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# Poverty and common mental disorders in developing countries

Vikram Patel<sup>1</sup> & Arthur Kleinman<sup>2</sup>

**Abstract** A review of English-language journals published since 1990 and three global mental health reports identified 11 community studies on the association between poverty and common mental disorders in six low- and middle-income countries. Most studies showed an association between indicators of poverty and the risk of mental disorders, the most consistent association being with low levels of education. A review of articles exploring the mechanism of the relationship suggested weak evidence to support a specific association with income levels. Factors such as the experience of insecurity and hopelessness, rapid social change and the risks of violence and physical ill-health may explain the greater vulnerability of the poor to common mental disorders. The direct and indirect costs of mental ill-health worsen the economic condition, setting up a vicious cycle of poverty and mental disorder. Common mental disorders need to be placed alongside other diseases associated with poverty by policy-makers and donors. Programmes such as investment in education and provision of microcredit may have unanticipated benefits in reducing the risk of mental disorders. Secondary prevention must focus on strengthening the ability of primary care services to provide effective treatment.

**Keywords** Mental disorders/etiology/prevention and control; Poverty; Educational status; Socioeconomic factors; Cost of illness; Review literature; Developing countries (*source: MeSH, NLM*).

**Mots clés** Troubles mentaux/étiologie/prévention et contrôle; Pauvreté; Niveau instruction; Facteur socio-économique; Coût maladie; Revue de la littérature; Pays en développement (*source: MeSH, INSERM*).

**Palabras clave** Trastornos mentales/etiología/prevenición y control; Pobreza; Factores socioeconómicos; Escolaridad; Costo de la enfermedad; Literatura de revisión; Países en desarrollo (*fuentes: DeCS, BIREME*).

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Voir page 613 le résumé en français. En la página 613 figura un resumen en español.

انظر صفحة 614 للاطلاع على الكلمات المفتاحية والمفصّل باللغة العربية

## Introduction

In making choices for health funding in low-income countries, policy-makers and donor agencies are guided by epidemiological evidence that indicates the burden of disease on the poor. There is a large body of evidence from industrialized countries demonstrating an association between poverty and risk for common mental disorders. This paper reviews the evidence from developing countries and explores the processes that may explain the poverty–risk relationship.

Common mental disorders are depressive and anxiety disorders that are classified in ICD-10 (1) as: “neurotic, stress-related and somatoform disorders” and “mood disorders”. The public health significance of mental and behavioural disorders is demonstrated by the fact that they are among the most important causes of morbidity in primary care settings and produce considerable disability (2, 3). Definitions of poverty vary depending on the social, cultural and political systems in a particular region and according to the user of the data. Poor people’s definitions reveal that poverty is a multidimensional social phenomenon (4). From an epidemiological perspective, poverty means low socio-economic status (measured by social or income class), unemployment and low levels of education (5); these are the definitions used in this review.

## Methods

A search of the MEDLINE database (using PubMed) and reports on global mental health (2, 6, 7) was carried out to identify papers reporting studies that met the following criteria: the studies were based in community settings; the countries were classified as middle- or low-income by the World Bank (8); and the methodology included both a measure of mental disorders and a measure of poverty. Because of overlap between diagnostic subgroups of common mental disorders (9), epidemiological research often describes rates of common mental disorders as a single outcome; this is the outcome chosen for this review (with the exception of studies where the overall rate was not reported). In addition, articles exploring the relationship between poverty and mental health were reviewed to describe the mechanisms through which poverty and common mental disorders were related.

