People with disability in Brazil: a look at 2000 Census results

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Introduction

Questions related to people with disability were included in the Brazilian Decennial Censuses from1872 until 1940. On the second half of the twentieth century, they were excluded from the Census Forms. However, the enactment of Law No. 7.853 dated October 24, 1989 brought, amongst other legal guarantees, the obligation of including specific questions on people with disability in the national censuses. The information on this theme had become an indispensable condition for supporting the definition of policies adequate to the national context. Since 1991, the Brazilian Censuses include a set of questions on disability.

In the 2000 Census the questions formulated allowed the study of the people with disabilities, the starting point was to identify activity limitation and the degree of severity. Formulation of the questions was the product of a joint effort between the *Instituto Brasileiro de Geografia e Estatística* (IBGE) and the *Coordenadoria Nacional para Integração da Pessoa Portadora de Deficiência* (CORDE), from Brazilian Government. The 2000 Census questions on disability permitted the study of the perception that the individuals have in relation to the changes caused by the disability on their realized capabilities, behavior and social participation.

To arrive at the formulation used, several pilot tests were performed with different sets of questions to select those that best identified the population being studied. The analyses of the results of these tests, together with the application of international experience, led to the questions applied in the 2000 Census. Some questions use the concept of limitation of activities to identify the disabilities. Two other questions refer to the impairments reflected in body functions and structures. The concept used, includes various levels of limitation of activities that enable the degrees of severity of limitation with vision, hearing and locomotion to be distinguished.

These conceptual bases are compatible with international recommendations, especially the International Classification of Functioning, Disability and Health ICF (2001) unveiled recently by the World Health Organization. The United Nations recommends the international classification to be used as a theoretical benchmark, and its concepts and terminology to provide international language that allows comparability of the statistics produced, whenever they attend to the information needs of each country (Mbogoni, M & Synneborn, M., 2003). Currently disability statistics vary noticeably between different countries, since they depend on the concepts used to develop measures in each country. The purpose is to harmonize concepts to arrive to a comparable data set between countries

Several analyses were performed with the Brazil 2000 Census data to evaluate the consistency of the relationship between disability and vulnerability. In table 1 the proportion of population with disability for a set of selected countries can be observed. The rates obtained are in decreasing order, showing the diversity of the concepts and measures used.

Table 1 - Prevalence of disability in selected countries by source

Country	Year	Proportion of population with disability (%)	Source
New Zealand	1996	20,0	Survey
United States of America	2000	19,3	Census
Australia	1993	18,0	Survey
Uruguay	1992	16,0	Survey
Spain	1986	15,0	Survey
Brazil	2000	14,5	Census
Austria	1986	14,4	Survey
Canada	2001	12,4	Survey
United Kingdom	1991	12,2	Census
Sweden	1988	12,1	Survey
Netherlands	1986	11,6	Survey
Poland	1988	9,9	Census
Germany	1992	8,4	Survey
China	1987	5,0	Survey
Italy	1994	5,0	Survey
Mexico	2000	2,3	Census
Chile	1992	2,2	Census
Colombia	1993	1,8	Census

Source: United Nations Statistics Division; IBGE (Brazil); Bureau of the Census (USA); INEGI (Mexico); Statistics New Zealand e INE (Spain)

The table shows the heterogeneity of measures and concepts used by different countries and the necessity of harmonization of them.

Age distribution and structure of disability

Of the 24.6 million people with disability in Brazil (14.5% of the total population), 19.8 million were located in urban area and 4.8 million in rural area in 2000. The percentage of people that declared that they had at least one type of impairment or limitation is 14.3% in the urban zones and 15.2% in the rural zones. The Southeast portion of the country is the region with the lowest proportion of people that declared themselves disabled (13.1%). However the Northeast has the highest percentage of disability, 16.8%.

Table 2 – Proportion of the population with at least one type of disability, by urban and rural area - Brazil and Regions, 2000

Regions	Proportion of the population with at least one type of disability (%)		
	Total	Urban	Rural
Brazil	14,5	14,3	15,2
North	14,7	15,7	12,5
Northeast	16,8	17,0	16,3
Southeast	13,1	13,0	13,8
South	14,3	13,8	16,5
Central West	13,9	14,0	13,1

Source: IBGE, 2000 Census.

Also considering the degree of severity of the impairment, it can be observed that there are 148,000 blind people in Brazil and 2.4 million people that declare that they have great difficulty in seeing. Of the total number of blind people, around 77,900 are women and 70,100 men. Analogously 166,400 people declare to be themselves deaf, of which are 80,000 are women and 86,400 are men. In Brazil almost 900,000 people declare that they have great permanent difficulty in hearing.

The regional distribution of the disabled population by type of impairment and degree of severity is shown in Table 3.

Table 3 – Population by type of disability and sex - Brazil and Regions, 2000

Sex and Regions	Population													
	Total (1)(2)	Type of disability												
		At least one type of disability	Permanent mental disability	Physical impairment	Seeing			Hearing			Mobility (3)			No disability
					Unable	Great permanent difficulty	Some permanent difficulty	Unable	Great permanent difficulty	Some permanent difficulty	Unable	Great permanent difficulty	Some permanent difficulty	
Brazil	169 872 856	24 600 256	2 844 937	1 416 060	148 023	2 435 873	14 060 946	166 365	883 079	4 685 655	574 186	1 772 690	5 592 908	143 726 947
North	12 911 170	1 901 892	189 902	107 526	11 061	205 173	1 199 136	13 259	56 083	320 088	36 377	98 906	371 237	10 870 702
Northeast	47 782 487	8 025 537	859 454	410 582	57 416	853 114	4 836 931	56 351	293 668	1 511 668	174 738	559 671	1 789 202	39 342 892
Southeast	72 430 193	9 459 596	1 201 606	586 526	54 600	863 101	5 113 771	59 991	335 929	1 823 400	243 417	733 630	2 259 819	62 262 577
South	25 110 348	3 595 028	409 783	215 313	17 562	355 348	1 953 350	24 460	139 720	734 303	85 173	280 414	845 394	21 343 756
Central West	11 638 658	1 618 204	184 192	96 113	7 384	159 139	957 757	12 304	57 680	296 196	34 481	100 069	327 255	9 907 021
Male	83 602 317	11 420 544	1 545 462	861 196	70 160	1 044 746	6 144 168	86 431	466 043	2 465 745	275 301	739 219	2 280 551	71 391 433
North	6 536 901	926 881	107 393	69 420	5 462	93 790	554 985	6 982	31 388	176 858	18 223	45 859	167 015	5 537 402
Northeast	23 430 808	3 645 185	472 056	245 258	26 854	365 977	2 065 519	29 655	154 273	752 907	80 497	234 560	727 891	19 575 913
Southeast	35 430 967	4 357 446	646 292	351 939	25 589	360 738	2 207 127	31 020	173 137	967 099	117 397	296 905	890 557	30 710 837
South	12 401 987	1 718 646	221 257	134 961	8 579	153 809	882 117	12 455	76 176	409 089	41 705	117 710	352 953	10 597 515
Central West	5 801 654	772 387	98 464	59 618	3 675	70 432	434 420	6 318	31 069	159 791	17 479	44 185	142 134	4 969 766
Female	86 270 539	13 179 712	1 299 474	554 864	77 863	1 391 127	7 916 778	79 934	417 037	2 219 910	298 885	1 033 471	3 312 357	72 335 514
North	6 374 269	975 012	82 508	38 105	5 599	111 383	644 151	6 277	24 696	143 230	18 155	53 047	204 222	5 333 301
Northeast	24 351 679	4 380 352	387 399	165 323	30 562	487 137	2 771 413	26 696	139 395	758 761	94 241	325 111	1 061 311	19 766 979
Southeast	36 999 226	5 102 150	555 314	234 588	29 011	502 362	2 906 645	28 971	162 792	856 300	126 020	436 725	1 369 262	31 551 739
South	12 708 361	1 876 382	188 525	80 353	8 983	201 538	1 071 233	12 004	63 543	325 213	43 467	162 705	492 441	10 746 240
Central West	5 837 004	845 817	85 728	36 495	3 709	88 707	523 336	5 986	26 611	136 405	17 002	55 884	185 121	4 937 254

