

	Nº de dom. Amostra	Total	
João Goulart	172	406	1/2 cada 2 pegar 1
Democ	243	1197	1/5 cada 5 pegar 1
Vila Turismo	200	830	1/4 cada 4 pegar 1
Carlo Chagas	189	488	1/2 cada 2 pegar 1
Perereca	135	267	1/2 cada 2 pegar 1
Amorim	223	588	1/2 cada 2 pegar 1
Vila União	153	302	1/2 cada 2 pegar 1
Ex-Comb	164	488	1/3 cada 3 pegar 1

Plano Amostral:

A população total consiste ⁶²³⁴ de mulheres em idade reprodutiva (14-49), allocated em 8 favelas. ~~estabelecidas~~ nas favelas.

A unidade amostral será o domicílio. Suas entrevistadas todas as mulheres com idade entre 14-49 anos residentes neste domicílio.

A amostragem será estratificada, sendo que cada favela ~~constitui~~ ^{constitui} um estrato.

~~Objetivos~~ Os tamanhos de amostra em cada estrato foram calculados para satisfazer os dois objetivos principais de pesquisa:

- 1º) ~~Estimar~~ Estimar a proporção de mulheres que usam algum método contraceptivo ^{e mulheres} ~~em~~ cada favela
- 2º) ~~Estimar~~ Estimar a proporção de mulheres esterilizadas em cada favela.

esterilizadas em cada estrato, com um tamanho de intervalo de 5% para cada lado.

Baseando-nos em estudos anteriores na mesma área (~~as proporções~~), ~~encontradas 65% e 15% como proporções~~ utilizamos as proporções de 65% e 15% respectivamente no cálculo do tamanho amostral dado por

$$m = \frac{4PQ}{1} \quad m = \left[\frac{4PQ}{(0,05)^2} \right] / \left[1 + \frac{1}{N} \left(\frac{4PQ}{(0,05)^2} - 1 \right) \right]$$

(Cochran, pg 75), onde N é o tamanho de cada estrato.

Tendo calculado o nº de mulheres necessário em cada favela, foi estimado o nº de domicílios ~~4~~ baseando-nos na média de mulheres na faixa reprodutiva ~~2~~ por domicílio em cada estrato.

Em cada estrato, suas selecionados este número de domicílios aleatoriamente.

$$m = \frac{m_0}{1 + \frac{m_0}{N}}$$

$$m_0 = 400$$

N = total de cada estrato

Local	Formula	Result	Value 1	Value 2	Value 3
José Goulart	$m = \frac{400}{1 + \frac{400}{547}} = 231$	238	547	406	x
			238	x	176
					$x = 176$
Democ	$\frac{400}{1 + \frac{400}{1569}} = 319$	333	1569	1197	254
			333	x	$x = 243$
Vila Turismo	$\frac{400}{1 + \frac{400}{1259}} = 304$	315	1259	830	207
			315	x	$x = 200$
Carlos Chagas	$\frac{400}{1 + \frac{400}{633}} = 245$	253	633	488	195
			253	x	$x = 185$
Peruca	$\frac{400}{1 + \frac{400}{392}} = 198$	202	633	267	137
			392	x	$x = 135$
Amorim	$\frac{400}{1 + \frac{400}{654}} = 248$	256	654	588	230
			248	x	$x = 203$
			256		
Vila Unias	$\frac{400}{1 + \frac{400}{392}} = 198$	202	392	302	155
			198	x	$x = 153$
			202		
Ex-Comb	$\frac{400}{1 + \frac{400}{788}} = 265$	274	788	488	169
			265	x	$x = 164$
			274		

$$p \pm 2 \sqrt{\frac{pq}{m}}$$

$$\frac{4(0.60)(0.40)}{(0.05)^2} = \frac{0.24}{0.0025}$$

1º) $p \approx 65\%$

$$2 \sqrt{\frac{pq}{m}} = 5\%$$

$$2 \sqrt{\frac{(0.65)(0.35)}{m}} = 0.05$$

$$\frac{0.96}{27} = 0.0355$$

$$\frac{4(0.60)(0.35)}{(0.05)^2} = m$$

$$m = 364$$

$$384$$

$$411$$

$$415$$

2º) $p = 15\%$

$$2 \sqrt{\frac{pq}{m}} = 0.05$$

$$\frac{4(0.15)(0.85)}{m} = (0.05)^2$$

$$m = \frac{4(0.15)(0.85)}{(0.05)^2} = 204$$

$$m = 400$$

1º caso: $2 \sqrt{\frac{pq}{m}} = 0.047$

$$p \pm 4.7\%$$

2º caso: $2 \sqrt{\frac{pq}{m}} = 0.036$

$$p \pm 3.6\%$$

- 8 favelas
- Domicílios
- Entrevistas todas as mulheres de 14-49 em cada domicílio

6098 mulheres 14-49 anos
4566 domicílios

60-70% usando algum método

Objetivos:

- 1º - Estimar prev. de uso de algum método contraceptivo (60-70%)
- 2º - Estimar prev. de esterilização (17%) ^{44%}



