



The implementation of mental health promotion programmes

Title	The implementation of mental health promotion programmes
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Publication Date	2005
Publisher	Emerald

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■ The evaluation of programme implementation has a critical role to play in advancing knowledge and practice in mental health promotion. While much progress has made in recent years in establishing a sound evidence base for mental health promotion (Hosman and Jané-Llopis, 1999; Friedli, 2003), research on programme implementation has been relatively neglected. The published research studies and systematic reviews are mainly concerned with programme outcomes and provide little or no data on implementation or the quality of programme delivery necessary for positive outcomes to be produced (Durlak, 1998; Dane and Schneider, 1998; Domitrovich and Greenberg, 2000). As a result there is a dearth of published information to guide practitioners and decision-makers regarding the practical aspects of programme adoption and replication. From those studies that have monitored implementation, it is clear that implementation is often variable and imperfect in field settings. Durlak (1998) cautions that programmes may not be implemented with a high degree of fidelity and that between 23% to 81% of programme activities may be omitted. When implementation is documented it is clear that the level and quality of implementation influences programme effectiveness and that higher quality implementation is associated with stronger, more positive outcomes (Dane and Schneider, 1998; Durlak, 1998; Domitrovich and Greenberg, 2000; Mihalic, Fagan, Irwin, Ballard and Elliott, 2002).

Expanding the evidence base in order to inform the implementation of effective, feasible and sustainable programmes across diverse cultural contexts and settings is a key challenge in the mental health promotion area (WHO, 2002). This calls for a focus on researching the process of implementing programmes in naturalistic settings, i.e., outside of controlled research conditions, and identifying the key factors and conditions which can facilitate high quality implementation. This is essential if the area is to move to a new level of understanding and sophistication beyond the question of whether programmes work (efficacy), to also consider what makes them work, with whom and under what circumstances (effectiveness). An increasing body of research has been devoted to establishing the efficacy and effectiveness of interventions through trials, mainly in high-income countries, and it is now timely to invest in community-based dissemination research in order to examine how evidence can be used effectively to guide the adoption and adaptation of interventions when applied across different cultural settings or used with different populations (Barry and McQueen, 2005, in press). In particular, there is an urgent need to identify how effective programmes derived from efficacy and effectiveness studies can be translated and sustained in low-income countries and in various settings such as schools and communities.

The importance of programme implementation

The most common definition of programme implementation is, “how well a proposed program or intervention is put into practice” (Durlak, 1998), i.e., what the programme consists of in practice and how it is delivered. This is often referred to as “fidelity” but other definitions or indicators of quality have also been used (Box 1). As Mihalic *et al.* (2002) point out, the identification of programmes with a strong evidence-base

regarding their efficacy is only the first step in ensuring best practice, as the decision to adopt a best practice or model programme does not in and of itself guarantee successful implementation. Although details of programme implementation are typically under-reported in the published literature, there is a wealth of information based on practitioner experience. This is what Domitrovich and Greenberg (2000) refer to as the ‘wisdom literature’, a body of knowledge based on practical experience of programme delivery on the ground. There is a need for greater attention to documenting and accessing this body of knowledge in order to become better informed about the circumstances and practices that enhance programme implementation.

Durlak (1998) identifies four major steps in studying implementation; 1) defining active programme ingredients; 2) developing an accurate and valid assessment system; 3) monitoring implementation during programme execution; and 4) relating implementation levels to outcomes. Both the quantity and quality of the implementation should be assessed in order to establish how much of the programme was delivered and how well each part was conducted (Durlak, 1998). In general, high quality implementation is more likely when core programme components are defined in advance, either through the use of structured manuals or detailed intervention protocols, and then systematically monitored to ensure compliance.

