Management of depression in children and adolescents

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As part of our series on managing neurological and psychiatric conditions in children and adolescents, Dr Julia Gledhill and Dr Matthew Hodes discuss depression.

The aim of this article is to briefly describe the features of depression in children and adolescents, including epidemiology and aetiology, and then to give an account of the salient aspects of management. The treatment of bipolar disorder is beyond the remit of this article.

Depressive disorders in children and adolescents

Depressive disorders in children and adolescents are identified using the same diagnostic criteria (ICD-10[1] and DSM-5[2]) as those in adults. They are characterised by core symptoms of mood changes (low mood/irritability) or loss of enjoyment which lasts at least two weeks and is associated with cognitive and biological symptoms (see Table 1).

Depression can be categorised in terms of severity by the number of symptoms present (see Table 1), although in practice depends on a complex clinical judgement. There may be associated functional impairment at home, at school or with regard to peer relationships. In contrast to adults, irritability rather than sadness may be the predominant mood change and low mood may be less pervasive.

Prevalence

The community prevalence of depressive disorder increases from childhood (approximately 1%) to adolescence (3–8%),[3,4] and is more common in females.[4]

Depressive disorders in this age group are associated with significant morbidity, such as impaired social and academic functioning, substance misuse, increased risk for other psychiatric disorders as well as attempted and completed suicide.[5]

Causes of depression

Understanding the causes of depression is useful for considering treatment options. It is recognised that the causes of depressive disorder are multi-factorial, but evaluating the significance of each is difficult as they tend to be correlated.[6] The significance of the putative risk factors may vary according to age and developmental phase.

Children in infancy and at primary school age may develop depression against a background of poor parental care, which could include neglect, abuse and family conflict. Additional adversities include parental mental health problems, including parental depression. Parental depression is associated with childhood depression and may occur because of genetic factors.

Interestingly, genetic influences are stronger in adolescent depression. Other risk factors for adolescent depression are onset of puberty and hormonal change in girls, negative life events including bereavement, and stressors such as family conflict and peer difficulties.

Primary care management

Only a minority of young people with depressive disorders present to specialist services,[7] but many attend primary care services, although not necessarily for depression.

About 75% of registered adolescents attend the general practitioner (GP) each year,[8] almost exclusively presenting with physical health complaints; about 20% have a concurrent depressive episode,[9] often unrecognised by the GP with over 50% still in episode six months later.[10]

The primary care service is well placed for providing intervention. NICE guidelines endorse the need for primary care health care professionals to be familiar with screening for mood disorders, to recognise those with difficulties and provide support.[11] NICE recommends watchful waiting initially, and, if the mild depression persists, then supportive psychotherapy, group cognitive behavioural therapy (CBT) or guided self-help should be offered.

UK studies have demonstrated the feasibility and effectiveness of interventions to enhance identification and management of depression in primary care.[12,13] This includes changing the focus of the consultation from the presenting physical complaint(s) to a psychological enquiry and screening for depressive disorder using diagnostic criteria by enquiring about depressive symptoms.

Key symptoms	Associated symptoms	Severity
• Depressed mood • Loss of interest and enjoyment • Reduced energy leading to increased fatiguability and diminished activity	• Reduced concentration and attention • Reduced self-esteem and self-confidence • Ideas of guilt and unworthiness • Bleak and pessimistic views of the future • Ideas or acts of self-harm or suicide • Disturbed sleep • Diminished appetite	Mild: • 2 key symptoms • 2 associated symptoms Moderate: • 2 key symptoms • 3–4 associated symptoms Severe: • 3 key symptoms • 4 associated symptoms

Table 1. ICD-10 criteria for depression[1]

Primary care practitioners can be trained to deliver some components of the evidence-based psychological treatments for depressive disorder (CBT and interpersonal psychotherapy for adolescents [IPT-A]) within the consultation, which may be a sufficient intervention for some young people with mild depression. In the United States, a quality improvement intervention included training for primary care clinicians on the assessment and treatment of depression, increased access to CBT and/or medication. This demonstrated benefit at six months as compared to 'usual care' including fewer depressive symptoms and improved quality of life compared with the 'usual care' group.[14]

Management in secondary care: assessment

Children and young people with persistent mild depression or moderate to severe depression should be referred to specialist Child and Adolescent Mental Health Services (CAMHS). Those suspected to have severe depression but not at high risk of suicide should be assessed by CAMHS within a maximum of two weeks of referral, and, if they have high suicide risk, the assessment should be carried out within 24 hours.[15]

In secondary care, it is appropriate to carry out a psychiatric interview which is the 'gold standard' for identification of depressive disorder and other psychiatric disorders.[6] Both parents and children should be interviewed. Parents are better informants regarding past history and behaviour linked to disruptive behaviours, whereas children are better informants regarding internal experiences including guilt, anhedonia and suicidal ideation.

