

Socioeconomic aspects of genitors of children with microcefalia related to Zika Virus

Aspectos socioeconômicos dos genitores de crianças com microcefalia relacionada ao Zika Vírus

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RESUMO | INTRODUÇÃO: A microcefalia é uma má formação cerebral que não tem cura e é caracterizada por um perímetro cefálico inferior ao esperado para idade e sexo. É relacionada ao Zika Vírus que é transmitido pelo mosquito Aedes e quando contraído nos primeiros meses gestacionais aumentam as chances do feto desenvolver a microcefalia, já que o desenvolvimento cerebral tem início na fase intra-uterina. **OBJETIVO:** Esta pesquisa tem como objetivo caracterizar o perfil socioeconômico dos responsáveis por criança com diagnóstico de microcefalia relacionado ao Zika vírus. **MÉTODOS:** Foram entrevistados 41 cuidadores principais das crianças com microcefalia em Salvador e Região Metropolitana de Salvador, através de um questionário contendo 30 perguntas fechadas que abordavam questões familiares, socioeconômicas e sanitárias. **RESULTADOS:** Observou-se que a maioria dos bebês tinha entre 15-18 meses e tiveram seu diagnóstico em sua maior parte no momento intrauterino. Houve uma frequência elevada de desemprego entre os pais, que relataram sobreviver com até 1 salário mínimo mensal, possuíam ensino médio completo, encontravam-se solteiros ou em união estável e um número significativo citaram condições sanitárias desfavoráveis e negaram usar repelente. De um modo geral, os principais cuidadores relataram que não possuíam residência própria e grande parte levavam as crianças para fazerem atendimentos multiprofissionais tanto em hospitais públicos como em instituições sem fins lucrativos. **CONCLUSÃO:** Há uma frequência predominante de genitores que dispõem de crianças com microcefalia relacionada ao Zika vírus em baixas condições socioeconômica, que consequentemente não conseguem suprir a maioria das necessidades que um lactente com má formação necessita.

PALAVRAS-CHAVE: Socioeconômico. Microcefalia. Zika. Principal cuidador.

ABSTRACT | INTRODUCTION: Microcephaly is a poor cerebral formation that has no cure and is characterized by a cephalic perimeter lower than expected for age and sex. It is related to the Zika virus that is transmitted by the mosquito Aedes and when contracted in the first gestational months increase the chances of the fetus to develop microcephaly, since the cerebral development begins in the intrauterine phase. **OBJECTIVE:** This study aims to characterize the socioeconomic profile of those responsible for children with a diagnosis of microcephaly related to Zika virus. **METHODS:** We interviewed 41 primary caregivers of children with microcephaly in Salvador and Metropolitan Region of Salvador, through a questionnaire containing 30 closed questions that addressed family, socioeconomic and health issues. **RESULTS:** It was observed that most of the babies were between 15-18 months and had their diagnosis mostly intrauterine. There was a high frequency of unemployment among parents, who reported surviving up to 1 monthly minimum wage, had completed high school, were single or in a stable union and a significant number cited unfavorable health conditions and denied using repellent. Overall, the primary caregivers reported that they did not have their own residence, and most of them took the children to multiprofessional care in both public hospitals and non-profit institutions. **CONCLUSION:** There is a predominant frequency of parents who have children with Zika virus-related microcephaly in low socioeconomic conditions, who consequently fail to meet most of the needs that a malnourished infant needs.

KEYWORDS: Socioeconomic. Microcephaly. Zika. Primary caregiver.

Introduction

The Zika is a virus transmitted by *Aedes aegypti* mosquito, that was detected for the first time in Brazil in April, 2015. The most clinical symptoms are headache, low fever, mild joint pain, red spots on the skin, itch and redness in the eyes, however there were cases in which infected persons did not develop clinical symptoms. Environmental factors influence the propagation of these vectors and representing a greater risk of contamination to the population living in places with open-air sewer, water accumulated in containers, and lack of basic sanitation¹.

The serious epidemic of microcephaly calls attention to the urgent necessity for large investments to improve the living conditions of urban populations in Brazil. If, on the one hand, the lack of water in the dwellings causes domestic storage to be necessary, creating favorable place to the reproduction of mosquito, on the other hand, the rain favors the accumulation of water in precarious dwellings or where there is residue deposited, generating environments favorable to mosquito proliferation. The massive deployment of the selective collection of solid waste, with adequate separation and destination for recyclable waste, is an important measure for vector control and environmental perspective. The open-air sewers, which also contain deposited garbage, are another source inexhaustible to breeding *Aedes aegypti* mosquito and other vectors and need to be eliminated².