Implementation information has a critical role to play in the accurate interpretation of evaluation outcomes. Undocumented

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Key words

- mental health promotion
- programme implementation
- quality of implementation
- process of implementation

Box 1

Aspects of implementation (adapted from Dane and Schneider, 1998)

- Programme adherence or fidelity - the degree to which core programme components were delivered as planned
- Exposure - the frequency and duration of the programme
- Quality of programme delivery - the skill and style of delivery
- Participant responsiveness - engagement with and reaction to the programme
- Programme differentiation - verifying the conditions of the study design.

variations in programme delivery create difficulties in interpreting the findings from outcome studies. It may be incorrectly concluded from evaluation studies that specific programmes do not work when positive outcomes are not found. However, negative findings may be due to poor quality implementation rather than poor quality programmes per se. In the absence of data on programme implementation, a programme may therefore, be incorrectly judged as ineffective when in fact negative outcomes are due to poor quality of implementation. This leads to a Type III error, i.e., the programme as delivered is of such poor quality as to invalidate the outcomes. If programme implementation is not monitored and assessed, an outcome evaluation may be assessing a programme, which differs greatly from that originally designed and planned. Likewise concerning programme differentiation, if a comparison or control group is included as part of the evaluation, it is important to ensure that there is no contamination and that a similar intervention is not actually being conducted. As Gresham, Cohen, Rosenblum, Gansle and Noell (1993)

Box 2

Implementation barriers

(adapted from Mihalic *et al.*, 2002)

Implementation barriers:

- failure to commit time and resources;
- hiring implementers who lack the appropriate skills to deliver the programme;
- insufficient organisational and key leader support;
- poor motivation and buy-in of implementing staff;
- failure to provide ongoing support and technical assistance;
- lack of programme monitoring.

point out, continuing to ignore implementation compromises knowledge of the relationship between process and outcomes, it makes replication of effective programmes difficult and leads to an inability to clearly distinguish between ineffective programmes and effective programmes that are poorly implemented.

The collection of systematic data on programme implementation plays an essential role in advancing knowledge on best practice for replication in 'real world' settings. It is also critical to the effective dissemination of programmes, particularly when they are exchanged between different countries or settings and facilitates the translation of research evidence into best practice. Process evaluation techniques based on careful project description, documentation and monitoring are required to assess both the quantity and quality of programme implementation. Implementation information is necessary for understanding programme strengths and weaknesses, determining how and why programmes work, documenting what actually takes place when a programme or strategy is conducted, and providing feedback for continuous quality improvement in programme delivery (Domitrovich and Greenberg, 2000).

Programme implementation occupies an especially important place in mental health promotion as this multidisciplinary area of practice is concerned with the process, as well as the outcomes, of enabling positive mental health (Barry, 2002). As such, there are core principles which underpin mental health promotion practice which need to be taken into account. In keeping with the fundamental principles of health promotion, as articulated in the Ottawa Charter (WHO, 1986), the delivery of mental health promotion programmes in an empowering, collaborative and participatory manner is central to mental health promotion activity. Programme evaluation methods are needed that will focus on documenting the process of implementation, identifying both the key predictors of change and the necessary conditions for bringing about such change. Jané-Llopis and Barry (2005) in this volume discuss further the elements that are likely to improve success of mental health promotion interventions.

A conceptual model for implementing schools-based programmes

Although programme implementation has been examined in several fields, there are very few comprehensive models that define the domain or provide guidance for understanding how it relates to outcomes or the factors that facilitate or undermine the process in specific contexts. Greenberg and colleagues were commissioned by the Center for Mental Health Services in the United States to create a comprehensive model of implementation specifically for school-based mental health promotion and prevention programmes (Greenberg, Domitrovich, Graczyk and Zins, 2001). Schools are excellent settings for conducting health promotion and prevention activities but they are complex, multi-level systems (i.e., building, classroom, individual) with numerous factors that have the potential to influence implementation (Durlak, 1998; Elias, 1997; Elias, Bruene-Butler, Blum and Schuyler, 2000; Gottfredson, Fink, Skroban and Gottfredson, 1997; Hoagwood and Johnson, 2003; Mihalic *et al.*, 2002; Weissberg and Greenberg, 1998).