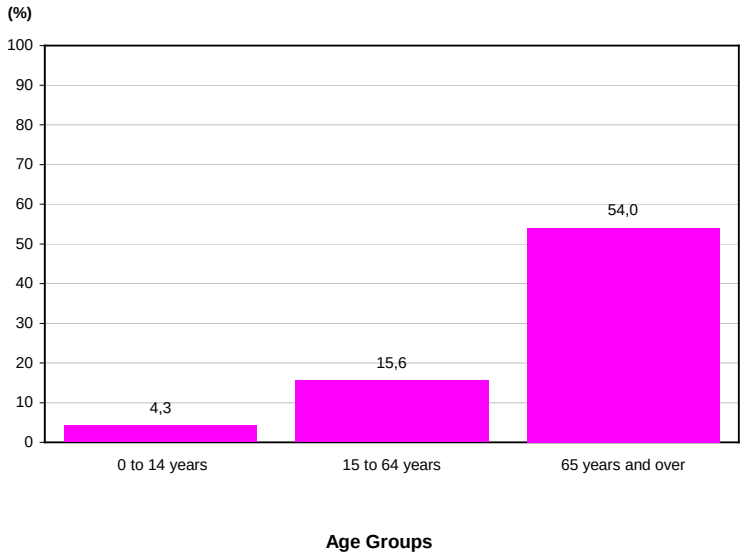
Source: IBGE, 2000 Census.
(1) People with more than one type of disability were counted only once. (2) Including people without answer to the questions on disability. (3) This means difficulty walking and climbing stairs.

The Northeastern region, although its total population is lower than that of the Southeast, has approximately 57,400 people that declare themselves to be blind, against 54,600 in the Southeast.

Of the 166,400 people that declared themselves incapable of hearing in Brazil, approximately 60,000 live in the Southeastern region, whilst a 56,400 are located in the Northeastern region.

Analyzing the proportion of people with at least one type of impairment or disability according to age groups, it can be observed that in the case of children up to 14 years of age, 4.3% of them have at least one type of disability. This proportion increases to 15.6% of people of working age (aged 15 to 64). More than half of people aged 65 or over declare that they have some type of impairment or disability. This proportion increases with age and is a consequence of the increase in the limitations on activities as a result of aging.

Graph 1 - Proportion of the population with at least one type of disability, by age groups
Brazil - 2000



Source: IBGE, 2000 Census.

Analyzing this proportion at regional level, it can be seen that the North and Northeastern regions have the largest numbers of disabled people in all age groups. It is natural that as people become older, the proportion of them with at least some difficult with vision, hearing or locomotion increases.

Table 4 – Proportion of the population with at least one type of disability, by special age groups - Brazil and Regions, 2000

Regions	Proportion of the population with at least one type of disability (%)			
	Total	0 - 14 years old	15 - 64 years old	65 years old and over
Brazil	14,5	4,3	15,6	54,0
North	14,7	4,6	18,1	63,2
Northeast	16,8	5,2	18,7	62,3
Southeast	13,1	3,7	13,5	48,0
South	14,3	3,7	15,1	53,5
Central West	13,9	4,4	15,5	56,2

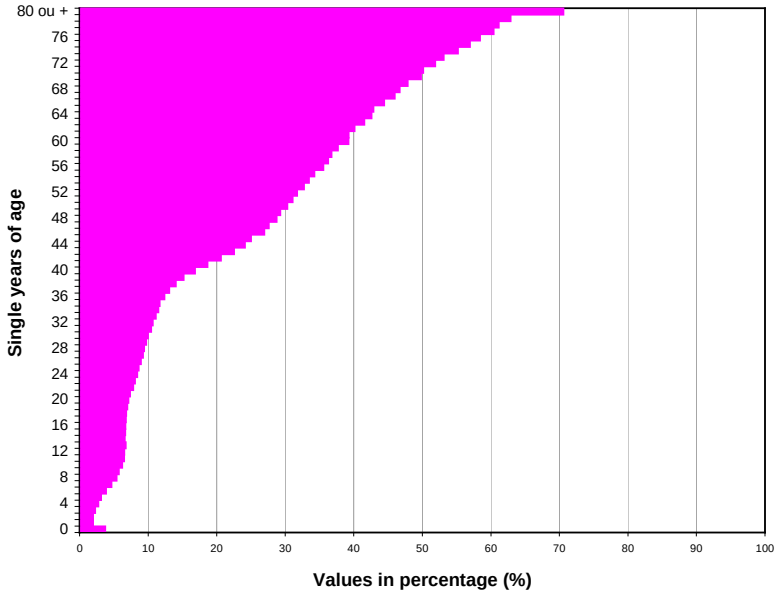
Source: IBGE, 2000 Census.

The male mortality rate is higher than the female rate for age groups, and therefore an important part of the disabled population aged 65 and over is made up of women.

When analyzing the proportion of people with at least one disability according to their individual ages, two points of inflection or ages at which the proportion increases can be observed: the first as from the age of 10 and the second from 40.

The first point of inflection is related with the entry of children into the school system, and the increase in perception of certain disabilities as a result of difficulties in performing school activities. On the other hand as from age 40, the problem is related with aging and the increasing difficulty to see, hear or walk.