Standardised interviews, such as the semi-structured Schedule for Affective Disorders and Schizophrenia in Children and Adolescents, provide research standard assessments but are too time consuming for routine use by most CAMHS. Screening for depression can be carried out using the Mood and Feelings Questionnaire which has a child and parent version (http://devepi.duhs.duke.edu/mfq.html). This questionnaire has been validated for the detection of depressive disorder in CAMHS in the UK, and is also very useful for monitoring treatment progress.[11]

The Children and Young Persons Increasing Access to Psychological Treatments (CYP-IAPT) initiative began in 2011 in England, and has a target to work with CAMHS that cover 60% of the 0–19 aged population by March 2015. It includes a number of parent and child report questionnaires including the Revised Children's Anxiety and Depression Scale (RCADS); see www.cypiapt.org/children-and-young-peoples-project.php.

Psychological therapies

Cognitive behavioural therapy

Cognitive behavioural therapy, based on social learning theory, is a collaborative, goal-focused, time-limited treatment underpinned by the reciprocal relationship between thoughts (cognitions), feelings and behaviour. It focuses on identifying cognitive distortions linked with depressed mood which are challenged in the therapeutic work. CBT also includes psycho-education, self-monitoring, *eg* diary keeping, enhancing emotional regulation and activity scheduling.[16] CBT has been evaluated as a therapy for depression both alone and in addition to pharmacological treatment.

The current evidence base supports CBT alone for the treatment of mild to moderate depression. The largest meta-analysis of CBT identified 35 studies and found an effect size of 0.34 (small to medium effect).[17] It is also striking that this review found treatments that emphasise changing cognitions were not more effective than non-cognitive treatments, *eg* those that emphasised activity scheduling and other techniques.

However, more severe depression is less likely to remit with CBT alone,[18] and the Treatment for Adolescent Depression Study showed no benefit of

CBT alone over placebo for moderate to severe depression after 12 weeks of treatment.[19] Meta-analysis of studies shows that CBT when added to serotonin reuptake inhibitor (SSRI) antidepressants does not confer an advantage.[20]

CBT may have a useful role in preventing recurrence of depression after remission and preventing new-onset depressive episodes in at-risk groups, such as the children of parents who have depression and young people with sub-threshold symptoms.[21]

Interpersonal psychotherapy (IPT)

IPT for adolescents with depression (IPT-A) has developed from adult interpersonal therapy. It is a short-term therapy whose central tenet is the interpersonal context in which depressive symptoms occur, and the reciprocal links between interpersonal relationships, emotions and affect. This approach may be particularly valuable for this age group where the onset of depression, response to treatment, and outcomes may be influenced by the relationships between the young person and significant others such as family members and peers. IPT-A focuses on four problem areas: grief, interpersonal role disputes, role transitions, and interpersonal deficits.

There have been only three randomised controlled trials (RCTs) of IPT-A and none to date have compared IPT-A with pharmacological treatments. IPT-A has been demonstrated to be superior to clinical monitoring (which included brief supportive therapy) at the end of 12 weeks of treatment (75% vs 46% recovery respectively), in a sample of 48 clinic-referred adolescents.[22] A small study of 71 Puerto Rican young people compared three groups: IPT, CBT and a waiting-list control group. Both the IPT and CBT group did better than the waiting-list control, but there was no significant difference in outcome between the two therapies.[23] A more recent study trained school-based mental health clinicians in IPT-A and compared this to a 'treatment as usual' control group for young people with depressive diagnoses and moderate functional impairment. IPT-A was superior with regard to reduction in depressive symptoms and reduced functional impairment; these gains were maintained at 16-week follow up.[24]

Historically in the UK, the paucity of therapists trained in IPT-A limited the availability of this treatment, but this is now being changed with the CYP-IAPT initiative which includes a module on IPT-A.