Microcephaly is not a recent pathology, but it was rare, characterized by a congenital malformation in which the brain does not evolve properly. The cephalic perimeter of the child is smaller than the standard established for normality expected by sex and age, which is 31,9cm for boys and 31,5cm for girls, data up to date according to cases of microcephaly by Zika virus³.

Microcephaly is divided in two main categories: primary microcephaly (genetic) that occur in situations where the brain is small and does not complete its normal embryonic development due to genetic, chromosomal and malformations, or, the effect of environmental conditions in the uterus, babies are distended after birth due the low cephalic perimeter. In the secondary the brain is complete for the normal

embryonic development, but, after, suffers a diffuse lesion and change its typical evolutionary growth in the first two years of life⁵.

Infections through the Zika virus, which occur during the first trimester of pregnancy, have the deep impact on the development of the fetus and threaten its viability. They can affect proliferation and differentiation cell, which leads to organ malformations and growth limitation. The mechanism by which Zika virus can cause fetal microcephaly is unknown, however studies indicate that Zika virus is able to evade the normal immunoprotective responses of the placenta. Another possibility is that the virus has neurotropic and, through the placenta, is directly accessing and damage the development brain^{6,7}.

The Social Determinants of Health are the social conditions that individuals experience, composed of the economic, cultural, ethnic/racial, psychological and behavioral aspects that influence the incidence of health problems and their risk factors in the population. The Zika epidemic that spreads through much of the country, disseminated by the *Aedes aegypti* mosquito, seem to be directly linked to these determinants⁸.

This research point to the perception of the social and economic characteristics that these parents experience, impacting on the necessity to make public politics more directed to this population. This study aims to characterize the socioeconomic profile of those responsible for children with diagnostic of microcephaly related to Zika Virus, and identifying health conditions.

Material and Methods

This is a cross-sectional, quantitative study, with the legal person of children with diagnostic of Microcephaly, born in the state of Bahia, and enrolled in the Abraço a Microcefalia project, head office in Salvador, Bahia. The Abraço a Microcefalia Project aims to direct, to receive, to support to families of children with diagnosed with Microcephaly, through voluntary and free workshops, lectures, donations and care.

After the approbation of project by the Research Ethics Committee of the Institute for Higher Education, it was presented to management and, after consent, the sample was selected, non-probabilistic for convenience, composed of 49 parents, Who signed the Free and Informed Consent Form, confirming the participation in the study. Legal person with impairment neurological and linguistic or those who refused to sign the Free and Informed Consent Form were excluded totaling 8 persons. The study sample consisted of 41 legal person of children with diagnostic of Microcephaly after Zika virus.

A pilot study was realized for the calibration of the research instruments, in October 2016, with 2 parents of children with diagnostic of Microcephaly, being necessary alteration of the questionnaire for greater clearing in some questions.

The approach to person was realized in the physical environment of the Hugs to Microcephaly Project, while they were in the waiting room for multiprofessional services, followed by previous presentation by the interviewer and information about the research objective.

The data were collected through interview with a structured questionnaire, prepared by authoress, with 30 objective questions about family, socioeconomic and health conditions, which allowed a greater exposure of data, with a duration of approximately 10 minutes para for each interview. The individuality of the legal person was respected, being applied individually, in a reserved room, in the physical environment of the Hugs to Microcephaly Project. The collection period was from February to March 2017.

The database was created in Microsoft Excel 2013, systematized in SPSS software (version 22.0) and descriptive statistics analysis (absolute and relative frequency) to identify the general and specific characteristics of the sample studied. The results were presented in the form comparative table created in Microsoft Excel 2013. Being submitted the Research Ethics Committee of the Institute for Higher Education, approved in October 2016, with CAAE 57341916.0.0000.5032.

The participant sample of this study was composed of 41 mean caregivers of children with microcephaly diagnostic post Zika virus. Being 53.66%, of the children of the female sex, and 46.34% of the male. Correlating with other studies⁹, 58% of the children were female and 41% were male; and it was observed that Xavier et al. (2014) report in their research that 20 boys and 19 girls are present, fit is demonstrated there is not specific gender predominance, for the microcephaly diagnostic, it is confirmed in studies¹¹, which show that there is not gender domain on the diagnostic of Cerebral Paralysis (Table 1).

