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School-based mental health literacy interventions

Kathryn Cairns and Alyssia Rossetto

Introduction

Mental disorders such as anxiety and depression often emerge for the first time during adolescence and early adulthood, with about three-quarters of mental disorders having their first onset before the age of 25 (Kessler et al, 2005). Evidence suggests that incidence rates for depressive disorders increase in early adolescence, with prevalence continuing to rise throughout adolescence (Lewinsohn et al, 1998; Lewinsohn and Essau, 2002; Costello et al, 2003). Age of onset for anxiety varies by disorder, with specific phobia, separation anxiety disorder, social phobia and obsessive compulsive disorder (OCD) most likely to onset during the adolescent years (Kessler et al, 2007, 2009). The experience of mild levels of depressive and anxiety symptoms that do not meet the threshold for diagnosis, but can nevertheless cause significant psychological distress, is also common during adolescence (Hankin, 2006).

This is concerning because of the potential for mental health difficulties that onset at this time to set up developmental cascades of vulnerability, which may extend well into adulthood (Masten and Cicchetti, 2010). Adolescence is a time of prominent transitions, and this developmental stage heralds significant physical, cognitive, psychological, interpersonal and socio-contextual changes (Weir et al, 2012). Depressive or anxiety disorders may interfere with the young person's capacity to effectively navigate these transitions and complete key developmental milestones (Kessler and Wang, 2009). A failure to detect and treat these conditions in a timely manner can lead to numerous adverse life course consequences (Kessler et al, 2001; Merikangas et al, 2010), which presents a strong moral and economic argument for intervention early in life. One approach that holds promise for this developmental period involves interventions that target students' *mental health literacy* (MHL). In this chapter, we introduce and discuss the key interventions approaches to promoting MHL that have been adopted within the school setting, and provide a synthesis of the supporting evidence for these varied approaches.

Adolescents' mental health literacy

The term MHL refers to '… knowledge and beliefs about mental disorders which aid their recognition, management or prevention' (Jorm et al, 1997, p 182). The construct encompasses:

> … (a) knowledge of how to prevent mental disorders, (b) recognition of when a disorder is developing, (c) knowledge of help-seeking options and treatments available, (d) knowledge of effective self-help strategies for milder problems, and (e) first aid skills to support others who are developing a mental disorder or are in a mental health crisis. (Jorm, 2012, p 231; see also Chapter 4, this volume)

Young people are consistently found to have poorer MHL relative to adults (Jorm et al, 2007; Reavley and Jorm, 2011; Yap et al, 2013). Areas of deficiency in adolescents' MHL include: correct recognition of mental disorders, particularly anxiety disorders (Reavley and Jorm, 2011); knowledge of effective prevention strategies (Yap et al, 2012); and knowledge of, and willingness to seek, professional help for mental health problems for themselves (Yap et al, 2013) or others (Yap et al, 2012). Adolescents perceive many barriers to accessing professional help (Yap et al, 2013), which can increase the time between first onset of the problem and receipt of treatment, resulting in poorer prognoses and longer recovery times (Scott et al, 1992; Perkins et al, 2005). Around a quarter of adolescents indicate that they would seek help for mental health problems from their peers (Reavley and Jorm, 2011); however, adolescents may not have the capacity or capability to appropriately manage these types of disclosures. For example, they are more reluctant than adults to recommend seeking professional help or to inquire about suicidal thoughts (Jorm et al, 2007). A substantial minority of adolescents endorse the use of Mental Health First Aid (MHFA) actions that are perceived as unhelpful or actively harmful by professionals, such as using alcohol to cope with problems (Yap et al, 2012). This is especially concerning given that adolescents' beliefs about the helpfulness of particular MHFA actions predict their subsequent helping behaviour (Yap and Jorm, 2012). Improving the MHL of young people may increase their uptake of self-help behaviours that protect against mental ill health, and facilitate early and appropriate responses to emerging mental health problems in both the individual and those in their social network (Jorm, 2012).

Role of schools in promoting mental health literacy

Growing evidence supports the influential role of schools in promoting adolescent health and wellbeing. Schools provide access to the majority of young people from diverse socioeconomic backgrounds, most of whom spend the better part of their day at school. Further, schools have an educational mission and a pre-established infrastructure to support the development of emotional and social

learning (Spence and Shortt, 2007; Jorm, 2012). In this chapter, we describe key approaches that have been adopted to promote the MHL of adolescents in the school setting, providing examples from across the spectrum of intervention, and a synthesis of the supporting evidence for these programmes. Table 19.1 maps the components of MHL (following Jorm, 2012) that have been targeted in school-based interventions to the corresponding parts of the spectrum.