1º $p = 65\%$ $2\sqrt{\frac{pq}{m}} = 5\%$

$$p \pm 2\sqrt{\frac{pq}{m}}$$

$$\frac{4(0,65)(0,35)}{m} = (0,05)^2$$

$$m = \frac{4 \times (0,65)(0,35)}{(0,05)^2} = \textcircled{364}$$

2º $2\sqrt{\frac{pq}{m}} = 0,025$

60% 70%
62,5% 67,5%
64% 65% 66%

$$\frac{4(0,15)(0,85)}{m} = (0,025)^2 = \textcircled{408}$$

$$m = \frac{400}{1 + \frac{400}{488}} \approx \textcircled{220}$$

Carlos Chagas	220
João Goulart	202
Democráticos	300
Vila Turismo	270
Amorim	238

~~$$\frac{400}{1 + \frac{400}{488}}$$~~

$$\frac{400}{1 + \frac{400}{488}} = 4197$$

4.6802721

$$6098 \quad \text{---} \quad 4566$$

$$400 \quad \text{---} \quad x$$

$$x = \frac{400 \times 4566}{6098} = 29$$

 $\textcircled{300}$ domicílios

$$\frac{300}{1 + \frac{300}{488}}$$

$$\frac{300}{1 + \frac{300}{406}}$$

$$\frac{300}{1 + \frac{300}{1197}}$$

$$6098 \quad \text{---} \quad 4566$$

$$220 \quad \text{---} \quad \textcircled{x}$$

 $\textcircled{300}$

400

1 + 400

 $\textcircled{488}$

9,3245033

BACKGROUND

Brazil has the largest population in Latin America with a 120 million inhabitants registered in the 1980 census (').

Fertility began to decline around 1965 and recent surveys indicate a continuing decrease. For the period 1970 to 1976, estimates of the total fertility rate, based on the PNADS, indicate a decrease of 25%, which corresponds to a reduction in the average number of children from 6.0 to 4.3. The intense rural to urban migration over the last decades has resulted in a redistribution of the country's population. 5

In 1960 approximately 30.8% of the total population was located in urban areas passing to 56% in 1970 and to 67.7% in 1980.

→ As pointed out by Berqu^oes (), the recent ^{change} in reproductive behavior is characterized by the more widespread use of modern contraceptive methods. The change is not only confined ^{ined} to the upper and middle classes but extends to those at the lower end of the scale. Families earning less than the minimum salary reduced their family size by 20% between 1970 and 1976 (). ^{Certainly} Clearly, the diffusion of modern contraceptive methods has been facilitated by the accelerated ^a form in which urbanization has been experienced in the country.

It is interesting to consider these demographic trends in relation to Government population policy and attitude toward family planning.

→ During the early 1970s, the Brazilian Government was clearly, opposed to family planning. But the statement at the World Population Conference, held in Bucharest in 1974, theoretically marked the ^{beginning} of a new era (). The ^{the} change in political climate was ^{further} strengthened by the Second National Plan of Development, also issued in 1974. () Later in 1978, the first

definite step toward implementing the new policy was taken when the Ministry of Health proposed a new programme for the Prevention of High Risk Pregnancies within an expanded Maternal Child Health Case Programme. () The initial target was to provide family planning services to an "estimated 53,607 high and ^{medium} ~~medium~~ risk

women during the first four years of the programme". ^{Actually,} ~~In fact,~~ in ~~technical difficulties and fierce opposition from active groups~~ part due to lack of public support and in part due to ~~technical~~ ^{difficulties} this programme was never implemented.

→ Even before the public statements in 1974 and 1977 there was evidence that the Brazilian position was in flux. Previous pronatalist statements by government officials seem to have been designed to discourage unwanted foreign ^{advice} ~~advice~~ or to assure the Brazilian public that the nation was ² pursuing an independent course in this matter. Over the recent years, the government's tolerance of private, municipal and state involvement in the provision of family planning services has become increasingly evident*. In fact, very little is done to restrict access to family planning and legal barriers are very loosely interpreted if not even ignored.

→ The growing use of contraceptive methods in the absence of governmental orientation is causing concern among those working in the field of health. ^{Certain} ~~certain~~ aspects illustrate the need for interventive measures.

→ Brazil has one of the highest cesarian ^{ion} ~~section~~ rates in the ^{world} ~~world~~ (). Since ^{female} ~~female~~ sterilization is only permitted on medical grounds and never for contraceptive purposes, cesarian section

* Health care in Brazil ^{is} provided by state, social ^{Security} ~~security~~ and private services. The public health services are primarily administered through Social Security organizations and State Secretariats of Health. The largest provider is INAMPS (Instituto Nacional de Assistência Médica da Previdência Social) ^{providing} ~~providing~~ medical care to theoretically 80% of the population through its ^{own} ~~and~~ establishments and ^{through} ~~through~~ contracts ^{with} ~~with~~ the private care sector

delivery provides the necessary legal coverage for tubal ligations ().

In addition doctors used to receive a higher payment, ^{er} ~~within~~ ^{within} the Public Health Sector, for cesarian deliveries. Recently in an attempt to control this practice, the Social Security System equalized the payments for cesarian and normal deliveries. In view of the fact that this ^{practice} ~~practice~~ still provides legal coverage for female sterilization, the rates appear to ^{continue to be} ~~remain~~ extremely high.