The most of the children in this study had an age of 14 months, a minimum of 9 months and maximum of 23 months, with a higher prevalence among the 15-18 months age (75.60%), that is, were born between Oct/2015 to Jan/2016, evidencing Zika's relationship with microcephaly, because the virus epidemic was also given at the same time. Brazil confirmed in October 2015 an atypical increase in microcephaly cases in Pernambuco and, other Northeastern states also confirmed a peak birth since October of 2015. The number of cases of neonatal microcephaly, possibly related to the Zika virus, increased in Brazil, including cases detected in 724 cities of the country^{10,11,12}.

The predominant skin color was brown, in which 56.10% of those responsible reported this ethnicity for their children 31.70% black and 12.20% white (Table 1), corroborating with a study¹¹ in PC, with report 76.9 % brown and 2.1 % black. The Brazilian Institute of Geography and Statistics (IBGE) show that Bahia has majority of population of brown (59%), contributing to the index of research in general in the state, in the last demographic census.

The diagnostic of microcephaly was 53.66% in the prenatal period, 34.14% perinatal period and 12.20% in the postnatal period, correlating with another research¹³ which cites the Discovery of cerebral malformation in approximately 70% in the intrauterine moment, evidencing that the prenatal is fundamental for the diagnostic in the pregnancy, preparing the mother, the family and the environment for the arrival of child who will need

several necessary care and expenses, also based on evidence from studies⁹ that microcephaly is 2.6 time higher at birth for mothers who did not perform all prenatal care (Table 1).

In the prenatal care, the early identification of the smaller cranial circumference can give greater success in the etiology of microcephaly, and better prepare the mother and the family for the birth of a baby with malformation. It is important to note that early diagnostic, the proper notification and registration are essential for research on microcephaly related to Zika virus. French Polynesia since 2013 face the largest outbreak of Zika virus infection with possible perinatal transmission, for via transplacental, during birth, breast feeding or direct contact with the mother, however the number

of infections in newborns has occurred by lack of diagnostic and accompanying¹⁴.

According to research^{9,10,11,12,13,14,15}, it was that 50% and 71% of the mothers, respectively, performed 6 or more prenatal care. And, in another research¹⁰, report that all the mothers have done 1 consultation, as in the present study, in which the complete accompanying of prenatal care was performed by the majority of the mother (87.80%). The other (12.20%) did not perform at least one of the necessary consultations for several reasons, such as late pregnancy finding (n=3), hospital admission (n=1), making it impossible to go to the care and not to attend appointments (n=1), evidencing the lack of information about the importance of family planning (Table 1).

Table 1. Identification of children with microcephaly related to zika virus and of main caregiver (n=41), in Salvador na metropolitan region.

CHILD			MAIN CAREGIVER		
	F	%		f	%
Genre			Relationship to child		
Male	19	46,34	Father	8	19,51
Female	22	53,66	Mother	33	80,49
Age			Marital Status		
9-12 months	1	2,44	Single	29	70,73
12-15 months	3	7,32	Married	11	26,83
15-18 months	31	75,60	Divorced	1	2,44
18-21 months	4	9,76	Widower	0	0,00
21-23 months	2	4,88	Lives with the child's parent		
Skin color			Yes	26	63,41
White	5	12,20	No	15	36,59
Black	13	31,70	Prenatal Care		
Brown	23	56,10	Yes	36	87,80
Diagnostic of Microcephaly			No	5	12,20
Prenatal	22	53,66			
Perinatal	14	34,14			
Posnatal	5	12,20			

f –absolute frequency; % - relative frequency
Source: Prepared by the authoress, 2017.