The authors based their model on the theory-driven evaluation work of Chen. According to Chen (1990; 1998), a comprehensive programme theory includes a "causative" theory of how the program or intervention achieves its targeted outcomes and a "prescriptive" theory to guide the process. The prescriptive theory dictates how the strategy is implemented including the nature of the programme delivery and the context (e.g., training, supervision, organizational characteristics) that is necessary to support successful implementation. This includes the process and structure of the planning, implementation and training; the characteristics of programme implementers and participants and the nature of their relationship; facilitatory and inhibitory factors in the local context including readiness, mobilisation of support, ecological fit of the programme, cultural sensitivity and the extent of participation and collaboration with key stakeholders. Chen (1990) argues that although an intervention is the major change agent in a programme, the 'implementation system' is likely to make

an important contribution to programme outcomes as it provides the means and the context for the intervention.

Figure 1 provides an overview of the school-based model. First, implementation has the potential to be affected by aspects of the programme itself. That is, the programme model, quality of delivery, target audience, and participant responsiveness. For example, if a programme requires more time than the typical educator can devote in a day or week to non-academic activities, then it is more likely to be diluted when it is implemented. Similarly, quality of delivery is critical for any prevention or health promotion programme. If an implementer merely reads out of a manual as opposed to injecting their own energy into the delivery of the material they will be less likely to engage the students. If students are not engaged (i.e., low participant responsiveness) with an intervention they will not remember what is presented to them or make the connection between what they are learning and its relevance to their own lives.

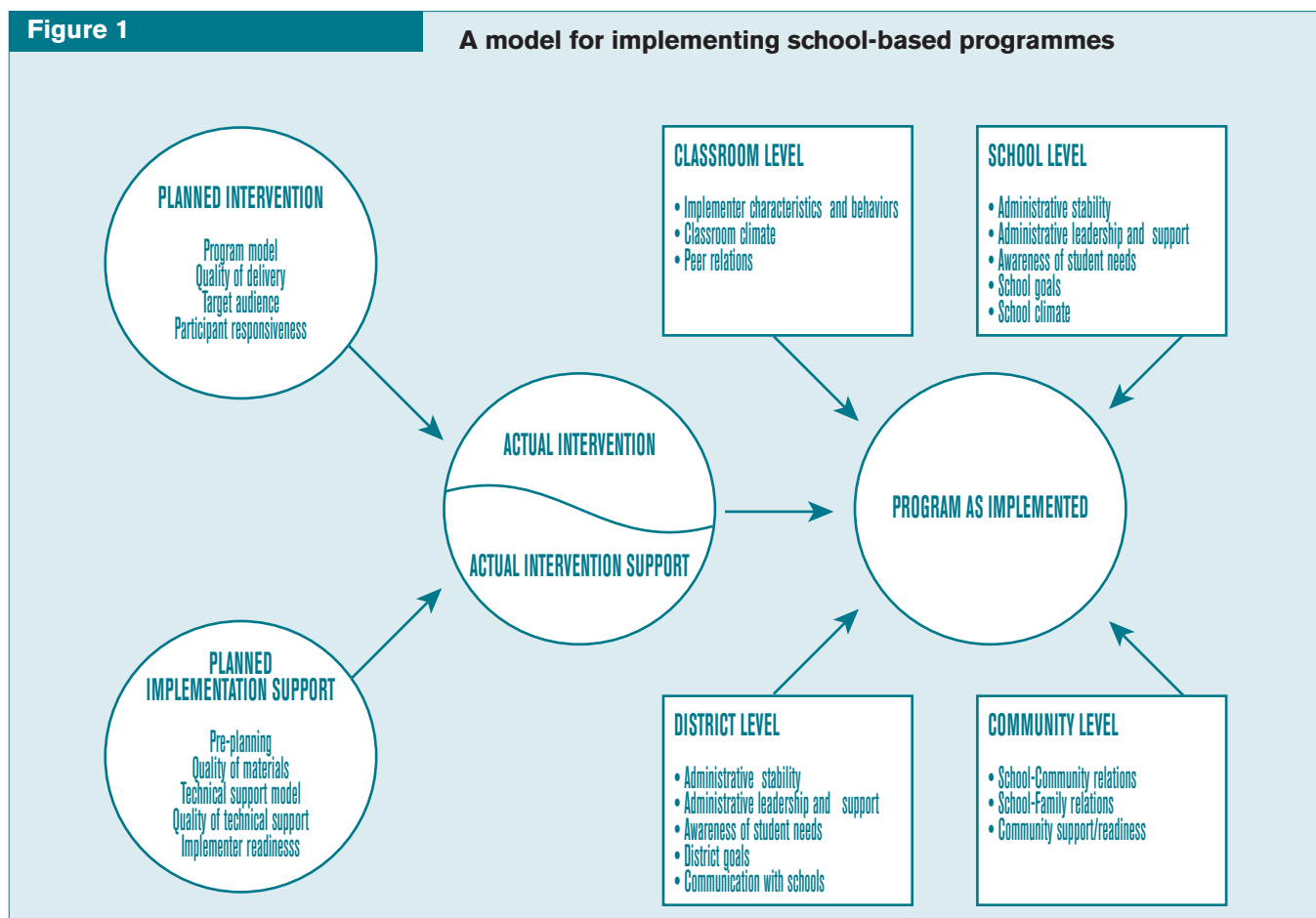
Implementation quality is greatly affected by the support that is provided with a programme. In the Greenberg model, the implementation support system includes pre-planning, the quality of materials, the quality and structure of the technical support model, and implementer readiness. The success of any school-based initiative begins with the pre-planning that is conducted. It is important to know the interventions that a school or teacher has implemented because the history of that experience (positive or negative) will influence how they approach subsequent programmes and their beliefs about effectiveness. Beliefs are one aspect of implementer readiness that can influence the likelihood of programme success but first, implementers must be convinced of the value of the intervention and then feel prepared to conduct the programme. Included in the technical support system is the content and quality of the intervention training and the on-going support that is provided. Similar to quality of deliver of an intervention, the training that prepares implementers to

