

Effekt av psykososiale tiltak for forebygging og behandling av depresjon og angst blant risikoutsatte barn og ungdommer

Rapport fra Kunnskapssenteret nr 22-2014

Oversikt over systematiske oversikter



 kunnskapssenteret

Relativt mange barn og unge har milde symptomer på depresjon eller angst. Når symptomene påvirker livskvaliteten kan de trenge profesjonell hjelp for å bli friske. Psykososiale tiltak for depresjon og angst er ikke-medikamentelle tiltak som kan rettes mot barn fra risikogrupper (forebyggende tiltak), eller de med tydelig symptomer på depresjon eller angst og dem som er fått en diagnose på depresjon eller angst (behandlingstiltak). Nasjonalt kunnskapssenter for helse-tjenesten har identifisert, vurdert, og oppsummert forskning på effekt av psykososiale tiltak. Vi inkluderte ni systematiske oversikter. Forskingen viser at:

- Det er usikkert om psykososiale tiltak har effekt når de brukes forebyggende, fordi kunnskapsgrunnlaget var mangelfullt.
- Kognitiv atferdsterapi på barn med angstdiagnose gir trolig færre symptomer på angst, depresjon og post-traumatisk stresslidelse. Dokumentasjonen er av moderat kvalitet.
- Kognitiv atferdsterapi reduserer muligens alvorlighetsgraden på symptomer på tvangslidelser og øker muligens tilfriskning etter behandling. Dokumentasjonen er

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kunnskapssenteret

av lav kvalitet. • Kognitiv atferdsterapi i kombinasjon med anti-depressiva sammenlignet med antidepressiva alene, har muligens ingen eller liten effekt på funksjonsnivå, depressive symptomer og selvmordstanker hos barn med depresjon. Barn med tvangslidelser blir muligens noe bedre. Dokumentasjonen er av lav kvalitet. • Psykologiske/pedagogiske tiltak gir muligens færre symptomer på depresjon tre til ni måneder etter behandling, sammenlignet med ingen behandling. Tiltakene har muligens ingen effekt sammenlignet med placebo. Dokumentasjonen er av lav kvalitet.

Det er vanskelig å konkludere om effekten av de inkluderte tiltakene siden mesteparten av kunnskapsgrunnlaget er vurdert til å være av lav eller svært lav kvalitet.

Tittel	Effekt av psykososiale tiltak for forebygging og behandling av depresjon og angst blant risikoutsatte barn og ungdommer
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Nasjonalt kunnskapssenter for helsetjenesten fremskaffer og formidler kunnskap om effekt av metoder, virkemidler og tiltak og om kvalitet innen alle deler av helsetjenesten. Målet er å bidra til gode beslutninger slik at brukerne får best mulig helsetjenester. Kunnskapssenteret er formelt et forvaltningsorgan under Helse-direktoratet, men har ingen myndighetsfunksjoner og kan ikke instrueres i faglige spørsmål.

Kunnskapssenteret vil takke Sabine Wollscheid og Ingrid Borren for å ha bidratt med sin ekspertise i dette prosjektet.

Kunnskapssenteret tar det fulle ansvaret for synspunktene som er uttrykt i rapporten.

Nasjonalt kunnskapssenter for helsetjenesten
Oslo, november 2014

Hovedfunn

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- Kognitiv atferdsterapi på barn med angstdiagnose gir trolig færre symptomer på angst, depresjon og post-traumatisk stresslidelse. Dokumentasjonen er av moderat kvalitet.
- Kognitiv atferdsterapi reduserer muligens alvorlighetsgraden på symptomer på tvangslidelser og øker muligens tilfriskning etter behandling. Dokumentasjonen er av lav kvalitet.
- Kognitiv atferdsterapi i kombinasjon med antidepressiva sammenlignet med antidepressiva alene, har muligens ingen eller liten effekt på funksjonsnivå, depressive symptomer og selvmordstanker hos barn med depresjon. Barn med tvangslidelser blir muligens noe bedre. Dokumentasjonen er av lav kvalitet.
- Psykologiske/pedagogiske tiltak gir muligens færre symptomer på depresjon tre til ni måneder etter behandling, sammenlignet med ingen behandling. Tiltakene har muligens ingen effekt sammenlignet med placebo. Dokumentasjonen er av lav kvalitet.