→ Another aspect of family planning ^{activities requiring} ~~activities requiring~~ attention is the distribution of oral contraceptives. ^g Although

~~Athanga~~ by law oral contraceptives ^{can} ~~can~~ only be sold under a medical prescription, sales ^{have} ~~have~~ freely increased over the last few years. ^g

Pharmacies are the ^{main source} ~~main source~~ of supply and in 1974 approximately 3 million ^{women} ~~women~~ were ^{using} ~~taken~~ the pill. ^{The} ~~The~~ market was seen to be ^{growing} ~~growing~~ at a rate of 20% per year. () ^{Little known about} ~~Little known about~~ the side-effects of ^{spontaneous} ~~spontaneous~~ contraception. ^{Obviously} ~~Obviously~~ access is limited by ^{economic} ~~economic~~ barriers.

→ Apart from ^{the} ~~the~~ participation of the public sector of the health services, family planning activities are organized by ~~a~~ several private agencies, ^{of which the most important is} BEMFAM, an affiliate of the IPPF. Throughout its 13-year history, BEMFAM, has been regarded as a controversial organization. It runs family planning clinics in ~~most~~ of Brazil's major cities and also ^{maintains} ~~maintains~~ statewide community-distribution programmes according to agreements with five State Governments (Alagoas, Paraiba, Pernambuco, Piauí, and Rio Grande do Norte). The community-based distribution programmes offer only oral contraceptives, whereas BEMFAM'S clinic programmes also include the IUD and other methods (eg., the condom). Given the large transfer of resources from the clinics to the community-based distribution programmes, starting in 1973, BEMFAM'S family

planning services now rely ~~overwhelmingly~~ ^{overwhelmingly} on oral contraceptives.

→ Apart from BEMFAM and other ^{similar} ~~similar~~ agencies, there are ^{or} ~~numerous~~ ^{ou} private physicians who offer a ^u ~~full~~ range of contraceptives, including male and female sterilizations and ^{even} ~~abortion~~, to the private patients.

→ In the ^{specific} case of Rio de Janeiro, the population is comparatively well served by the Public Health Services but access is limited by institutional ^{barriers} ~~barriers~~. The state Secretary of Health, holds no official position ^{with} ~~in~~ regard to family planning ^{unlike} ~~unlike~~ these states previously mentioned. ↪

→ This laissez-faire policy provides favourable conditions for the expansion of disorganized ^{within} ~~with~~ family planning activities ~~with~~ both the private and state sectors of the health care system. Two private agencies provides ^{physicians} ~~clinics~~ services namely BEMFAM and CPAINC, not to mention the ~~participation~~ of the private ^{physicians} ~~physicians~~. Very little is ^{how} ~~known~~ of ~~how~~ this system operates. There ↪

↪ is a need for a study ^{to} ~~which can~~ access ^{in fact} ~~how~~ ^{far} this system is ~~in fact~~, meeting the populations needs ^{of} and indicate the types of interventions required to assure a ^{more} ~~more~~ democratic assess to family planning ^{methods} ~~activities~~.

1.3. Applicability of Study Results.

At the general level, the study results will be useful to the Ministry of Health and the Public Sector Health Services in General. Better ^{Knowledge} knowledge of family planning practice in a low-income population situated in an urban area will be useful for the formulation of an ^{Suitable} adequate family planning ^{policy} programme. ^{pol}

At the specific level, the results of this initial survey, will serve as a basis for further surveys. The applicability of the results will be facilitated by the close cooperation established between the researchers of the National School of Public Health and the staff of the Maternal Child Health Sector of the Ministry of Health.

In the area of teaching and training of health personnel, the study will contribute to the development of methods and instruments in the area of PHC and future family planning activities provided by the health centre attached to the National School of Public Health, ^{and situated in the study area.} ~~which in turn serves the population under study.~~

It is further hoped that the study results will subsidize the information content of the health education programme of the health post. ^{educational programme}

first study of this nature in Rio

12. Staff

The project will receive the support of all staff members of the National School of Public Health ~~in general~~ and the Maternal Child Health Sector of the Ministry of Health.

Principal investigators:

Sarah-Haw H. Costa B.Sc. M.Sc.
Associate Professor of the
National School of Public Health

Inez Ramos Martini M.D. M.Sc.
Assistant Professor of the National
School of Public Health.

Statistical analysis and computer programming will be carried out by:

Celia Swartzwald B.Sc. M.Sc.
Claudio Stritchner M.D. M.Sc.

1.2. Objectives.

1.2.1. The overall objective of the study is to contribute to the understanding of ~~contraceptive practice~~ ^{family planning practice} in a low-income population ~~and the role played by the Public Sector Health Services.~~ ^{situated in the metropolitan zone} of Rio de Janeiro.

1.2.2. Specific Objectives.

and non-users

1. To determine the prevalence of contraceptive users ^{and non-users} in the study area.
3. To identify the social and economic factors related to family planning practice.
2. To assess the ~~knowledge~~ ^{knowledge} of contraceptive methods among women in the study area. ^{and relate}
5. To contribute to the understanding of the role played by the Public Sector Health Services in the provision of EP especially in relation to female sterilization. ^(could be this, prenatal, post-pregnancy etc)
4. To describe the choice of contraceptive methods, the source, ~~and the reasons for female sterilization.~~ ^{and the access among users and the reasons for non-use}
6. To identify the ~~links~~ ^{relationship} between female sterilization and cesarian ^{very} delivery practice.
7. To identify ^{some of} the health side-effects of spontaneous oral contraceptive use.
8. To determine the prevalence of ^{ok} ~~provoked~~ ^{provoked} abortions in the study area.
9. To determine the impact of the private sector on ^{the} promotion of contraceptives and the supply of products and services.
10. To determine the prevalence of ~~the~~ ^{infertility} in the women in the study area.

