Demographic dynamics of the Suyá, a Jê people of the Xingu Indigenous Park, Central Brazil, 1970-2004

Dinâmica demográfica dos Suyá, povo Jê do Parque Indígena do Xingu, Brasil Central, 1970-2004

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Abstract

This paper analyses the demographic dynamics of the Suyá, a Jê people, inhabitants of the Xingu Indigenous Park, Mato Grosso State, Brazil, during the years 1970-2004. Data was gathered from medical records of the São Paulo Federal University Health Program at the Xingu Indigenous Park. The demographic characteristics addressed include composition by age and sex, crude birth rates, general mortality rates, mortality rates by age and sex, proportional mortality by sex, age, and basic causes of death. The results show a population recovery process, with growth rates of 3% per year between 1970 and 2004. In addition to moderate birth rates and declining mortality rates, migration has also played an important role in the demographic dynamics. Mortality indicators show a decline in general and infant mortality rates, higher death rates among women, higher proportions of deaths among individuals < 1 and 50+ years of age, and major causes of death to be infectious diseases and cancer.

South American Indians; Demography; Health Status

Introduction

In two classic studies of Brazilian indigenous demography from the 1950s, Darcy Ribeiro [1,2] evaluated the impacts of infectious diseases transmitted to indigenous peoples through the historical circumstances of contact with the surrounding society. He addressed the impacts of these disease histories on their social structures and demographics, anticipating the progressive reduction of these populations and their probable extinction. The alarming prospect of the probable disappearance of the country's indigenous populations prevailed for a very long time and, in the 1980s, indications of increases in some populations signaled a reversal of this pattern [3,4,5,6].

Estimates presented by studies of indigenous peoples in the final decades of the twentieth century showed that their populations had increased, on average, 3.5% per year [5], more than double the average of 1.6% estimated for the total Brazilian population between 1996 and 2000. Recent case studies of the demographic dynamics of diverse indigenous populations in the Brazilian territory show elevated birth and fecundity rates far above the average for the total Brazilian population, as well as reduced mortality levels through time. These trends have resulted in a gradual process of demographic recuperation among these populations [7].

The current challenge for demographic studies of indigenous populations in Brazil is to un-

derstand the continuation of this process by extending case studies to other indigenous peoples and incorporating in their analyses the particular histories and ethnologies of these populations and their repercussions for demographic behavior. It is in this context that this study is presented. Its objectives are to analyze the demographic dynamic of the Suyá from 1970 to 2004 and thereby contribute to the understanding of the process of population recuperation that has been documented for diverse indigenous peoples in Brazil.

Population, material, and methods

Suyá

The Suyá are currently the only Gê (northern branch) speaking population in the Xingu Indigenous Park, in the Central West region of Brazil, also inhabited by other indigenous peoples belonging to the language families Arawak, Carib, and Tupi, as well as the isolated language Trumaí.

According to Seeger [8], the Suyá originally inhabited the region north of the Tocantins River, from which they were displaced towards the Tapajós River and entered into struggles over territory with the region's indigenous groups, including the Munduruku and Kreen-Akarore. In a second displacement towards the south the population split, with the Tapayúna (also called Beiço de Pau, Suyá Novos or Suyá Ocidentais) installing themselves along the Sangue and Arinos Rivers (Mato Grosso State). Seeger estimates that the Tapayúna had a population of about 400 in the mid-twentieth century and that the majority died from poisoning and disease after entering into contact with the surrounding society as the colonial fronts advanced towards the Central West region of Brazil [8]. The 41 survivors were transferred to the Xingu Indigenous Park in 1970.

The other part of the population, known as the Suyá (Eastern), were displaced towards the Batovi River and entered into contact with the peoples of the Upper Xingu. The arrival of the Suyá in the Xingu occurred during the first half of the nineteenth century, decades before contact was established during the first expedition to the region by the anthropologist Karl von den Steinen, in 1884. According to Seeger [8], after Steinen's visit to the Upper Xingu, the Suyá survived, integrating survivors and captives from the region's populations and incorporating traces of their cultures, such as the technique for preparing manioc and the use of sleeping hammocks. Conflicts with the peoples of the Upper Xingu (Xinguanos) caused the Suyá to seek refuge along the tributaries of the Suiá-Missu River [8]. In 1959, with the help of the Jurúna (Yudjá), the Villas Bôas brothers [9] made contact with the Suyá, who soon thereafter moved to the area near the Diauarum Indigenous Post. There they constructed a village and came to live together with the Trumái, Kayapó-Mentuktire, Jurúna, and Kayabí, also former enemies.