use a programme can vary in terms of quality. If it is poorly organised or boring, the participants will more than likely walk away from the session disinterested and unprepared. Under these circumstances even the highest quality programme is doomed to fail.

It is important to recognise that in any system, particularly schools, there are influences external to the actual programme that may greatly impact on the quality of programme implementation. In other words, the environment or context in which a programme is implemented has its own ability to support or undermine the success of a promotion or prevention initiative. It is important to identify those factors specific to educational settings when conducting programmes in schools. These include the school ethos, policies and management structure. The administration and teaching staff must be aware of the importance of mental health and feel that the intervention being proposed is an appropriate one for the school and the students. This type of

Figure 1

A model for implementing school-based programmes



institutional “buy-in” is critical for successful implementation.

The implementation principles highlighted in this conceptual model for schools are also applicable to other mental health promotion interventions and settings.

Evaluation of programme implementation in community settings

In evaluating the implementation of mental health promotion programmes, some interventions, such as community-based programmes, may not be easily standardised. Community programmes typically involve multi-faceted interventions and overlapping strategies such as capacity-building, skill development, social action etc. However, given the multiplicity of activities that may be involved, programme documentation becomes even more critical. Cunningham, Michielutte, Dignan, Sharp and Boxley (2000) point out that community-based programmes require especially comprehensive process evaluation systems to track implementation and ensure adequate documentation of the range of activities involved. These interventions are guided by the principles of collaborative practice, partnerships, and active participation by community members. There is therefore, a need to use multiple methods to capture the range of programme activities and assess the dynamics of the programme in action (Barry, 2003). Documenting the programme in action permits an accurate account of the programme as it unfolds and informs the detection of intermediate level changes leading to ultimate programme outcomes.