Interviewers and Supervision of Field work

Six female interviewers will be selected according to past experience of research and field work techniques.

They will receive a two week training during which the project objectives and data collection instruments will be presented. Women attending the Health Centre

Germano Sival will be interviewed to reinforce the training. Careful attention will be paid to minimising interviewer errors, controlling for both between and within variation. ~~using in-built~~

~~reliability checks in-built in the questionnaire.~~

The questionnaire will be pretested in the field ~~before~~ and any alterations necessary will be made before commencing the data collection.

Two field supervisors will be recruited to co-ordinate the data collection, control the sample (non-respondents, reasons etc.) and elaborate the preliminary results tables.

11. Ethical Aspects.

The project does not contemplate activities that could result in ethical problems. Strict confidentiality of the data collected will be kept, and the identity of the women interviewed will be protected using a coding system.

8.2. Statistical Analysis

The first stage of the ~~statistical~~ analysis will concentrate on descriptive statistical techniques, frequency distributions, average values and standard deviations of the main variables collected, will be produced. A report of these preliminary results will be issued.

The second stage of analysis will be concerned with tests of association between two or more variables. Techniques ranging from chi-squared to multivariate analysis will be employed to permit the testing of specific hypotheses, in accordance with the objectives of the research.

8. Data Processing

~~8.1. Coding~~

The questionnaire will be pre-coded. Data will be revised and hand-checked before transferring to the magnetic tapes. Checks on consistency of data will be made introducing ^{any} ~~whatever~~ corrections required. Some questions related to certain items are included in more than one part of the questionnaire serving as ~~in-~~ built-in reliability checks.

All digitation and computer programming will be carried out by staff members of the National School of Public Health.

Data processing will be conducted at the Computer Centre of the Federal University of Rio de Janeiro through an agreement already established between the two institutions.

9. Expected Problems

The only expected problems are those related to non-response; difficulties in localizing the respondents and refusal to participate in the study.

However, in previous studies ^{carried out} in the area, non-response in general was found to be less than 6%.

~~Difficulties in~~ local visits to the households will be made at least 3 times in order to reduce losses, making weekend appointments when necessary.

~~The sample~~ An allowance for non-response in the sample size will be made.

- b) Reproductive history. Number of pregnancies, number of ^{livebirths} ~~birth outcome~~, number of stillbirths, sex, date of birth, birth ~~outcome~~ - neonatal mortality, post neonatal mortality, child mortality, number of abortions, number of ^{low} ~~two~~ birth weights.

Maternal

- c) Child health. All children ³ over 5: breastfeeding, duration of breastfeeding, time of introduction of ² other feeding, pre-natal care, delivery care, complications.

- d) Contraceptive knowledge, attitude and use. Methods ^{knowledge attitude} known, methods used, current use, reasons for use ~~as~~ and non-use, number of living children when contraceptives were ^{first} used, source, accessibility ^{to} services, reasons for choice, satisfaction with method in use, gynaecological ~~complaints~~ ^{complaints,} services used.

All women sterilized: age at sterilization, number of children at time, reasons, access to alternative methods, ~~source~~ ^{source}, cost.

All ^{women} ~~women~~ using oral contraceptives: length of use, type of pill, method of use, ^{source} ~~source~~, medical orientation, cost, side - effects (based on complaints).

①

Sampling

A stratified ^{random} sampling procedure will be adopted for the purposes of this study. Each slum constitutes a strata (N_h). The size of the sample (n_h) to be selected within each strata (h) was calculated bearing in mind the two principal objectives of the study; to estimate the proportion of women using contraceptive methods and to estimate the proportion of women who have been sterilized in each strata.

The calculation allowed for a ^{95%} confidence interval of 5% ^{length} each side. Based on the ~~sent~~ data from the Contraceptive Prevalence Survey for São Paulo State (1978) and the data collected from the case-histories of women attending the Health Post Germano Sival (1982), an overall contraceptive prevalence rate of 65% and a 15%

(2)

prevalence rate of female sterilization were considered to be appropriate for the calculation of the sample size in this study area.

The following formula was used: *Sam* (W. S. Cochran: Sampling Techniques, Wiley, 1963)

$$n_h = \left[\frac{4PQ}{(0.05)^2} \right] / \left[1 + \frac{1}{N_h} \left(\frac{4PQ}{(0.05)^2} - 1 \right) \right]$$

where N_h is the size of each strata h and n_h represents the number of women in each strata to be interviewed.

The number of households to be selected was calculated based on the average number of women in the reproductive age (14-49) in each household, in each strata respectively.

The households will be randomly selected from lots drawn up from the maps used

in the morbidity survey. Updating of the sampling frame will be completed with the help of the local health visitors. Allowances will be made for losses due to non-response etc.

Table 2 below indicates the total number of women in the reproductive age group (14-49), the ^{sample} size of eligible women and the number of households to be selected in each state.

Table 2.

	Total no. Mulheres 14-49 anos.	sample size - women 14-49.	Total no households	Household samples
João Coular	547	231	466	172
Democrat	1569	319	1197	244
Vila Turismo	1259	304	830	200
Carlos Chagas	633	245	488	189
Perececa	392	198	267	135
Amorim	654	248	588	223
Vila União	392	198	302	153
Ex-Comb.	788	265	488	164
Total	6171	2008	4566	1480

The ~~total~~ number of women of 2008 women will be interviewed. A total number of 1480 households will be selected and a total number of 2008 women will be interviewed.