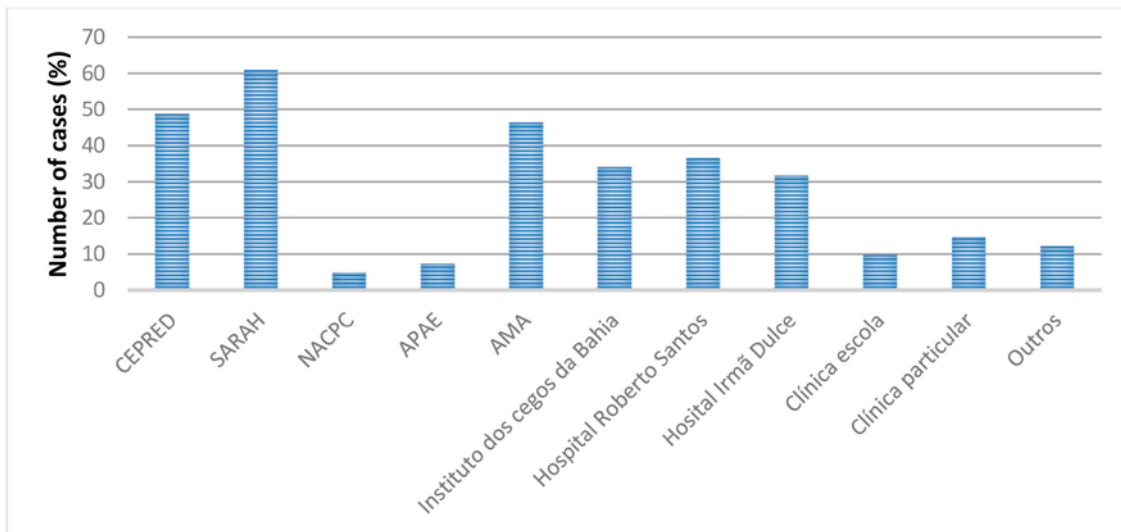
The interview was answered by the mean people, being 8 parents (19.51%) and 33 mothers (80.49%), correlating with the study of children with special necessity¹⁶, confirming that the primary caregiver is the mother in 92% of the cases. The marital status was predominant in 70.73% single, and in general, 63.41% live with the child's father, agreeing with another author⁹ in which 72% of the sample declared being single or living common-law marriage, which show that there are still significant number of children who are received only by the mother and do not have the presence of the father every Day for the necessary accompanying and to divide the tasks that burden the mother of these babies (Table 1).

The multiprofessional care was undertaken by all the participate children, considering that all of them performed care in more than one place, simultaneously. The Sarah Kubistcheck Salvador Hospital was the most prevalent, providing care in 60.97% of the sample, some are more assisted by the number os specialists they attend, but all have in common the attendance at public hospitals and non-

profit institutions, thus defining na irregular economic issue, with dependencies on public politics and voluntaries work for health care and development of their babies. It was observed that the services performed by the child with microcephaly are 85.6% SUS and 15.4% private, thus confirming the data of the present study on the use of public assistance¹⁷ (Graph1).

All places cited were: Center for the Prevention and Rehabilitation of the Disabled Person (CEPRED) (48.78%), Sarah Salvador Hospital (60.97%), Child Care Center with Cerebral Palsy (NACPC) (4.88 %), Association of Parents and Friends of the Exceptional (APAE) (7.32%), Embrace of Microcephaly (AMA) (46.34%), Institute of the Blind of Bahia (34.14%), Roberto Santos Hospital (59%), Irmã Dulce Hospital (31.7%), School Clinics (9.76%), Private clinics (14.63%) and other places (12.2%), such as: Climério de Oliveira Maternity), Institute of Neurological Organization of Bahia (ION), Martagão Gesteira Hospital, Marta Alencar Social Center and Pestalozzi Rehabilitation Center (Graph1).

Graph 1. Distribution of the places of care (n=41), Salvador and metropolitan region. Source: Prepared by the authoress, 2017.



Concerning the social data of the parents (Table 2), the fatherly prevalence level was higher among the 35-45 year old (34.14%), 39.02% of them had completed high school, 58.54% were employed, and 34.14% receive monthly up to 1 minimum wage. These data point to a stable condition for most, but they do not have a large incidence of unemployment (34.04%) and no monthly income (24.39%), a worrying situation due to the daily commitment of expenses with multiprofessional treatment of child with microcephaly. According to the study in PC¹¹, 46.2% of the parents had incomplete elementary school, contrary to the data collected in the present research, however, on the other fatherly variables, no corresponding studies of other authors were found for discussion.

Regarding the maternal characteristics, the prevalence was observed in the age between 25-35 years (34.14%), while the authors^{13,14,15} bring the average age of 24 and 27 years respectively, while Vargas et al. (2016) say that 73% of the mothers are up to 29 years, tracing a profile of these mothers, over the age of 25 years. Their education in the present study prevailed with complete high school (41.46%), showing that most of them also have a high school education (55.5%)¹⁵. The mother's education reflects socioeconomic conditions

and is associated with a large risk of neonatal death, where maternal education is an important risk factor for child survival and an indicator of socioeconomic status¹⁸ (Table 2).

