Chapter 24
Child and Adolescent Mental Health Disorders: Organization and Delivery of Care

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Children (5–14 years) make up 19.8 %, and youth (15–24 years) make up 18 % of the world's population. In the least-developed nations, 32 % of the population is between the ages of 10 and 19 years [1].

The rates of mental illness are similar among children and youth to those of adults. In their work, Fayyad et al. [2] concluded that the range and rates of psychiatric symptomatology in children and youth in developing countries were similar to those in the developing world. There is, however, a well recognised gap in identification and treatment of mental health disorders in low- and middle-income countries and this gap is especially large in child and adolescent populations.

There is an ongoing debate about the appropriateness of use of medication in the treatment of child mental health disorders; however, the benefit of rational medication use in treatment of some serious mental disorders is undeniable. Medication use data from high-income countries indicate ongoing substantial growth in prescribing of CNS active drugs, especially for treatment of mental health conditions among older children and youth. Even children under 5 years of age are receiving more prescriptions for drugs in this class. Psychotherapeutic or psychological interventions, which are often the first line of treatment in the developed world, require specialised personnel that are frequently unavailable in low- and middle-income countries. Practitioners, therefore, almost always rely on drug treatment alone for child and adolescent mental health issues. Consequently, therapy must be optimised

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in order to bring an acceptable level of care to the patient. This chapter examines the issues surrounding drug treatment of children and youth with mental health problems in the developing world.

Clinical Issues

Centred on the Child

Children and youth in developing countries are most often entirely dependent on parents and other responsible adults for support in finding health services and treatment. The difficulties discussed in this chapter consequently affect the primary care givers as well as the children. There is a lack of child autonomy in most developing countries. Unfortunately, the systems currently in place do not protect the rights of children to health. This results in primary caregivers' attitudes and circumstances having a direct effect on their health and treatment of children in a more concrete and direct way than in societies where children's right to health care is more consistently enforced.

Centred on the Patient and Family

Residence in a developing country and earlier age of onset of mental disorder have been associated with delay and failure in treatment seeking. Children are especially vulnerable [3]. There is a widespread failure to recognise and treat mental health disorders in children in developing countries, in part, because children are often considered not to be susceptible to mental illness. Unfortunately, there is, in addition, a common attribution of mental health issues to spiritual or moral origins. Prevention and treatment is therefore often sought, without direct benefit, from spiritual or moral/ethical leaders.

Traditional healers still see a large proportion of the population that seeks treatment for all conditions in low-income countries. However, for mental health this pattern it is even more prominent because these populations tend to associate the cause of mental illness and therefore its treatment and ultimate cure with the supernatural. This inevitably lays fertile ground for the use of traditional healers as the first, or even only, port of call for many that seek treatment for mental illness. Usually, when compared to their regulation counterparts in the medical field these traditional healers are not trained or equipped to handle mental illness, and especially child and adolescent mental health.

In a study in Uganda, 80 % of the patients seeking medical treatment for mental illness also attended a traditional healer and 80 % of patients seeking traditional healers for psychotic illness also had treatment from a "Western" medical practitioner [4]. These deep-rooted beliefs in traditional medicine as the only true cure for

mental illness often lead to delay by caregivers in seeking treatment and later complicates drug adherence. Delay in accessing care has ramifications in the choice of drugs for treatment. It also may lead to presentation of more severe and more difficult-to-treat forms of disease later, resulting in complex and sometimes more hazardous therapy.

Centred on the Clinician

Once the child comes into the clinic, there are hurdles remaining. There is a shortage of health workers with competence in child mental health [5]. At the health unit, the child is often seen by clinicians with limited knowledge in child mental health and mental disorders. This may lead to incorrect diagnoses and prescription of inappropriate and sometimes unsafe medicines for children. Even among licensed physicians, there are often gaps in knowledge and competence to identify, prevent and treat mental health issues in children. Prescription is usually patterned on adult drug choices with little regard to the differing pharmacodynamics and pharmacokinetics in children.