13. BUDGET

Total budget. US\$ 38 410,00

BE RJCOL.5433.01.F23

1st year US\$ ~~26385,00~~ ^{US\$} 26 300,00
 2nd year US\$ ~~8680,00~~ 9 210,00

Exchange rate
 Cr\$ 225,00 per dollar

	A	B	C	D	Total	Total	1 st year	2 nd year
	nº	Duration (months)	wil	Social Benefih	Cruzeiros	US\$	US\$	US\$
			Monthly salary (1000 Cr\$)	10% 10% (1000Cr\$)	(C+D) Ax B	Cambio 10/11		US\$
A. Personnel								
Interviewers	(8)	2	90	9	1.584.000,00	7.050,00	7.050,00	
Supervisors	(2)	2	110	11	484.000,00	2.150,00	2.150,00	
Research auxiliaries	(1)	16	110	11	1.936.000,00	8.600,00	5.375,00	3.225,00
Coders	(2)	1 1/2	90	9	297.000,00	1.300,00	1.300,00	
Secretary	(1)	18	150	15	2.970.000,00	13.150,00	8.770,00	4.380,00
						32.250,00		
B. Supplies								
paper					30.000,00	130,00	100,00	30,00
Electric typewriter					3.800,00	1.650,00	1.650,00	
writing machine								
IBM 196 C								
C. Transport								
Petrol		2			60.000,00	300,00		
320 litres								
D. Computing								
programming								
Magnetic tapes					6.000,00	30,00	30,00	
Computation					750.000,00	3.300,00	2.300,00	1.000,00
E. Other Items								
printing of questionnaires					50.000,00	135,00	135,00	
xerox					20.000,00	220,00	220,00	
printing of final report					120.000,00	85,00	40,00	45,00
TOTAL					8.567.000,00 8 667 000,00	37.965,00 38 410,00	26385,00 26300,00	8.680,00 9 210,00

3. Hypotheses. All This study is descriptive by nature and aims at testing the following hypothesis:

Certain hypothesis is called a question but it will only provide data to

The following hypotheses will be tested:

discuss the following hypotheses.

1. Access to contraceptive information and methods is insufficient and inadequate to meet the users needs.
 - high discontinuity.
 - unwanted pregnancy
 - provoked abortions
 - uncontrolled side-effects
2. The limited access to reversible methods leads to a high demand* for sterilization.

Female sterilization practice leads to the performance of unnecessary cesarian sections.

3. ~~Unnecessary cesarian sections are carried to perform tubal ligations~~ of unnecessary cesarian sections.

4. The hypotheses listed above lead to:

- a - High discontinuity rates.
- b - Unwanted pregnancies.
- c - Provoked abortions.
- d - Uncontrolled side-effects.

13. Budget Justification

All budget items were calculated taking into account present inflation rates and based on the current conversion rate of ^{11 Nov 1982} 225 US\$ per Cruzeiro

A - Personnel.

1. Interviewers

90 000,00 ^{or 400 US\$}
The interviewers will receive 110.000,00 Cr\$ per month. This payment is equivalent to the grant paid to residents and other students taking ^a ^{courses} causes in the Oswaldo Cruz Foundation. The payment will start during the ^{Training} ~~transfer~~ period.

2. Supervisions.

^{ors}
The two field supervision will receive the same basic monthly payment as the interviewers plus a small gratification ^{making} during a total of 110 000,00 per month. ^{or 488 US\$ / month.}

3. Secretary.

This budget item has been included due to the great shortage of Secretarial staff in the National School of Public Health. The secretary will be responsible for all office work related to the project; typing of questionnaire, correspondence and reports, and for the organization of the project documents and archives. The amount allocated ^{located} corresponds to ^{the} an average salary during the 18 months, ^{in the order of 150 000,00 or 666 dollars/month,} the average is () based on the expected inflation rate over the period. The monthly payment corresponds to the table used by the Administrative Sector of the ~~Fundação~~ Oswaldo Cruz Foundation for office staff.

4. Coders of the

Three of the interviewers will be selected to carry out the coding and digitation. The payment corresponds to that of the interviewers.

B - Supplies

Funds are requested ^{to} for the purchase of an electric type-writer and ^{also} paper for the questionnaires.

5. Research auxiliary

One of the supervisors will be selected to remain as research auxiliary till the end of the project. The salary will be Cr\$ 110 000,00 per month, equivalent to US\$ 488,00

C - Transport

Vehicles

Vehicles of the Oswaldo Cruz Foundation will be used to transport the field ~~workers~~^{workers}. A budget allowance for petrol has ~~been~~^{been} included.

D - Computation, programming and coding

This item is extremely expensive in Brazil and the calculation of funds required was based on the number of variables, types of tabulation ~~etc.~~^{etc.}, ~~with~~^{with} the help of an ~~expert~~^{expert} in the field.

E - Others

A budget line to cover the printing of the questionnaire, xerox, and publication of final report.

Handwritten note: The National School of Public Health is setting up a printing department which will start to operate in the next year.