Material and methods

This is a transversal study, based on secondary information for the period 1970-2004. The source of data was the archives at the São Paulo Federal University Health Program (Universidade Federal do Estado de São Paulo/Escola Paulista de Medicina – UNIFESP/EPM), in the Xingu Indigenous Park, which include medical charts and records maintained regularly since their establishment in 1965 [10]. This material, together with registries of vital events, is of utmost importance for demographic and epidemiological studies.

The medical charts contain, in addition to health information: registry number in the health program; identification photographs from infancy, adolescence, adulthood, and advanced adulthood; ethnicity; date of chart creation; date of birth (estimated by the medical staff that did the first clinical exam for individuals born before the creation of the program and month and year of birth for those born after 1966); alternate names that the individual received throughout the lifecycle; sex; date, location, and cause of death; names of parents and spouse(s); location of village or residence and any changes in residence; and name and registry number of children. Causes of death were determined by medical staff based on: (i) information provided by family members and/or healthcare professionals and (ii) medical records when the death occurred with medical personnel in attendance or in hospital environments outside the Xingu Indigenous Park.

The *vital event registries* contain information regarding births and deaths since the creation of the system, including: registry number in the health program, name, sex, month and year of birth, ethnicity, date of chart creation, numbers and names of parents when known, month and year of death if applicable, and cause of death. The contents of this registry instrument permitted comparison of the information collected from the medical charts.

The continuous maintenance of this archive and the quality of the information they contain permitted the identification of demographic events that occurred among the Suyá from 1970 to 2004 and reconstruction of the population by sex and age for each year during this period.

Population reconstruction was made possible by a Lexis diagram, taking as the initial point the population at 1970 (p_0 or p_{1970}), by age and sex. To this point were added, year-by-year through 2004, the births, deaths, exits from and entrances into the village, and when each of these events occurred. The Lexis diagram is a graph formed by plotting parallel and diagonal lines that represent, in two dimensions, three demographic variables: date, age, and the moment of birth, death, or any other demographic event, thereby representing the population dynamic [11].

The annual number of population obstained by this procedure served as the basis for estimating the demographic means for use in analyzing the population dynamic, namely: composition by age and sex, crude birth rates (CBR), crude mortality rates (CMR), infant mortality rates (IMR), and mortality by sex, age, and basic cause of death. The last of these averages, mortality, was estimated in accordance with the *International Statistical Classification of Diseases and Related Health Problems* [12].

Given the small population size, mean indicators were calculated for periods of five years between 1970 and 1999, and of four years from 2000 to 2004, in order to contour the fluctuations in the estimated indicators.

Analysis was restricted to the occupant populations of Suyá villages pertaining to the Diauarum Indigenous Post in the Xingu Indigenous Park. Suyá occupants of villages belonging to other ethnic groups in the Xingu Indigenous Park and those residing in urban areas near the park were enumerated and excluded from the study, as in the case of the Tapayúna, who have lived to the north of the Xingu Indigenous Park since 1986.

Results

Population change

From 1970 to 2004, the inhabitant population of the Suyá villages increased from 123 to 330, corresponding to a mean annual rate of increase of 3%. During this period, the rate of increase oscillated between -1.1 and 6.7% per year due to fluctuations in the intrinsic (natural) and extrinsic (migratory) components of the population dynamic (Tables 1 and 2).

In 1970, the Suyá, numbering 77 individuals, received in their villages 41 Tapayúna [13], 17 males and 24 females, who were transferred from the Sangue and Arinos Rivers. At that time, also already living among the Suyá were one Jurúna, one Kayabí, a male and a female Waurá (both abducted as children by the Suyá), and one male Mehinakú. The village thus totaled 123 individuals (Table 1).

With the help of the Tapayúna, the Suyá constructed a new village according to traditional Gê patterns – in circular or semicircular form with a central plaza containing the "men's house" – that had previously been abandoned through association with neighboring groups and other cultures. Their cultural commonalities, apparent in mythical narratives and ceremonies, brought the two groups together again and they lived to-

Table 1

Population by year, population by sex, sex ratio (per 100), and proportion by large age group (per 100). Suyá population, Xingu Indigenous Park, Mato Grosso, Brazil, 1970 to 2004.

