



Poverty and mental health: a review of practice and policies

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Practice points

- Mental health aspects of poverty are neglected in international development policy.
- Emerging data from low- and middle-income countries indicate strong associations between mental illness and low education, food insecurity, inadequate housing, low social class, low socioeconomic status and financial stress.
- Mental illness and poverty interact in a vicious cycle that has an impact throughout the lifespan.
- There is compelling evidence that mental health treatment and rehabilitation improves individual and household economic outcomes in low- and middle-income countries.
- This evidence supports calls to scale-up mental healthcare and place mental health firmly on national and international development agendas.

SUMMARY International development policy has neglected mental health and its relationship with poverty, particularly in low- and middle-income countries. This is despite emerging evidence that poverty is strongly associated with mental illness in a vicious cycle that affects millions of people throughout their life course. The social conditions of poverty increase the risk of mental illness and, conversely, people living with mental illness are more likely to drift into, or remain in, poverty as a result of their disability and the associated stigma. There is compelling evidence that mental health treatment and rehabilitation can improve individual and household economic outcomes in low- and middle-income countries. This evidence supports calls to scale-up mental healthcare and place mental health on national and international development agendas.

Poverty remains one of the most pressing global challenges of our time. However, despite the international policy debates, the vast academic literature related to social and economic development, and the mobilization of political will towards development targets, mental health

and its relationship with poverty has tended to be ignored. For example, health domains of the Millennium Development Goals (MDGs) focus on child mortality, maternal health, HIV/AIDS, Malaria, and TB and do not explicitly mention mental health [1]. Mental health remains largely

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absent from the agendas of international development agencies such as the World Bank, and even in international health development policies that pertain to non-communicable diseases (NCDs), for example in the declaration of the 2011 United Nations high level summit on NCDs, the issue of mental health is marginalized [2].

This is despite compelling arguments that mental illness contributes significantly to the global burden of disease, as measured by disability-adjusted life years [3]; people living in poverty with mental illness constitute a vulnerable group who required targeting for development assistance [4]; lack of progress with the MDGs will have a negative impact on the mental health of populations, particularly MDG 1 (poverty), MDG 2 (education), MDG 4 (child mortality), MDG 5 (maternal health) and MDG 6 (HIV) [1]; and it will be difficult to attain many of the MDGs without systematically addressing mental health at a population level [5].

The purpose of this article is to draw attention to the neglected policy issue of poverty and mental health. Epidemiological data will be summarized on the relationship between poverty and mental health, focusing particularly on low- and middle-income countries (LMICs), and the current evidence base for interventions that may break the cycle of poverty and mental illness. Recommendations will be made for future research, policy and practice.

Defining & measuring poverty

A major challenge in the field of poverty studies is the definition and measurement of poverty itself. Traditionally, poverty has been defined in 'absolute' terms, pegged to the level of income of an individual or household. An example is the World Bank designation of people living on less than US\$1 per day, or more recently less than US\$2 per day, as living in absolute poverty [6]. The limitations of this approach are that it does not take into account inequalities in income within a society, it is often difficult to accurately assess income in informal low-resource economies, and there are substantial variations in what a dollar can purchase across societies, making international comparisons difficult. Subsequent approaches have focused on 'relative' poverty, by defining income in relation to the mean or median income within a given society [6]. Such an approach, while partially addressing issues of inequality, still does not resolve other limitations of income as a proxy for poverty. More

recently, attempts have been made to develop multi-dimensional approaches to poverty, for example through the use of 'multiple deprivation' indices [7]. These build on Townsend's distinction between deprivation, as the unmet needs people have for a number of basic commodities, and poverty, as the lack of resources that are required to meet those needs [8,9]. Multiple deprivation indices include a number of indicators of social and economic deprivation and exclusion. Examples include the Index of Multiple Deprivation [7,10] and the Human Development Index [11]. For the purpose of this paper, a multidimensional approach to poverty will be adopted, which allows for a more multifaceted approach to this complex issue, facilitates exploration of the multiple causal pathways in the relationship between poverty and mental health, and enables the inclusion of local contextual variables in assessments of poverty.