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Tittel:

Effekt av psykososiale tiltak for forebygging og behandling av depresjon og angst blant risikoutsatte barn og ungdommer

Publikasjonstype:

Systematisk oversikt

En systematisk oversikt er resultatet av å

- innhente
- kritisk vurdere og
- sammenfatte relevante forskningsresultater ved hjelp av forhåndsdefinerte og eksplisitte metoder.

Svarer ikke på alt:

- Ingen studier utenfor de eksplisitte inklusjonskriteriene
- Ingen helseøkonomisk evaluering
 - Ingen anbefalinger

Hvem står bak denne publikasjonen?

Kunnskapssenteret har gjennomført oppdraget etter forespørsel fra Barne-, ungdoms- og familiedirektoratet

Når ble litteratursøket utført?

Søk etter studier ble avsluttet april 2013.

Eksterne fagfeller:

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Sammendrag

Bakgrunn

Depresjon og angst hos barn

Mange barn og ungdommer sliter med depresjon eller angst gjennom oppveksten. Imidlertid vil bare en liten andel av disse barna ha så alvorlige symptomer at det krever behandling (3). Ifølge Wichstrøms studie (4) av 12000 norske ungdommer hadde 5% av ungdommene høye nivåer av psykiske plager (målt med Kandel og Davies' skala) (5). Heiervang og kollegaer fant på sin side at bare 13% av norske barn i alderen 8-10 år med internaliserende problemer (som f.eks. angst og depresjon) fikk behandling (6).

Angst er en av de vanligste psykiske lidelsene man finner hos barn (22). De vanligste formene for angst hos barn er generalisert angst, sosial angst/fobi, separasjonsangst, posttraumatisk stresslidelse og tvangslidelser (24).

Depresjon kan hindre barns og ungdommers skoledeltakelse (9) og kan også lede til alvorlige konsekvenser som selvmord (10). Depresjon starter ofte i tenårene, men fortsetter for mange i voksen alder (11). En person anses som klinisk deprimert når man har opplevd å ha en gitt liste av symptomer i henhold til DSM-IV-TR (som irritabilitet, trøtthet eller usikkerhet) vedvarende i minst to uker, og i tillegg har hatt nedsatt fungeringsevne.

Risikofaktorer for å utvikle angst og depresjon

Ungdommer med risiko for å «oppnå dårligere utfall enn sine jevnaldrende» ((13) s. 290) har også høyere sannsynlighet for å utvikle psykiske lidelser. Barn kan være utsatt for risikofaktorer på individuelt plan, fra familien og/eller i nærmiljøet (14). For barn med risiko for å utvikle angst og depresjon setter man inn forebyggende tiltak med hensikt å gi disse barna ressurser til å mestre de ulike risikofaktorene de er utsatt for.

Psykososiale tiltak

Ifølge Huibers kjennetegnes psykososiale tiltak ved at den sentrale dynamikken i behandlingen av pasienten omfatter en form for psykologiske prosesser ((32) s. 5). Psykososiale tiltak for barn kan være bl.a. treningsterapi, tiltak for å øke barnets

mestringsevne, psykologiske/pedagogiske tiltak og psykologisk behandling. Alle disse tiltakene kan også involvere familiemedlemmer i tillegg til barnet/ungdommen. I Norge blir psykososiale tiltak vanligvis tilbudt i kommunene eller gjennom de regionale barne- og ungdomspsykiatriske sentrene (RBUP).

