gondinho contributed to writing the article, critical review of the intellectual content and final approval of the version to be published. KL Cortellazzi, RF Possobon, AC Pereira and LM Guerra contributed to analysis and interpretation of the data, writing the article, critical review of the intellectual content and final approval of the version to be published.

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