The profession of the mothers was housewife (43.90%) and unemployed (31.71%), with a monthly income of up to 1 minimum wage (65.85%) (Table 2). There are reports that many stopped working or doing other paid work to care for their babies. They also observed in a study with a total of 40 participants, that most of them (n=16) are housewife, demonstrating that this type of malformation needs more attention from their mothers, because children with neurological impairment depend on a caregiver to perform activities of daily living, a complex task that requires time, doing the mothers to abdicate their jobs^{10,19}.

According to Xavier et al. (2014), which may increase the probability of deficits in motor development, is the socioeconomic level of the family. Some research showed the importance of socioeconomic factors in the determination of the child's health and consider mother's education and family income as basic elements, they are indicators of available resources and knowledge or behavior regarding the child's health.

Table 2. Social data of parents of children with microcephaly related to Zika virus (n=41), in Salvador and metropolitan region

FATHER			MOTHER		
	F	%		f	%
Education			Education		
Complete Elementary School	1	2,44	Complete Elementary School	0	0,00
Incomplete Elementary School	0	0,00	Incomplete Elementary School	6	14,63
Complete Middle School	0	0,00	Complete Middle School	0	0,00
Incomplete Middle School	7	17,07	Incomplete Middle School	4	9,76
Complete High School	16	39,02	Complete High School	17	41,46
Incomplete High School	10	24,39	Incomplete High School	11	26,83
Complete Higher Education	4	9,76	Complete Higher Education	2	4,88
Incomplete Higher Education	3	7,32	Incomplete Higher Education	1	2,44

Tabela 2. Dados sociais de genitores das crianças com microcefalia relacionada ao zika vírus (n=41), em Salvador e região metropolitana. (continuação)

FATHER			MOTHER		
	F	%		f	%
Age			Age		
15-25 years	10	24,39	15-25 years	13	31,71
25-35 years	12	29,27	25-35 years	14	34,14
35-45 years	14	34,14	35-45 years	13	31,71
45-55 years	5	12,20	45-55 years	1	2,44
Profession			Profession		
Unemployed	14	34,14	Unemployed	13	31,71
Autonomous	3	7,32	Autonomous	0	0,00
Employee	24	58,54	Employee	6	14,63
housewife	0	0,00	housewife	18	43,90
Student	0	0,00	Student	4	9,76
Income			Income		
Up to 1 minimum wage	14	34,14	Up to 1 minimum wage	27	65,85
Between 1 and 2 minimum wages	7	17,07	Between 1 and 2 minimum wages	3	7,32
Between 2 and 3 minimum wages	2	4,88	Between 2 and 3 minimum wages	1	2,44
Above 3 minimum wages	1	2,44	Above 3 minimum wages	0	0,00
Do not know to inform	5	12,20	Do not know to inform	0	0,00
Does not participate financially	2	4,88	Does not participate financially	0	0,00
Does not have income	10	24,39	Does not have income	10	24,39

f – absolute frequency; % - relative frequency

Source: Prepared by the authoress, 2017.

Regarding the socio-demographic (Table 3), of these 41 families, 90.24% live in urban areas and 41.46% have their own property, however it was observed that a large number of families who claimed to live in rent or favor in the house of friends or family, a number of 58.64%, so most do not have their own residence.

Although not find studies include these variables about microcephaly, it is described about PC20 and bring that the sumo of their findings also demonstrate that rented or ceded housing prevails, so it can concluded that most families do not prepared finances for a stable life with these children, who sometimes suffer from changes in environments and having to adapt in the new dwelling, and may even present more risks to the health of the baby and its parents depending on the health conditions that their new environment present.

In the majority, 90.24% of these residences have more than 4 rooms and the children live in the

same household with 3 people (43.90%), more predominantly, among mothers (100%), parents (63.41%) and siblings (58.54%) because 56.10% reported having other children, which greatly increases the work of these mothers, Who need to care for the deficient child and still other children, correlating with various research com várias pesquisas^{21,22} study of children chronic diseases, describes that most mothers have at least another 1 child and the e o PC¹¹ study, shows that the number of people living in the household is 61.5% until 4 habitants e 38,5% above 5 residents (Table 3). The other most common resident is the parents, Who according to the research work most and consequently leave the mother alone most of the time to care the deficient child, according to Salvador (2013) in the study of children with chronic diseases, most of them parents work were the main provider of family income. Among those people who cohabit 53.66%, besides the mother head Zika, a confirmation that the place has risk factors for the contamination and that the care for prevention did not happen or were

ineffective, however, about the other variables were not found studies of other authors for discussion.

