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Psychiatric disorder and the use of benzodiazepines: an example of the inverse care law from Brazil

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Abstract Background: A cross-sectional survey was conducted in Pelotas, southern Brazil, to assess the relationship between the use of benzodiazepines (BZD), minor psychiatric disorders (MPD) and social factors. Methods: A representative sample (n = 1277) was interviewed using the Self-Reporting Questionnaire (SRQ-20) for MPD. Subjects were asked about the use of BZD in the preceding 2 weeks and were also asked for socioeconomic details. Results: A total of 152 (11.9%; 95% CI 10.1–13.7) subjects had taken psychotropic drugs, with BZD being the most commonly reported (8%). The prevalence of MPD was 22.7% (95% CI 20.4–25.0): males 17.9% and females 26.5%. An inverse relationship was seen between level of income, schooling and prevalence of MPD (P < 0.001), but a positive relationship was found between income and BZD consumption (P < 0.05). Conclusions: These data suggest that the inverse care law operates in prescribing psychotropic medications for MPD.

Introduction

In 1971, in an article discussing unequal access to medical care in the British health service, Hart concluded that 'the availability of good medical care tends to vary inversely with the need for it in the population served...these trends can be summed up as the inverse care law' [1]. This 'law' has subsequently been used to

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describe other situations in which the provision of health care appeared to be inversely related to need [2–5].

The socioeconomic situation in Brazil is marked by extreme inequalities in the distribution of wealth, with the top 20% of the population earning 26 times more than the bottom 20% [6]. Such inequalities are also seen in the health service. As in the UK, minor psychiatric disorders are likely to be a burden for health care. As indicated by research in Brazil on the prevalence of mental disorders in primary health care, 15-50% of people attending these services suffer from anxiety, depression or somatoform disorders. Population-based studies have shown a high prevalence rate of approximately 25%, with the leading condition being anxiety disorders for females and alcohol dependence for males [7]. These people tend to look for medical care and to use more anxiolytic agents, particularly benzodiazepines [8]. In Brazil, during the early 1960s, low doses of BZD were usually combined with low doses of antispasmodics - these drugs were known as 'antidistonicos'. These drugs could be obtained over the counter, without a medical prescription. However, in 1989 the National Division of Pharmaceutical Surveillance of the Ministry of Health introduced a law withdrawing these drugs from the market and cancelled all new registrations under this label. The epidemiological study conducted by Mari et al. [9] aimed to assess the level of use after the restriction. They found a trend for decline in the consumption of psychotropic drugs compared to the results of previous surveys. However, the authors comment that 'if the economy recovers it is reasonable to suppose that rates of consumption might increase again because of the related wage improvements and the accessibility for goods and services by the population as a whole'. Given the current economic conditions in Brazil, where the inflation rate is decreasing, an increase may perhaps be expected in BZD consumption rates. Furthermore, BZDs are now quite cheap in Brazil - less than US\$ 3 per 20 capsules on average, a comparable price to Aspirin (about US\$ 1.7 per 20 capsules on average).

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The use of BZD has been a subject of concern in other countries as well [10–19]. Attempts to control the use of BZD by methods such as controlling prescriptions did not work, suggesting that more than legal restrictions are necessary [20, 21]. In the United States, the number of prescriptions of BZD increased 26-fold from 1970 to 1989, with a predominance of ultrashort-acting BZD [22].

The aim of this study was to assess in more detail the relationship between the use of BZD drugs, MPD and social factors. The hypothesis was that socioeconomic conditions would have an independent effect on consumption of psychotropic drugs among those suffering from MPD. The concepts of 'focusing' and 'coverage' [23] were used to analyze the relationship between the use of psychotropics and the presence of MPD. 'Focusing' means the proportion of all people taking psychotropic drugs who have a minor psychiatric disorder. 'Coverage' means the proportion of all those with minor psychiatric disorder who are taking psychotropic drugs. Our hypotheses were:

- 1. Individuals with higher incomes who have MPD are more likely to use BZD (higher coverage).
- 2. A higher proportion of individuals from higher income groups without MPD will use BZD (lower focusing).

Subjects and methods

Site

Interviews were conducted with a representative sample of the adult population, aged 15 years or over, living in urban Pelotas (population 300,000) in southern Brazil, between January and May 1994. The city has over 50 primary health care centers providing treatment free of charge. However, resources at these sites are often scarce and patients usually buy their prescriptions from pharmacies.