Mental health promotion programmes

Mental health promotion includes whole-of-population interventions that aim to '… enhance individuals' ability to achieve developmentally appropriate tasks (competence) and a positive sense of self-esteem, mastery, well-being, and social inclusion, and strengthen their ability to cope with adversity' (O'Connell et al, 2009, p 66). These interventions focus on creating supportive environments within schools, and promoting acquisition of the social and emotional competencies that are prerequisites for positive mental health. In so doing, they also contribute to the reduction of risk for mental health problems. School-based mental health promotion can direct MHL interventions towards students, teachers, parents and the wider school community.

An example of this type of intervention is MindMatters, which has been since been rolled out within a large number of Australian secondary schools since the late 1990s (Wyn et al, 2000). MindMatters is described as an organising framework for various mental health activities and interventions, and adopts a whole-school approach that is aligned to the *health-promoting schools model* (Nutbeam, 1992). Key intervention components include: professional development for classroom teachers; whole-school planning workshops for leaders and school health teams; and provision of educational resources. This includes curriculum support materials to enable teachers to improve, among other things, the MHL of their students; the

Table 19.1: Promoting mental health literacy across the spectrum of mental health interventions

Facet of mental health literacy (Jorm, 2012)	Relevant segment/s of the spectrum of mental health intervention (O'Connell et al, 2009)
Knowledge of how to prevent mental disorders	Mental health promotion Prevention
Recognition of when a disorder is developing	Early intervention
Knowledge of help-seeking options and treatments available	Early intervention
Knowledge of effective self-help strategies for milder problems	Prevention Early intervention
First aid skills to support others who are developing a mental disorder or are in a mental health crisis	Early intervention

'Understanding Mental Illness' module covers the definition, aetiology, prevalence, symptomatology and treatment of five mental illnesses, and also discusses stigma in an effort to engender attitudinal change (Hazell et al, 2002).

Prevention programmes

Prevention interventions occur before the onset of a clinically diagnosable disorder, and aim to reduce the number of new cases of the disorder (Mrazek and Haggerty, 1994). Mrazek and Haggerty (1994) describe three types of prevention: *universal*, designed to prevent the occurrence of mental illness in the whole classroom or school regardless of individual risk; *selective*, targeting students whose risk for developing mental disorders is above average due to the presence of known risk factors; and *indicated*, targeting those displaying early or subclinical levels of symptoms. Preventive interventions aim to improve MHL by equipping young people with the knowledge and skills to reduce the likelihood that mental disorders develop in the first instance, or to employ effective self-help strategies when milder levels of symptoms first manifest. MHL surveys suggest young people are receptive to the idea of preventive action for mental health problems, and endorse a range of potentially helpful strategies, however their understanding of both helpful and harmful strategies can be enhanced (Jorm et al, 2010; Yap et al, 2012).

The HeadStrong programme is a universal prevention programme designed to improve participating students' MHL, personal stigma and help-seeking (Perry et al, 2014). This programme delivers lesson plans and associated resources aligned to the Australian curriculum to high school students in their Personal Development, Health and Physical Education (PDHPE) classes. The HeadStrong programme comprises five modules (equivalent to 10 hours of class time) that provide basic education about mental health and ill health, how young people can help themselves and others who are experiencing mental health difficulties, and how they can take action to promote mental health within their local community. The programme was designed with the implementation setting in mind; in providing ready-to-use, curriculum-mapped classroom activities and resources, HeadStrong modules reduce teachers' preparation time and fulfil schools' curriculum requirements (Werner-Seidler et al, 2016).

Early intervention programmes

MHL approaches with a focus on early intervention aim to increase the likelihood that adolescents access evidence-based treatments when needed, by improving knowledge, attitudes and behaviours in relation to help-seeking and MHFA. Adolescents are reluctant to seek professional help for their mental health problems: they often report that they did not know their symptoms were serious enough to warrant formal help-seeking, and indicate a preference or belief that they should be able to address the problem on their own (Gulliver et al, 2010). This reticence

is problematic, as appropriate help-seeking can reduce the duration and extent of impairment associated with depressive symptoms, and help to prevent associated problems such as the development of comorbid conditions (Wilson et al, 2007).