Indicator	1970	1975	1980	1985	1990	1995	2000	2004
Total population	123	129	158	175	166	229	277	330
Males	55	65	80	93	97	121	142	167
Females	68	64	78	82	69	108	135	163
Sex ratio (years)	80.9	101.6	102.6	113.4	140.6	112	105.2	102.5
< 15	80.6	113.3	137.5	167.9	164.3	98.3	93.0	81.7
15-49	71.9	93.5	81.0	86.0	140.0	140.5	134.0	138.2
50+	200.0	66.7	50.0	75.0	33.3	66.7	64.3	100.0
Large age group (years)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
< 15	52.9	49.6	48.1	42.9	44.6	49.3	49.5	51.2
15-49	44.7	46.5	48.1	53.1	50.6	44.1	42.2	39.7
50+	2.4	3.9	3.8	4	4.8	6.6	8.3	9.1

Source of raw data: Xingu Project, Department of Preventive Medicine, São Paulo Federal University.

Table 2

Crude birth rate (CBR), crude mortality rate (CMR), natural growth rate (NGR), annual growth rate (AGR), migratory rate (MGR), and infant mortality rate (IMR). Suyá population, Xingu Indigenous Park, Mato Grosso, Brazil, 1970 to 2004.

Indicator (per 1,000)	1970-1974	1975-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004	1970-2004
CBR	30.1	54.9	42.7	35.2	46.6	49.6	57.7	44.7
CMR	23.8	11.3	15.1	7.5	4.3	4.1	3.3	8.3
NGR	0.6	4.4	2.7	2.8	4.2	4.6	5.4	3.6
AGR	1.0	4.1	2.1	-1.1	6.7	3.9	3.6	3.0
MGR	0.4	0.3	0.6	-1.7	2.5	-0.7	-1.8	-0.6
IMR	0.0	102.6	147.1	0.0	23.3	32.8	28.2	47.5

Source of raw data: Xingu Project, Department of Preventive Medicine, São Paulo Federal University.

gether in relative harmony for some time [8]. In 1980, the Tapayúna constructed their own village, leaving among the Suyá two sisters, who were married to a Suyá man, and three adolescent orphans, who would later come to marry among the Suyá. In 1985, there occurred the death of a Waurá individual, who had been abducted as a child and eventually came to assume a role of distinction as singer and organizer of Suyá festivals and ceremonies. This tragic event provoked the assassination of a Tapayúna individual accused of sorcery [13]. As a result, the group split, with 36 Tapayúna moving in 1986 and 1987 to two Kaiapó-Mentuktíre villages, Capoto and Kretire, located in the northern part of the park. Those that remained with the Suyá were family. Due to this fission, the Suyá villages suffered a population decrease of 1.1% per year during the period 1985-1990 (Table 2).

In 1994, 17 Tapayúna returned to the Suyá villages Ngoiwere and Ngossoko, an event which, together with elevated natural growth, resulted in an increase of 6.7% per year during the period 1990-1994 (Table 2).

In 2004, the Suyá population of 330 individuals was distributed in five villages (Ngoiwere, Ngosoko, Roptotxi, Beira Rio, and Terra Indígena Wawi) and in the Indigenous Post Diauarum. At that time there were still 14 Suyá living among other ethnic groups in the Xingu Indigenous Park and 20 residing in urban areas near the park, principally in the city Canarana, who were excluded from the study.

Mortality

During the period 1970-2004, 55 deaths were registered among the Suyá, with the number of deaths for females (33) being greater than the number for males (22).

The highest general mortality rate during the 34 years analyzed, 23.8 deaths per thousand inhabitants, was observed during the period 1970-1974 (Table 2). During these years, of the 15 deaths registered, 10 were Tapayúna. From 1975 to 1984, general mortality remained elevated, between 11 and 15 deaths per thousand. In 1985, mortality began to decline, reaching 3.3 deaths per thousand inhabitants during the period 2000-2004.

The IMR oscillated considerably between 1970 and 2004, reaching the highest levels during the periods 1975-1979 and 1980-1984, with 102.6 and 147.1 deaths per thousand inhabitants, respectively. They then declined, reaching 28.2 deaths per thousand in 2000-2004 (Table 2).