Dynamic community programmes need to respond and adapt to changing local circumstances and as such will require a continual flow of information from process evaluation in order to be able to fine-tune the programme interventions. Dane and Schneider (1998) highlight that even though a programme may be planned and fine-tuned in active collaboration with the adopting site, it is still possible to document and specify the procedures that were jointly planned, and through comprehensive process evaluation to verify that they were implemented. The process evaluation therefore needs to document the

actuality of programme implementation and to capture the individuality of the local community contexts.

Recommendations for improving programme implementation, based on these principles, are outlined in Box 3.

Strategies for ensuring high quality programme implementation

There are a variety of strategies that can be used to improve the overall delivery and effectiveness of mental health promotion programmes (Domitrovich, Weare, Greenberg, Elias and Weissberg, 2005, in press; Durlak, 1998; Greenberg *et al.*, 2001; Mihalic *et al.*, 2002). It is important to note that these phases begin as early as when a programme is being considered and planned (pre-adoption).

The most complicated phase is when a programme is being conducted (delivery) but there are important steps to take even after a programme is in place and while it is being maintained (sustainability). Recommendations for practitioners and developers to support effective monitoring and use of implementation information across these three phases are outlined in Box 3.

In many countries, implementing programmes entails working with minimal resources and programmes may need to be adapted or modified to meet the needs and conditions of the local setting. This presents the challenge of conducting programme evaluation, which will document programme replication and innovative forms of practice, in the absence of large research grants. The

Box 3

Recommendations for improving programme implementation *Programme implementers/developers*

Pre-adoption phase

- Assess the characteristics and resources available in the local community
- Identify the problem and associated risk and protective factors for that community
- Verify that the programme model is appropriate for implementation in the target community
- Involve key stakeholders in the decision-making process, including implementing staff, management and potential programme recipients
- Ensure buy-in of all parties by providing documentation that supports the need for the programme (e.g. the evidence-base for the programme and the match between the approach adopted and the needs in the community)
- Identify the key components of the intervention based on underlying programme theory
- Identify and communicate programme objectives, principles and the mechanisms that will be used to achieve them, to all relevant players at the planning stage.
- Provide decision-makers and stakeholders with the necessary information to secure adequate resources to implement the programme
- Lay the foundation for successful co-operation and collaboration by clearly defining the roles of all parties involved and establish a system for discussing and resolving problems
- Plan for the long-term sustainability of the programme

Delivery phase

- Assess readiness to implement the programme
- Make modifications or adaptations in delivering the programme, balancing programme fidelity with the needs of the local site
- Draw on the ‘wisdom knowledge’ of those with experience of the programme
- Develop a structured manual or detailed programme description to facilitate programme implementation
- Train programme staff to conduct the programme effectively
- Provide ongoing support and supervision once the programme has begun
- Partner with an evaluator to develop an implementation monitoring system that includes assessment of the programme (i.e. programme fidelity, exposure, quality of delivery, participant responsive and programme differentiation), support system, and key system factors.

Sustainability phase

- Develop a plan for the sustainability of the programme based on existing funding, long-term priorities and resources
- Use implementation information and process evaluation data to fine-tune and improve programme delivery
- Provide regular updates and evaluation information to key stakeholders
- Document the provision of feedback and any subsequent changes that are made to the programme