Forebyggende og behandlende tiltak

Avhengig av hvilken risiko man mener barnet har for å utvikle psykiske lidelser vil man kunne sette inn enten generelle og forebyggende tiltak eller målrettede behandlingstiltak.

Universelle, forebyggende tiltak gis til barn og unge generelt, uavhengig av om de er i risiko for å utvikle psykiske plager og lidelser. Selektive, forebyggende tiltak gis til de som befinner seg i risikosonen for å utvikle psykiske lidelser (33, s. 108).

Målrettede tiltak gis til personer som har begynnende symptomer eller klare tegn (som høy skåre på måleinstrumenter) på psykiske lidelser, men som ennå ikke har fått stilt noen diagnose (34, s. 25). Behandling gis til personer som har fått stilt en diagnose.

Det finnes mye forskning, både primærstudier og systematiske oversikter, på tiltak rettet mot barn med angst og depresjon. Den store mengden forskning gjør det vanskelig for beslutningstakere å få oversikt over feltet og vurdere hvilke tiltak som virker. Denne rapporten gir en oversikt over systematiske oversikter av høy kvalitet og oppsummerer effekten av en rekke tiltak for barn med angst og depresjon.

Metode

Vi utførte et søk etter systematiske oversikter i relevante databaser fra januar til april 2013. To forskere vurderte, uavhengig av hverandre, titler og fulltekstartikler for inklusjon, basert på følgende inklusjonskriterier: Systematiske oversikter av høy kvalitet som undersøkte effekt av *forebyggende* tiltak rettet mot barn og unge med risiko for å få depresjon eller angst og/eller *behandlingstiltak* rettet mot barn med forhøyede symptomer på depresjon eller angst, eller som har fått en depresjons- eller angstdiagnose.

Den metodiske kvaliteten på relevante oversikter ble vurdert av to forskere. Oversikter med moderat eller lav kvalitet ble ekskludert. Vi hentet ut data fra de inkluderte oversiktene i henhold til forhåndsdefinerte kriterier. Til sist vurderte vi kvaliteten på utfall relatert til symptomer, diagnose og livskvalitet ved bruk av GRADE. Kvaliteten av dokumentasjonsgrunnlaget tyder på hvor mye tillitt vi har til resultatet. Tilliten til resultatet angir hvor sannsynlig det er at forskningsresultatet ligger nær den sanne effekt. Jo større tillit, desto sikrere kan vi være på at resultatet ligger nær den sanne effekt. I dette sammendraget har vi ikke rapportert utfall fra dokumentasjonsgrunnlag som er vurdert til å være av svært lav kvalitet. Dette er fordi vi har svært liten tillit til at effektestimater i slike tilfeller ligger nær den sanne effekten.

Resultat

Vi identifiserte 3392 unike referanser fra litteratursøket. Vi vurderte metodisk kvalitet på 78 relevante oversikter ved hjelp av sjekklister for systematiske oversikter fra Nasjonalt kunnskapssenter for helsetjenesten. Vi inkluderte ni systematiske oversikter av høy kvalitet. Oversiktene så på risikogrupper blant barn, og barn med depresjon, angst, tvangslidelse og posttraumatisk stresslidelse. Oversiktene undersøkte effekt av forebyggende tiltak (psykososial foreldreveiledning) og følgende behandlingstiltak: Psykologiske/pedagogiske tiltak, treningsterapi, kognitiv terapi/atferdsterapi og kombinasjon av psykologiske tiltak og medisiner. De fleste tiltakene som ble undersøkt ble sammenliknet med venteliste, vanlig behandling eller narretiltak (placebo). De inkluderte oversiktene og resultatene fra disse er beskrevet nedenfor.