10. Time - table

Period

A - Preparation of field work (3 ~~months~~^{months})

preparation of sample	weeks	1 - 4
selection of interviewers and field supervisors	weeks	2 - 4
training of interviewers and field supervisors	weeks	5 - 6
pre-test of data collection instruments	weeks	7 - 8
final revision of data collection instruments	weeks	9 - 10
and printing of questionnaires		

B - Field and data collection (6 ~~months~~^{months})

field work	weeks	11 - 20
correction and coding of questionnaires	weeks	21 - 26
digitation of data	weeks	27 - 30
editing of data	weeks	31 - 34

C - Data analysis (6 ~~months~~^{months})

elaboration of preliminary tables	weeks	35 - 40
elaboration of final tables	weeks	41 - 58

D - Preparation of final report (3 ~~months~~^{months})

writing-up of final report	weeks	59 - 70
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TOTAL DURATION OF PROJECT = 18 months

5.1 Sampling

A stratified random sampling procedure ^{is proposed} will be adapted for the purposes of this study, Each stratum constituting a strata (N_h). The size of the sample (n_h) to be selected within each strata (h) was calculated bearing in mind the two ^{main} principal objectives of the study; to estimate ^m the proportion of women using contraceptive methods and to estimate the proportion ^{or} of women ^e who have been sterilized in each strata.

The calculation ^{allowed} for a 95% confidence interval ^{limits} of 5% length ^{with a level}. Based on ^{The results of São Paulo Contr} the data from the Contraceptive Prevalence Survey for São Paulo State (1978) ^{of women in low-income groups case-records} and data collected from the ~~case~~ ^{case-records} histories of women attending the Health Post Germano Sinval (1982), ^a an overall ^{female sterilization} contraceptive prevalence rate of 60% and a ^{of 15%} prevalence rate ^{of female sterilization} were considered to be appropriate for the calculation of the sample size in this study ^{area}. ^{The calculation was allowed} based on ^{of a 95% confidence interval with a 5% level} the following formula was used: ^{The size was adjusted to include non-response of 8%} (W. H. Cochran: Sampling Techniques. Wiley 1963)

$$n_h = \left[\frac{4 PQ}{(0.05)^2} \right] / \left[1 + \frac{1}{N_h} \left(\frac{4 PQ}{(0.05)^2} - 1 \right) \right]$$

Where N_h is the size of each strata and n_h represents the number of ^{women} ~~with~~ in each strata to be interviewed.

The ^{calculation of the} number of ^{households} ~~hand~~ to be selected ^{was} calculated based on the average number of women in the ^{fertile} reproductive age ^{group resident} (14-49) in each ^{and calculated} household, ^{independently} in each strata ^{respectively}.

The ^{or} households will be randomly selected from lists drawn-up from the maps used in the ^{or} morbidity survey, ^{previously cited}. Update ^{ing} of the sampling frame will be completed with the help of the local health ^{or} visitors.

^{Allowance of 8% has} Allowances will be made for losses due to non-response ^{of 8%}.

^{An} Allowance for ^A non-response of 8% ^{has} have been ^{be} allowed for in the calculation of the sample size.

Source of methods: pill -
 Pernambuco - Rio Grande - community
 distribution -

Pernamb. 58.7%
 R. G. N 63.2% — 84.4 rural.

Steriliz

Pernambuco	Sec.	34.5	9
	INAMPS	43.6	
R. Grande	clinic privadas	20.2	14
	Sec.	52.5%	
	INAMPS	23.1	
	pro cl.	12.7%	

The policy is not clear — public health
 services particip vary according to state.

Steriliz — method — only in cases indic.
 medic. however

Just study in Rio — no clear
 pattern.

Legal Status — not completely clear in BRAZIL
 — permitted for medical reasons or in
 situations in which a future pregnancy might
 endanger a woman's life or health. However
 it is not authorized explicitly for contracept
~~reasons~~ purposes. As a result of these

Sampling ~~Procedure~~ Two-staged

A stratified random sampling procedure will be adopted for the purposes of this study. ^{The first stage consists of selecting the households and the second stage consists of interviewing the eligible women.} Each stratum consists of a strata. The size of each sample (n) to be selected within each stratum was calculated bearing in mind the two principal objectives of the study;

to estimate the proportion of women using contraceptive methods and to estimate the proportion of women who have been sterilized in each stratum. A 5% confidence interval each side ^{was used in the calculation} based on an ~~study~~ study carried out in the metropolitan zone of São Paulo in 1978⁽¹⁾ and ^{on} data collected from the case-histories ^{of patients attending} the health post Germano Sival ~~with~~ an overall prevalence of 65% contraceptive use ~~was considered~~ and 15% ^{female} sterilization ~~was~~ were considered appropriate to calculate the sample size required in each stratum. The following formula (Cochran: Sampling techniques) ^{Wiley, 2nd Edition, 1963.} was used.

$$n = \left[\frac{4 P Q}{(0.05)^2} \right] / \left[1 + \frac{1}{N} \left(\frac{4 P Q}{(0.05)^2} - 1 \right) \right]$$

where N is the size of each stratum.

The number of women to be interviewed in each stratum was calculated and, using an estimate of the average number of women in the reproductive age (14-49) in each household, for each stratum. ~~Independently~~, the number of households to be sampled was calculated. ~~the~~ ^{these} ~~to each stratum the total~~ number of households to be randomly selected* and allowances will be made for losses due to non-response etc.