Box 4

Case study of programme implementation in low-income settings

A psycho-educational intervention for women with depressive symptoms

This case study reports on a psycho-educational intervention that was developed and evaluated for low-income women displaying both depressive symptoms and clinical depression (with no suicidal ideation, suicide attempts or psychiatric co-morbidity). This intervention targeted women aged between 25 and 45 years of age and was carried out at primary health and mental health settings in Mexico City. The intervention is structured around the educational material: *Is it Difficult to Be a Woman? A Guide to Depression* (Lara *et al.*, 1997), which is based on psychological and cognitive-behavioural treatments and includes a gender perspective. The educational material is written in a comic strip format to describe depression: symptoms, causes, and ways of coping with it and targets women with low levels of literacy. It considers a multi-factorial model of depression that takes into account biological, child development, life events, gender condition, and social factors. The intervention programme relies on local research findings on women's mental health and on clinical practice as much as experience elsewhere. Muñoz and Ying's (1993) prevention of depression programme provided a framework to guide the development of the intervention programme. However, the specific strategy and materials used were developed to meet the needs of the local context. There are various hypothesised mechanisms of change (e.g. allows a better understanding of depressive symptoms and current problems; increases positive thinking and reinforcing activities; widens the behavioural repertoire, increases self-esteem, improves problem solving, facilitates the expression of emotions, and challenges beliefs about traditional female roles).

To ensure delivery of the program according to specifications, an Intervention Guideline was developed (Lara, Acevedo and Weckmann, 2001). The programme was delivered in two modalities: six two-hour weekly sessions or a single twenty-minute to one-hour orientation session. Post-intervention and follow-up assessments showed that both were equally effective in reducing depressive symptoms (Lara, Navarro, Rubí and Mondragón (2003a) and that the former was slightly better in leading to participants' satisfaction (Lara, Navarro, Rubí and Mondragón, 2003b; Lara, Navarro, Navarrete, Mondragón and Rubí, 2003).

practical challenges of evaluating programme implementation in low-income settings will now be explored by illustrating the strategies outlined above with a case study of depression prevention in Mexico (Box 4).

Pre-Adoption:

Creating partnership is crucial to securing support for programme delivery. There are wide cultural differences regarding how to go about locating and motivating suitable partners. There can be agreements at the top levels which do not ensure that the operative level staff be willing to collaborate, or conversely, staff on the ground may be highly motivated because they can more directly perceive the benefits of programme but such programmes may not be supported by, or form part of, the organisation's goals. Too many administrative procedures may lead to long delays while too little formality may mean starting negotiations all over again every time there is a change in personnel at the decision-making level, a problem often encountered. Creating partnership may entail showing potential benefits to recipient agencies as well as ensuring

that the staff concerned (GPs, psychiatrists, psychologists, nurses and social workers) are involved as much as possible. In this programme this involved providing information on the programme and requesting staff to participate by referring potential candidates. Other benefits of achieving a good alliance with agencies was the support received in appointing their social workers or psychiatric nurses to promote the programme in the community, where they are known and are trusted, and in conducting follow-up interviews in the participants' homes.

Investing effort in pilot studies is worthwhile, especially when previous experience is scarce. This is particularly important in low-income countries where there tends to be less local knowledge on almost any research topic, and since available knowledge comes from the more affluent countries, it applies mostly to the latter's problems and resources. A great deal of adaptation and translation is often necessary. In this case study programme, the feasibility study helped to explore potential partners, to decide on an appropriate recruitment strategy, to gain knowledge about the target

population, the general functioning of the programme and the length of follow-up required (Lara, Mondragón and Rubí, 1999).

Delivery:

Programme Model: The educational material was the corner stone in the planning and delivery of the intervention. The appropriateness of the material in terms of culture, gender and social issues was a key consideration. Evidence had previously been gathered that the material was easy to read and was appealing to women. The structured material helped set out the aims of the programme and to structure the sessions around key programme components and activities, thereby increasing programme adherence. Purposively investigating the degree of fidelity with which the intervention was delivered by a qualitative analysis of transcripts from the audiotaped sessions (Lara *et al.*, 2004), as well as assessing the subjective evaluation of the participants, contributed to identifying implementation weaknesses and strengths (Lara *et al.*, 2003b).