Graph 2 - Proportion of the population with at least one type of disability by single years of age
Brazil - 2000

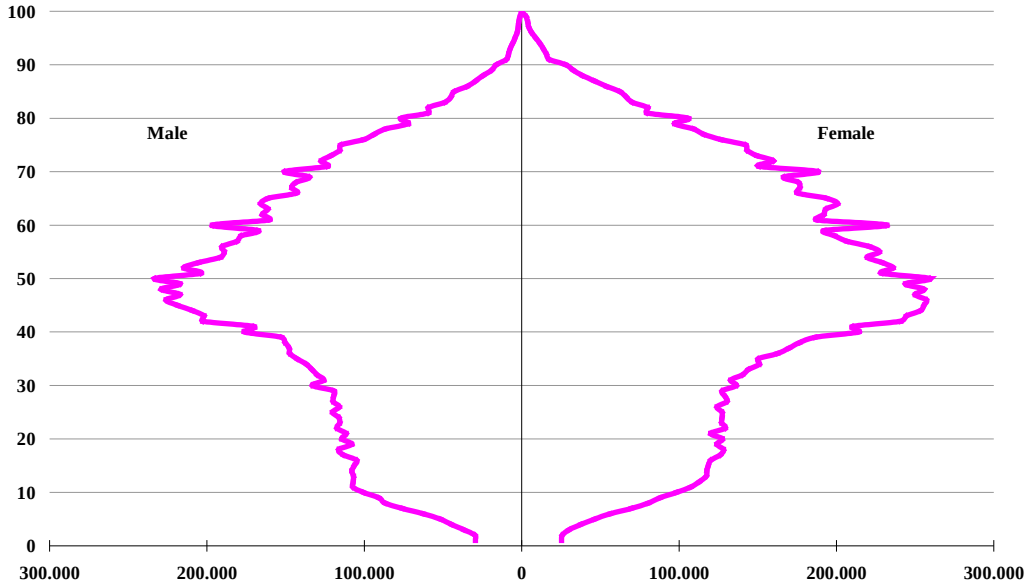


Source: IBGE, 2000 Census.

When observing the composition of the age pyramid of the total number of people with at least one type of disability, it was found that the largest absolute number of disabled people was in the population between the ages of 40 and 49, especially females. In Brazil there are almost 4.5 million people between the ages of 40 and 49 with at least one type of impairment or disability, of which 2.4 million are women and almost 2.1 million are men. In this case the group of people with at least some difficulty in seeing predominates.

In the case of difficulties in hearing or walking, the most numerous groups are the ages between 60 and 69.

Graph 3 - Age and sex structure of the population with at least one type of disability
Brazil - 2000



Source: IBGE, 2000 Census.

When analyzing the sex ratio of people with at least one type of disability, it can be seen that the sex ratio of the disabled population reduces as from the age of 50, in other words the proportion of women with at least one type of impairment or disability increases. The sex ratio in the Brazilian population is 96.9 men for each 100 women. Amongst disabled people there are only 86.7 men for each 100 women. This difference increases in the urban zones (94.1% and 82.7% for men per 100 women respectively). In the rural zones, the men always predominate, 110.1 men for each 100 women in total, and only 104.6 men per 100 women are found in the disabled group.

Table 5 – Sex ratio in population with and without disability by urban and rural area
Brazil and Regions, 2000

Regions	Sex ratio					
	Total		Urban		Rural	
	Total	With at least one type of disability	Total	With at least one type of disability	Total	With at least one type of disability
Brazil	96,9	86,7	94,1	82,7	110,1	104,6
North	102,6	95,1	97,1	87,0	116,4	122,9
Northeast	96,2	83,2	91,7	77,5	107,1	98,2
Southeast	95,8	85,4	94,3	83,3	111,1	106,2
South	97,6	91,6	94,9	87,6	109,8	107,4
Central West	99,4	91,3	96,5	87,0	120,6	128,0

Source: IBGE, 2000 Census.

Difference according to color or race

Considering color or race in estimating the prevalence of disability, it can be observed that the largest prevalence of disability can be found in the population that declares itself to be black, and lower in the population that declares itself to be white.

At the regional level the lower prevalence of disability corresponds to the white

Table 6 - Proportion of the population with at least one disability, by colour/race
Brazil and Regions, 2000

Regions	Proportion of the population with at least one type of disability (%)					
	Total	White	Black	Yellow	Brown	Indigenous
Brazil	14,5	13,8	17,5	13,9	15,0	17,1
North	14,7	14,7	18,1	15,6	14,6	10,6
Northeast	16,8	16,8	19,6	18,3	16,4	21,5
Southeast	13,1	12,6	15,8	13,1	13,5	21,7
South	14,3	14,1	16,6	14,3	15,4	19,5
Central West	13,9	13,5	18,3	15,2	13,9	13,7

Source: IBGE, 2000 Census.

population in the Southeast (12.6%) and the higher is for black people (19.6%) in the Northeast. Once again the relationship between the socioeconomic characteristics of the population and the prevalence of disability can be observed.

Literacy

It can be observed that the literacy rate for people of 15 years of age or more in Brazil is 87.1%. Amongst disabled people this proportion falls to 72.0%. If we consider only severe disabilities[1] the proportion of literate people of more than 15 years of age falls to 61.6%. In the case of the Northeast, almost half the people with severe impairments or disabilities (46.7%) were literate.

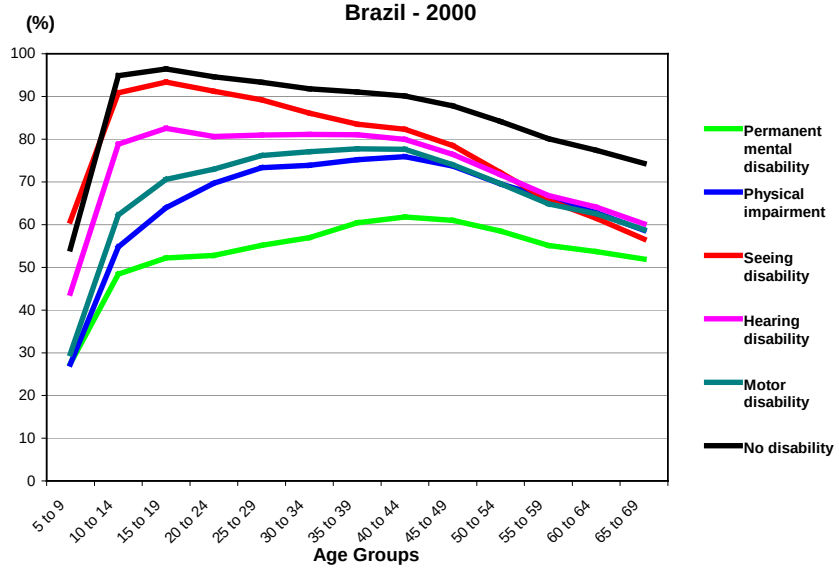
Table 7 – Literacy rate among adults aged 15 years old and over in population with and without disability - Brazil and Regions, 2000

Regions	Literacy rate among adults aged 15 years old and over (%)		
	Total (1)(2)	At least one type of disability	At least one type of severity disability (3)
Brazil	87,1	72,0	61,6
North	84,3	71,6	59,5
Northeast	75,1	57,9	46,7
Southeast	92,3	79,8	69,8
South	92,8	81,1	70,9
Central West	89,8	75,0	63,3

Source: IBGE, 2000 Census.

(1) People with more than one type of disability were counted only once. (2) Including people without answer to the questions on disability. (3) Excluding people with some permanent difficulty to see, hear, walk or climb stairs.

Graph 4 - Proportion of literate people aged 5 years and over by type of disability and age groups Brazil - 2000



Source: IBGE, 2000 Census.

[1] For this study people with **severe disabilities** were considered to be those that declared themselves *incapable* or with *great* difficulty in seeing, hearing or walking. Therefore people that declared they have *some* difficulty in the areas mentioned were excluded.

When considering the literacy rates by age group and type of disability, it can be observed that mental disability and partial or total paralysis are related with lower literacy rates.