Family therapy

Family therapy has been shown to be not as effective as CBT for treatment of depression in adolescents.[25] However, it is more effective than supportive psychotherapy in changing aspects of family interaction, such as conflict, that are associated with onset and perpetuation of depression. These benefits are seen two years after start of the treatments.[26]

Attachment-based family therapy has been investigated in an RCT of adolescents with depressive symptoms and suicidal ideation.[27] Among the subgroup of adolescents with depressive disorder, attachment-based family therapy was significantly more effective in improving depression than the 'usual care' group.

NICE recommendations for psychological treatment in Child & Adolescent Mental Health Services

NICE recommends that, for moderate to severe depression, the treatment should be individual CBT, IPT-A, or shorter-term family therapy.[11]

If the depression continues, then an alternative psychological therapy, which could include psychodynamic psychotherapy, should be offered. It is suggested that psychological treatment should be at least three months' duration.

These recommendations have generated controversy[28] given the weak evidence base for psychodynamic psychotherapy, and the finding that CBT is no better than placebo for moderate to severe depression.[19] Furthermore, there is no evidence that such treatments should be offered for a three-month trial before commencement of an SSRI antidepressant (see below).

Pharmacotherapy

The decision to use pharmacotherapy for children and adolescents with depressive disorder will be guided by a number of considerations. This will include the duration and severity of depression, comorbidity, and history of response to other treatments and antidepressants. In the UK, NICE[11] recommends that antidepressant medication for moderate or severe depression should be initiated by child and adolescent psychiatrists.

Approximately 20% of patients referred with moderate to severe depressive disorder (*ie* five symptoms or more) will respond over two to four weeks to initial assessment carried out in CAMHS that include individual child and parent interviews, psycho-education regarding the depressive disorder, and risk management.[29]

Patients who have persistent depression may then be offered an SSRI antidepressant and, given the evidence base supporting fluoxetine, this would be the first-line drug. The fluoxetine should be started at

10mg daily and increased after one week to 20mg in the absence of significant side effects.

For children, 20mg will usually be an adequate dose but, for adolescents, the fluoxetine may be increased to 30mg and 40mg if they are not responding adequately.[30] Some reports suggest that fluoxetine 60mg could be used for those not responding to 40mg.[6,31] Nevertheless, children may respond less well than adolescents to SSRI antidepressants.[32]

However, of patients who do not respond to fluoxetine, 50% will respond to another SSRI antidepressant.[33] In the UK, sertraline and citalopram are regarded as second-line SSRIs for child and adolescent depression[11] (see Table 2), and this has some research support.[34] Citalopram is associated with QT prolongation and so individuals known to have cardiac abnormalities, or at risk of these, should have an ECG carried out prior to using this drug.

A third-line drug would be venlafaxine which may be beneficial,[33] but the side effects result in a high level of non-adherence. The antidepressants frequently used in the USA are also included in Table 2 given the mobility of young people from the USA to Europe.

Evidence suggests that the SSRI antidepressant should be continued for six to nine months following response.[35] Most SSRIs should be tapered slowly, but in view of the long half-life of fluoxetine this can be achieved more rapidly.

There has been a high level of concern about suicidality, both suicidal thinking and behaviour, in association with SSRI antidepressants. The Treatment for Adolescent Depression Study suggested the levels would be lower when fluoxetine was used in combination with CBT.[19] Recent reviews have not shown that the levels of suicidal ideation are significantly different among children and adolescents taking antidepressants for depression compared to those having other treatments or placebo.[32]

Other treatments

Two other treatments will be considered here. Light therapy is recommended for people with seasonal affective disorder. There are a number of studies including one RCT that has found light therapy to be beneficial for youngsters with seasonal affective disorder.[36] However, some commentators have cast doubt on the efficacy of this treatment.

The other treatment that needs to be mentioned is electroconvulsive therapy (ECT). This treatment is rarely used owing to concern about harmful effects. Open trials suggest ECT can be beneficial for adolescents with very severe depression.[36] Following the ECT, treatment will then typically be continued with pharmacotherapy.

Hospital admission

Children and adolescents with depressive disorder may require psychiatric admission for ongoing management. Indications include high suicidal risk, and depression that results in self-neglect including the inability to eat and drink. Admission may also be required to assess the severity of depression and the young person's social function when separated from family.