Implementation Support System: The inclusion of a clinical psychologist on the team together with the high standard of training of the research interviewers and facilitators, and the commitment and high morale that prevailed despite the difficulties involved, contributed to the success of the programme. Developing an intervention manual ensured quality of programme delivery. The fact that the manual included guidelines for the proper functioning of the group, and that these were explained to the participants, led to respectful exchanges that enabled the intervention to develop within a conflict-free atmosphere (Lara *et al.*, 2004). Selection of suitable programme participants was also a crucial issue, since women displaying more severe conditions might not have benefited from the intervention.

Sustainability:

In terms of programme sustainability, this programme has already been replicated in various health and social institutions in Mexico and a distance course for facilitators using electronic media has been developed. The programme is now at the stage of dissemination and in a process of being adapted to a new population – prevention of postpartum

Box 5

Recommendations for improving programme implementation

Policymakers

- The decision to adopt a best practice programme does not guarantee success without attention to good quality implementation.
- Provide adequate resources for programme development and replication including the necessary staff skills, training, supervision and organisational support needed to implement the programme to a high level of quality.
- Invest in process evaluation in order to facilitate and enhance knowledge and best practice in programme implementation.

Researchers

- Systematically monitor and assess programme implementation as a core part of programme evaluation
- Collect qualitative data on the barriers, obstacles and facilitating factors encountered in the course of programme delivery
- Gather information from multiple sources, including programme recipients, implementers and researcher observation, in order to reduce bias in assessing the quality of implementation
- Identify key mediating variables that are theorised to be responsible for the programme outcomes
- Relate variability in implementation to short-term and long-term programme outcomes
- Work in partnership with practitioners, employing collaborative evaluation methods, in order to feed back implementation findings and to ensure continuous improvement of programme quality.

depression – where it will be assessed.

The following factors have been identified as contributing to the successful implementation and dissemination of the programme:

- a. Developing and adapting the programme materials for the local setting

- b. Developing an intervention manual to ensure quality of programme delivery
- c. Obtaining additional resources for:
 - developing a training programme for facilitators
 - offering training on a regular basis for participating agencies
 - follow-up institutions that have adopted the intervention
- d. Making the educational materials available in bookshops has meant that many people contact us seeking more information or advice on how to use it.
 - Participating in interviews on local TV and radio programmes.

Intervention projects, like the one reported here, are long-term multistage programmes and thus require large amounts of material and human resources for implementation and evaluation, which is a challenge in less developed countries where fewer resources are allocated to research and health care. However, it is clear that evaluation findings, especially those that are sensitive to the importance of implementation, play a critical role in demonstrating the potential of a programme and may therefore be vital in securing funding for sustaining an initiative in the longer-term.

Conclusions

There is a need for practice and policy guidelines based on best available evidence concerning the critical factors needed to ensure the implementation of successful programmes across a range of cultural and economic settings. As well as identifying programme-specific outcomes, this includes identifying the generic processes that underpin effective programme planning and delivery. Implementation is important at each stage of programme development, from

initial pilot studies, to efficacy and effectiveness trials and more widespread dissemination in 'real world' settings. As a programme moves to more widespread implementation, practitioners in collaboration with programme evaluators will need to identify key programme elements needed for a high probability of success and identify factors that increase the potential for sustainability of effective programmes. In addition to programme content, there is a need to consider the organisational structures and policies that are necessary to support long-term maintenance and sustainability of quality programmes. Recommendations for policymakers and researchers in supporting and evaluating the quality of programme implementation are outlined in Box 5.

The generation of practice-based evidence and theory is an important challenge in mental health promotion and requires that researchers and practitioners work in partnership in documenting and analysing the implementation of mental health promotion programmes. Through the development of more collaborative and participatory evaluation methods, there will be an opportunity to include the knowledge base of programme implementers and participants into the evaluation process, thereby incorporating the 'wisdom literature' into the evidence base. There is a need for analytic frameworks that integrate process and outcome data in a meaningful way so that clear statements can be made about how and why programme changes have come about. Contrasting and complementary perspectives and methods are needed to fill out the larger picture and to tap previously undocumented areas of knowledge and practice.