The people with at least some difficulty in seeing are those that have the highest literacy rates and are most similar to those that have none of the impairments or disabilities investigated.

School attendance

The fact of having at least one disability reduces school attendance even in the age range when this is mandatory by law.

The attendance of children aged between 7 and 14 with disabilities is 88.6%; therefore six percentage points below the school attendance rate of children in this age group, which is 94.5%. The same tendency is observed for most of the regions and the difference between the rates is of the same magnitude as the rate for Brazil. It is important to highlight that a significant portion of disabled children attend regular lessons; only some of them are considered to have special needs and receive supplementary attention or are enrolled at special schools. There is evidence that disabled children learn better when they attend regular schools in the community. Several studies and various international organizations such as UNESCO and the OECD have found that inclusive education is the best route to educate students with special needs (Porter, 2001).

It is obvious that it is not sufficient to enroll part of the disabled children in regular education, it is also necessary for the educators to be prepared to effectively integrate the students into the system.

Table 8 – School attendance rate among children aged 7 to 14 years old with and without disability - Brazil and Regions, 2000

Regions	School attendance rate among children aged 7 to 14 years old (%)		
	Total (1)(2)	At least one type of disability	At least one type of severity disability (3)
Brazil	94,5	88,6	74,9
North	88,8	86,8	71,5
Northeast	92,9	87,5	69,9
Southeast	96,3	89,7	78,2
South	96,5	89,7	78,7
Central West	95,5	90,9	79,5

Source: IBGE, 2000 Census.

(1) People with more than one type of disability were counted only once. (2) Including people without answer to the questions on disability. (3) Excluding people with some permanent difficulty to see, hear, walk or climb stairs.

Observing the attendance rates of children aged between 7 and 14 and the type of disability in the case of Brazil, it can be noted that the problems responsible for the lowest rates of school attendance of children are physical impairments (61%) and

permanent mental impairments (66.5%). Children with visual impairments are less affected as regards school attendance, with 93.3% at school for an overall rate of 95% in the case of children that declare they have none of the impairments investigated.

The rate of school attendance for children with each type of disability and age group confirms that children with permanent physical disabilities have a lower

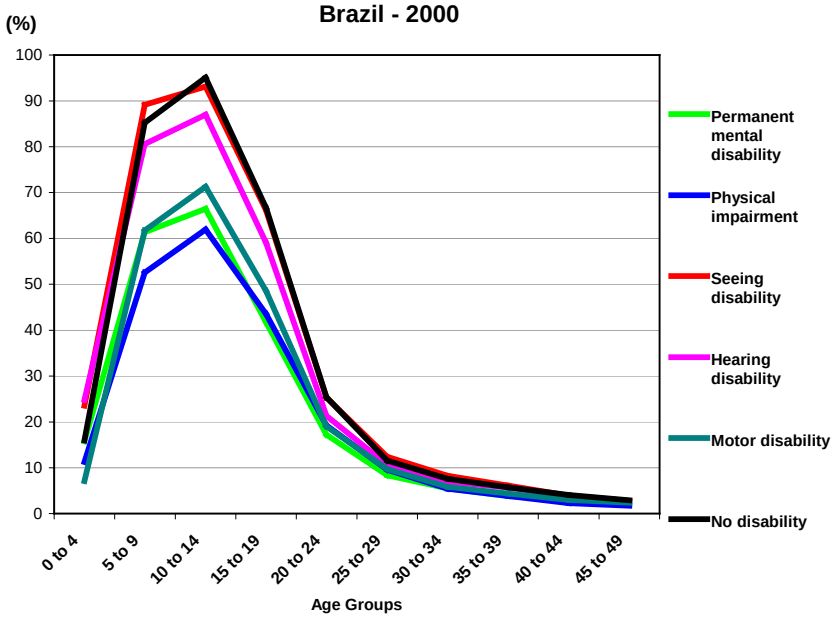
Table 9 – School attendance rate among children aged 7 to 14 years by sex and type of disability - Brazil, 2000

Type of disability	School attendance rate among children aged 7 to 14 years old (%)		
	Total	Male	Female
Total (1)(2)	94,5	94,2	94,9
At least one type of disability	88,6	87,1	90,1
Permanent mental disability	66,5	65,8	67,3
Physical impairment	61,0	61,0	61,0
Unable, with some or great permanent difficulty seeing	93,3	92,5	94,0
Unable, with some or great permanent difficulty hearing	86,9	86,5	87,4
Unable, with some or great permanent difficulty hearing, walking or climbing stairs	70,3	68,9	71,9
No disability	94,9	94,7	95,2

Source: IBGE, 2000 Census.
(1) People with more than one type of disability were counted only once. (2) Including people without answer to the questions on disability.

attendance rate and those with visual impairments are those whose rate of attendance is closest to people who declare that they do not have any of the disabilities investigated. It can be observed that the rate of school attendance by age group, even at the maximum point of the curve, for children aged between 10 and 14 years is above 90%, and in the case of children with permanent physical or mental disabilities the attendance rate is just over 60%.

Graph 5 - Proportion of people that attend nursery or school by type of disability and age groups Brazil - 2000



Source: IBGE, 2000 Census.

Level of Education

Table 10 shows the proportion of people aged 15 years and over, with at least one type of impairment or disability by years of schooling according the Regions of Brazil.

Table 10 - Proportion of population aged 15 years old and over, with at least one type of disability by years of schooling - Brazil and Regions, 2000

Regions	Proportion of population aged 15 years old and over, with at least one type of disability (%)				
	Total (1)	Years of schooling groups			
		Without education to 3 years	4 - 7 years	8 - 10 years	11 years and over
Brazil	18,8	32,9	16,7	10,7	10,1
North	20,7	30,7	16,6	13,6	14,1
Northeast	22,5	32,2	17,1	12,9	12,5
Southeast	16,5	32,7	16,2	9,8	9,1
South	18,4	37,5	18,2	9,8	9,0
Central West	18,0	33,5	15,5	10,6	10,2

Source: IBGE, 2000 Census.

(1) Including people with years of schooling not determinate.

The first finding is that the differences in the prevalence of disability by level of education exceed any differences between the Regions.