Additionally, clinicians in rural settings are often isolated with no peers to consult and little access to continuing medical education. This leads to rigid and sometimes outdated prescribing patterns that do not reflect changes in the current evidence base.

Even if there are some qualified physicians in most developing countries, there are very few countries with a register of prescribers that is available to pharmacies or drug shops. There is, therefore, inadequate control over who can prescribe medicine and this can result in frequent misprescribing or inappropriate dispensing.

Stigma of Mental Health Disorders

Stigma is an actual and inferred attribute that damages the bearer's reputation and degrades the person to socially discredited status [6]. Critical dimensions of stigma include negative attitudes and behavioural dispositions such as discrimination and devaluation behaviour. The stigma attached to mental disorders is prevalent in all settings, but it is especially problematic in the developing world.

Stigma attached to mental health conditions is a major barrier to the utilisation and therefore scale-up of mental health treatment and management [7]. A big proportion of the burden of mental illness experienced by patients results from the attitudes and discrimination they experience, and this is worse in low-income countries. A study in Nigeria found that stigma and discrimination against the mentally ill was prevalent even in a population that was expected to be enlightened. The authors noted that the "respondents held strongly negative views about the mentally ill, mostly being authoritarian and restrictive in their attitudes and placing emphasis

on custodial care" [8]. Regrettably, health workers who are meant to deliver treatment and take responsibility for scaling-up of interventions have also been reported to be a part of such discrimination.

Health Systems Barriers

Leadership and Governance

Health system leadership and governance involves a series of activities that ensure guidance for the system. This guidance, which may take the form of policy frameworks and strategic plans, builds a crucial framework on which the system operates. It provides system designs, regulation and accountability, effective oversight and team and partnership building [9]. It is, therefore, clear that the leadership and governance of a health system is essential for its functioning and sustainability. It is, therefore, not surprising that health systems in low-income countries are sometimes almost non-functional, or absent in some areas because of recurring leadership and governance problems.

These problems arise from several factors:

1. Guidance in terms of policies and guidelines is frequently lacking. Data from the World Health Organization's Mental Health Atlas Project 2011 [10] showed that out of 184 countries surveyed, only 60 % had a dedicated mental health policy, just over 70 % had a mental health plan and only 59 % had dedicated mental health legislation [10].
2. Of low-income countries, only 24 of 39 were reported to have national mental health plans. Such plans were in place in 37 of 51 lower-middle income countries and in 28 of 43 upper-middle income countries. Mental health legislation was in force in 38.5 % of lower-income countries and 60.6 % of middle-income countries. Mental health plans cover only 72.1 % of the population in low-income countries as compared to almost total coverage in lower-middle income countries and high-income countries and over 95 % in upper-middle-income countries.

   For those countries with guidance provided through policies and plans, it is noteworthy that much of the guidance has been available only in the past decade. For example, in the African region, 81 % of the current dedicated policies have been enacted since the year 2000 (74 % after the year 2005) [10]. Therefore, many of these countries do not have experience with their guidelines and have not monitored or evaluated them long enough to determine what works and what does not to be able to revise them accordingly. In addition, because this problem is widespread, there are few regions from which lessons can be drawn or models derived for sound policies and guidelines.

   The implications are that missing guidance creates an environment where different parties work as they deem right or convenient. It leads to duplication, inequitable distribution and suboptimal coverage of services. Vulnerable

populations such as the poor and children who are already more prone to having mental health disorders [11] are likely to suffer disproportionately in such circumstances. They bear the greatest burden of illness because they are not in an empowered position in several ways, for example, by virtue of their age, income and social power.

3. Where policy, legislation and mental health plans are present, it is not uncommon to find their content lacking, rarely updated, and often poorly enforced or regulated. For example, earlier mental health legislation was often drafted in such ways as to protect the public from "dangerous" individuals (i.e. mentally ill persons). This legislation, in many cases, has not been updated to reflect the need for special care and respect for the mentally ill from their caregivers, medical personnel and the public, as is now informed by our increasing understanding of causes and implications of mental illness. This failure to update legislation is a direct consequence of the poor leadership and governance, characterised by, among other things, laissez faire management, poor accountability and lack of appropriate legislation to enforce change.