## Results

### The epidemiological evidence

There were 11 eligible studies (see Table 1) from six countries in Africa (Lesotho and Zimbabwe), Asia (Indonesia and Pakistan) and Latin America (Brazil and Chile). All studies

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Table 1. The association of poverty and common mental disorders: evidence from developing countries

Country	Income group	Sample (n, setting)	Measures of psychiatric morbidity <sup>a</sup>	Prevalence of common mental disorders	Association with indicators of poverty <sup>b</sup>
Brazil (10)	Upper middle	621, urban	2 stage using SRQ and clinical diagnostic interview	Not reported	Low education <5 years (OR 3.3, $P < 0.001$ ); less than ¼ minimum wage (OR 3.9, $P < 0.02$ )
Brazil (11)	Upper middle	1041, urban	CIDI	Major depression: 8.2% (1 month), 10% (1 year) <sup>c</sup>	No schooling vs >9 years (OR 3.9, $P < 0.001$ ); not working currently (OR 3.6, $P < 0.001$ )
Brazil (12)	Upper middle	1277, urban	SRQ	22.7% (women 26.5%, men 17.9%)	No education vs school completion (OR 4, $P < 0.001$ ); low household income (OR 1.76, $P < 0.001$ )
Chile (13)	Upper middle	3870, urban	CISR	26.7% (women 35.2%, men 17.3%)	Primary education vs higher education (OR 3.4, $P < 0.01$ ); low social class vs highest (OR 2.7, $P < 0.01$ ); unemployed vs full-time employed (OR 2.5, $P < 0.01$ )
Indonesia (14)	Low	1670, rural Sumatra	2 stage design using GHQ and PSE	GHQ case rates: 20%	Less than primary education (OR 1.47, $P < 0.01$ ); no electricity (OR 2.2, $P < 0.001$ ); no tap water (OR 1.7, $P < 0.001$ )
Lesotho (15)	Low	356, rural	1 stage using DIS	22.7% (women 23.5%, men 14.7%)	No association of education with specific diagnoses (panic disorder, generalized anxiety disorder, major depressive disorder and education) <sup>d</sup>
Pakistan (16)	Low	515, remote rural	2 stage, BSI and clinician diagnostic interview	Women 46%, men 15%; 22% weighted total sample	Literate men and women had lower BSI rates ( $P < 0.05$ ); negative, non-significant correlations with socioeconomic factors
Pakistan (17)	Low	664, rural	2 stage with BSI/SRQ followed by clinician interview	Women 66%, men 25%	Inverse relationship with years of education, total household income, number of electrical appliances ( $P < 0.05$ )
Pakistan (18)	Low	259, rural	2 stage with SRQ/PHQ followed by PAS	44.4% (women 57.5%, men 25.5%)	Not passed primary school (OR 3.7, $P < 0.01$ ); experience of financial or housing difficulty (OR 4.4, $P < 0.01$ )
Pakistan (19)	Low	269 mothers, urban slum	1 stage locally developed anxiety and depression scale	28.8%	Husband unemployed (OR 4.1, $P < 0.005$ ); irregular wages (OR 1.8, $P < 0.02$ ); arguments with husband for economic reasons (OR 10, $P < 0.001$ )
Zimbabwe (20)	Low	172 women, urban township	2 stage with a screening questionnaire and PSE	15.7% (1 month), 30.8% (1 year)	Unemployment (OR 2.9, $P < 0.02$ ); below-average income (OR 2.2, $P < 0.02$ ); overcrowding (OR 2.1, $P < 0.02$ ); not passed school (OR 3.4, $P < 0.01$ )

<sup>a</sup> BSI = Bradford Somatic Inventory; CIDI = Composite International Diagnostic Interview; CISR = Clinical Interview Schedule, Revised; DIS = Diagnostic Interview Schedule; GHQ = General Health Questionnaire; PAS = Psychiatric Assessment Schedule; PHQ = Primary Health Questionnaire; PSE = Present State Examination; SRQ = Self Reporting Questionnaire.

<sup>b</sup> Univariate odds ratios (OR) are presented when the outcome measure of common mental disorders was a categorical variable. The first two studies from Pakistan are the exception to these analyses, because the outcome measure was a continuous score.

<sup>c</sup> No data were presented on overall rates of common mental disorders.