* based on lots of households drawn up from ^{the} local maps used in the methodology survey. The maps will be updated with the help of ~~the~~ ^{each} visitors.

10. Time-table.

	<u>duration</u> <u>Period</u>
A - <u>Preparation of field work (3 months)</u>	
preparation of sample	weeks - 1-4
selection of interviewers and ^{field} supervisors	weeks - 2-4
training of interviewers and ^{field} supervisors	weeks - 5-6
pre-test of data collection instruments	weeks - 7-8
final revision of data collection instruments and printing of questionnaires	weeks - 9-10
B - <u>Field work and data collection (6 months)</u>	
field work	weeks - 11-20
correction and coding of questionnaires.	weeks - 21-26
digitization of data	weeks - 27-30
editing of data	weeks - 31-34
C. <u>Data Analysis</u> (6 months)	
elaboration of preliminary tables	weeks - 35 - 40
elaboration of final tables	weeks - 41 - 58
D. <u>Preparation of final report</u> (3 months)	
writing-up of final report	weeks - 59 - 70

TOTAL DURATION OF PROJECT = 18 months.

TIME-TABLE - CRONOGRAM

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
 21 4 6 8 10 12 14 16 18 20 22 24 26 28 30 31

A. PREPARATORY PHASE

- preparation of sample
- selection of interviewers and field supervisors
- training of interviewers and field supervisors
- pre-test of data collection instruments
- final revision of data collection instruments

B. Field work and Data Collection

- field work
- correction and coding of questionnaires
- digitation of data
- editing of data

C. Data Analysis

- elaboration of preliminary tables
- elaboration of final tables

D. Preparation of final report

- writing up the final report

7. Variables and Methods of Data Collection

All data will be collected using a pre-coded questionnaire in two parts:

- a) Household Questionnaire - data on ^{or} housing and ^{living} ~~conditions~~ ^{conditions} will be collected together with basic demographic, socio-economic and family ^{structure} ~~structure~~ ^{information} ~~information~~ about all members of the household.
- b) Eligible ^{women's} ~~women's~~ questionnaire - data on the ^{following} ~~principal~~ aspects will be collected from all women.
14 - 49 ^{years of} ~~years~~ age resident in the ^{household} ~~household~~.
 - 1) history of marital relations
 - 2) reproductive history, including abortion
 - 3) pregnancy ^{outcome} ~~outcome~~ and ^{survival} ~~survival~~
 - 4) ^{breast} ~~breast~~ feeding practice
 - 5) family planning knowledge, attitude and practice.

7.1. Variables to be ^{studied} ~~studied~~

Household questionnaire:

- a) Housing. ^{Building} ~~Building~~ materials - floor, wall and ceiling, number of rooms and ^{sleeping areas} ~~sleeping~~. Availability of piped water, electricity, sanitary facilities, waste and escrete disposal.
- b) Socio-economic and demographic. All ^{or} ~~household~~ members: age, sex, place of birth, migration, length of residence in area.
Older than 5 ^{years}: number of years of schooling, highest grade reached.
Older than 14 ^{years}: marital status, occupation.
- c) Family structure. All ^{or} ~~household~~ members: relationship to ^{or} ~~household~~ head, kinship. Monthly family income.

Eligible ^{women's} ~~women's~~ questionnaire

- a) Marriage data (including ^{or} ~~consensual~~ ^{consensual}). Ever married, current marital status - legal and otherwise, age at first ^{or} ~~marriage~~, total length of marital union, religion.

13. Budget Justification

All budget items were calculated taking into account present inflation rates and based on the current conversion rate of

A Personnel.

1. Interviewers.

The interviewers will receive 110.000.00 Cr\$ per month. This payment is equivalent to the grant payed to Residents and other ~~course~~ students taking courses in the Oswaldo Cruz Foundation. The payment will start during the training period.

2. Supervisors.

The two field supervisors will receive the same basic monthly payment as the interviewers plus a small gratification, giving a total of _____ per month.

3. Secretary

This budget item has been included due to the great shortage of ^{Secretarial} staff in the National School of Public Health. The secretary will be responsible for all office work related to the project; typup of questionnaire, correspondence and reports and, for the organization of the project documents and archives. The amount allocated corresponds to an average salary during the 18 months, the average has (been) based on the expected ^{inflation rate} over the period. The monthly payment corresponds to the tables used by the Administrative Sector of the Fundação Oswaldo Cruz for office staff.

4. Coders of the

Three ¹ interviewers will be selected ~~SA~~ on

~~their field performance~~ to carry out the coding and digitizing. The payment corresponds to that of the interviewers.

B. Supplies

Funds are requested for the purchase of an electric type writer and paper for the questionnaire machine.

C. Transport

Vehicles of the ^{Oswaldo Cruz} Foundation will be used to transport the field workers. A budget allowance for petrol has been included.

D. Computation, programming and coding

This item is extremely expensive in Brazil and the calculation of funds required ~~was~~ was based on the number of variables, types of tabulations etc, with the help of an expert in the field.

E. Others

A budget line to cover the printing of the questionnaires, xerox and publication of final report.

operating in the district; CPAINE and BENFAM.

only case

agencies, In the case of oral contraceptive, ^{on} the doctors working in the centre use their own personal discretion, ^{some} some offer guidance and others refer ^{to other for FP clinics} the clients, 21-30 years using abortion as a contraceptive method (—).