   Although 61.5 % of low-income countries had mental health plans, only half (38.5 %) are reported as having legislation to enact the plans. The goal of mental health legislation, like all legislation, is aimed at protecting and promoting the mental well-being of citizens [12]. More importantly, mental health legislation is crucial because people with mental disorders are particularly prone to abuse and violation of their rights. The development of guidelines and mental health plans without appropriate legislation may be futile. The policies and guidelines address issues and details of care such as access to quality mental health care and services, integration of persons with mental disorders into the community, and promotion of mental health in society. The legislation then provides a legal framework for implementation, regulation and enforcement of the issues covered in the policy and plans. The two are complementary; however, almost half of the low-income countries with guidance in terms of mental health plans have no legislation to enforce these plans and their mental health stakeholders are left in vulnerable positions. The scenario is worse when considering legislation and plans drawn especially for children and youth. Mental health policy and legislation for children and adolescents is deficient worldwide [13].

Financing

Even with the best policy and plans in place, and with the best intentions in legislation, without financing for implementation, the outcomes of mental health treatment and management will at best remain poor. Financial resources are needed to translate policies into action, they are needed to hire and train personnel, set up well-equipped facilities and purchase necessary drugs and services. In many low-income countries, financial resources for mental health are meagre. Most low-income countries spend less than 1 % of their total public healthcare budgets on mental health [14].

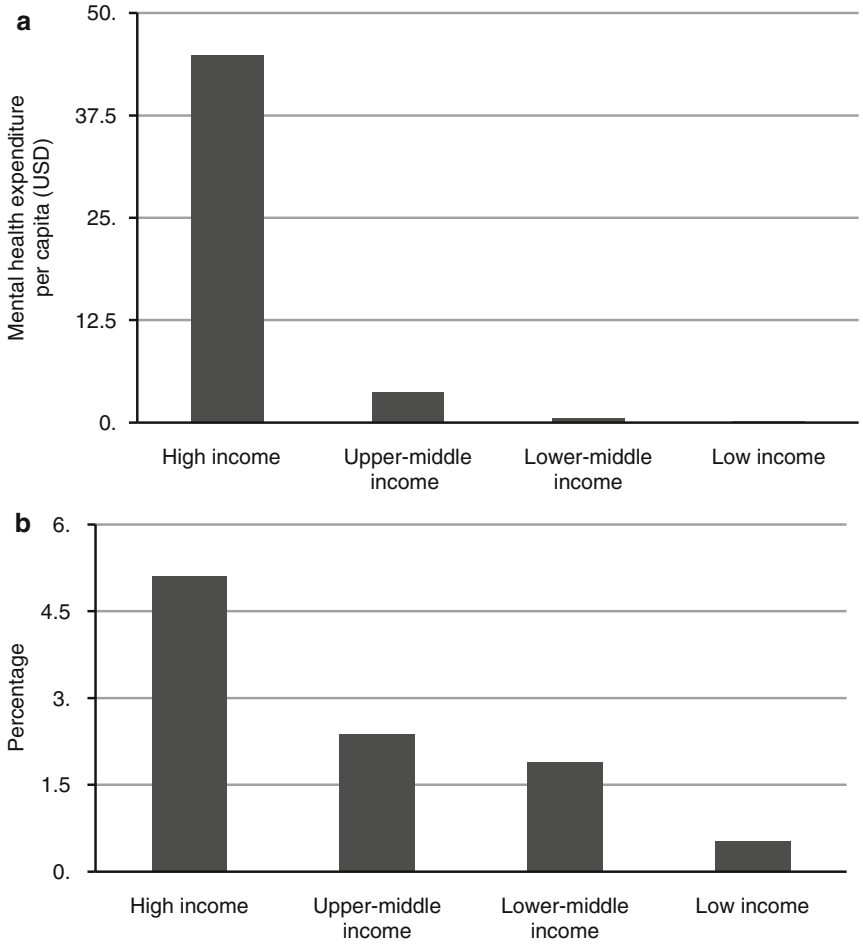

Fig. 24.1 (**a**) Median mental health expenditures per capita (USD) by World Bank income group (Source: Mental Health Atlas 2011 [10]). (**b**) Median percentage of health budget allocated to mental health by World Bank income group (Source: Mental Health Atlas 2011 [10])