<sup>d</sup> No data were presented in this paper on the risks associated with common mental disorders as a composite diagnostic group.

used random or total sampling of the eligible population. All were “stand-alone” studies — not part of a multinational study — and the measures were validated for the local settings. The median prevalence rates of common mental disorders varied from 20% to 30%. Ten studies showed a statistically significant relationship between prevalence and indicators of poverty, the most consistent relationship being with low educational levels. A number of other indicators

were used to assess poverty, including low income, lack of material possessions, lack of employment, and housing difficulties. Irrespective of which indicator was used, statistically significant associations were evident; the one study that did not show any association (from Lesotho) only published data on associations with specific diagnostic categories of common mental disorders.

## Mechanisms of relationship

The explanatory models of persons suffering from common mental disorders have been described in a number of studies, in all of which poverty and socioeconomic problems have been cited as one of the most important factors causing emotional distress (21–23). While individual perceptions of illness are not evidence of a causal association, the universal nature of perceptions can be considered as cultural validation of the epidemiological association reported in the studies reviewed.

### Income

The studies reviewed do not permit an analysis of correlation of absolute levels of income and common mental disorders, because average indicators of income for countries do not indicate the true levels in the populations being studied. Multivariate analyses from the Chilean data showed that absolute income levels were not associated with a raised risk when education was taken into account (24). On the other hand, this study showed that poor living conditions such as poor housing, which is associated with low income, remained significantly associated after adjustment for education. The relationship between income inequality and common mental disorders is also unclear. While some studies in industrialized countries have shown an independent association of low income and living in unequal income states with depression in women (25), these findings have been contradicted by studies demonstrating a weak relationship, if any, between income inequality and common mental disorders (26). One study showed a higher risk for disorders in persons in the upper income group if they lived in unequal areas (27).

### Insecurity

Poor people stress the anxiety and fear they experience because they feel insecure and vulnerable when their conditions worsen. Security is defined as stability and continuation of livelihood, predictability of relationships, feeling safe and belonging to a social group (28). The following comment from a man in Provdiv, Bulgaria, illustrates the impact of insecurity on mental health (28): *“The employer can keep you up to three months on a temporary contract without signing a permanent contract. At the end of the third month, he just says ‘go away’ without explaining how and why. Just ‘go away’. He could send you away even earlier if he did not like you. If you say anything, if you cross him, he says ‘go away, there are thousands like you waiting for your position.’”*

There is evidence of the association between insecurity of income flow and common mental disorders. The Chilean study found a strong relationship between acute income drop in the previous six months and the risk of mental disorders (24). The suicide of farmers in parts of India since the mid-1990s provides another illustration of the impact of financial insecurity on mental health (29). Globalization and the advent of multinational companies have led to new competition for small-scale farmers whose goods are no longer competitively priced, added to numerous other problems such as substandard quality seeds and the lack of support from banks (29, 30).

### Hopelessness

The psychological impact of living in poverty is mediated by shame, stigma and the humiliation of poverty (4). Interviews

with relatives of young women in rural China who had committed suicide and with survivors of suicide attempts reveal that hopelessness is a core experience: it is associated with spouse and family abuse, forced marriages, limited educational and work prospects, stigma for failing to produce a son, and the migration of husbands to urban areas for employment (31, 32). The cognitive impact of living in poverty is illustrated by this narrative from a man in Guinea-Bissau (4): *“When I don’t have [any food to bring my family] I borrow, mainly from neighbours and friends. I feel ashamed standing before my children when I have nothing to help feed my family. I’m not well when I’m unemployed. It’s terrible.”*

### Social change

Epidemiological investigations in many developing countries have attributed the high rates of common mental disorders to factors such as discrimination, unemployment and living through a period of rapid and unpredictable social change (33). Investigators in India who recently conducted a community study of mental disorders in a rural area (34), 20 years after a similar study in the same area, found that overall rates of mental disorders had not changed. However, the rates of specific diagnostic categories had changed so that rates of depression had increased from 4.9% to 7.3% ( $P < 0.01$ ), which the authors attributed to the effects of changing lifestyles. In China, researchers suggest that social changes (including the rising prevalence of major economic losses for individuals, increased costs of health care, weakened family ties, migration to urban areas for temporary or seasonal work, and income inequalities) may be expected to lead to rising suicide rates, partly because of their influence on rising rates of depressive disorders that are mostly untreated (35).