Forebyggende tiltak

Psykososiale tiltak for tenåringsforeldre

Vi fant én systematisk oversikt som undersøkte effekt av forebyggende tiltak. Oversikten, som er utarbeidet av Barlow og kollegaer (2011), oppsummerer effekt av psykososiale tiltak rettet mot tenåringsforeldre (45). Oversikten ble sist oppdatert i mai 2010. Forfatterne sammenliknet tenåringsforeldre som fikk psykososiale tiltak, med tenåringsforeldre som enten sto på venteliste, ikke fikk noen tiltak eller som fikk oppfølging som vanlig. Bare én sammenlikning inkludert studier som så på utfall som var relevant for vår oppsummering. Dette gjaldt en studie av 20 foreldre der et psykososialt tiltak for tenåringsforeldre ble sammenliknet med oppfølging som vanlig. Studien undersøkte effekt på tenåringenes depresjon.

Hva viser forskningen?

Fordi dokumentasjonen er vurdert til å være av lav kvalitet er det for usikkert grunnlag til å kunne si noe om psykososiale tiltak for tenåringsforeldre har bedre effekt på å forebygge symptomer på depresjon enn oppfølging som vanlig.

Behandling

Vi fant åtte systematiske oversikter om effekt av behandlingstiltak for barn og ungdom med angst og/eller depresjon.

Psykologiske/pedagogiske tiltak for barn og ungdom med risiko for å utvikle depresjon

Vi fant én systematisk oversikt av Merry og kollegaer (2011) over studier som undersøkte effekt av psykologiske eller pedagogiske tiltak for barn og ungdom som hadde risiko for å utvikle depresjon (42). Oversikten ble sist oppdatert i juli 2010. To sammenlikninger fra denne oversikten er relevant for denne oppsummeringen: Psykologiske/pedagogiske tiltak sammenliknet med 1) ingen behandling/venteliste/vanlig

oppfølging og 2) narretiltak/annen type oppmerksomhet/annen behandling. Forfatterne skilte mellom psykologiske og pedagogiske tiltak i at det første inkluderte aktiv behandling, mens det siste omhandlet å kun gi informasjon om depresjon. De fleste av tiltakene inneholdt behandlingselementer basert på kognitiv atferdsterapi.

Resultatene i Merrys systematiske oversikt viser at barna som fikk psykologiske/pedagogiske tiltak hadde moderat forbedring av symptomer på depresjon både like etter tiltaket (standardisert gjennomsnittlig forskjell mellom tiltaks- og kontrollgruppe (SMD)= - 0.31 (95% KI -0.41- -0.21) og 3-9 måneder etterpå (SMD= - 0.22 (95% KI - 0.32- -0.12)). Barn og ungdommer som fikk psykologiske/pedagogiske tiltak/behandling hadde også mindre sannsynlighet for fortsatt å ha diagnose på depresjon både like etter tiltaket (17 færre med diagnose per 1000 (95% KI mellom 29 færre til 5 færre) og etter 3-9 måneder (14 færre med diagnose per 1000 (95% KI mellom 23 færre til 7 færre) sammenliknet med ungdommer som ikke fikk noe tiltak. Sammenliknet med narretiltak hadde psykologiske/pedagogiske tiltak liten eller ingen effekt på hverken symptomreduksjon eller på å redusere antall personer med depresjonsdiagnose like etter tiltaket (SMD=0.14 (95%CI -0.4, 0.12)).

Hva viser forskningen?

Sammenliknet med ingen tiltak, venteliste og oppfølging som vanlig kan psykologiske/pedagogiske tiltak redusere depressive symptomer og forebygge depresjonsdiagnose både like etter tiltaket og 3-9 måneder etter tiltaket. Dokumentasjonen er imidlertid vurdert til å ha lav kvalitet og resultatene er derfor usikre. Det er også usikkert om psykologiske/pedagogiske tiltak har effekt på å forebygge depresjon tre år etter intervensjonen da kvaliteten på denne dokumentasjonen er vurdert til å være av svært lav kvalitet.

