What factors are associated with the presence of mental health legislation? A cross-national study

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The *World Health Report 2001*, dedicated to mental health, identified several important factors for improving mental health services (World Health Organization, 2001): the policy and legislative framework; community mental health services; provision of mental healthcare within primary care; human resources; public education; links with other sectors; and monitoring and research. Moreover, national mental health policies and national implementation programmes for these policies are vital for the improvement of mental health services (World Health Organization, 2004; Jacob *et al,* 2007).

Mental health legislation is an important driver in facilitating implementation of national mental health policies (Saxena *et al*, 2007). It is also important for the protection of basic human and civil rights of vulnerable people with mental disorders, particularly those who receive involuntary treatment (Saxena *et al*, 2007). People with mental disorders not infrequently experience abuse of their human rights and many countries have reported violation of the human rights of such individuals (Jacob *et al*, 2007).

Between 70% and 78% of all countries are thought to have formal mental health legislation (Saxena *et al*, 2007; Jacob *et al*, 2007), but low- and middle-income countries are significantly less likely to do so (Jacob *et al*, 2007). Therefore, this cross-national study was designed to examine two unidirectional hypotheses:
❍ socio-economic status, healthcare and mental healthcare expenditure and national mental health policy will be associated with the presence of mental health legislation
❍ measures of mental health service delivery will be associated with the presence of mental health legislation.

Methods

Data on the presence of mental health legislation and parameters of national policy on mental health (items A1–5 in Table 1), mental healthcare funding (item B4 in Table 1) and mental health service provision (items C1–10 in Table 1) were ascertained from the *Mental Health Atlas 2005*, published by the World Health Organization (http://www. who.int/mental_health/evidence/mhatlas05/en/index.html). The World Health Organization's website (http://www. int/countries/en/) also provided data on the gross domestic product (GDP), the proportion of GDP spent on health and per capita expenditure on health (items B1–3 in Table 1) for the year 2002. Gross domestic product was used as a measure of socio-economic status.

The relationships between the presence of mental health legislation and measures of national policy on mental health, socio-economic status, healthcare and mental healthcare funding, and mental health service provision were examined with the Mann–Whitney U-test (for continuous variables) and the chi-square test (for categorical variables).

Results

A total of 192 countries were listed on the website. Mental health legislation was present for 147 (81%) of the 181 countries with available data. Data on the different measured parameters were available for a median (range) of 178 (97–181) countries. Except for percentage of the total health budget spent on mental health ($n = 97$), data on all other parameters were available for at least 158 countries (87%).

Table 1 shows the relationship between the presence of mental health legislation and measures of national policy on mental health, socio-economic status, healthcare and mental healthcare funding, and mental health service provision. The presence of mental health legislation *was not* associated with any measure of national mental health policy, nor with some measures of mental health service provision, including mental health being part of primary care system and the availability of mental health training to professionals in primary care. The presence of mental health legislation was significantly associated with higher GDP, a higher proportion of GDP spent on health, higher per capita health expenditure, a higher proportion of the total health budget spent on mental health, the availability of acute treatment for severe mental illness in primary care, the availability of community care for mental health, involvement of non-governmental organisations in mental health, and higher total numbers of psychiatric beds, psychiatrists, psychiatric nurses, psychologists and social workers per 10 000 population.

Discussion

Some methodological issues need consideration. Data on the presence of mental health legislation and measures of

Table 1 The relationship between the presence of mental health legislation and mental health policy, socio-economic status (GDP), health funding and markers of service provision

Variable	Statistic[a]	Sample size
A. National policy on mental health		
1. Presence of a national mental health policy	NS	181
2. Presence of a national mental health programme	NS	181
3. Presence of mental health information-gathering system	NS	177
4. Presence of substance misuse policy	NS	178
5. Presence of national therapeutic drug policy and essential list of drugs	NS	180
B. Socio-economic status and health funding		
1. GDP	$Z = -2.17, P = 0.03$	181
2. Proportion of GDP spent on health	$Z = -2.9, P = 0.04$	181
3. Per capita health expenditure	$Z = -2.8, P = 0.005$	181
4. Percentage of the total health budget spent on mental health	$Z = -3.19, P = 0.001$	97
C. Mental health service provision		
1. Mental health being part of primary care system	NS	179
2. Availability of acute treatment for severe mental disorders in primary care	$\chi^2 = 4.46$, 1 d.f., $P = 0.035$	178
3. Availability of mental health training to professionals in primary care	NS	179
4. Availability of community care for mental health	$\chi^2 = 10.5$, 1 d.f., $P = 0.001$	180
5. Involvement of non-governmental organisations in mental health	$\chi^2 = 4.09$, 1 d.f., $P = 0.043$	178
6. Total number of psychiatric beds per 10 000 population	$Z = -3.6, P < 0.0001$	177
7. Number of psychiatrists per 10 000 population	$Z = -2.7, P = 0.007$	178
8. Number of psychiatric nurses per 10 000 population	$Z = -2.9, P = 0.004$	170
9. Number of psychologists per 10 000 population	$Z = -2.8, P = 0.005$	168
10. Number of social workers per 10 000 population	$Z = -2.8, P = 0.005$	158

Items A1–5, and C1–5 were categorical variables. Items B1–4 and C6–10 were continuous variables.