To better understand the observed changes in the mortality profile of this population and to overcome the effects of small numbers, mortality indicators were then estimated for two periods: 1970-1989 and 1990-2004.

During these two periods, the absolute number of deaths was greatest for females. With respect to proportional mortality by sex and age during the period 1970-1989, the greater proportion of deaths (31.8%) occurred in the age group 20-49, being particularly influenced by elevated proportional mortality for females (41.6%). From 1990-2004 the greatest proportion of deaths (35.7%) was observed among individuals < 1 year of age, reflecting the elevated proportion of deaths among females in this age group, as well as the overall young age structure of the population (Table 3).

Mean mortality rates by age and sex highlight the greater overall level of female mortality in almost all age groups during the study period (Table 4). In the overall population, the highest mortality rates were observed for individuals less than 1 year of age and 50 years of age or more. The greatest decline in mortality between the

Table 3

Proportional mortality by sex, by age group (%). Suyá population, Xingu Indigenous Park, Mato Grosso, Brazil, 1970-1989 and 1990-2004.

Age group (years)	Proportion of deaths (%)					
	1970-1989			1990-2004		
	Males	Females	Total	Males	Females	Total
< 1	29.4	16.7	22.0	20.0	44.5	35.7
1-4	-	16.7	9.7	40.0	11.1	21.4
5-19	29.4	25.0	26.8	20.0	11.1	14.4
20-49	17.7	41.6	31.8	-	11.1	7.1
50+	23.5	_	9.7	20.0	22.2	21.4
Total (%)	100.0	100.0	100.0	100.0	100.0	100.0
Total (Abs)	17	24	41	5	9	14

Source of raw data: Xingu Project, Department of Preventive Medicine, São Paulo Federal University.

Table 4

Specific mortality rates by sex, by age group. Suyá population, Xingu Indigenous Park, Mato Grosso, Brazil, 1970-1989 and 1990-2004.

Age group (years)	Specific mortality rate by sex (per thousand)					
	1970-1989			1990-2004		
	Males	Females	Total	Males	Females	Total
< 1	71.4	93.0	79.6	13.2	42.6	29.4
1-4	0.0	23.8	9.7	7.5	3.1	5.1
5-19	7.7	10.7	9.1	1.3	1.6	1.5
20-49	5.8	17.5	11.9	0.0	1.8	0.8
50+	97.6	0.0	36.4	8.8	12.0	10.7
Total	11.2	17.0	14.0	2.6	5.1	3.8

Source of raw data: Xingu Project, Department of Preventive Medicine, São Paulo Federal University.

periods 1970-1989 and 1990-2004 was also observed for these two age groups, being 63% and 71%, respectively.

Regarding the mortality profile by cause of death, during the period 1970-1989, Unknown Causes represented the greatest proportion, with 34.2% of the total deaths registered (Table 5). Infectious and Parasitic Diseases were the second most frequent causes of death (29.3%). Of the 12 deaths with these causes, eight were from malaria and the rest from whooping cough, measles, and diarrhea. External Causes, among which are included infanticides and homicides due to sorcery accusations, constituted the third most important group of causes (17.1%), with five homicides, one infanticide, and one accident being recorded. The fourth position (4.9%) is shared by Neoplasias and Pregnancy, Childbirth, and Puerperium. Within Neoplasias there were two registered deaths from cervical cancer. Among the less numerically important causes of death are congenital cardiopathy, anemia, and hypovolemic chock. Regarding differences by sex, the most relevant causes for males, besides Unknown Causes, are Infectious and Parasitic Diseases and External Causes. For females, they are Unknown Causes, Infectious and Parasitic Diseases, External Causes, Neoplasias, and causes related to Pregnancy, Childbirth, and Puerperium.

During the period 1990-2004, Infectious and Parasitic Diseases remain important causes of death (35.6%), being represented by two deaths from diarrhoea diseases, one from tuberculosis, one from intestinal obstruction caused by ascaris, and one from septicemia resulting from renal insufficiency and kidney transplant failure (Table

5). The second position is occupied by Neoplasias (21.4%), with two registered deaths from colon and endometrial cancer and one from non-Hodgkin lymphoma. Congenital Malformations and Conditions Originating in the Perinatal Period occupy the third position (14.4%), being represented by deaths caused by microencephaly and Downs syndrome, and by two stillbirths, respectively. Finally, in the category External Causes (7.1%) one death by infanticide was registered, and in Respiratory Apparatus Diseases (7.1%), one death from pneumonia. It should be emphasized that during this period basic causes of all of registered deaths were defined. As for sex, Infectious and Parasitic Diseases were predominant during this period for males and Neoplasias for females, due to the occurrence of cervical cancer.