The issue of definition is important, not only from the perspective of poverty studies but also for psychiatric epidemiology. In a systematic review of psychiatric epidemiology studies that reported on the relationship between poverty and common mental disorders (depression, anxiety and somatoform disorders) in LMICs from 1990 to 2008, Cooper and colleagues found diverse measures of poverty being employed [12]. Most of the 139 articles, representing 123 studies from 33 countries, did not provide a definition of the concept of poverty being used, and very few used validated or standardized measures. This inconsistent and weak conceptualization of poverty contributes to highly heterogeneous findings, and difficulties in understanding the causal pathways that may underpin the relationship between poverty and mental health.

Relationship between poverty & mental health

Partly as a result of this methodological challenge, there have been conflicting findings on the relationship between poverty and mental health, particularly in LMICs. Thus, while some studies have found strong associations between common mental disorders and violence, insecurity, lower socio-economic status, lower education levels, and rapid social change, particularly among women [13,14], others have found weak associations between common mental disorders and consumption (defined as per capita household expenditure), as well as low education level [15].

In 2010, the first systematic review of common mental disorders and poverty in LMICs found strong and consistent associations between common mental disorders and low education, food insecurity, inadequate housing (including structural aspects of housing and overcrowding), low social class, low socioeconomic status and financial stress; but less consistent associations with reduced income and consumption [16]. This has confirmed findings from high-income countries, for example among the 14 countries of the World Mental Health Survey, 12 countries reported a “statistically significant monotonic association between severity of mental disorder and days out of role” [17]. These findings emphasized the need to shift from debates on whether poverty and mental illness are associated, to analysis of which particular aspects of poverty and mental illness are associated. In this process, it is vital to explore possible causal mechanisms by conducting more longitudinal and intervention studies in LMICs.

Despite the paucity of longitudinal studies, it is possible to hypothesize two causal pathways from the literature in LMICs as well as that from high income countries [18–22]. The first is the social causation pathway, whereby people living in poverty are exposed to: increased obstetric risks; increased risk of violence and trauma; malnutrition; increased risk of adverse life events; increased stress associated with financial, food and water insecurity; and less financial resources to protect themselves from the adverse consequences of these risks – taken together, these factors lead to an increased risk for mental illness among the poor [23]. Secondly, according to the social drift or social selection hypothesis, people living with mental illness are more likely to drift into, or remain in, poverty as a result of increased health expenditure, reduced productivity and job loss, associated with the disability and stigma of their mental health condition. Some authors have argued that the social causation hypothesis may apply more readily to common mental disorders such as depression and anxiety disorders, whereas the social drift/selection hypothesis may apply more readily to severe mental disorders, including schizophrenia, as well as neurological disorders such as epilepsy and intellectual disability [19]. However, as these authors also state, this relationship is complex, and the causal mechanism is likely to move in both directions for most disorders.

Recent findings from the UK, reported by Stansfeld and colleagues, confirmed this bidirectional relationship, indicating how these forces act across the life course in a 1958 birth cohort followed up at 45 years of age. Being in manual socioeconomic positions two or more times in childhood was associated with increased mid-life depressive and anxiety disorders, and conversely psychological disorder on three occasions in childhood was associated with manual socioeconomic position (odds ratio: 3.33; 95% CI: 2.63–4.21) after adjusting for childhood socioeconomic position and malaise score at 42 years [20].

This bidirectional relationship is best described as a ‘vicious cycle’ of poverty and mental illness, which affects the lives of millions of people living in poverty with mental illness across the life course [24].

From studies in high income countries, this pattern appears to be exacerbated by income inequality within societies. Income inequality is traditionally measured by the Gini coefficient, a measure of inequality among values of a frequency distribution, with 0 expressing perfect equality and 1 expressing perfect inequality [25]. In studies examining the associations between national income inequality and a range of health and social outcomes, Pickett, Wilkinson and colleagues found a significant association between increased inequality and increased national rates of mental illness (particularly anxiety disorders, impulse control disorders and severe mental illness) as well as the use of illegal drugs [26,27]. These trends pertaining to inequality are yet to be confirmed or refuted in LMICs, mainly because of the limited number of nationally representative epidemiological studies in these countries.

Interventions that aim to break the cycle

Emerging evidence of the vicious cycle of poverty and mental illness raises the question: what interventions are required to break the cycle? More specifically, should interventions target the social causes of mental illness, for example by providing poverty alleviation through financial instruments such as grants and conditional cash transfers; increasing food and water security in vulnerable communities; and promoting safer and more secure living environments? Or should they target the social drift or social selection pathway by treating mental illness, reducing stigma and promoting recovery? Or, indeed should both causal pathways be targeted?