[a] Mann–Whitney U-test Z and P values and chi-square values are given.

national policy on mental health, socio-economic status, healthcare and mental healthcare funding, and mental health service provision should be viewed cautiously because: data were not available from some countries; the validity of the data is unclear; some countries may have poor registration facilities for data on health-related measures; some countries may have poor infrastructure for providing accurate financial data; and the mere presence of mental health legislation is likely to be less important than the content and quality of the legislation and its actual implementation. However, the entire data-set was the best and the latest available from the World Health Organization, and there is other evidence confirming the validity of the data (Shah & Bhat, 2008). Caution should also be exercised in drawing conclusions about the direction of the causal relationship between the presence of mental health legislation and any of the measured variables from this cross-sectional ecological study. Nevertheless, both the study hypotheses were confirmed.

The finding that countries with mental health legislation had higher GDP is consistent with previous reports of an association between absence of such legislation and low- and middle-income countries (Jacob *et al*, 2007; Saxena *et al*, 2007). Wealthier countries have been reported to spend a higher proportion of GDP on healthcare, have higher per capita health expenditure, and spend a higher percentage of the healthcare budget on mental health (Shah, 2007; Jacob *et al*, 2007). Countries with higher healthcare and mental healthcare budgets are more likely to have national mental health policies and implementation programmes for these policies (Jacob *et al*, 2007; Shah & Bhat, 2008). In turn, countries with national mental health policies and implementation programmes for these policies may be more likely to have mental health legislation.

Mental health legislation can be successful only if the content and quality of the legislation are appropriate (Saxena *et al*, 2007), legislation is actually implemented and enforced (Saxena *et al*, 2007; Jacob *et al*, 2007) and the implementation of legislation is supported by an adequate mental health service infrastructure. In a lot of countries, mental health legislation is many years old and may not be appropriate for contemporary use (Saxena *et al*, 2007). There are examples of countries where mental health legislation is not implemented in a systematic manner, and consequently the legislation is ineffective and inefficient (Jacob *et al*, 2007). In the current study, countries with mental health legislation, compared with those without, were more likely to have acute treatment for severe mental illness in primary care, community care for mental health, involvement of non-governmental organisations in mental health, and higher total numbers of psychiatric beds, psychiatrists, psychiatric nurses, psychologists and social workers per 10 000 population. This suggests that countries with mental health legislation, compared with those without, were more likely to have better resourced mental health services. Moreover, this is more likely to occur in wealthier countries because high-income countries spend more on healthcare and mental healthcare, and they are more likely to have national mental health policies and implementation programmes for these policies (Shah, 2007; Saxena *et al*, 2007; Jacob *et al*, 2007). A positive correlation between mental health service provision and healthcare expenditure and presence of national mental health policies has previously been observed (Shah, 2007; Saxena *et al*, 2007; Jacob *et al*, 2007).

The challenge for international organisations, including the World Health Organization, the World Psychiatric Association and the World Bank, and for national governments is

to encourage fair and equitable mental healthcare budgetary provision and the development of national mental health policies, including mental health legislation, with effective national implementation programmes in low- and middle-income countries. Otherwise, vulnerable patients with mental disorders will continue to suffer in silence, without the protection of their human and civil rights to receive mental healthcare free of discrimination, ill-treatment and abuse. This challenge has recently been taken up by the *Lancet*, which launched a new movement for mental health (Horton, 2007), supported by a series of outstanding articles (e.g. Jacob *et al*, 2007; Saxena *et al*, 2007; Patel *et al*, 2007; Saraceno *et al*, 2007).

The current findings also suggest further avenues for research. Does the mere presence of mental health legislation ensure protection of the rights of patients? Is mental health legislation implemented correctly? Is the legislation followed and monitored adequately? Evidence gathered by the Mental Health Act Commission in England and Wales suggests that without constant vigilance by the state, mental health service providers fail to implement legislation appropriately (Mental Health Act Commission, 2006, 2008). This may also be true in other countries; clearer understanding of the way legislation is implemented would be of assistance to countries with and without adequate legislation.

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ORIGINAL ARTICLE

Comparison of risperidone, olanzapine and quetiapine: effects on body weight, serum blood glucose and prolactin

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Schizophrenia is a chronic illness with a lifetime prevalence of 1% and with serious physical, social and economic consequences. Over the past decade, atypical antipsychotic medications have become the first-line treatment for schizophrenia (Breier *et al*, 2005).

The extensive use of atypical antipsychotics is based on their clinical efficacy (for both positive and negative symptoms) and lesser side-effects (e.g. extrapyramidal symptoms) compared with conventional antipsychotics. However, the unique pharmacodynamic profiles and accumulating evidence suggest that these agents, particularly olanzapine and risperidone, do have certain side-effects, including weight gain and elevated blood glucose and serum prolactin levels. These side-effects are a burden to patients and may affect adherence to treatment. The prescribing clinician has to weigh up the risks and benefits of a particular antipsychotic in an individual case.

There is a growing concern about the metabolic syndrome and its complications with the long-term use of at least some of the atypical drugs (American Diabetes Association, 2004). Weight gain, high levels of cholesterol and high blood glucose concentrations are part of the metabolic syndrome. These factors increase the risk for diabetes mellitus and are a risk factor for coronary heart disease (Straker *et al*, 2005). Before the introduction of atypical antipsychotics, prolactin elevation was an inevitable risk of treatment with antipsychotics.