Sammenliknet med narretiltak kan psykologiske/pedagogiske tiltak ha liten eller ingen effekt på barn og ungdom med mange symptomer på depresjon. Resultatet er imidlertid usikkert pga. lav kvalitet på denne dokumentasjonen.

Fysisk aktivitet mot angst og depresjon

Én systematisk oversikt av Larun og kollegaer (2006) oppsummerte studier som undersøkte effekt av fysisk aktivitet på angst og/eller depresjon hos barn (49). Oversikten inkluderte 16 studier av barn i alderen 11-19 år. Søket ble sist oppdatert i 2005. Kvaliteten på dokumentasjonen i denne oversikten er imidlertid vurdert til å være så lav at vi ikke kan trekke noen konklusjoner om effekt.

Hva viser forskningen?

Fordi dokumentasjonen er av svært lav kvalitet er det for usikkert grunnlag til å kunne trekke konklusjoner om effekt av fysisk aktivitet på å redusere angst og depresjon hos barn.

Kognitiv terapi for angst, posttraumatisk stresslidelse og tvangslidelser

Vi inkluderte tre systematiske oversikter (Cary (2012); O’Kearney (2006); James (2005)) som undersøkte effekt av kognitiv atferdsterapi på angst, posttraumatisk stresslidelse og tvangslidelser hos barn og ungdom.

Kognitiv terapi i behandling av angst

Oversikten av James og kollegaer (2005) oppsummerer forskning på effekt av kognitiv terapi på barn og unge (under 19 år) med angstdiagnose (41). Oversikten inkluderte 13 studier og ble sist oppdatert i 2004. Resultater fra oversikten indikerer at barn som fikk kognitiv terapi hadde 42% redusert sannsynlighet for fortsatt å ha en angstdiagnose etter terapien sammenliknet med barn på venteliste eller som fikk narretiltak (relativ risiko (RR)=0.58 (95% KI 0.50-0.67)). Barn som fikk kognitiv terapi fikk også betydelig redusert sine angstsymptomer sammenliknet med kontrollgruppene (SMD=-0.58 (95%CI -0.76, -0.40) (1)).

Hva viser forskningen?

Kognitiv terapi reduserer trolig angst hos barn sammenliknet med barn som står på venteliste eller som får narretiltak.

Traumefokusert kognitiv terapi

Oversikten av Cary og kollegaer (2012) oppsummerer forskning på effekt av traumefokusert kognitiv terapi på barn og unge mellom 7 og 18 år som har opplevd en traumatisk hendelse (37). Barn som fikk terapi ble sammenliknet med en kontrollgruppe av barn som fikk annen type oppmerksomhet/sto på venteliste eller fikk annen terapi. Dato for siste litteratursøk er ikke oppgitt.

Resultatene for denne oversikten indikerer at barna som fikk traumefokusert kognitiv terapi hadde en betydelig reduksjon i symptomer på posttraumatisk stresslidelse sammenliknet med kontrollgruppen (SMD=0.67 (95% KI 0.53, 0.82)). Barna som fikk traumefokusert kognitiv terapi fikk også en moderat reduksjon av symptomer på depresjon sammenliknet med kontrollgruppen (SMD= 0.38, 95% KI 0.22, 0.54). Ett år etter terapien var det ingen effekt på depresjon hos disse barna (SMD=0.39, (95% KI 0.15, 0.63)), men den positive effekten på posttraumatisk stresslidelse vedvarte med en moderat effekt (SMD= 0.17 (95% KI -0.07, 0.41)).

Hva viser forskningen?

Traumefokusert kognitiv terapi reduserer trolig symptomer på posttraumatisk stresslidelse hos barn og unge som har vært utsatt for en traumatisk hendelse, sammenliknet med barn som står på venteliste/får annen type oppmerksomhet.

Traumefokusert kognitiv terapi reduserer trolig symptomer på depresjon hos barn som har vært utsatt for en traumatisk hendelse, sammenliknet med barn som står på venteliste/får annen type oppmerksomhet.