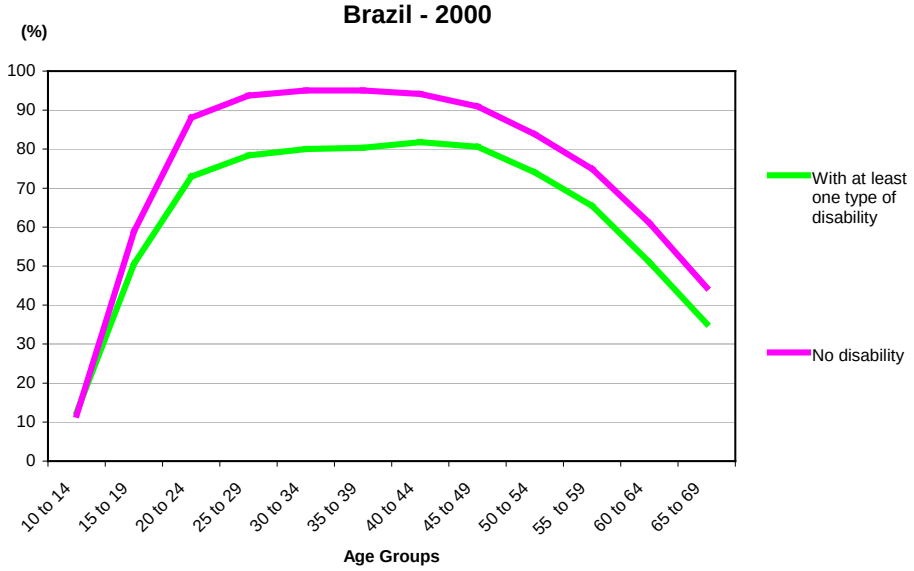
As was found for other demographic characteristics, the principal inflection points are the transition from no education and up to 3 years education to the subsequent level, and completion of the first grade, in other words 8 complete years of education. However completion of the second grade does not seem to be a crucial factor in changing the prevalence of disability. It is important to stress that the difference between the percentage of those with disabilities in the group of people without education or with up to 3 years education, and the percentage corresponding to people with between 4 and 7 years of education exceeds fourteen percentage points in all regions, whilst the difference between regions rarely exceeds five percentage points, and is much lower when the same proportions are observed for the same level of education. This shows the close correlation between the level of education and prevalence of disability.

Socioeconomic characteristics

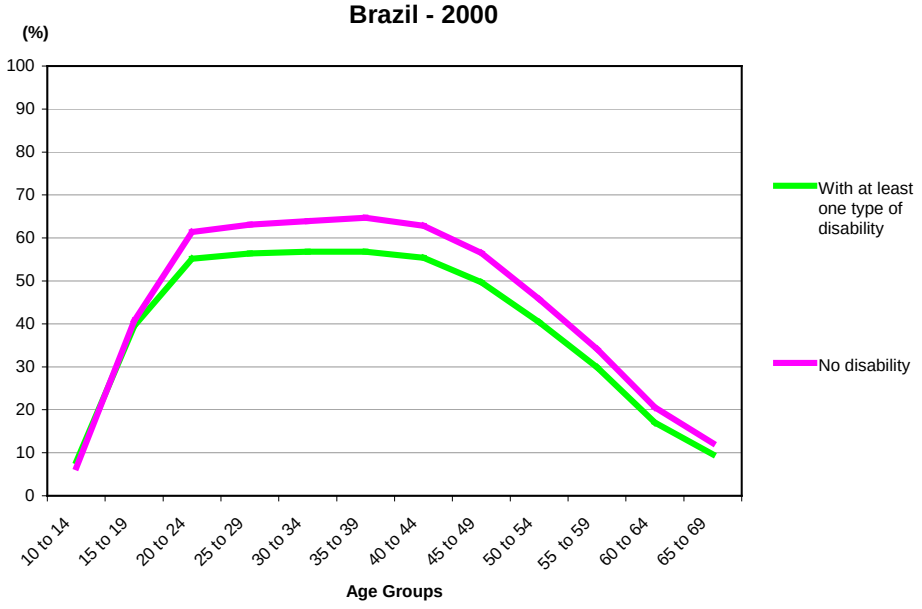
The same trends and relationships between the level of education and disabilities are observed between the activity rates and occupation of people with disability.

In graphs 6 and 7 the rate of participation in economic activities of those without any and with at least one of the disabilities investigated can be observed.

Graph 6 - Labor force participation rate of people with and without disability, by age groups – Males Brazil - 2000



Graph 7 - Labor force participation rate of people with and without disability, by age groups – Females Brazil - 2000



Source: IBGE, 2000 Census.

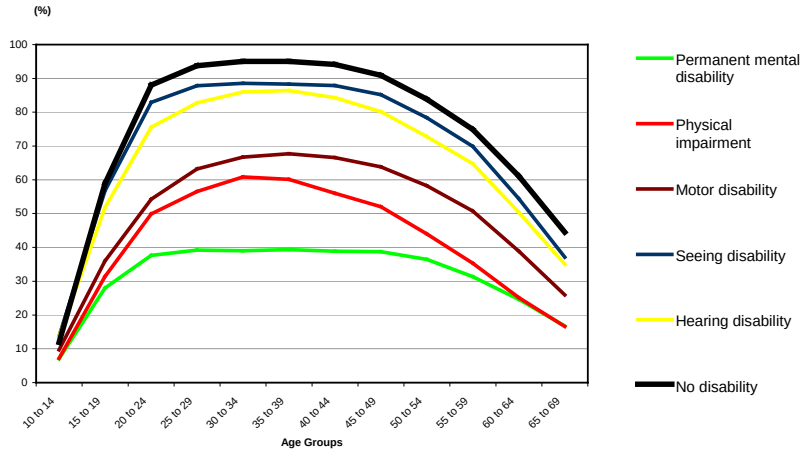
As always, female activity rates are lower than the male rates, but the differences between the sexes are greater than between being disabled or not. The difference between the sexes for the age groups with the highest rates of activities is of the order of thirty percentage points for people that declare that they have no disabilities and twenty percentage points for those with at least one disability.

On the other hand the differences between the rates of male activity in the case of those with disabilities or not are around fifteen percentage points and seven

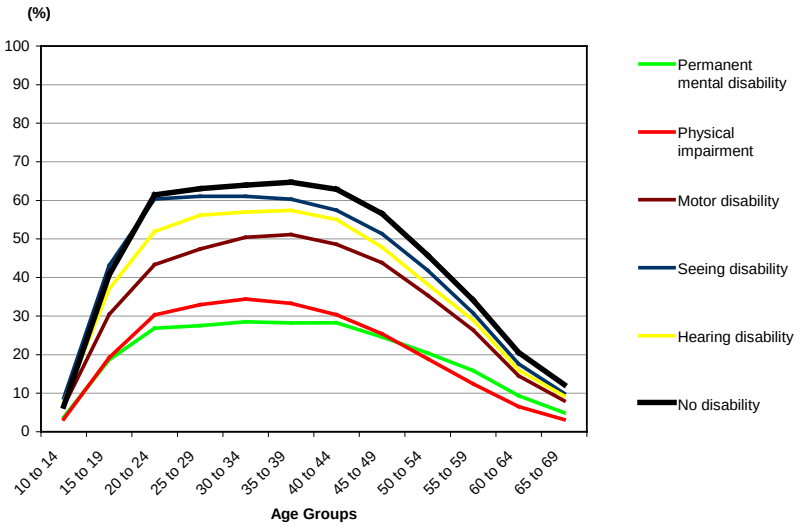
percentage points for females. However the difference between those with or without disabilities affects males more than females.

When considering the types of disability, in graphs 8 and 9 it can be observed that the types of disability that most affect the activity rates are the same, and in the same order as for school attendance or level of education, with the exception of the physical and mental disabilities, which appear in the reverse order. Permanent mental impairment is the disability that most affects the activity rates, followed by physical and motor disabilities.