An example of a school-based early intervention programme that targets MHL is the teen Mental Health First Aid (tMHFA) programme (Hart et al, 2016). tMHFA seeks to develop participants' knowledge and skills in: recognising when a peer is developing a mental health problem; knowing how to speak with a peer about their mental health; when to involve a responsible adult; where and how to find appropriate resources on mental health, mental illness and professional help; and how to address crisis situations, such as when a peer is thinking about suicide. tMHFA is taught in three classroom-based sessions, each of 75 minutes' duration, led by an instructor with experience and training in youth mental health. tMHFA uses a multimedia presentation, videos, group discussions and small group activities to engage students, and includes a manual for students to work from during the class which they can keep as a resource. The programme uses a five-point action plan (Look for warning signs, Ask how they are, Listen up, Help them connect with an adult, Your friendship is important) to assist participants to recall its key messages.

Evidence synthesis

In the last two decades, research focusing on school-based mental health interventions has proliferated. A recent review of reviews identified 12 systematic reviews focused on mental health promotion, prevention or early intervention for mental health problems within the school setting, many of which included intervention components designed to improve participants' MHL (Das et al, 2016). However, only a small subset of the interventions included in this review explicitly measured MHL, which is expected to mediate the relationship between the intervention and changes in behaviour and, subsequently, mental health outcomes. Here, we review the extant evidence to address three key questions:

1. Are school-based interventions effective in increasing MHL (knowledge and attitudes about mental disorders)?
2. Do changes in knowledge and attitudes subsequently lead to changes in behaviour (for example, help-seeking, MHFA)?
3. Do changes observed in MHL or behaviour lead to subsequent improvements in mental health?

Impact of school-based interventions on knowledge and attitudes

MHL programmes with an early intervention focus commonly include measures of knowledge and attitudes as primary outcomes. In their review of MHL interventions implemented in schools, Wei et al (2013) identified 15 studies that included an assessment of knowledge acquisition. Of these, 12 reported a significant

improvement in knowledge attributed to the intervention, although the effect sizes were highly variable. They also identified 16 studies set in secondary schools, of which 11 demonstrated reduced stigmatising attitudes following exposure to the intervention. A recent randomised controlled trial (RCT) of a curriculum-based MHL intervention (The Curriculum Guide) found that knowledge improvements predicted a corresponding improvement in attitudes toward mental illness, suggesting that these two outcomes are interrelated (Milin et al, 2016).

There is a paucity of evidence to allow for an assessment of the longevity of observed changes in knowledge and attitudes. In the review by Wei et al (2013), only 20 per cent of interventions assessing knowledge acquisition, and 38 per cent of those assessing stigmatising attitudes, included follow-up assessments beyond post-test. Some studies have demonstrated enduring improvements in MHL at two- and three-month follow-up (Pinto-Foltz et al, 2011; Mcluckie et al, 2014; Ojio et al, 2015), although another found that gains in MHL scores did not persist at six-month follow-up (Pinfold et al, 2003). Longer follow-up times may also be needed to better assess the longevity of a programme's effects on knowledge and attitudes. To this end, a RCT of the tMHFA programme, incorporating a one-year follow-up of student participants, concluded in 2017 (Hart et al, 2018). Additionally, given the relative brevity of most interventions (typically only a few sessions, of up to one hour's duration; see Wei et al, 2013), and the finding that knowledge gains may weaken over time (Perry et al, 2014), booster sessions may be required to support the internalisation of key programme messages, and provide regular opportunities for students to enact the skills they are taught.

While many promotion and prevention interventions promote MHL by building students' understanding of factors that can prevent the onset of mental health difficulties, their evaluations often neglect to explicitly assess the acquisition of this knowledge, focusing instead on the symptoms that are expected to improve as a consequence. This is problematic given the implicit meditational model that underpins these interventions; that is, by increasing students' knowledge of how to prevent mental disorders they will be more likely to change their behaviour in accordance with this knowledge, thereby leading to a reduction in symptoms indicative of an emerging mental health problem. Future evaluations should include measures of knowledge acquisition to enable mediation analyses that can point to the 'active ingredients' of effective MHL interventions with a preventive focus.

Impact of school-based interventions on behaviours

Considerable evidence suggests that knowledge and attitudes do not reliably translate into behaviour change (Armitage and Conner, 2000). It is therefore pertinent to explore to what extent the knowledge and attitude gains observed in school-based MHL trials translate into corresponding desired behaviours, particularly help-seeking, provision of MHFA, and preventive or self-help behaviours. However, the evidence in this area is sparse.