Kognitiv terapi og atferdsterapi for tvangslidelser

Oversikten av O' Kearny og kollegaer (2006) oppsummerer studier som har undersøkt effekt av kognitiv terapi og atferdsterapi på barn og unge (4-18 år) med tvangslidelser (48). Litteratursøket ble sist oppdatert i 2009, men ingen nye studier ble identifisert og oversikten ble dermed stående uforandret.

Sammenliknet med barn som sto på venteliste, fikk barn og unge som mottok kognitiv terapi/atferdsterapi redusert symptomer på tvangslidelser med en gjennomsnittsskåre på 10.71 poeng lavere på «Children's Yale-Brown Obsessive Compulsive Scale» (CY-BOCS), (gjennomsnittlig differanse (MD)=-10.71, (95% KI -17.04, 4.38)). Sammenliknet med barn som mottok narretiltak, fikk barn og unge i behandlingsgruppen redusert sine symptomer på tvangslidelser med en gjennomsnittsskåre på 5.24 poeng lavere på CY-BOCS (MD=-5.24 (95% KI -9.98, -0.50)). Barn/unge som mottok kognitiv terapi/atferdsterapi fikk også 37% redusert sannsynlighet for fortsatt å ha diagnose på tvangslidelse etter behandlingen, sammenliknet med kontrollgruppen (RR=0.63-0.63).

Hva viser forskningen?

Kognitiv terapi/atferdsterapi reduserer muligens alvorlighetsgraden av symptomer på tvangslidelser hos barn og unge sammenliknet med barn og unge som står på venteliste. Resultatene er imidlertid usikre ettersom dokumentasjonen er vurdert til å ha lav kvalitet.

Kognitiv terapi/atferdsterapi reduserer muligens symptomer på tvangslidelser, samt reduserer antall personer med diagnose på tvangslidelse sammenliknet med narretiltak. Resultatene er imidlertid usikre pga. lav kvalitet på dokumentasjonen.

Kombinasjonstiltak for behandling av angst og depresjon

Vi identifiserte tre systematiske oversikter over studier som undersøkte effekt av kombinasjonstiltak (psykologisk terapi sammen med antidepressiva).

En oversikt av Cox og kollegaer (2012a) oppsummerer forskning på effekt av kombinasjonstiltak på barn og unge (8-18 år) med depresjon (39). Oversikten ble sist oppdatert i november 2011. En annen oversikt av Cox og kollegaer (2012b) oppsummerer studier som undersøkte effekt av kombinasjonstiltak på tilbakefall og forverring av symptomer hos barn med depresjon (40). Søket ble sist oppdatert i juni 2011. Vi inkluderte én relevant sammenlikning fra denne oversikten. Den tredje oversikten, Hetrick og kollegaer (2010), oppsummerer studier som har undersøkt effekt av kombinasjonstiltak for barn og ungdom med posttraumatisk stresslidelse (42). Søket ble sist oppdatert i juni 2010.

Resultatene i oversikten av Cox (2012a) indikerer at kombinasjonstiltak har liten eller ingen effekt på depresjon hos barn og unge sammenliknet med antidepressiva alene (oddsratio (OR) 1.93 (95%KI 0.93, 4)). Det var heller ingen effekt på funksjonsevne (SMD=0.08 (95%KI -0.12, 0.28)) og symptomer på depresjon vurdert

både av lege (SMD=0.27 (95%KI -2.26, 1.72)) og av barna selv (SMD=0.06 (95%KI -0.28, 0.17)) seks til ni måneder etter behandlingen. Kombinasjonstiltak viste også liten eller ingen effekt på selvmordstanker hos barn og unge med depresjon sammenliknet med antidepressiva alene (SMD=-1.89 (95%KI -4.50, 0.72)).

For den andre oversikten av Cox og kollegaer (2012b) er vi usikre på effekten av kognitiv terapi på depresjon blant barn og unge (opp til 25 år) som tidligere har vist bedring av symptomer, sammenliknet med antidepressiva alene.