Graph 8 - Labor force participation rate of people with disability, by type of disability and age groups – Males Brazil - 2000



Graph 9 - Labor force participation rate of people with disability, by type of disability and age groups – Females Brazil - 2000



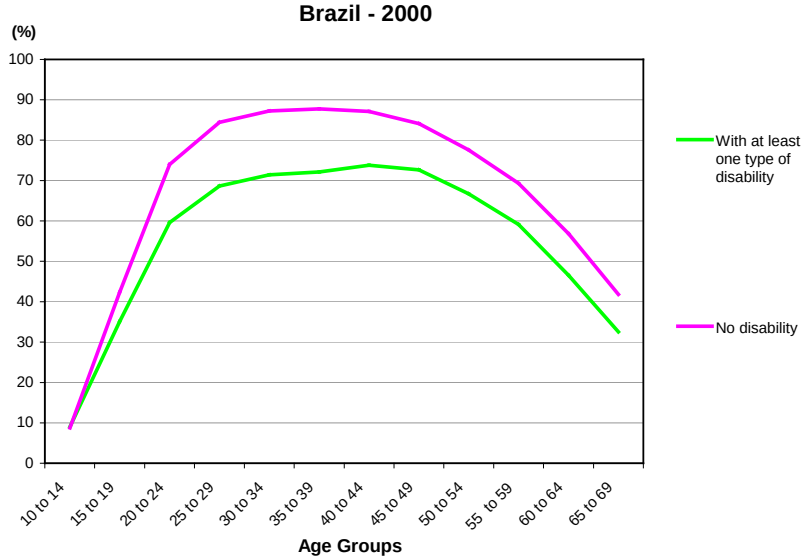
Source: IBGE, 2000 Census.

On the other hand vision or hearing problems are those that at least affect participation in the workforce. The rate of male participation, which is normally above 90% in the

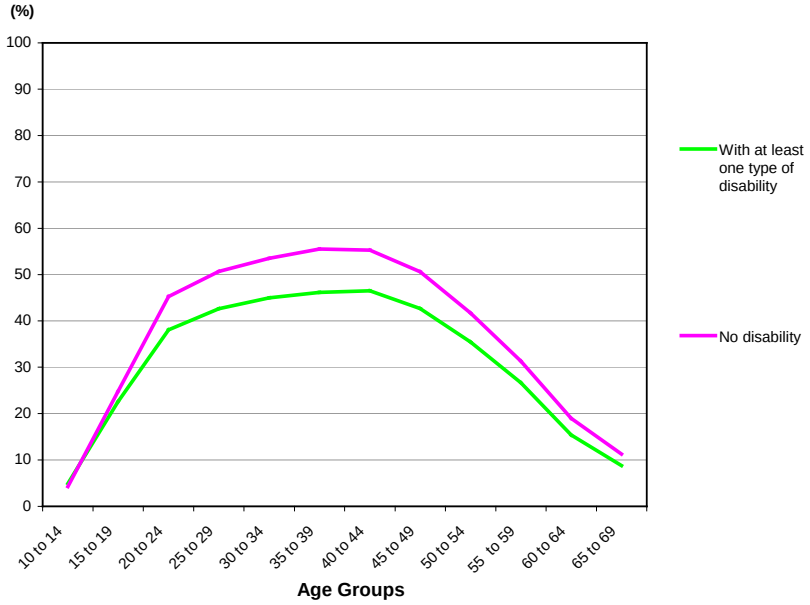
younger age group, does not exceed 40% for people with a mental disability in the same age groups.

Analogous results can be observed for the employment rates for each type of disability. In graphs 10 and 11 the employment rate for people with and without disabilities can be observed. Table 11 shows the employment rates by sex and type of disability. It is important to highlight that in the age groups with the highest proportion of working people, the employment rate of males with mental or physical disabilities is lower than that of women without any of the disabilities investigated.

Graph 10 - Employment rate of people with or without disability, by age groups – Males Brazil - 2000



Graph 11 - Employment rate of people with or without disability, by age groups – Females Brazil - 2000



Source: IBGE, 2000 Census.

Table 11 - Proportion of employed people aged 10 years old and over, in the reference week, by type of disability, sex and age groups

Brazil - 2000

Age Groups	Proportion of employed people aged 10 years old and over in the reference week (%)													
	Male	Female	Type of disability and sex											
			No disability		Permanent mental disability		Physical impairment		Unable, with some or great permanent difficulty hearing, walking or climbing stairs		Unable, with some or great permanent difficulty seeing		Unable, with some or great permanent difficulty hearing	
			Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Total	61,1	35,4	63,0	37,2	24,2	13,7	31,9	11,9	34,8	18,0	55,9	29,2	45,9	20,7
10 - 14 years.....	8,8	4,3	8,8	4,3	5,1	2,3	5,4	1,9	7,1	4,1	9,7	5,3	10,1	5,0
15 - 19 years.....	41,9	24,6	42,4	24,8	19,3	11,1	22,1	11,0	24,5	17,3	39,0	24,3	37,1	22,0
15 years.....	24,0	12,7	24,2	12,6	12,6	5,8	12,7	6,7	15,7	10,1	23,6	14,6	25,0	12,2
16 ou 17 years.....	37,8	21,6	38,2	21,7	18,0	9,3	19,0	11,0	22,9	16,4	35,3	21,6	34,5	21,0
18 ou 19 years.....	54,6	33,4	55,4	33,7	23,8	15,3	29,3	13,1	30,0	21,6	49,8	31,6	46,1	27,7
20 - 24 years.....	72,9	44,7	74,0	45,3	28,8	18,8	40,2	21,2	43,2	28,6	68,0	41,6	62,2	35,1
25 - 29 years.....	82,9	49,9	84,4	50,7	31,6	20,9	48,5	23,7	53,4	34,8	77,5	46,2	72,8	41,4
30 - 34 years.....	85,5	52,6	87,2	53,5	32,2	22,2	53,1	26,9	57,9	38,3	79,7	48,2	77,0	44,4
35 - 39 years.....	85,7	54,2	87,7	55,5	33,1	22,1	52,8	26,9	59,0	40,4	79,7	48,9	78,1	46,5
40 - 44 years.....	84,5	53,3	87,1	55,2	33,5	22,7	49,9	25,5	58,2	39,6	79,5	48,2	75,8	45,9
45 - 49 years.....	81,0	48,4	84,1	50,6	33,2	20,3	45,5	21,3	55,6	36,7	77,1	44,0	71,0	40,6
50 - 54 years.....	74,2	39,7	77,5	41,7	31,6	17,1	38,8	16,0	51,1	30,4	70,7	36,7	64,7	33,6
55 - 59 years.....	65,7	29,6	69,3	31,3	27,6	13,7	31,3	10,9	44,9	23,2	63,3	27,4	58,0	25,7
60 - 64 years.....	52,7	17,5	56,9	19,0	21,5	8,1	22,6	5,6	34,9	13,0	49,8	15,9	45,7	14,3
65 - 69 years.....	37,6	10,1	41,8	11,3	15,1	4,3	15,1	2,7	23,6	7,2	34,2	9,0	32,3	8,4
70 years and over....	19,1	4,1	24,3	5,6	6,1	1,4	5,3	0,7	9,8	2,3	15,7	3,2	14,7	2,7

Source: IBGE, 2000 Census.