Wei et al's review (2013) identified three studies that measured self-reported help-seeking at the conclusion of the intervention. The evidence across these studies was mixed, and varied by source of help (for example, psychiatrist, teacher, friend). No study assessed help-seeking behaviours beyond post-test, and none used validated measures of help-seeking. Although another study found that a brief, teacher-delivered MHL intervention significantly improved reported intentions to seek help for themselves and to support peers with mental health problems at both post-test and three-month follow-up (Ojio et al, 2015); again, validated measures were not used. In the HeadStrong evaluation, no significant differences emerged in students' attitudes towards seeking help from mental health services by intervention condition (Perry et al, 2014). A pilot evaluation of tMHFA attempted to evaluate the quality of students' MHFA responses towards a peer (Hart et al, 2016). Although too few responses were recorded at three-month follow-up to detect statistically significant differences, trend information suggested that most students who had provided first aid believed that their actions had been helpful, and that information from the tMHFA programme positively influenced the action taken.

School-based prevention and promotion interventions typically target behaviours that flow from improved MHL, such as preventive or self-help behaviours. However, these trials often omit an examination of these behaviours, which complicates an understanding of the causal mechanisms by which interventions exert their influence. For example, interventions seeking to decrease internalising symptoms by changing students' problem-solving orientation should explicitly measure both symptoms and the application of the problem-solving skills taught. For example, the Penn Resilience Program aims to promote a more optimistic explanatory style, which is protective against the development of internalising disorders. However, a review by Bastounis et al (2016) found no evidence for the impact of the programme on this variable, nor on depression and anxiety outcomes, thus helping to elucidate the null effect pathway to internalising outcomes.

Impact of school-based interventions on mental health outcomes

Many promotion and prevention trials have included internalising symptoms or disorders as primary outcome measures. However, in the absence of measures of MHL, it is not possible to attribute changes in these outcomes to the health literacy components of these interventions over other potential change mechanisms. Only the HeadStrong RCT has included measures of both MHL and internalising symptoms. The authors used the Depression Anxiety and Stress Scales as a measure of psychological distress, and selected items from the Moods and Feelings Questionnaire to measure suicidal ideation, but found no significant associations between the intervention condition and these outcomes at either post-test or six-month follow-up (Perry et al, 2014). Further research that explicitly measures adolescent participants' knowledge of how to prevent

mental disorders and effective self-help strategies for mild levels of symptoms, as well as corresponding behaviours and mental health outcomes, is warranted.

Promising approaches

This synthesis indicates several intervention approaches and components that may hold promise. We summarise these intervention features here, to guide researchers and schools in prioritising MHL interventions.

School-based MHL programmes have been delivered by both endogenous (for example, teachers; see Perry et al, 2014; Milin et al, 2016) and non-endogenous (for example, mental health professionals or consumers; see Pinto-Foltz et al, 2011; Hart et al, 2016) providers. Significant, positive effects have been demonstrated in studies using both kinds of providers. Endogenous providers allow MHL programmes to be easily and inexpensively delivered at scale within existing educational systems, and may also improve teachers' MHL (Kutcher et al, 2016). However, within the context of prevention interventions focused on the acquisition of complex skills and behaviours in lieu of knowledge and/or attitude change, non-endogenous providers are mostly found to be superior (Hetrick et al, 2015; Brunwasser and Gillham, 2016). A conservative approach would be to establish the effectiveness of MHL programmes delivered by teachers in engendering desired changes in behaviour and mental health outcomes before ruling out the use of non-endogenous providers.

The provision of explicit, practical guidelines to guide schools in implementing programmes, for example, in the form of manuals and professional development programmes, are associated with superior outcomes and support programme fidelity (Weare and Nind, 2011; Milin et al, 2016). Evidence also suggests MHL programmes that take a holistic school approach, focusing simultaneously on different layers of the school ecology and individual students' skills and behaviours, are more effective than more narrowly focused interventions (Weare and Nind, 2011); however, these are more challenging to implement, and schools require specific and actionable guidance to successfully implement whole-school approaches (Rowling and Hazell, 2014).