Funding in low-income countries comes from three sources: government, development partners (directly or through government) and private or out-of-pocket funding. When considering public funds dispersed through the government, mental health has generally been of low priority on the agenda of many stakeholders, including policymakers, governments, and development partners, at both the national and international levels.

Figure 24.1, b shows expenditures by countries in different World Bank income groups on mental health broadly defined. On average, low-income countries spent 0.5 % of their health budgets and about USD 0.2 per capita. In 2011, the year for which expenditures are shown, low-income countries had a GNI per capita of US$1,026 or less [15].

However, even where there is commitment and will from policymakers and governments to provide finances and other resources for mental health, the level of such funding in low-income countries is generally inadequate. This is because general government revenue is low to start with and problems such as late disbursement of funds and diverted funds usually result in the population having to pay directly for their services at the point of use. The proportion of services covered by out-of-pocket expenditure is therefore large. Out-of-pocket funding is the primary method of financing mental health care in about 40 % of low-income countries [16].

Coupled with this is the fact that there is very little pooling of health resources through social insurance in low-income countries. In a more ideal policy environment, such pooling of resources would mean that the poor are subsidised by the rich, the young by the elderly and the sick by those healthier.

These circumstances should be viewed from the perspective of the average patient developing mental illness. Mental illness in low-income countries is closely linked with impoverishment. When poor people have to pay in order to access mental health services, it becomes a major hurdle in accessing health services and drugs. Aside from the fact that this hurdle is skewed towards disadvantaging the poor and causes inequitable provision of services, it may result in catastrophic payments that leave the already poor family in a worse financial situation.

Purchasing of services, if they are readily accessed, as already highlighted, is especially difficult if payment is expected at the point of care. In many low- and middle-income countries, where patients meet the larger proportion or all of their drug costs through out-of-pocket fees and without subsidy, the high cost of psychiatric treatment, often due to high consultation and medication prices, is a significant barrier to care. Scaling-up of interventions is also impeded. Where social or private insurance is available, most mental health care and management is not covered by the policies.

The financing of child and adolescent mental health, and mental health in general, is a daunting barrier to scaling-up of interventions and until a change is made in the process by which resources are mobilised, pooled and used to purchase services, it will remain an insurmountable hurdle.

Health Work Force

There is a general lack of capacity in terms of human resources for health in low- and middle-income countries. This is evident not only in the numbers of practitioners but also in their qualifications and skill. Although this problem is not unique to any particular discipline in the health sector, it is felt more by some than others. Mental health is one of those disciplines that appears to be especially vulnerable. There is an average deficit of 22.3 mental health professionals per 100,000 population in low-income countries and most of those available are located in large cities with close to none at all in the rural areas [17]. In a survey of 58 low- and middle-income countries, investigators found a shortage of psychiatrists, nurses and

psychosocial care providers of 67, 95 and 79 %, respectively [18]. The shortage of personnel is even more severe for children and youth services, with an almost complete absence of mental health specialists equipped to manage this group. Child psychiatrists are a rarity in low-income countries, for example, the state of California in the USA has more child psychiatrists than the whole of Africa [18]. The World Health Organization reports that most low- and middle-income countries have only one child psychiatrist for every one to four million people. In Africa, the exceptions to this are Algeria, South Africa and Tunisia, with more than one psychiatrist per 100,000 population (none of these better-served jurisdictions are low income) [19]. By 2005, in Africa, with the exception of South Africa, there were no more than ten psychiatrists that could be identified as trained to work with children and youth. Close to a decade later, the situation in these low-income countries does not show signs of significant improvement.

