Prevention of depression will only succeed when it is structurally embedded and targets big determinants

About 150 million people worldwide are affected with major depressive disorder (further depression) at any moment, and one in every five women and one in every eight men experience an episode of major depression over the course of their life.

Although, since the 1970s, more and more people in Western countries have received mental health care, most notably pharmacotherapy, epidemiological data do not indicate a drop in the population prevalence of depression[1]. It is clear that the effectiveness of current therapies relative to placebo is modest, and substantial treatment quality gaps still exist[1]. However, even with optimal treatment delivery, other approaches are necessary to address the public health burden of depression and other common mental disorders.

Prevention is a largely neglected option, but has its own complexities. Recent meta-analyses of randomized controlled trials of preventive interventions that seek to reduce the incidence of depression consistently report small to occasionally moderate effectiveness, with numbers needed to treat (NNT) around 22[2,3]. Notably, these effects sizes are similar to those for the use of statins to prevent an acute myocardial infarction during a 5 year period[2].

However, the large majority of prevention trials concern psychological therapies administered to motivated people with sub-threshold symptoms. In addition, studies are limited to short-term outcomes and effects decrease over time, suggesting that repeated age-adapted exposures are essential. Active comparators are rarely used, and higher quality studies report substantially smaller effects. In addition, adherence is far from optimal. Populations at the highest risk are often the least motivated to participate in psychological therapies.

The biggest problems of current prevention are that it does not target the strongest determinants of risk and is not structurally embedded in major social systems.

Strong proximal determinants include exposure to poor parenting (risky prenatal behavior, emotional neglect, rejection, lack of structure, over-control and over-involvement, inter-parental conflict, family instability), as well as children's maladaptive personality traits (negative affectivity, low self-control) and poor social and problem-solving skills[4-6]. These have well-established long-term effects on a broad range of outcomes[4,7]. When both poor parenting and child risks are present, maladaptive person-environment transactions may develop that often result in intractable personality problems which are resistant to change.

It is therefore essential to target simultaneously both parent- and child-related determinants of risk. Thus, prevention needs to start early in life, address both child and parent, be long-term and structural, and improve parenting skills and children's self-control, negative affectivity and life skills, partly through better parenting and partly through better education. Negative affectivity and self-control are especially important, given the prospective significance of early-onset phobia, hyperactivity and oppositional-defiant behavior[8]. Also of interest, but less thoroughly investigated, are the mental health effects of distal socio-economic and cultural factors, such as inferior social status, income inequality, migration, and their effect mediators[9].

The second problem of current prevention is that it is not structurally and socially embedded. Large-scale, long-term implementation and utilization of prevention can only be successful if prevention is embedded at local, district/state, and national levels. Two forms of embedment are important. First, the "socio-political form", in which local administrations and national governments embed prevention (programs/activities) in existing institutions in the domains of education, pregnancy and child care, health and social work. Second, the "social-psychological form", in which mental health values and behaviors develop into widely accepted social norms (as is happening with smoking).

The first form of embedding is probably the best way to guarantee structural funding, political collaboration and thus long-term implementation. The second form is important as it rewards (mental) health behaviors. For instance, if life skills become part of the regular curriculum of schools (in smaller classes!), repeated age-adapted exposure to universal "prevention" becomes a normal component of preparation for adult life.

Mental health professionals and organizations cannot achieve this alone. As advocated by the World Health Organization, it requires the joint collaboration of multiple parties at multiple levels of organization (community, municipality, district, state).

The major advantages of embedded universal programs are that they: a) may normalize prevention activities because they are anchored in systems that are (virtually) mandatory (education, obstetric, child care); b) reduce risk of stigma; c) improve parenting, child characteristics and life skills (and hence lifestyles), which d) will benefit multiple domains of life. This may range from mental and physical health to educational attainment, occupation and income, but even relationships, social embeddedness and crime rates. Although ceiling effects certainly exist, even parents and children who do relatively well on all fronts may benefit from universal programs[4].

Despite the expectation that population effects will be substantial, universal programs will not involve everybody at the desired level. Some people will need additional input: remedial prevention, analogous to remedial teaching for pupils with unsatisfactory academic progress. In this way, selective/indicated prevention supplements universal prevention.

We are facing a remarkable paradox. On the one hand, stakeholders (policy makers, consumers, insurance companies,

professional organizations and researchers) consider prevention a very self-evident idea and agree that prevention of mental disorders is their top priority. On the other hand, structural and socially embedment of preventive activities and research in mental health is minimal.

We believe the only way to substantially scale up and anchor prevention at all levels in society to such an extent that it will reduce the population prevalence of depression (and improve functional outcomes and quality of life) is large-scale structural and social embedding of universal and "remedial" prevention programs targeting the big determinants. It should start very early in life and target parenting skills of parents and life skills of children, and be long-term and structural.

Substantial investments are required to develop, implement, and evaluate the proposed prevention. It is also crucial that research evaluating prevention use methodological rigor and target long-term outcome, as these limitations continue to fuel doubts and reservations about the effectiveness of prevention.

If politicians really want to reduce the burden of depression, there should be proportionality between burden and expenditures (treatment, prevention, research). It is about time to catch up with cancer and cardiovascular disease prevention. Together with other relevant parties such as public health, police, insurance companies and educational authorities, mental health professionals will also need to step up their political influence and persuade politicians and the public to embed multi-target and multi-level mental health promotion and prevention.

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DOI:10.1002/wps.20580