Birthrate

The crude mean birthrate for the period 1970-2004 was 44.7 births per thousand inhabitants (Table 2). The highest birthrate levels were registered for the periods 1975-1979 and 2000-2004, with 54.9 and 57.7 births per thousand inhabitants, respectively. The lowest levels were registered for 1970-1974 and 1985-1989, with 30.1 and 35.2 births per thousand inhabitants, respectively.

Composition by age and sex

Suyá population pyramids by age and sex for the years 1970 and 2004 show the following changes in composition over this time period: great regularity in the population distribution for age groups in general; maintenance of similar proportions of the bases of the two pyramids; constriction in adult ages, principally in the female population, reflecting the greater mortality rate for females and the Tapayúna emigration to the Kayapó-Mentuktíre villages; elongation and widening of the apex, reflecting increased longevity in the population during the last 34 years (Figures 1 and 2).

The age pattern, characterized by the maintenance of an young structure with indications increased age, is confirmed by the population distribution by large age groups (Table 1). Between 1970 and 2004, the proportion of the total popu-

Figure 1

Suyá age pyramid, 1970.

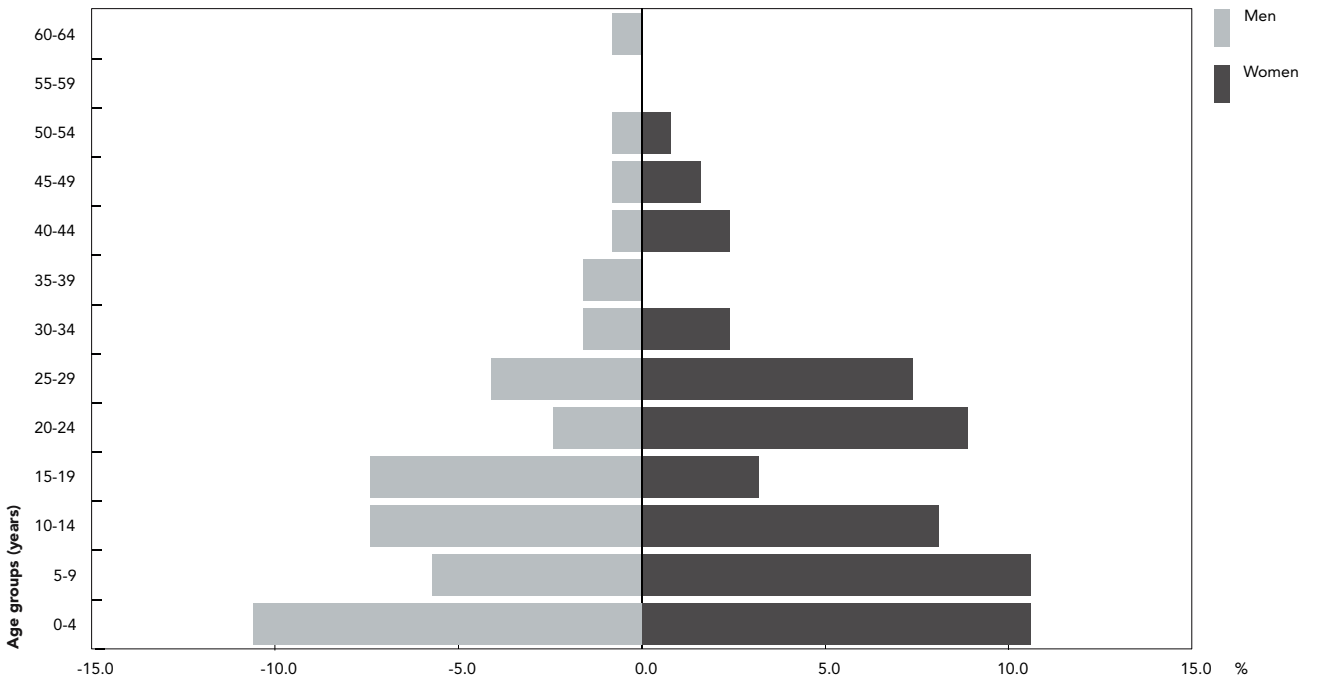
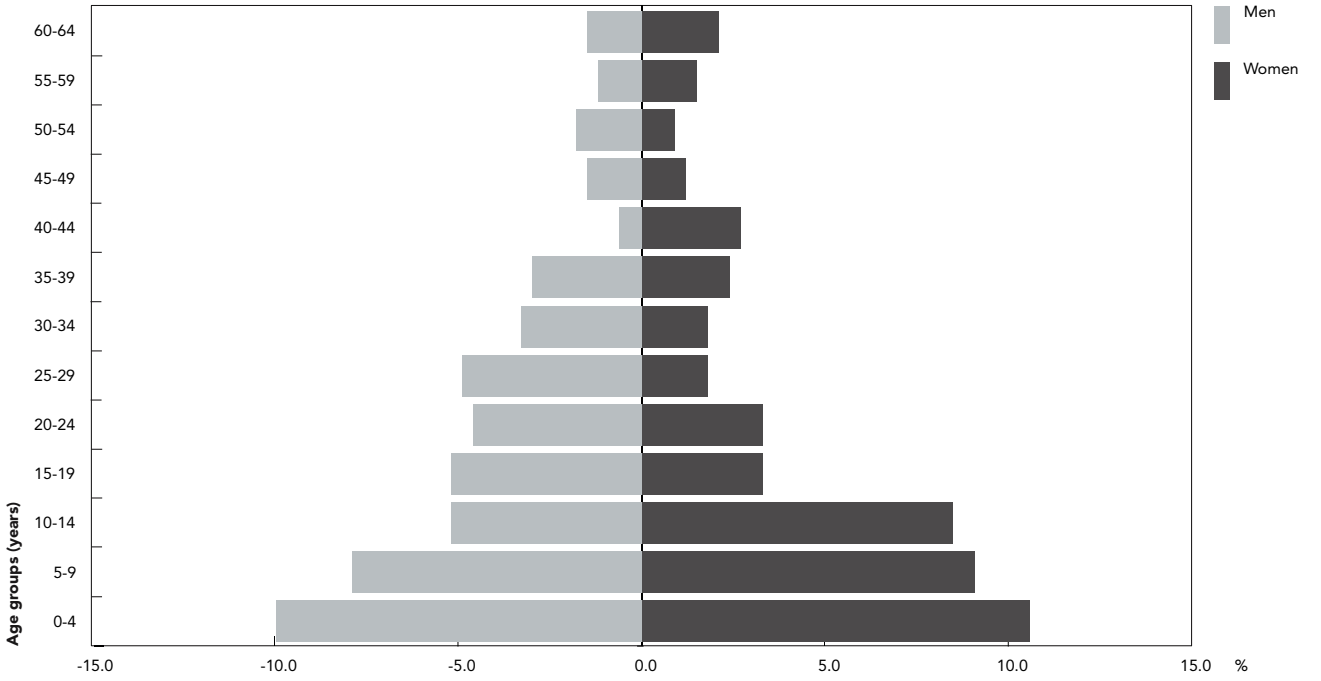


Figure 2

Suyá age pyramid, 2004.



lation that was under 15 years of age remained stable, between 52.9% and 51.2%, while the proportion 50 years of age or greater increased from 2.4% to 9.1%.

Median age increased from 13 to 17 years from 1970 to 2004 for males and remained at 13 years for females, due to female overmortality. There was an increase in median ages from 13 to 14 years in the overall population.

A total of 105 males usually are born for every 100 females in the overall population. However, due to male overmortality during the first years of life, the population sex ratio decreased, being affected by lower female mortality during other life stages and by migration, which occurs more frequently during the more active stages of life.

The population composition by sex in 1970 was characterized by the predominance of females, with a sex ratio of 80.9 males for every 100 females (Table 1). This index increased for the year 2004, being 102.5 males for every 10 females. This change appears to be affected by the very small size of the population and by the greater female mortality observed among the Suyá.