Oversikten av Hetrick 2010 identifiserte ingen relevante studier. Det er derfor usikkert om effekt av kombinasjonstiltak for barn og ungdom med posttraumatisk stresslidelse.

Hva sier forskningen?

Kombinasjonstiltak kan ha liten eller ingen effekt på funksjonsevne, symptomer på depresjon og tilbakefall/forverring sammenliknet med antidepressiva alene. Resultatene er imidlertid usikre grunnet lav kvalitet på dokumentasjonen.

Kombinasjonstiltak kan til en viss grad redusere antall barn med diagnose på tvangslidelser, men har muligens ingen eller liten effekt på funksjonsnivå, depressive symptomer og selvmordstanker hos barn med depresjon sammenliknet med antidepressiva alene. Resultatene er imidlertid usikre grunnet lav kvalitet på dokumentasjonen.

Diskusjon

Effekt av forebyggende tiltak

Vi fant bare én systematisk oversikt som undersøkte barn som var utsatt for risikofaktorer enten på individuelt nivå, i familien eller i lokalsamfunnet. Denne oversikten undersøkte forebyggende tiltak rettet mot tenåringsforeldre. Tenåringsforeldre anses å ha høyere risiko for å utvikle psykiske helseproblemer enn den generelle befolkningen (51). Psykososiale tiltak rettet mot tenåringsforeldre er én type tiltak som gis til denne gruppen. Ettersom dokumentasjonen i denne oversikten er vurdert til å ha svært lav kvalitet kan vi ikke trekke noen konklusjoner. Vi kan heller ikke generalisere funnene fra oversikten til å gjelde barn og unge utsatt for andre risikofaktorer siden tenåringsforeldre er en svært spesifikk gruppe.

Vi fant andre systematiske oversikter som undersøkte flere risikogrupper blant barn og unge, som f. eks. ungdomskriminelle, etniske minoriteter og ungdom med lærevansker, men disse oversiktene ble ekskludert av metodologiske årsaker (som manglende informasjon om litteratursøk og risiko for systematiske skjevheter i seleksjon av studier). Vi fant ingen oversikter som undersøkte risikofaktorer knyttet til å ha skilte foreldre eller foreldre med psykiske helseproblemer.

Effekt av behandling av barn og unge med diagnose/symptomer på depresjon og angst

Vi fant åtte systematiske oversikter som undersøkte effekt av psykososiale tiltak (psykologiske/pedagogiske tiltak, fysisk aktivitet og kognitiv terapi/atferdsterapi) for å behandle angst og depresjon hos barn. Selv om vi søkte etter andre typer behandlingstiltak (f.eks. samtaleterapi, sosial trening, yrkesopplæring, leketerapi) fant vi ingen systematiske oversikter av høy kvalitet over slike tiltak.

Psykologiske/pedagogiske tiltak

Psykologiske/pedagogiske tiltak gir muligens færre symptomer på depresjon, og øker tilfriskning fra depresjon tre til ni måneder etter behandling, sammenlignet med ingen behandling. Sammenlignet med narretiltak (placebo) har slike tiltak muligens ingen effekt på depresjonssymptomer eller –diagnose. Kunnskapsgrunnlaget bak disse konklusjonene er vurdert til å være av lav kvalitet ettersom de inkluderte studier hadde høy risiko for skjevheter.

Fysisk aktivitet

Fysisk aktivitet blir anbefalt i retningslinjer for folkehelsen i mange land (bl.a. Norge og USA) som en måte å bekjempe depresjon og opprettholde en god psykisk helse på (53, 54). Det finnes en rekke teorier på feltet om årsaker til at fysisk aktivitet kan virke positivt på depresjon, bl.a. at fysisk aktivitet kan tenkes å ta oppmerksomheten bort fra årsaken til depresjonen eller styrke ens mestringstro (55). Til tross for denne oppmerksomheten på fysisk aktivitet fant vi kun én systematisk oversikt av høy kvalitet som undersøkte effekt av fysisk aktivitet (aerobisk trening og trening med vekter). Det er usikkert om disse treningstiltakene har effekt på barn som allerede får psykiatrisk behandling (49) ettersom dokumentasjonen er vurdert til å ha svært lav kvalitet.