Children with microcephaly related to Zika mostly (63.41%) receive the assistance benefit of the National Social Security Institute (INSS), corroborating with another research in PC¹¹, that 92.3% of the children have this assistancedas. The benefit is a monthly minimum wage for disable person and to aged with 65 years of age or older who prove that they can not maintain²³ (Table 3).

The Law guarantee the right to the temporary benefit provided under Law 13.301/2016 in the amount of 1 monthly minimum wage, for a maximum period of 3 years, has been legalized in the condition of the child victim of microcephaly resulting from transmitted diseases by *Aedes Aegypti*. It was determined that maternity leave provided for in the Consolidation of Labor Laws (CLT) will be 180 days in the case of mothers of children affected by neurological sequel related to the *Aedes mosquito*²⁴.

It can be concluded that the income of the mothers is the base of this aid, because 65.85% Said they receive up to a minimum wage and 75.61% is equivalent to the sum housewife and unemployed, thus those who do not yet receive this (36,59%) are probably living in a more difficult way, depending on the help of family and friends, however it show in a more detailed way, citing values, a mediano f per capita family income of 400\$¹⁰ (Table 3).

According to Henriques et al. (2016), the transmission of the virus by the *Aedes mosquito* occurs with a

higher prevalence where collection of garbage, the data show a good index, 60.97% say that there is a collection of more than 3 times a week, garbage and sanitary conditions are reduced, either in their own homes and/or in their environment, favorable conditions for their proliferation and it is more difficult to combat these mosquito. In the sanitary conditions, although 68.29% deny that there is open-air sewage near where they live, 31.71% say the opposite and 56.10% confessed not to use the repellent, a set of favorable factors for the proliferation of *Aedes* and infection by Zika, with 53.66% saying that other people in the household contracted the virus (Table 3).

The IBGE report that 44% of the population does not have sanitary sewage, according to Reis (2015), which identifies inadequate dwelling for the health of the population, na essential human right. Abreu et al. (2016), report that the lower the economic resorces and the educacional level, the lower the basic sanotation and the worse the environmental conditions.

The transport that prevail the going to these services is the bus (82.93%) na those that use car (17.07%), some alleged that the car is the city hall. Although no transportation issues were found in studies with Microcephaly, it was found PC that 50% of their samples do not have theeir own vehicle, that is 50% use public transportation to GO to the consultations²⁰. Thus, large parto f the families do not comfort and safety to transport their children, beside not accomplish service hours, demonstrating na unsatisfactory economic issue (Table 3).

Table 3. Sociodemographic conditions of families of children with microcephaly related to zika virus (n=41), in Salvador and metropolitan region.