Discussion

As observed for diverse indigenous peoples in Brazil [7] and in other Latin American countries [14], the Suyá are also undergoing demographic recuperation. Between the years 1970 to 2004, the population in Suyá villages increased on average 3% per year principally due to natural and migratory components. Rates of increase greater than that of the Suyá have been observed in other indigenous populations in Brazil, mainly among those with the concurrence of high birth rates and declining mortality, as is the case of the Xavante (Mato Grosso) population, which has increased at rates of nearly 5% per year [15,16,17]. Among the Kayabí, Waurá, and Txikão (Ikpeng), ethnic groups also living in the Xingu Indigenous Park, the annual mean rate of increase for the period 1970-1999 (4.2% to 5.2%) [18,19,20] was also greater than that of the Suyá.

According to Seeger [21], the presence of the Tapayúna in the Xingu caused the Suyá to feel "*stronger, more numerous, and more alive*" by recuperating their traditional cultural patterns, which were influenced long ago by the indig-

enous Upper Xinguano culture. On the other hand, Tapayúna migratory movement in and out of Suyá villages exerted a strong impact on the estimated demographic and epidemiological indicators. When they entered the park in 1970, the Tapayúna were examined by a UNIFESP team. Some were found to be afflicted by flu, fever, and dehydration, requiring intravenous hydration. In the following four years, ten died from malaria, two by violent death, and four from unknown causes [13].

As a result of these deaths, the highest level of general mortality for the Suyá villages during the 34 years analyzed was observed during the period 1970-1974. From 1985, mortality began to decline gradually, reaching 3.3 deaths per thousand inhabitants during the period 2000-2004.

During the entire period 1970-2004, general mortality levels and specific mortality levels by age for females were always higher than those for males. The female overmortality documented for the Suyá contrasts with the mortality patterns by sex documented for other ethnic groups in the Xingu Indigenous Park, such as the Kayabí [22], the Kamayurá [23], and the Txikão (Ikpeng) [20]. Among these groups, mortality levels are greater for males than for females.

Although they show an important declining trend, the highest mortality levels, as evidenced by the specific rates by age, were encountered in the age groups < 1 and 50+ years of age.

The reduction in Suyá infant mortality levels, from 79.6 to 29.4 deaths per thousand births between the periods 1970-1989 and 1990-2004, indicates improved sanitation conditions, diet, and quality of available healthcare [24]. The IMR of 29.4 deaths per thousand births during the period 1990-2004 is very close to Brazilian national average of 30.1 per thousand live births for the year 2000, and less than that of the self-declared indigenous population living in rural areas of the country for the same year (47.0 per thousand) and in the Central West region (48.9 per thousand), where the Xingu Indigenous Park is located [25]. Other indigenous populations, such as the Xavante at Sangradouro-Volta Grande [17] and at Pimentel Barbosa [15,16] show much higher IMR than that of the Suyá, varying from 70.1 and 87.1 deaths per thousand live births.

The principal causes of death registered between 1970 and 1989 were led by Unknown Causes, followed by Infectious and Parasitic Diseases, External Causes, Neoplasias, and diseased related to Pregnancy, Childbirth, and Puerperium. In the period 1990-2004, Infectious and Parasitic Diseases continued to predominate, Neoplasias rose to the second position, followed by Congenital Malformations and Conditions Originating in the Perinatal Period. The mortality profile encountered among the Suyá has been documented for other indigenous populations in Brazil. For example, the Xavante experienced an increase in chronic nontransmissible diseases, more frequently found among the country's urban populations, before overcoming the stage of infectious disease predominance [15].

Another notable aspect of the analysis of the evolution of the Suyá mortality profile by cause is the absence of deaths by Unknown Causes during the period 1990-2004, which indicates improved monitoring of deaths by the health program. Among the registered deaths in the nation's 34 Special Indigenous Sanitary Districts in 2001, poorly defined or undetermined causes represented the greatest proportion (27%) of deaths [26].

The Suyá birthrate of 44.7 births per thousand inhabitants, on average during the period 1970-2004, is very close to that estimated for the Kamayurá, 41.2 births per thousand inhabitants between 1970 and 1999 [23,27]. Both are considered moderate when compared to other indigenous peoples in the Xingu and in other regions of the country. Higher birthrates were found among other ethnic groups in the Xingu Indigenous Park, such as the Kayabí [22], Waurá [19] (55.3 per thousand), and Txikão [20] (54.1 per thousand), during the period 1970-1999. The CBR were 51.4 for the Xavante at Pimentel Barbosa for the period 1977-1990 [15,16], 57.7 for the Xavante at Sangradouro-Volta Grande for 1993-1997 [17], and 51.3 for the Sateré-Mawé (Amazonas) for 2002-2003 [28].