Analyzing the division of the occupied population amongst the various economic activities, it can be observed that similar to the results verified in other countries, many people that declare themselves to be disabled work in agriculture and related activities.

Table 12 - Percentage distribution of employed people aged 10 years old and over, in the reference week, by type of disability and activity section of the primary job - Brazil, 2000

Activity section of primary job	Percentage distribution of employed people aged 10 years old and over in the reference week (%)								
	Total (1)(2)	Type of disability							
		At least one type of disability	Permanent mental disability	Physical impairment		Unable, with some or great permanent difficulty seeing	Unable, with some or great permanent difficulty hearing	Unable, with some or great permanent difficulty hearing, walking or climbing stairs	No disability
				Permanent tetraplegia, paraplegia or hemiplegia	Total or partial absence of limb (3)				
Total	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Agriculture, hunting, forestry	17,9	25,0	26,8	19,6	24,7	26,2	26,7	27,0	16,8
Fishing	0,5	0,7	0,8	0,9	0,9	0,8	0,7	0,8	0,5
Mining and quarrying	0,4	0,4	0,4	0,3	0,6	0,3	0,5	0,3	0,4
Manufacturing	13,3	11,6	11,3	10,9	17,4	10,8	13,9	10,2	13,6
Electricity, gas and water supply	0,5	0,5	0,5	0,7	0,5	0,4	0,5	0,4	0,5
Construction	7,0	7,0	6,9	6,2	9,6	6,8	7,7	6,0	6,9
Wholesale and retail trade, repair of motor vehicles, motorcycles and personal and household goods	16,6	14,1	15,0	17,6	15,2	13,8	13,6	13,9	17,0
Hotels and restaurants	4,7	5,0	4,7	5,8	4,0	5,0	4,6	6,0	4,6
Transport, storage and communications	5,1	4,3	4,2	5,6	5,3	4,0	4,7	3,8	5,2
Financial intermediation	1,3	0,7	0,9	0,7	0,6	0,7	0,6	0,5	1,3
Real estate, renting and business activities	5,7	4,7	4,9	6,1	4,5	4,5	4,5	4,3	5,9
Public administration and defense, compulsory social security	5,4	5,1	4,4	5,9	4,1	5,2	4,8	4,9	5,4
Education	5,8	5,3	4,5	5,0	2,9	5,5	4,1	4,9	5,9
Health and social work	3,3	2,7	2,7	2,8	1,7	2,7	2,2	2,7	3,4
Other community, social and personal service activities	3,6	3,6	3,5	4,7	2,8	3,5	3,4	4,0	3,7
Activities of private households as employers and undifferentiated production activities of private households	7,6	8,0	7,0	5,5	3,8	8,4	6,2	9,1	7,6
Extra-territorial organizations and bodies	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Activities not classified by field	1,3	1,3	1,5	1,6	1,4	1,3	1,3	1,3	1,3

Source: IBGE, 2000 Census.
(1) People with more than one type of disability were counted only once. (2) Including people without answer to the questions on disability. (3) Loss of a member: leg, arm, hand, foot or thumb.

In particular 25% of the total number of people with at least one disability work in this kind of activity, whilst only 17% of the total number of occupied persons without any of the disabilities investigated works in these sectors.

On the other hand, also as expected, a relatively larger proportion of people without disabilities work in the transformation industry and commerce.

An analogous situation can be observed with respect to occupational groups: disabled people constitute a larger proportion of workers in agriculture and cattle rising, forestry and related services.

The largest differences between the proportions of people occupied without disabilities and those with at least one disability are associated with workers in administrative services, medium level technicians and professionals in the sciences and arts fields. These results are compatible with those presented by Hernandez Licona (2001) for other countries. The distributions can be observed in Table 13.

Table 13 - Percentage distribution of employed people aged 10 years and over, in the reference week, by type of disability and occupation groups of the primary job, Brazil, 2000

Occupation groups of primary job	Percentage distribution of employed people aged 10 years and over in the reference week (%)								
	Total (1) (2)	Type of disability							
		At least one type of disability	Permanent mental disability	Physical impairment		Unable, with some or great permanent difficulty seeing	Unable, with some or great permanent difficulty hearing	Unable, with some or great permanent difficulty hearing, walking or climbing stairs	No disability
				Permanent tetraplegia, paraplegia or hemiplegia	Total or partial absence of limb (3)				
Total	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Armed Forces	0,9	0,4	0,6	0,2	0,2	0,4	0,5	0,3	0,9
Legislator, senior officials and managers	4,3	3,3	3,4	3,4	3,7	3,2	3,4	2,8	4,4
Professionals	5,8	4,1	4,7	5,2	3,1	3,9	3,7	3,3	6,1
Technicians and associate professionals	7,8	6,1	5,8	6,9	5,0	6,1	5,5	5,0	8,1
Clerks	8,2	5,2	5,6	8,9	4,8	5,1	4,1	4,2	8,7
Service workers and shop and market sales workers	29,6	31,5	29,2	33,1	23,8	32,0	28,0	35,8	29,3
Skilled, agricultural and fishery workers	17,6	24,7	26,5	19,5	24,1	25,9	26,3	26,8	16,4
Craft and related trade workers	22,1	21,0	20,1	18,7	30,4	19,9	24,3	18,5	22,3
Maitenance and repairs	2,4	2,1	2,2	2,4	3,3	1,9	2,7	1,7	2,4
Occupation not classified by field	1,4	1,5	1,9	1,9	1,6	1,6	1,5	1,6	1,4

Source: IBGE, 2000 Census.
(1) People with more than one type of disability were counted only once. (2) Including people without answer to the questions on disability.

The distribution of people occupied according to income in minimum salary ranges can be observed in Table 14.

The proportion of males that earns up to one minimum salary is 20.2%, whilst in the case of women the percentage is 28.5%. When people that declare they have at least one disability are considered, these proportions become 25.7% and 35.7% respectively. In the case of mental disability, 30.5% of the males and 33.1% of the females that work receive up to one minimum salary.

Throughout the study it is shown that disability and poverty are strictly related. The disability increases the probability of living under precarious conditions, which in turn increases the risk of acquiring a disability.

Table 14 - Percentage distribution of employed people aged 10 years and over, in the reference week, by type of disability, sex and nominal monthly income classes of all jobs - Brazil, 2000

Sex and nominal monthly income classes of all jobs (minimum salary)	Percentage distribution of people aged 10 years and over in the reference week(%)							
	Total (1) (2)	Type of disability						
		At least one type of disability	Permanent mental disability	Physical impairment	Unable, with some or great permanent difficulty seeing	Unable, with some or great permanent difficulty hearing	Unable, with some or great permanent difficulty hearing, walking or climbing stairs	No disability
Total	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Without income	7,6	10,6	12,8	8,1	11,1	11,3	12,6	7,2
Until 1	23,3	29,5	31,3	27,4	30,4	28,2	33,4	22,4
More than 1 to 5	50,8	45,9	41,6	50,4	45,2	45,5	43,1	51,6
More than 5 to 20	15,7	12,2	12,2	12,5	11,6	13,1	9,7	16,3
More than 20	2,5	1,8	2,1	1,7	1,7	2,0	1,3	2,6
Male	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Without income	7,0	8,9	12,6	7,5	9,2	9,8	10,8	6,7
Until 1	20,2	25,7	30,5	25,8	26,4	24,6	29,9	19,3
More than 1 to 5	52,0	48,5	41,7	51,6	48,1	47,7	45,5	52,6
More than 5 to 20	17,6	14,6	12,8	13,3	14,0	15,4	12,0	18,1
More than 20	3,1	2,4	2,5	1,9	2,3	2,5	1,8	3,3
Female	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Without income	8,7	13,3	13,3	10,9	13,9	14,8	15,1	8,0
Until 1	28,5	35,7	33,1	34,2	36,4	36,9	38,0	27,3
More than 1 to 5	48,8	41,8	41,3	45,0	41,0	40,0	39,8	49,9
More than 5 to 20	12,6	8,3	10,9	9,1	8,0	7,4	6,6	13,3
More than 20	1,4	0,9	1,4	0,8	0,8	0,8	0,6	1,5

Source: IBGE, 2000 Census.
(1) People with more than one type of disability were counted only once. (2) Including people without answer to the questions on disability.