A study of young adults in a newly urbanized area of Khartoum, Sudan, found that symptoms of common mental disorders were more widespread than in rural areas. Loneliness, which the authors speculate could be an expression of the uprootedness, isolation and lack of social support that occur when rural dwellers migrate from their extended families and cohesive communities, was a risk factor (36). There is evidence that social factors, in particular life-threatening events, violence and the lack of social support, play an important role in the etiology of common mental disorders (37).

### Education

Illiteracy or poor education is a consistent risk factor for common mental disorders. Some studies have also demonstrated a dose–response relationship between educational level and the risk of such disorders (13). Reverse causality is unlikely to be a factor, since primary education occurs in early childhood when mental disorders are uncommon (10). The relationship between low educational level and mental disorders may be confounded or explained by a number of pathways: these include malnutrition, which impairs intellectual development, leading to poor educational performance and poor psychosocial development. The attributable risk of low income for childhood psychiatric disorders is strongest for conduct disorders (38); these are associated with school failure and common mental disorders in adulthood. The social consequences of poor education are obvious: lack of education represents a diminished opportunity

for persons to access resources to improve their situation (18) and low levels of education have been implicated as a risk factor for dementia. Higher levels of education may reflect optimal brain development in childhood, which in turn protects from pathological processes that lead to cognitive impairment (or in the case of this review, common mental disorders) in later life (39).

### Gender

Apart from the possible role of biological factors, which may explain why there is a consistent sex difference in risks for common mental disorders in all societies, it is plausible that gender factors — the considerable stresses faced by women — may also play a role. In many developing societies, women bear the brunt of the adversities associated with poverty: less access to school, physical abuse from husbands, forced marriages, sexual trafficking, fewer job opportunities and, in some societies, limitation of their participation in activities outside the home.

### Comorbidity

Poverty is likely to be associated with malnutrition, lack of access to clean water, living in polluted environments, inadequate housing, frequent accidents and other risk factors associated with poor physical health. There is evidence demonstrating the comorbidity between physical illness and common mental disorders, and this association may partly account for the association between poverty and mental disorders. Mental and physical health problems lead to increased health care costs and worsening poverty. A pilot study of the economic burden of common mental disorders in South-East Asia demonstrated a considerable burden of health care costs, mostly in the private sector, and indirect costs that exceeded health care costs by as much as three times (40).

## Discussion

The main limitation of this review is that only indexed English-language journals were reviewed. In addition, the samples surveyed in each study may not represent the population of the country concerned. Most studies showed an association between the risk of common mental disorders and low levels of education; many studies also showed a relationship with other indicators of poverty such as poor housing or low income. These findings suggest that the association between poverty and common mental disorders is a universal one, occurring in all societies irrespective of their levels of development.

Whereas it is plausible to speculate that the cross-sectional relationships can be best interpreted in the context of poverty being a risk factor for common mental disorders, reverse causality can be a consideration because common mental disorders are known to produce disability and increased health care costs. Further, depressed individuals may exaggerate the adversity of current circumstances. Some studies took precautions against this by enquiring about household income from informants who were not depressed (10). In any event, it is more likely that poverty and common mental disorders interact with one another in setting up, in vulnerable individuals, a vicious cycle of poverty and mental illness. A similar relationship has been shown to exist

between poverty and infectious diseases such as tuberculosis (41). Rather than actual income, factors such as insecurity, hopelessness, poor physical health, rapid social change and limited opportunities as a result of less education may mediate the risk of suffering from mental disorders. The most important implication of these findings is to place common mental disorders alongside other diseases associated with poverty which, on account of this association, attract attention from health policy-makers and donors. The global mental health movement must play a larger role in public health activities focusing on global mental disease. To do this effectively, mental health professionals will need to confront global poverty, its relation to political and economic developments, and its consequences for common mental disorders. From a public health perspective, the evidence on mechanisms of the relationship can be used to consider a number of primary and secondary preventive strategies.