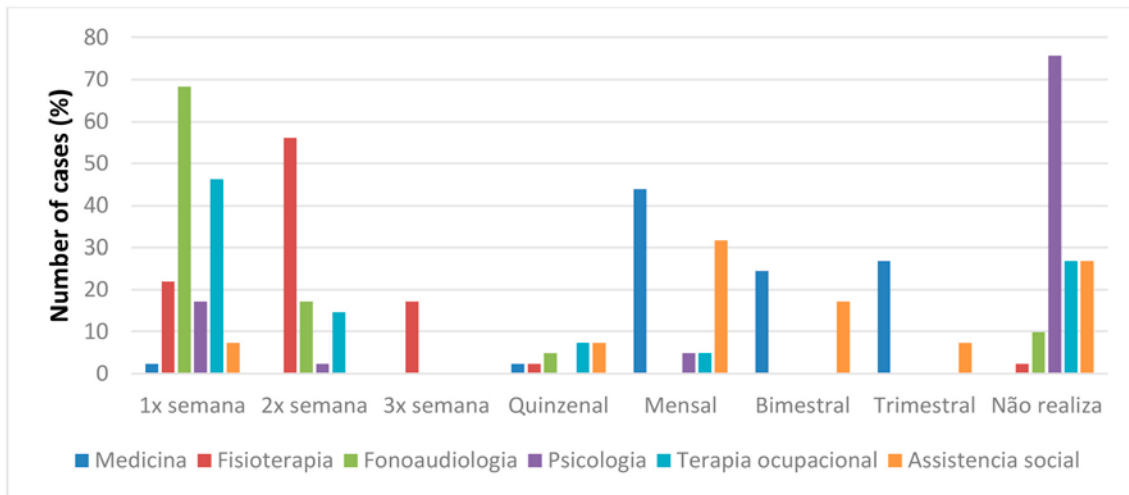
Variable			Variable		
	F	%		f	%
Type of Dwelling			Other children		
Urban	37	90,24	Yes	23	56,10
Rural	4	9,76	No	18	43,90
Dwelling Conditions			Benefit		
Proprietor	17	41,46	Yes	26	63,41
Rent	13	31,71	No	15	36,59
Residence of relative	11	26,83	Use of repellent		
Room			Yes	18	43,90
1 room	2	4,88	No	23	56,10
2 rooms	0	0,00	Sanitary conditions		
3 rooms	2	4,88	Yes	28	68,29
4 or more rooms	37	90,24	No	13	31,71
Number of people living with the child			Garbage collection		
2 peoples	1	2,44	1 once week	2	4,88
3 peoples	18	43,90	2 once week	4	9,76
4 peoples	13	31,71	3 once week	4	9,76
5-6 peoples	9	21,95	More 3 once week	25	60,97
Family			There is no collection	6	14,63
Father	26	63,41	Residents of the same house also had zika		
Mother	41	100,00	Yes	22	53,66
Grandparents	10	24,39	No	19	46,34
Siblings	24	58,54	Predominant Transport		
Uncles	8	19,51	Bus	34	82,83
Others	2	4,88	Car	7	17,07

f –absolute frequency; % - relative frequency
 Source: Prepared by the authoress, 2017.

Multiprofessional care is performed by all children, the frequency of the visit 1 time a week is higher for the Speech Therapist (68.29%) and Occupational Therapist (46.34%), the Physioterapist is sought 2 and 3 times a week more frequently, by 56.01% and 17.07%, respectively. The monthly accompanying has the highest number for the Neuropediatrician (43.9%) and Social Worker (31.71%), the Psychologist is not attendet by 75.6%. According to another study, the child with microcephaly should be assis-

ted by interdisciplinary health team consisting of at least social worker, physiotherapist, speech therapist, doctor, dentist, psychologist and occupational therapist, understanding the importance of guiding parents to the performance of each Professional in the growth of these children with a neurological sequel and to draw a profile of greater interest on the cognitive, motor and independence development of these infants¹⁷ (Graph 2).

Graph 2. Frequency of multiprofessional (n=41), in Salvador and metropolitan region.
Source: Prepared by the authoress, 2017.



Final Considerations

The most of the parents interviewed are unemployed and this is often due to the abandonment of their paid activities to supply the need of the care of their baby with special necessity. Although part of the studied population has inadequate sanitary conditions as irregular garbage collection and open-air sewer near their residence, the greater number claims to have these conditions.

Based on these results it was observed that there is a predominant frequency of parents who have children with microcephaly related to Zika Virus in low socioeconomic conditions, who consequently can not supply most of the needs that a malformed infants.

It is proposed that public politics direct more severe the education of this population of socioeconomic low condition, because the most problem does not refer to sanitary conditions, for example: warning about the use of long trousers and blouses during the gestational period, the importance of using of repellent many time a day, to avoid trip to places wich high Zika virus, and aware about family planning.

It is necessary considered the realization of new studies to know these families all their needs over

the years and to identy new needs of the population victim of this Zika vírus epidemic.

Contributions of authoress

Gonçalves AE and Tenório SDB contributed in the research for development of the introduction, abstract, wrote the manuscript, elaborated the questionnaire and the Term of Free and Informed Consen. They took the research Project to the space coordinator where the interviews would be conducted. Were to Field to collect the data and after analysis of the results realized by the statistics developed results and discussion. The final considerations were elaborated by the their and authorized by the responsible researcher. The authoress Ferraz PCS contributed in the orientation of the each step of the research, correcting and adding the necessary, indicated the place for data collection and intermediated the start the research.

Conflicts of interest

No financial, legal or political conflict involving third parties (government, business and private foundations, etc.) was declared for any aspect of the work submitted (including but not limited to grants and funding, advisory council, study design, manuscript preparation, statistics analysis, etc).

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