Attention has been drawn to the large number of women between ~~yo~~ other clinics. 21 and 30 years using abortion as a contraceptive method. The large demand for family planning and the health centre ^{need for these} is an area presently under discussion.

It is estimated that about 15% of the women in the fertile age group in the area, use the health post ^{and} and 50% use the social security health ^{and} services. This obviously, in part, is determined by economical factors ^{and} but also, in part, by the type of care required.

The results from the morbidity survey indicate

A study of the first a few months ^{indicating the need for} of the case-histories ^{and} indicates ^{on the part of} a large number of women, between 21 and 30 years, use abortion as a contraceptive method. ^{and} Second the

large number of cases reporting menstrual disturbances due to misuse of oral contraceptives. ^{indicate} The ^{constant help debate} medical clinic policy with regard to FP is 56.8% ^{problems} gynaec

hospitais publicas 12.1

Semc. Prend 44.8

queixa gynaec - 3.3% → 55.6 nao usaram.

parco - centro saude 12.5

15.6 privado

-only oral contraceptives systematically given - those using oral contraceptive incorrectly large number menstrual disturbances

(£50 - Cheque no. 27548453)

Monday 22nd March 1982

Miss A. Kelly,
 Advisory Assistant
 External Division, Laws, Economics
 and Medicine
 University of London
 Senate House
 Malet Street
 W.C.1. E.7.HU.

Dear Miss Kelly,

Thank you for your letter of 22 January 1982 and I apologize for taking such a long time to answer.

~~of apply~~ I have carefully considered the question of applying for renewal of my registration as an External Ph.D student and have decided that I would like to continue with my studies. After discussing the original proposal with a number of experienced colleagues I feel that the best way of proceeding is to submit a new proposal to the Board.

In view of the fact that the project proposal has changed and I have not spoken to Professor Brass about it, there is some doubt about whether he will be willing to continue to act as my orientator. I should be grateful for some guidance as to what I should do about this matter.

Enclosed along with the registration forms and the fee ~~is~~ ^(£50 - Cheque no. 27548453) a covering letter stating more clearly the reasons behind this decision and the progress made with the research being proposed.

I look forward to hearing from you soon,
 Yours sincerely,
 Sarah Hawker Coste

"A statistical investigation into the effects of maternal age parity and birth concentration on stillbirth and infant mortality rates in each social class"

BRITISH MEDICAL ASSOCIATION
LONDON
1954

Chronogramme and Funding:

The data collection for the first population (Amazon rural-rural migrants) has been completed. Field work took 4 months and data is being edited. The second stage is scheduled for October and will be completed by December (Slums Rio de Janeiro - rural-urban migrants). Details for the third stage are still to be elaborated. The first two stages have received funding from different sources including the National Council for Developing Research in Science and Technology. Funds will be requested for the third stage shortly (Secretary for Science and Technology - Ministry of Health).

third

OVERALL OBJECTIVES OF RESEARCH;

To contribute to the understanding of the recent fertility trends in Brazil by describing patterns in the family formation variables and contraceptive practices of three rural-born population groups.

The three rural-born populations have been selected as case studies of particular relevance to the Brazilian socio-economic development process.

The recent fall in fertility levels and the constation of important regional and rural-urban differences to this global trend suggests that in order to understand the Brazilian demographic transition, surveys of particular social formations are needed.

This research aims at answering some of the questions related to aspects of the relationship between fertility, migration and urbanization within the present Brazilian context; summarized as follows;

- is urbanization, as a social process, dominant in the fall of fertility? If so, how can this be quantified in terms of the family formation variables (age at marriage, interval between union and first birth, no. of livebirths, intervals between successive births, contraceptive practice, etc)
- is migration, as a social process, bringing (or selecting) those people ready to adopt new reproductive patterns? If so, is rural-urban migration the same as rural-to-rural in terms of fertility? Are the rural non-migrants keeping their "farmer" reproductive patterns?

Specific objectives: These are related to the estimation of the differential fertility between the study populations.

- the differential fertility between the study populations.
- the family formation variables - mean; age at marriage, age at first birth, no. of pregnancies, no. infant deaths, intervals between successive births, no. abortions, no. of stillbirths, pregnancy order, birth order, gravidity, parity, birth interval.
- use of contraceptive methods;
- the contraceptive practice.

Study Populations - Three rural born populations in distinct settings have been chosen, as follows:

(1) A population situated in the Agricultural Frontier Regions (in expansion) in the Amazon Region, characteristically composed of rural - rural migrants attracted by large governmental projects for the development and occupation of the Amazon. A sample from two States will be taken - Mato Grosso and Pará.

(2) A population which represents the secular trend of rural-rural migration to the peripheral areas of the large cities. The sample will be taken from the slum areas of the City of Rio de Janeiro - Administrative region.

(3) A population which has remained in the rural area on a stable basis. The area chosen for study is situated in Rio Grande do Sul and represents an area where agriculture has largely been modernized, and small land owners have been expelled.

Sample Size - This will be calculated based on estimates of variances for fertility and attributes of interest to the study. A Multi-staged procedure will be adopted. Data will be collected using a questionnaire which covers all the relevant material for the identification and socio-economic characterization of women and families, apart from reproductive histories. Women aged 18 years and over, or in cases of existing unions) younger (with upper age unit 55 years) will be interviewed. (Full details of methodology are available in original project protocol).