### Primary prevention

Evidence to support the efficacy of interventions in this field is weak. However, there is evidence that interventions aimed at improving child development and educational outcomes in children living in poverty have had some success. A review of interventions aimed at improving nutrition and development in socioeconomically disadvantaged children found strong support for the benefit of psychosocial and nutritional interventions for cognitive development and improved educational outcomes (42). Anecdotal findings from literacy programmes in India suggest that such programmes may have an unanticipated benefit on mental health by reducing hopelessness and providing greater economic security (43). In many developing countries, indebtedness to money lenders is a consistent source of stress and worry: radical community banks and microcredit schemes could be involved in setting up loan facilities in unserved areas. Development, if implemented to promote equity, social capital and basic infrastructure, may be associated with better mental health. A study in Indonesia described rates of common mental disorders according to levels of economic development in villages and changes in these levels in the 1980s (14). Development was rated according to attributes such as means of subsistence, education, community cooperation and participation, and transportation (the more developed villages having better amenities); those villages which achieved an improvement in development status and those which were already at the highest level of development had the lowest rates of mental disorders.

### Secondary prevention

The key to secondary prevention is to strengthen the treatment of common mental disorders in primary health care. Recent evidence demonstrated the efficacy and cost-effectiveness of psychological and pharmacological interventions for common mental disorders in developing countries, which need to be adopted by health policy-makers (44, 45). Primary care workers need training to recognize and effectively treat common mental disorders. Just as clinicians must treat tuberculosis even if they cannot get rid of the overcrowding, so, too, must we challenge the despair of clinicians who argue that if their patients are poor they must be depressed and there is little they can do about it.

The greatest evidence that this belief is untrue is the fact that the majority of the poor do not suffer from mental illness: they are only at greater risk than the rich. Even in areas such as the KwaZulu-Natal province in South Africa, which experiences severe adversities such as poverty and high rates of HIV/AIDS, programmes have been able to train primary health care nurses to provide a comprehensive approach that takes account of psychosocial factors among their clients (46).

### Future research

It is obvious from the small number of studies identified for this review and the lack of any small-area studies that the relationship between poverty and common mental disorders cannot be considered as conclusive. Systematic, small-area studies are needed of the prevalence of disorders where areas differ in levels of absolute and relative poverty. Perhaps the

World Mental Health 2000 Surveys (47) will provide such an evidence base. Despite the evidence of an association between common mental disorders and economic deprivation, most people living in poverty do not develop mental illness. Longitudinal research is needed to establish causal associations between common mental disorders and poverty; such studies may help identify the specific factors that are associated with the risk of disorders and, conversely, the factors that help reduce the risk in persons who face severe economic or social adversity. Such longitudinal research should incorporate the evaluation of programmes with the potential for primary prevention, such as microcredit schemes. ■

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## Résumé

### Pauvreté et troubles mentaux courants dans les pays en développement

L'examen de revues en anglais parues depuis 1990 et de trois rapports sur la santé mentale dans le monde a permis de recenser 11 études communautaires sur le lien entre la pauvreté et les troubles mentaux courants dans six pays à moyen ou faible revenu. La plupart d'entre elles font apparaître une association entre le risque de trouble mental et les indicateurs de pauvreté, le lien le plus constant étant avec un faible niveau d'instruction. De l'analyse des articles qui étudient le mécanisme de la relation il ressort peu d'éléments tendant à confirmer une association spécifique avec le niveau de revenu. Des facteurs comme l'insécurité et le désespoir, une évolution sociale rapide et le risque de violence et de problèmes de santé physiques pour-

raient expliquer que les pauvres sont plus vulnérables aux troubles mentaux courants. Le coût direct et indirect des troubles mentaux aggrave les difficultés économiques et crée un cercle vicieux entre la pauvreté et les problèmes de santé mentale. Les responsables du choix des politiques et les donateurs doivent ranger les troubles mentaux courants parmi les affections associées à la pauvreté. Les programmes d'investissement dans l'éducation et de microcrédit peuvent avoir pour effet inattendu de réduire le risque de trouble mental. La prévention secondaire doit avant tout consister à rendre les services de soins primaires capables d'offrir un traitement efficace.