Subjects and sampling

A random sample of adults was drawn from the urban area of the city. The sample was obtained in multiple stages (sequential random samples) [24]. Starting from a total of 259 census tracts (equivalent to electoral wards), 30 were chosen; then within each tract one housing block was picked (Pelotas is designed on a grid pattern); thereafter 20 domiciles within that block were selected. All subjects residing in each domicile who were aged 15 years or over were eligible to be interviewed. Residences were visited up to three times if no one was found to be in. Refusals were not replaced. This method gave every individual in the city population the same chance of being selected.

Sample size calculation

These calculations were done using EPIINFO [25] in order to estimate the number of subjects required for multivariate analysis assessing the relationship between the use of BZD and the independent variables (age, sex, marital status, income, MPD, etc.). Using data from some Brazilian population studies [9, 26–28], anticipated prevalences of the outcome and for some of the inde-

pendent variables were used for the calculation. We estimated the prevalence of use of BZD at about 8–9%, for MPD about 20% and medical consultation in the last 3 months about 40%. With the lowest estimated prevalence of MPD, the sample size was calculated so as to be able to detect an estimated prevalence ratio – the ratio between the prevalence of the use of BZD for people with MPD (exposed) and that of those without MPD (unexposed) – of 2, at the 5% significance level with a power of 80%. The predicted sample size was raised by 30% to take into account the analysis of possible confounding variables and by a further 10% for refusals, giving an anticipated sample size of 1148 people.

Instruments

The interview consisted of a structured questionnaire which covered:

- Sociodemographic details: gender, age, marital status, number of people living in the household, years of schooling and familial monthly per capita income (the total income of the household divided by the number of family members).
- 2. Stressful life events: death of a relative, having a relative with a chronic disease, loss of employment, divorce, migration, accidents and robberies/assaults. A score was created indicating the number of events. In this paper, only the summary score was used, more details about the specific effect of each stressful live event are described elsewhere [7].
- 3. Self-Reporting Questionnaire (SRQ-20), used to identify MPD. We used a cut-off point of 5–6 for males and 7–8 for females [8]. The SRQ-20 was not self-administered in this study, because about one-third of the population had limited literacy skills, following the guidelines of the Division of Mental Health, WHO [29].
- 4. Alcohol intake was recorded for the preceding month according to the amount consumed, both in terms of frequency (daily, weekly, etc.) and quantity (including a description of the size of the container used for drinking). Total alcohol intake was then estimated in terms of grams of alcohol consumed per month. Consumption was defined as being at risk of causing complication if daily average alcohol intake surpassed 17 g for women and 25 g for men [7, 30].
- Consultations in the preceding 3 months and whether they had been with a generalist (e.g. general practitioner) or a specialist physician.
- 6. Use of psychotropic drugs in the preceding 2 weeks was recorded as part of the semi-structured interview. All subjects were asked the same stem question regarding drug use for 'nerves' over the previous 2 weeks, and if the answer seemed to be affirmative, more detailed questions followed concerning type and source. If subjects could not remember the name of the drug, they were asked to show the prescription or pill container. Subjects were also prompted using a list of psychotropic drugs from Health Ministry of Brazil [31]. This is a broad category which includes hypnotics, sedatives, antipsychotics, antihistamine with prominent sedative effect, antiepileptics and mood regulators. Others drugs that subjects referred to as 'anxiety pills', such as herbal medicines and appetite suppressants, were also included. Benzodiazepines were defined according to section 4.1 of the British National Formulary [32], which includes hypnotic and anxiolytic agents. Those who had taken any form of medication during this period were asked to show a copy of the prescription (which in Brazil the patient keeps) and/or the container, so that the contents could be confirmed.

Procedures

Interviews were conducted by 24 medical students (14 females, age range 20–30 years). They had received 1 month's (80 h) training in the field work procedure. The training consisted of role-playing activities and discussion in small groups, focusing on unclear

questions or any difficulties when performing the interview. A pilot study was conducted in order to assess how well the research team would (1) keep to the planned sampling procedures, (2) interview subjects and (3) complete the questionnaires. Any problems arising during the training and pilot study were discussed with the study supervisor (M.S.L.).