Many interventions adopt a lecture-style presentation, where the teacher or another presenter delivers health education to students to improve their MHL. Some interventions have also incorporated group discussion, posters, role playing, drama, games and internet searching (Wei et al, 2013). In the tMHFA pilot trial, students' feedback indicated they were less receptive to programmes adopting didactic teaching methods. They expressed a strong preference for approaches that required them to interact more with the instructor and other students, and provided more opportunities to practice the skills taught in the programme. Greene and Hecht (2013) suggest that adolescents be encouraged to actively engage with health messages by weighing or choosing alternatives, envisaging the future consequences of different decisions, and hypothesising about the relationship between different behaviours and their outcomes. They argue that

this approach respects adolescents' growing desire for autonomy, and increases the probability that adolescents will process the information at a deep level. It may thus be advantageous to minimise didactic methods and emphasise experiential learning methods to support the acquisition, retention and application of MHL.

MHL programmes that adopt a curriculum-based approach are readily incorporated into school life, and can directly support schools with their core business of achievement, which may improve uptake and sustainability. Several promotion and universal prevention trials have adopted this approach, to positive effect. Although there is evidence regarding the acceptability of these approaches, more rigorous research is needed to provide evidence of their long-term effectiveness in improving MHL and associated mental health outcomes (Wei et al, 2013).

Interventions that involve social contact and first-person narratives have been widely perceived as effective in improving MHL and reducing stigma (Yamaguchi et al, 2011). In particular, video-based interventions that employ these features may be attractive to schools, because they involve minimal staff training and preparation time, and to researchers because of the assurance of programme fidelity. A recent systematic review (Janoušková et al, 2017) found that video-based interventions incorporating first-person narratives can improve knowledge about the aetiology of mental illness and attitudes towards people with mental illness, possible treatments and help-seeking at post-test and, occasionally, short-term follow-up. However, another systematic review did not support the proposition that contact reduces stigma in the medium to long term (Mehta et al, 2015). Further research is needed to establish the value-add of these interventions over other approaches.

Finally, programmes that leverage technology also hold promise, although they have not been a significant focus of school-based MHL programmes to date. Merry et al (2015) note that interventions delivered through computers, tablets and mobile phones potentially afford advantages over traditional implementation methods as they require less staff time and expertise, ensure programme fidelity, offer greater flexibility in delivery, and, if well designed, can support student interest and engagement in the subject matter.

Summary and future directions

MHL supports young people to attain positive mental health and wellbeing, and to facilitate timely access to appropriate help when mental health problems occur. The extant evidence suggests that there is much to be optimistic about regarding the potential impact of school-based MHL programmes. As the evidence connecting mental health status and academic outcomes accumulates, schools are increasingly accepting of the role that they play in developing the MHL of their communities. A variety of novel approaches from across the spectrum of mental health intervention have been trialled, of which many have effected demonstrable change in the knowledge and attitudinal domains of MHL.

However, this overview of the evidence for school-based MHL programmes reveals that this is a field in its infancy. Heterogeneity in study methodology and intervention design, a lack of long-term follow-up data and insufficient attention to behaviour change and mental health outcomes associated with intervention exposure limit the conclusions that can be drawn regarding the effectiveness of these programmes. Replication of positive outcomes is the exception rather than the norm (Brunwasser and Garber, 2015), and insufficient attention has been paid to the variance in the implementation of these programmes that occurs once they are transported into the real-world setting of schools.

There is much work to be done before widespread dissemination of these programmes can be justified. Further research must elucidate what the active and essential ingredients of interventions are that lead to change in adolescents' MHL, associated behaviours, and mental health outcomes, and what adaptations can be made by schools to suit their local environments without compromising effectiveness. Researchers must increasingly become pragmatists, and consider how they can leverage the opportunities afforded by the school as a setting for promotion, prevention and early intervention, while providing sufficient flexibility in their programmes to accommodate the challenges that schools face in promoting a mental health and wellbeing agenda. As noted by Patton et al (2000, p 592), '… understanding the context in which [school-based mental health] innovations will take place is crucial in ensuring that the processes that are used to initiate, sustain and institutionalise practices are relevant, feasible and effective.'

Involving school personnel as providers of programmes arguably represents the most sustainable and scalable approach to rolling out MHL programmes. While this approach is effective in producing short-term gains in knowledge and attitudes, its long-term impact on behaviour and mental health outcomes has not been established. Working in partnership with schools to design interventions is likely to support the acceptability, uptake and sustainability of these programmes, which may, in turn, help to bridge the observed efficacy-effectiveness gap (Fazel et al, 2014).

Methodological limitations and logistical challenges notwithstanding, school-based MHL programmes appear to represent a promising approach to reducing the burden of affective disorders, and promoting positive mental health at a population level. We hope this overview may inspire future research and practice within this important field, and prompt consideration of MHL within the broader health literacy agenda.

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