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## Resumen

### Pobreza y trastornos mentales comunes en los países en desarrollo

El examen de diversas revistas publicadas en inglés desde 1990 y de tres informes mundiales sobre la salud mental permitió identificar 11 estudios comunitarios sobre las relaciones entre pobreza y trastornos mentales comunes en seis países de ingresos bajos y medios. La mayoría de los estudios revelaron una relación entre los indicadores de pobreza y el riesgo de trastornos mentales, destacando sobre todo la asociación con los bajos niveles de instrucción. Del análisis de los artículos en que se estudiaba el mecanismo de la relación se desprende que la evidencia a favor de una asociación específica con el nivel de ingresos es débil. Factores como la experiencia de la inseguridad y la desesperanza, los cambios sociales rápidos y el riesgo de violencia y problemas de salud pueden explicar la mayor

vulnerabilidad de los pobres a los trastornos mentales comunes. Los costos directos e indirectos de la mala salud mental agravan la situación económica y ponen en marcha un círculo vicioso de pobreza y problemas mentales. Es necesario que los formuladores de políticas y los donantes consideren los trastornos mentales comunes al mismo nivel que otras enfermedades asociadas a la pobreza. Programas como la inversión en educación y la concesión de microcréditos pueden tener efectos imprevistos de reducción del riesgo de trastornos mentales. La prevención secundaria debe centrarse en el fortalecimiento de la capacidad de los servicios de atención primaria para tratar eficazmente esos casos.

## علاقة الفقر بالاضطرابات النفسية الشائعة في البلدان النامية

الملخص: تم استعراض عمليات الصحة النفسية الصادرة باللغة الإنكليزية منذ عام 1990، وثلاثة تقارير علمية حول الصحة النفسية، أسفر عن استعراض 11 دراسة بحثية تشير إلى ارتباط الفقر بالاضطرابات النفسية الشائعة في ستة من بلدان ذات الدخل المنخفض والمتوسط. فقد دلت معظم الدراسات على وجود ارتباط بين مؤشرات الفقر ومخاطر التعرض للاضطرابات النفسية، وكان الارتباط أكثر وضوحاً بين مستويات التعليم المنخفضة وبين الاضطرابات النفسية. وأشارت عملية استعراض المقالات التي سنتطرق إليها العلاقة بين الفقر والاضطرابات النفسية إلى ضعف الأدلة التي تؤيد الارتباط التوعمي بين الاضطرابات النفسية ومستويات الدخل. وهناك عوامل أخرى مثل التعرض لحالات مثل النياس وانقراض الأسر، والتغير

الاجتماعي السريع، ومخاطر العنف واعتلال الصحة الجنسية، يمكنها أن تفسر زيادة تعرض الفقراء لمخاطر الاضطرابات النفسية الشائعة. وتؤدي التكاليف المباشرة وغير المباشرة لاعتلال الصحة النفسية إلى تفاقم الوضع الاقتصادي للفرد، مما يؤدي إلى دائرة مفرغة من الفقر والاضطرابات النفسية. ولذلك يجب على راسمي السياسات واهيئات المانحة وضع الاضطرابات النفسية الشائعة جبا إلى جنب مع سائر الأمراض المرتبطة بالفقر. فبعض البرامج، مثل الاستثمار في التعليم أو تقديم القروض البسيطة؛ قد تترجم منافع غير متوقعة من حيث الحد من مخاطر الاضطرابات النفسية. كما يتعين أن تركز أنشطة الوقاية الثانوية على تقوية قدرة خدمات الرعاية الأولية على توفير المعالجة الفعالة.

الكلمات المفتاحية: اجروح والإصابات، الوقاية منها ومعالجتها؛ سلامة؛ التوعية؛ التوالتان؛ العلاقة بين الوالدين والطفل؛ سلوك الطفل؛ طرق التصنيف النصفي؛ العوامل الاجتماعية - الاقتصادية؛ المشروعات الإرتيادية؛ المكسيك (المصدر: رؤوس الموضوعات الطبية، المكتب الإقليمي لشرق المتوسط).

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