The shortage of mental health professionals is a glaring gap that is further made worse by large within-region and within-country variations or disproportionate distributions. Mental health resources are inequitably distributed the world over: on the international scene, more than 95 % of specialised mental health personnel are in high-income countries [18]. The gap between low- and high-income countries is enormous; psychiatrists are 200 times fewer in low-income countries than high, and there is a 350-fold difference for clinical psychologists and clinical social workers [20].

The absence of personnel is compounded by the absence of other related resources that are needed, such as facilities, equipment, programmes and training specifically for the care of children and youth. No low-income country has paediatric beds for mental health, and only 40 % of countries in Africa have reported having special programmes in mental health for children [19]. There are few formal training programs for developmental and behavioural paediatrics, child psychiatry, speech and language therapy or other major disciplines concerned with child mental health in low- and middle-income countries [18]. Of those reporting special paediatric programmes, very few have formal training programmes, let alone provide access to formally trained child psychiatrists. In fact, only South Africa in the African region has a training program that awards a tertiary qualification in child and adolescent psychiatry [21].

A survey that aimed to gather information on youth services and resources in all regions of the world, which involved about 66 countries, reported that, of these, 37 countries identified their paediatricians as providers of mental health care, yet only ten countries reported that more than 25 % of their paediatricians receive mental health training [19]. This reflects the absence of deliberate plans to equip child mental health providers with the skills needed to manage patients or even improve management.

Because of the lack of trained psychiatrists, nurses and psychologists, education or special needs professionals and specialists such as speech and language pathologists are greatly involved in child and adolescent mental health care in developing countries. However, as for their medical counterparts, these individuals have generally not been equipped with the training and skills needed to adequately provide the services required. In the survey reported above, only 31 countries of the

66 reported that speech therapists received mental health training. Aside from the specialists, there is also a lack of multi-disciplinary teams and community and public health resources that are essential for the comprehensive management of childhood mental health disorders.

There are also limited efforts to update practitioners on the latest treatment trends through further training or continuing professional development. Information on continuing professional development or continuing medical education (CPD/CME) in child and youth mental health in low-income countries is generally absent or at most inconsistent.

Remaining Knowledge Gaps

Reliable, consistent and systematic data are a great facilitator of planning, monitoring and evaluation efforts in any given health system, yet almost a quarter of the world's low- and middle-income countries have no arrangement for reporting basic mental health information [22]. This deficiency significantly hampers efforts to improve service delivery. There are several reasons these systems are lacking, including the fact that there are too frequently deficits or defects in the mental health systems to be monitored. Only 1 in 16 low-income countries reported in the Atlas survey of 2005 had epidemiological survey data associated with child and adolescent mental disorders and that country was in Europe. Furthermore, only 3 of 16 low-income countries had child and adolescent mental health disorders reported in the country's annual health survey [19].

With the advent of modern information technology, health services data monitoring systems are improving in several countries, including low- and middle-income countries. However, reports on availability of mental health services and related issues are still mostly inadequate. Such information is needed to enable an accurate estimation of needs, without which there are likely to be continuing service shortfalls on the one hand or a waste of resources through duplication on the other.

Conclusion

Of the common mental health disorders affecting children and adolescents, only learning disorders are commonly treated without resort to pharmacotherapy. Drugs are an important part of the therapeutic armamentarium for depression, psychoses and attention deficit disorder. They play a less critical but sometimes important role in the treatment of autism and a variety of behavioural disorders. Rapidly increasing knowledge of pharmacogenomics is providing hope that many rare disorders characterised by clinical presentation with developmental delay, neurodegenerative change or mental health anomalies may, in future, become pharmacologically treatable. It is unrealistic to think that outcomes in mental health treatment or prevention

will improve dramatically until sufficient attention is paid to the conduct of stronger basic and clinical pharmacology studies. There is a critical need for exemplary clinical trials of psychopharmcologic drug actions, both safety and efficacy, among the child/adolescent population of LMICs. Since, as described in this chapter, the need for dramatic progress is greatest in LMICs, it is vitally important that we address the relevant research and training gaps as a matter of global priority.

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