Aspects of Suyá culture that may be related to their relatively moderate birthrate as compared to other indigenous societies are proposed by Seeger [29]. He notes that the Suyá do not have knowledge of medicinal herbs or plants for preventing pregnancy. Also, as with the Kamayurá [27], the Suyá occasionally resort to infanticide to impede the survival of physically malformed children, twins, newborns of mothers who die during childbirth and are not adopted, unwanted children or children not recognized by the father, and in order to choose the sexes of one's children [29].

Changes in the components of the demographic dynamic (natality, mortality, and migration) have determined effects on the overall population structure by age and sex. Understanding them permits identifying specific deficiencies and improving programmatic and political planning for the different age groups. With respect to the Suyá population, the combination of relatively moderate birthrates, declining general mortality, and a negative migration balance of approximately 10% of the total population was reflected in the proportion of the population

< 15 years old being maintained at approximately 52% during the study period. On the other hand, the lower proportion of females than males in adult age ranges reflects female overmortality, principally due to maternal death and cervical cancers. The increase in the proportion of the population 50 years of age or more can be attributed to improved health conditions and of the consequential decline in overall mortality.

Conclusion

This study showed that historical Suyá population declines were reversed with the beginning of a phase of population recuperation, as has happened with other indigenous peoples in Brazil and in Latin America. During the period 1970-2004, the population in Suyá villages increased 3% per year, from 123 to 330 inhabitants. This population dynamic is attributed to the combined effect of relatively moderate birthrates, declining mortality, and a strongly negative migratory balance. As a result of this set of factors, the population's age structure remained young, although it already points towards increased longevity.

The importance of the Suyá population recovery reflects the recuperation of their cultural traditions and the maintenance of their social organization. Societies in the Gê language family, including the Suyá, possess very complex social structures, with organizational stratification by age groups and division into exogamous moieties, the reproduction of which requires a certain minimum population. Males and females are recognized and valued for, among other qualities, their capacity to procreate, the importance of which is related to social and political prestige and to the role one plays in the social organization. An example of recovery of cultural traditions related to population recuperation and increase in longevity is the rite of passage that precedes the transformation of men and women with many grandchildren into *wikényl*. This rite, described by Seeger [21], which is currently being performed by the Suyá with increased frequency, was previously unviable due to high mortality caused by massacres by their enemies and by post-contact epidemics.

Resumo

Este estudo analisa a dinâmica demográfica dos Suyá, povo Jê habitante do Parque Indígena do Xingu, Mato Grosso, Brasil, no período 1970-2004. As fontes de dados são as fichas médicas e os livros de registro de eventos vitais do Programa de Saúde da Universidade Federal de São Paulo no Parque Indígena do Xingu, alimentados regularmente desde 1965. As medidas demográficas estimadas são: composição por idade e sexo, taxas brutas de natalidade, taxas de fecundidade geral, taxas de mortalidade geral, infantil e por idade e sexo, mortalidade proporcional por sexo, idade e causas básicas de morte. O estudo mostra que os Suyá estão vivenciando um processo de recuperação populacional, tendo crescido 3% ao ano, entre 1970 e 2004. Além de taxas de natalidade moderadas e mortalidade em declínio, a migração exerceu papel importante na dinâmica demográfica desse povo. Os indicadores de mortalidade apontam para: declínio da mortalidade geral e infantil; mais altos níveis de mortalidade entre as mulheres; maiores proporções de óbitos concentradas entre < 1 ano e > 50 anos; dentre as principais causas de morte, além das doenças infecciosas e parasitárias, figuram também as neoplasias malignas.

Índios Sul-Americanos; Demografia; Nível de Saúde

Contributors

H. Pagliaro participated in delineating the study, performed data analysis and discussion of the results, and was responsible for writing the final version of article. N. S. Carvalho reviewed the literature and collected and systematized the data. D. Rodrigues participated in data analysis and in discussion of the results. R. G. Baruzzi participated in data analysis, discussion of the results, and revised the final version of the article. All authors contributed to writing the article.

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