All completed questionnaires were hand checked. An opportunity to check quality control came about because a subsequent study involved re-interviewing 25% of the sample. The main outcomes of the study, such as data on the use of psychotropics, on education and on income and the occurrence of psychiatric symptoms as assessed by the SRQ-20, were compared with the results of this subsample. All discrepancies were checked in the questionnaires, and the interviewers were asked for further information. When doubts remained, another member of the team re-interviewed the subject. Most discrepancies related to spelling errors and missing information (never higher than 5% for all outcomes). It was necessary to re-interview people on three occasions only.

Analysis

The data were entered twice into computers and both versions checked for range and logical consistency. In order to show the effect of the unequal distribution of wealth in Brazil, income was coded in three categories: bottom quartile, middle two quartiles and top quartile of income distribution (US dollars per month).

Associations between the use of BZD and the independent variables were assessed using Pearson's chi-squared test and the Mantel-Haenszel method. The univariate analysis was conducted using SPSS for Windows [33] and the prevalence rate ratio was the effect measure utilized.

'Focusing' was calculated as the proportion of those who reported BZD use who also were rated as having MPD. 'Coverage' was calculated as the proportion of those with MPD who reported BZD use.

In order to control for potential confounding variables, logistic regression analysis was used with an a priori analytical framework. The framework consisted of a hierarchy of independent variables associated with the use of BZD (dependent variable), starting with sociodemographic variables (such as age and gender) and life events, followed by MPD and alcohol use, and finally consultation behavior. Variables which, on univariate analysis, had a *P*-value higher than 0.20 in relation to BZD use were not included in the resulting model. Because all cooperating members of each household were included, we undertook the logistic regression using multilevel analysis [34], in order to control for clustering effects and variation within and between households.

Results

The population

The field work was completed in 4 months, with a non-response rate of 9.3% (4.8% refused and 4.5% could not be located), giving a final sample of 1277 people. However, data were obtained from the refusers about sex and age, and there were no statistically significant differences between refusers and the sample interviewed.

Of the total sample, 55.5% (n = 709) were women. The average age was 41.4 years (SD = 18.1 years) and the average monthly familial per capita income was US\$ 370 (median = US\$ 120). Fourteen percent of the sample (n = 179) was non-white. These socio-demographic results are very similar to those from the Brazilian census conducted in 1990 for urban Pelotas.

Psychiatric disorders

The prevalence of MPD was 22.7% (95% CI 20.4–25.0): 17.9% for men and 26.5% for women. The prevalence of alcohol intake at risk level was 11.9% (95% CI 10.1–13.7): 21.7% for men and 4.15% for women.

Psychotropic medication

During the preceding 2 weeks, 11.9% (95% CI 10.1–13.7) had taken psychotropic drugs (7.9% for men and 15.1% for women). BZDs were the most commonly reported (8%). The other prescribed drugs were: antipsychotics (1.6%), appetite suppressants (1.3%), antidepressants (1.2%) and anticonvulsivants (1.1%). Five people were using herbal drugs and further four were using mood stabilizers.

Ninety-one percent of BZD users had paid for their medication at a pharmacy, only 4% had received them free of charge and 5% had borrowed them from a friend or some other person. The average time since the first prescription was 44.4 months (median = 24; mode = 24). Of BZD users, 82% described a regular pattern of use (58% used on a daily basis, 16% every alternate day and 8% weekly). The last medical consultation for those using BZD was 9.4 months (median = 2, mode = 1) before the date of the interview.

Almost 2/3 (64%) of the psychotropic drugs prescribed were BZD. There is no difference between day use (4.8% of the sample) and night use (2.8%) in terms of age, sex or the prevalence of MPD.

Sociodemographic associations of BZD use

The use of BZD was more frequent among women and elderly people. Single people showed a lower frequency of use. The higher the number of people living in the household the lower the use of BZD. There was no statistically significant difference between the use of BZD in white and in non-white subjects (7.9 vs 6.1, P-value = 0.39).

Of those having MPD (n=288), 15.3% were taking BZD (coverage). Of those taking BZD, 45.4% (n=97) had MPD (focusing). Table 1 shows the relationship between BZD consumption and the presence of MPD, and levels of focusing and coverage according to family income and years of schooling. An inverse relationship is seen between level of income and prevalence of MPD, but a positive linear relationship (statistically not significant) is revealed between income and psychotropic drug consumption. An inverse relationship is also seen between years of schooling and prevalence of MPD, but there is no clear relationship between schooling and psychotropic drug consumption.