People with disability have lower levels of education, income and participation in the labor market. In addition, insertion in the workforce is mainly on occupations and activities that require a low degree of specialization. However this insertion varies according to the type of disability and the degree of severity.

Disability free life expectancy

The significant increases in life expectancy that occurred during the 20th century have made chronic sicknesses and functional limitations more frequent, making the indicator, which is based exclusively on mortality, not entirely satisfactory to portray the health status of a population, as it did in the past.

As a result the need arose for a measure that could expand the concept of life expectancy (LE) by including the individual ability to participate in society. The Disability Free Life Expectancy (DFLE), an indicator derived from mortality and information on impairments or disabilities, which uses the life expectancy table technique, represents an important expansion of the concept of life expectancy, since it enables a differentiation to be made between the number of years lived free from any type of impairment or disability and the number of years lived with at least one impairment or disability.

The most normal method to construct the indicator is the method proposed by Sullivan (1971) and consists of using the functions l_x and ${}_nL_x$, the number of survivors at age x and the number of years lived between the ages of x and x + n of a life expectancy table previously constructed for the population been studied.

The DFLE indicators were generated for the total for the Country and Regions, based on prevalence at least one of the disabilities investigated.

Table 15 - Life expectancy (LE) and disability-free life expectancy (DFLE) by sex - Brazil and Regions, 2000
All disabilities

Regions	Life expectancy at birth (LE)			Disability-free life expectancy at birth (DFLE)			Ratio DFLE / LE			Gender Diference in Ratio DFLE / LE
	Both Sex	Male	Female	Both Sex	Male	Female	Both Sex	Male	Female	
Brazil	68,6	64,8	72,6	54,0	52,1	55,9	78,7	80,4	77,0	3,4
North	68,5	65,6	71,7	50,4	49,5	51,4	73,6	75,5	71,6	3,9
Northeast	65,8	62,7	68,9	49,5	48,5	50,5	75,3	77,4	73,4	4,0
Southeast	69,6	65,1	74,3	56,7	54,1	59,3	81,4	83,1	79,8	3,2
South	71,0	67,3	75,0	56,2	54,1	58,3	79,1	80,4	77,8	2,7
Central West	69,4	66,2	73,0	54,0	52,7	55,4	77,8	79,5	75,9	3,6

Source: IBGE, Research Directory.
Note: For building DFLE indicator were used the life tables from IBGE.

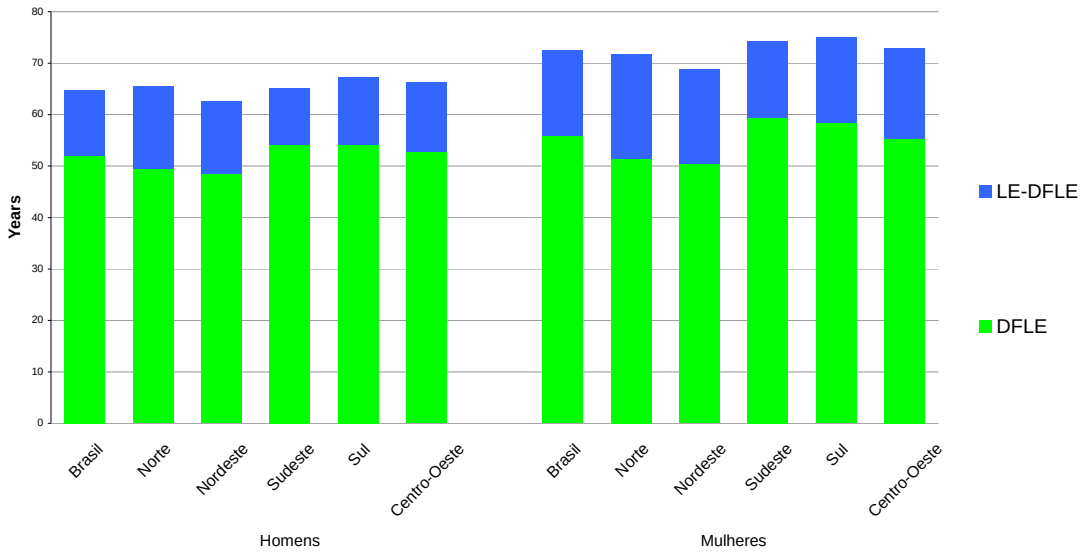
The set of results shows that in Brazil in the year 2000 the disability free life expectancy was 54 years, representing 79% of the total of 68.6 years to be lived. The differential between the sexes of 3.8 years was lower than the 7.8 years of difference in life expectancy at birth. The regional variation in the DFLE however was more expressive than that observed when considering only mortality. The extreme values of DFLE were observed in the Southeast (56.7 years) and the Northeast (49.5 years), with a difference of 7.2 years.

Establishing the parameters of the country as a criterion, it can be observed that the Southern and Southeastern regions had, in the case of the both sexes, superior life expectancies and disability free life expectancies than those of the total for the country.

In the Northeastern region the indicators were extremely low, whilst in the Northern region the life expectancy at birth was near the country value, however the DFLE was significantly lower than the national average, showing a lower ratio between the years lived free of disability and the total life expectancy.

The regional variation in the DFLE was higher in females, by approximately 9 years, the variation in males being only 5.6 years. Both extremes occurred also in the Southeast and Northeast regions.

Graph 12 - Life expectancy (LE) and disability-free life expectancy (DFLE), by sex and Regions, Brazil 2000



The regions with the greatest socioeconomic development, the Southeast, South and Midwest, show the best indicators, the Southeast being the region where around 81% of the years to be lived are free from any of the disabilities investigated.

Although the Northeast region shows a high mortality and inferior socioeconomic indicators, the proportion of years free from disability of the number of years to be lived was lower than that observed in the Northern region, whose mortality was in an intermediate position. This reversal in behavior can be explained by a higher mortality rate of disabled people in the Northeast.

The ratio between the disability free life expectancy and the normal life expectancy, which represents the proportion of the total number of years to be lived without disabilities, was greater for males than females in all regions. The higher male mortality rate influences these differences, since it leads to a large contingent of elderly females with disability.

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