A recent systematic review of studies in LMICs found that the evidence for financial interventions targeting the social causation pathway was equivocal. While there was some support for the benefits of conditional cash transfers on childhood developmental and behavioral outcomes, as well as the benefits of asset promotion programmes for self esteem, there was no evidence of benefit from unconditional cash transfers or loans [28]. However, the absence of evidence does not necessarily indicate evidence of absence, as was shown in two subsequent studies, not included in the review. Participation in the Mexican Oportunidades conditional cash transfer programme was shown to significantly reduce symptoms of maternal depression, while controlling for maternal age, education and household demographic, ethnic and socioeconomic variables [29]. Similarly, in the Bono de Desarrollo Humano unconditional cash transfer programme in Ecuador, young children in households in receipt of the grant in rural areas showed significantly improved language development [30].

Also, the review did not include in-kind poverty alleviation interventions such as nutrition supplementation, skills training for employment or housing improvements, which are all subjects that require further research. Although such interventions may not have the improvement of mental health as their primary objective, the fact that such improvements have been shown to occur seems to indicate that the evaluation of mental health outcomes is an important line of enquiry. There is a growing field of mental health promotion and mental illness prevention research [31,32], including in low resource settings [33], that indicates that such interventions carry mental health and economic benefits, and hence have the potential to break the cycle of poverty and mental illness. In particular, interventions that target infants and children through primary and secondary prevention and mental health promotion, have shown promise, including in LMICs, as highlighted in the recent *Lancet* series article on child mental health by Kieling and colleagues [34].

Turning to the economic consequences of mental health treatment and rehabilitation interventions, the review found compelling evidence that these interventions yield economic benefits, at both individual and household level [28]. Of the 19 associations tested, ten showed mental health treatment or rehabilitation interventions to have

significant beneficial effects on economic status, and nine showed a nonsignificant beneficial effect (or no tests of significance were reported). No studies indicated that mental health interventions have a negative economic effect.

Thus, there is emerging evidence from LMICs that some interventions can have an impact on the cycle of poverty and mental illness. In particular, interventions that target the social drift pathway appear to hold the most promise, and support calls to scale-up mental health services in LMICs [35], not only because this is likely to yield health benefits, but because there is also potential to yield substantial economic development benefits [28].

Recommendations for future research

The preceding discussion points to a number of key areas for future research. Firstly, there is a need to further evaluate the mental health consequences of poverty alleviation interventions, including conditional and unconditional cash transfers, asset promotion or savings schemes, nutrition interventions, and initiatives aimed at improving food or water security and safer, more secure living environments. In particular, it is important to use precise measures of the 'active ingredient' in the intervention, for example the conditionality of the grant, the volume of cash transferred, and other locally meaningful variables such as the opportunities that such an intervention may bring for young girls to remain in school (hence improving mental health via improved education). The use of validated, standardized, culturally appropriate mental health assessment tools in this endeavor is essential.

Secondly, and conversely, the economic consequences of mental health interventions need to be evaluated. Previous mental health trials have often failed to include economic outcome measures at baseline, limiting the conclusions that can be drawn from the trial [28]. Simply including these measures at baseline and follow-up of planned mental health trials, and including both individual and household economic outcomes would contribute substantially to this field. Furthermore, allowing for longer-term follow-up is more likely to show the economic benefits of interventions, as it frequently takes time for people who receive these interventions to recover, regain control over symptoms, build social networks and begin to generate income in a way that makes a meaningful difference at the individual and household level. Longer term follow-up is

also important to assess whether these effects are sustained.

Finally, if there is evidence of substantial economic benefit from mental health interventions at individual and household level (as shown earlier), the potential macro-level economic benefits also need to be explored. This would require modeling of the projected gross domestic product in the absence of mental illness, and comparison with prevailing GDP. This in turn would require further micro-level studies of the effect of reducing mental health-related disability on labor supply and productivity, offset by the costs of scaling up mental healthcare. Some steps in the latter work have already begun, for example the costing of scaling up mental healthcare in 12 LMICs as part of the 2007 *Lancet* series on global mental health [35].