Similar relationships are seen between income and schooling and levels of coverage and focusing. Thus, as income increases, the proportion of people with MPD

Table 1 Minor psychiatric disorder (MPD) and use of benzodiazepines (BZD) according to monthly per capita family income (US \$) and years of schooling

Variable	Frequency (%)	MPD (%)	Use of BZD (%)	Focusing (%)	Coverage (%)
Income (US\$)					
n	1214	1207	1214	91	273
0-86.3	25.0	28.6	5.6	41.2	8.1
86.4-282.1	50.0	22.8	8.1	53.1	18.8
282.2-more	25.0	16.2	8.3	32.0	16.3
<i>P</i> -value*		0.001**	>0.1	>0.1	0.09
Schooling (years)					
n	1252	1247	1252	95	282
0	9.5	37.9	7.6	44.4	9.1
1–4	24.5	31.0	10.7	51.5	17.9
5–11	52.4	19.4	6.1	45.0	14.2
12+	13.6	9.5	7.6	30.8	25.0
P-value*		<0.001**	0.09	0.1	>0.1

^{*}P-value on chi-squared test; ** Linear trend

who are taking BZD increases, but the proportion of those taking psychotropics who have a mental disorder decreases. However, these differences were not statistically significant.

Consultations and psychiatric associations of BZD use

Although those who had experienced two or more life events in the previous year showed a higher use of BZD (12.2%) than those who had experienced one (7.0%) or none (7.5%), these differences were not statistically significant (Pearson's chi-square = 1.651, 2 df, P-value = 0.438).

Subjects with MPD received almost three times more BZD than the others. There was an inverse relationship between alcohol risk intake and use of BZD: the prevalence rate was higher for people without excessive consumption. Medical consultation was positively associated with use of BZD, more so among those who consulted a specialist physician, for whom consumption was four times higher than among those who reported no medical consultation in the last 3 months.

There were no statistically significant differences in the prevalence rates of consultations in the last 3 months between income group quartiles.

When consultations were analyzed separately for those with generalists and those with specialist physicians, it was seen that as income increased so did the proportion of patients who had attended a specialist: 39.4% for the first income quartile, 52.4% for combined second and third quartiles and, 72% for the fourth quartile (Pearson's chi-square = 29.2, df = 2, P < 0.001). A similar relationship was seen between level of schooling and consultation with a specialist: 41.4% had no schooling, 52.7% had 1-4 years of schooling, 52.9% had 5-11 years, and 73% had more than 12 years (Pearson's chi-square = 14.7, df = 3, P < 0.01).

Multivariate analysis of the associations of BZD use

Table 2 shows the results of the multivariate analysis, using multilevel analysis. The effect of sex decreases with the steps in modeling analysis. Age is a positive confounder for marital status and number of people in the household, but a negative confounder for schooling. The apparent effect of alcoholism is a consequence of sex distribution. The final model contains, taking into account the statistical significance (variables with P < 0.05), the variables age, schooling, MPD and medical consultation.

The final model was used to test interactions between sex, MPD and medical consultation. The odds ratio (OR) for males with MPD was 1.35 (95% CI 0.50–3.71), and for females 3.85 (95% CI 2.21–6.70). The likelihood statistic for interaction was 4.02 (P=0.045). The OR for males who had reported a medical consultation was 3.90 (95% CI 1.63–9.32) and for females 1.32 (0.76–2.31). The likelihood statistic for this interaction was 4.80 (P=0.03). Therefore, females with MPD and males who had consulted in the last 3 months were the more likely to use BZD.

Discussion

Summary of the main findings

In this study, the overall prevalence of psychotropic medication consumption was 12%, BZD being the most frequently prescribed. Subjects had been taking BZD on average for more than 3 years. The use of BZD was higher among women, elderly people, those with MPD and people who had attended generalist or specialist physician consultations. It was inversely associated with high risk alcohol intake. Females with MPD and males who consult a physician have a higher risk for consumption. The final model showed that older age, high level of schooling, presence of MPD and consultations

Table 2 The results of the multivariate analysis according to hierarchic analytical framework