The admission serves to provide an environment where the young person will be safe, and appropriately cared for.[37] The depression may be ameliorated by the non-specific elements of the ward milieu including: building up a relationship with key workers; groups with staff and peers; promoting peer relationships; removal from social difficulties in the external environment; and attendance at an appropriate on-site school. Specific treatments for depression might include individual treatment such as CBT, family therapy and pharmacotherapy. Admission is associated with great improvement but follow-up studies have shown that a significant minority continue to have ongoing difficulties, including depression and suicidal behaviour.[38,39]

	Guideline		Minimum age (years) for licensed prescribing	
Drug	**NICE**	**Texas***	**UK**	**USA**
Fluoxetine	First-line	First-line	≥8**	≥8
Sertraline	Second-line	First-line	≥18	≥18
Citalopram	Second-line	First-line	≥18	≥18
Paroxetine	Contraindicated by CSM	Second-line†	≥18	≥18
Escitalopram	Not discussed	Second-line	≥18	≥12
Venlafaxine	Contraindicated by CSM	Third-line	≥18	≥18

*For major depression of sufficient severity to warrant medication. **For moderate to severe depression. †Adolescents only.

Table 2. NICE (UK)[11] and Texas (USA)[45] guidelines for drug treatments for child and adolescent depression (from Dubicka et al, 2010)[30]?

Outcome

The natural history of a single depressive episode is recovery, with 88% recovering at one year in community samples[40] and 80% by a year in clinic samples.[41]

There is also variation between populations with regard to episode duration. Epidemiological studies have shown a median episode duration of 8–12 weeks in community samples,[40] and 7–24 months in clinic-referred samples,[40–42] probably reflecting greater severity and higher comorbidity in the latter group.

After recovery, clinic attenders also have a shorter time to recurrence (50% within three years)[41] as compared with community samples (50% within five years).[43] Despite persistence, only a minority seek specialist help. Depression in children and adolescents is a potentially chronic and relapsing disorder with continuity into adulthood, and an increased risk of adult psychopathology and impairment.[44]

Conclusions

The evidence at the time of writing suggests that appropriate interventions in primary care settings include watchful waiting, brief problem solving or cognitive behaviour therapies.

Mild cases of depression in more specialist services should be offered CBT or IPT.

For moderate to severe depression, following full assessment, fluoxetine should be offered. Non-response may be followed by switching to another SSRI and also addition of CBT, where this is available.

Family therapy may be used for mild, moderate or severe depression to address significant family relationship problems. Problems in the external environment such as learning difficulties or peer difficulties should also be addressed.

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Declaration of interests

There are no conflicts of interest declared.

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POEMs

ESSENTIAL EVIDENCE PLUS

Drug therapy minimally, if at all, effective for PTSD

Clinical Question
Is drug therapy effective for posttraumatic stress disorder?

Bottom line
Overall, drug therapy has a minimal effect on the symptoms of posttraumatic stress disorder (PTSD). Some selective serotonin reuptake inhibitors (SSRIs) show a benefit on symptoms, but the effects are small. (LOE = 1a)

Reference
Hoskins M, Pearce J, Bethell A, et al. Pharmacotherapy for post-traumatic stress disorder: systematic review and meta-analysis. Br J Psychiatry 2015;206(2):93-100.

Study design:
Meta-analysis (randomized controlled trials)

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Synopsis
The authors searched 13 databases, including the Cochrane Library, to identify all randomized double-blind studies of drug treatment of adults with PTSD. Two reviewers identified suitable studies, extracted the data and evaluated the studies for bias. The authors identified 41 studies that evaluated efficacy and 35 that evaluated acceptability of treatment. Most of the studies evaluated SSRIs, though 2 small studies evaluated topiramate (Topamax) and 2 studies assessed the antipsychotic olanzepine (Zyprexa). In the 21 studies that compared an SSRI with placebo (N = 3932), there was a small effect demonstrated (standardized mean difference = –0.23, 95% CI –0.33 to –0.12), though there was substantial heterogeneity among the studies. Paroxetine (Paxil) was slightly more effective than other drugs on the basis of self-rated and clinician-rated scales; fluoxetine (Prozac) and venlafaxine (Effexor) were superior on a clinician-rated scale.