Recommendations for ongoing policy & practice

What remains striking, from a review of the current evidence of both observational and intervention studies, is that despite the clear evidence, mental health is absent from current poverty alleviation policies and practice. Mental health remains invisible in the MDGs, and in the development policies of international agencies such as the World Bank. There are welcome exceptions, for example the Department for International Development in the UK has funded pioneering research into mental health and poverty in LMICs [36], and the NIH and Grand Challenges Canada are funding research on global mental health and brain development in low-income countries.

Given the evidence described earlier for the impact of poverty alleviation interventions on mental health, it is vital that the mental health consequences of these interventions are assessed in a range of development interventions. In particular, it is incumbent on those who develop the next generation of international development targets, after the conclusion of the MDGs in 2015, to include mental health and develop targets for mental health alongside other health, social and economic targets.

Conversely, funding is needed from both national governments and international development agencies for scaling up care for mental, neurological and substance use disorders. The WHO has now launched and is in the early stages of assessing the roll out of its mental health Gap Action Programme (mhGAP).

This includes the mhGAP Intervention Guide, a signs-and-symptoms based algorithmic tool for the delivery of mental healthcare by nonspecialists in primary healthcare settings [37]. This tool and its associated training materials provide substantial basis for LMICs to invest in training of general health workers and strengthening healthcare systems to address mental health, particularly at the primary care level.

Conclusion

This paper has reviewed evidence regarding the relationship between poverty and mental health, particularly in LMICs, summarized likely causal pathways, and reviewed interventions and their impact on the cycle of poverty and mental illness. The evidence supports three fundamental arguments for investing in mental health as an economic and social development issue, and placing mental health firmly on development agendas:

- The human rights argument: people living with mental illness in circumstances of poverty are a vulnerable group, who are subject to stigma and discrimination, violence and abuse, restrictions in the exercising of their civil and political rights, (including rights to participate fully in society), and lack access to health and social services [4]. They frequently lack educational opportunities, are denied employment and other income-generating activities and experience substantial disability and premature death [4]. Inclusion and targeting of people with mental illness as a vulnerable group who require development assistance is therefore essential from a human rights perspective.
- The health argument: there is now ample evidence that mental health intersects with a range of other communicable and noncommunicable diseases [38]. The rallying cry “no health without mental health” captures the high level of co-morbidity between mental illness and ‘physical’ illness, and the importance of providing treatment and services in an integrated manner. For example, maternal depression has been shown to increase the risk of poor infant nutrition, stunting, early cessation of breastfeeding and diarrheal disease [39,40]. Therefore, routine screening for mental illness during pregnancy and appropriate, evidence-based treatment can have a major impact on infant development and related health outcomes. Similarly, depression has been shown to adversely affect adherence to antiretroviral

medication for HIV [41] and adversely affects CD4 count and mortality among people living with HIV [42]. Treating depression has been shown to improve adherence to antiretrovirals, hence improving health outcomes for those living with HIV [43]. Thus, investing in mental health, particularly among poor populations who are vulnerable to other health disparities, provides a potentially fruitful means of improving these other health outcomes.

- The economic development argument: based on compelling evidence that mental health treatment and rehabilitation interventions yield individual and household economic benefits in LMICs [28], investing in mental healthcare makes good economic sense. From the 2007 *Lancet* series, the cost of investing in a core package of mental health services in low income countries and middle income countries would amount to US\$1–2 per capita and US\$2–4 per capita, respectively, per annum [35]. This is not an exorbitant figure, particularly in the light of the fact that the indirect costs of mental illness (such as lost productivity and reduced employment) far outweigh the direct costs of providing treatment [44]. Investing in mental healthcare at a population level therefore provides an opportunity to improve well-being and a broad range of social and economic outcomes.

Future perspective

In the light of the arguments presented in this paper, and predictions of the growing burden of disorders such as depression

[45], future national and international health policies will need to take a more integrated approach to mental health and its relationship with poverty. Practically this means scaling up evidence-based mental health services, and including mental health in national and international development targets, particularly in LMICs. It also means assessing the mental health outcomes of poverty alleviation and economic development interventions. From a research point of view, work is needed on such methodological challenges as the definition and measurement of unmet need for mental healthcare, treatment coverage of populations, targets for improved mental health at population levels, and indices of the integration of mental health into primary healthcare. From an economic perspective, the potential macro-level economic benefits of investing in mental healthcare also require quantification.

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