Variable (n)	BZD (%)	Crude OR (95% CI)	Adjusted model 1 ^a (95% CI)	Adjusted model 2 ^b (95% CI)	Final model ^c (95% CI)
Sex					
Male	4.8	1.00	1.00	1.00	1.00
Female	9.9	2.13(1.3-3.4)	2.10(1.3–3.5)	1.79(1.1–3.0)	1.57(1.0-2.6)
Age		,	,	,	,
15–24	0.7	1.00	1.00	1.00	1.00
25-34	2.0	2.91(0.6-15.1)	2.56(0.5–13.5)	2.92(0.6–15.6)	3.17(0.7–14.6)
35-44	7.5	10.74(2.5–46.7)	9.17(2.0–42.2)	10.06(2.2–47.0)	10.11(2.4–42.1)
45–54	10.3	15.60(3.6–67.8)	13.29(3.0–61.0)	14.38(3.1–67.1)	14.01(3.4–58.5)
54–65	17.9	29.37(6.9–125.6)	26.66(5.8–123.3)	29.40(6.2–138.7)	29.25(6.9–124.3)
65 +	15.0	26.47(6.2–113.4)	28.39(5.9–136.1)	33.35(6.8–162.5)	35.80(8.1–158.9)
Marital status					
Single	3.2	1.00	1.00	1.00	1.00
Married	8.0	2.87(1.5–5.7)	1.23(0.6–2.8)	1.12(0.5–2.6)	0.82(0.4–1.9)
Widowed	14.9	5.27(2.3–12.3)	0.93(0.4–2.5)	0.87(0.3-2.4)	0.66(0.2-1.7)
Divorced	13.3	5.33(2.1–13.4)	1.40(0.5–3.9)	1.27(0.5–3.6)	0.93(0.3–2.6)
No. of people ^d		, ,	(,	(,	
1	14.5	1.00	1.00	1.00	1.00
2	11.4	0.84(0.4-1.9)	1.03(0.4–2.7)	1.08(0.4–2.9)	1.18(0.5–3.2)
3–4	6.8	0.45(0.2-1.0)	0.81(0.3-2.0)	0.83(0.3-2.1)	0.94(0.4-2.4)
5+	5.0	0.34(0.1-0.8)	0.78(0.3-2.2)	0.74(0.3-2.2)	0.84(0.3-2.4)
Schooling		,	,	,	,
None	7.6	1.00	1.00	1.00	1.00
1–4	10.7	1.44(0.7-3.1)	2.01(0.9-4.6)	2.20(1.0-5.1)	2.17(1.0-5.0)
5–11	6.1	0.77(0.4-1.6)	2.17(1.0-4.9)	2.80(1.2–6.5)	2.58(1.1–5.9)
12+	7.6	0.99(0.4-2.4)	2.71(1.0–7.4)	4.09(1.4–11.6)	3.80(1.4–10.7)
MPD		,	,	,	,
No	5.4	1.00	1.00	1.00	1.00
Yes	15.3	3.31(2.0-4.8)	3.19(2.0-5.2)	3.15(1.9-5.1)	2.76(1.7–4.5)
Alcohol intake		()	,	,	
No	8.2	1.00	1.00	1.00	1.00
Yes	3.3	0.40(0.2-7.8)	0.55(0.2-1.5)	0.62(0.2-1.6)	0.74(0.3–1.9)
Consultation		-(,	- (. (
No	3.3	1.00	1.00	1.00	1.00
Generalist	12.4	4.43(2.5–7.8)	3.96(2.2–7.2)	3.57(2.0–6.5)	3.56(2.0–6.4)
Specialist	13.6	4.82(2.8–8.2)	3.55(2.0–6.3)	3.14(1.8–5.6)	3.12(1.8–5.5)

^a Model 1: sex, age, marital status, number of people and schooling ^b Model 2: model 1 + MPD and alcohol risk intake

were the factors that remained significantly associated with the use of BZD.

Methodological considerations

Conclusions drawn from cross-sectional studies must be tentative, taking into account possible sources of bias [35]. The use of BZD was estimated from self-reporting data and can lead to underestimation of the prevalence. Also, our definition of BZD users depended upon its use in the last 2 weeks; therefore, occasional or intermittent users might be misclassified as non-users. This could have an effect of biasing the sample in the direction of chronic users.

It is possible that some of those taking medication, who did not have MPD on the SRQ, had suffered previous MPD which had been successfully treated. Also, it is possible that the SRQ identified MPD at an early stage, before patients had entered into contact with health services, and for this reason they were not receiving treatment. Furthermore, the SRQ is a screening instrument designed to identify MPD and gives no indication of the nature or severity of the disorder. For this reason we cannot infer that psychotropic drugs prescribed to SRQ-positive cases were appropriate or

As this is a large and representative sample, extrapolation to similar settings can be done with confidence. We used an analytical framework to guide the analysis and to test our hypothesis of associations between psychiatric morbidity, sociodemographic factors and the use of BZD. The use of an analytical framework is important, considering that large studies with many variables can find significant associations only by chance [7].

Sociodemographic factors of BZD use

In the univariate analysis marital status and the number of people living in the household were significantly associated with the outcome. Unmarried subjects showed a lower consumption of BZD than married, widowed and divorced people. The higher the number of subjects,

^c Final Model: model 2 + medical consultation

^d Number of people living in the household

the lower the use of BZD. Similar associations were found for neurotic disorders in the OPCS survey [36, 37]. In America, these demographic predictors for an increased likelihood of BZD use were also found in the National Household Sample [38]. More recently, data from one site of the five-site National Institute of Mental Health Epidemiologic Catchment Area program [39] confirmed the importance of some factors for the use of BZD, such as being female, elderly, separated or divorced, having suffered negative life events and using health care services.

Women were more likely to use BZD, as shown in previous studies [9–12, 18, 39]. However, the magnitude of the effect of gender on the consumption of BZD decreases with the statistical modeling and the inclusion of other variables (psychiatric morbidity and medical consultation), which are probably mediating factors.

Older age was strongly associated with a higher use of anxiolytics, as in previous surveys [9–12, 18, 40]. Elderly people are more likely to have medical illness and insomnia, and they may request psychotropic medication for these reasons. Our data also showed that they have a high rate of medical consultation, an important risk factor for the use of BZD.

After adjustment for sociodemographic variables, schooling showed as a risk factor for the use of BZD. Although income was not significantly associated with the outcome in the univariate analysis, it was strongly associated with schooling: most of the subjects with good education have higher incomes. Therefore, someone with a high level of schooling seems more likely to ask for medication and more able to buy it.

Psychiatric morbidity, consultations, focusing and coverage

Our results showed that income is inversely related to the prevalence of MPD. Similar findings were reported by Mari et al. [9] in an epidemiological study looking at the consumption of psychotropic drugs in the city of São Paulo, as well as by other studies from Brazil cited by Mari [9] (Tancredi 1979 and Borges 1990). As the prevalence of MPD was much higher in those with the lowest incomes, all other things being equal, consumption of psychotropic drugs should be correspondingly higher among the former. Although lacking statistical significance, a trend was found through the levels of 'coverage' according to income: amongst the better off, 16% of those with MPD were taking BZD compared to 8.1% of the least well off. Given the fact that critical subgroups are small, this study was not able to fully confirm this hypothesis.

The first step to understanding these differences is to see whether there is any difference in the consultation rate between the income groups. A statistically significant difference in the rate of consultation with a specialist physician was found between high and low income groups, with the high income group having a higher rate of consultation. Furthermore, a correlation was found between consultation with a specialist and consumption of BZD. Therefore, a patient with MPD from a high income group is both more likely to have consulted a specialist in the last 3 months and to be currently taking a psychotropic drug.

Perhaps better-off patients obtain treatment more easily, as a result of doctor-patient interactions, where it is known that middle and upper class subjects with financial resources can pay for the medication. 'The pattern of benzodiazepine use in Brazil reflects the country's open access to the health system'. Similar results have been reported from other countries with open access systems, such as France. Two to three times higher anxiolytic and hypnotic consumption has been evidenced in France than in other industrialized countries by some surveys [41].

Thus, confirming our hypothesis, we have a further example of the inverse care law. The socioeconomic situation in Brazil, with marked inequalities in the distribution of wealth, differential access to health services and social discrimination, provides an ideal environment for the inverse care law to flourish. Socio-political programs aimed at redressing this balance will be necessary if a more equal access to health care is to come about.

Implications

Widespread use of BZD for common mental disorders is worrying, given their ineffectiveness for depression and the potential for long-term use. Gabe and Williams [42] listed factors that associated with BZD prescribing: inadequacy of the doctor's training, conditions of general practice, the impact of drug company advertising and the lack of adverse side effects. Our study suggests that in Brazil, ability to pay is a key determinant of the receipt of these drugs.

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