Så langt vi kjenner til finnes det lite forskning på betydningen av fysisk aktivitet/trening for barn under psykiatrisk behandling. De inkluderte studiene undersøkte kun effekt på depresjon, og kun på ungdommer over 16 år. Det er derfor vanskelig å trekke konklusjoner på effekt av fysisk aktivitet på yngre barn under psykiatrisk behandling. I tillegg hadde studiene kun oppfølging i seks til åtte uker, slik at vi ikke vet noe om langtidseffekter av slike tiltak.

Kognitiv terapi

Kognitiv terapi har til hensikt å endre en persons uhensiktsmessige atferd ved å forandre personens tankemønstre. Dette skjer gjennom et strukturert og målrettet behandlingsforløp. Kendall (1993) påpeker at i kognitiv terapi rettet mot barn benytter man både aktiv prestasjonsbaserte metoder så vel som kognitive tiltak for å endre barnets tenkning og atferd (56).

De tre oversiktene vi inkluderte så på effekt av kognitiv terapi på barn med enten posttraumatisk stresslidelse, angst eller tvangslidelse. Kognitiv terapi favner en

rekke forskjellige tilnærminger i behandlingen. I disse tre oversiktene ble følgende former for kognitiv behandling undersøkt: Traume-fokusert kognitiv terapi, atferds- og kognitiv atferds terapi (fokus på situasjonsbaserte og indre triggere for angst som leder til tvangshandlinger), og manual-basert kognitiv terapi (minst åtte sesjoner) utført av en erfaren terapeut.

Kognitiv terapi sammenlignet med venteliste forbedrer muligens alvorlighetsgraden av symptomer på tvangslidelse. Sammenlignet med narretiltak kan kognitiv terapi muligens gi færre symptomer på tvangslidelse, og gi tilfriskning etter behandling. Kunnskapsgrunnlaget er vurdert til å være av lav kvalitet grunnet høy risiko for skjevheter i de inkluderte studiene.

Til tross for at det finnes mye forskning på kognitiv terapi finnes det få systematiske oversikter av høy kvalitet på temaet.

Kombinasjonstiltak

De fleste retningslinjer anbefaler varsom bruk av psykofarmaka i behandlingen av barn og ungdommer med psykiske lidelser. Det er imidlertid ikke uvanlig å kombinere psykososiale tiltak/terapi sammen med antidepressiva. Vi inkluderte tre systematiske oversikter som undersøkte slike kombinasjonstiltak rettet mot barn med depresjon, posttraumatisk stresslidelse og tvangslidelser. De fleste tiltakene besto av en form for kognitiv terapi i kombinasjon med antidepressiva.

Kognitiv terapi i kombinasjon med antidepressiva, sammenlignet med medisin alene har muligens ingen eller liten effekt på funksjonsnivå, depressive symptomer, tilfriskning eller selvmordstanker. Det reduserer muligens alvorlighetsgraden på symptomer på tvangslidelse og på antall diagnoser etter behandling. Basert på narrative analyser i oversikten av Cox og kollegaer (2012b (40)) kan kombinasjon av kognitiv terapi og antidepressiva også ha dårligere effekt på å forebygge tilbakefall på depresjon enn antidepressiva alene. Kunnskapsgrunnlaget er vurdert til å være av lav kvalitet ettersom de inkluderte studiene var små og hadde høy risiko for skjevheter.

Det finnes ingen relevant dokumentasjon på effekt av kombinasjonstiltak rettet mot barn med post-traumatisk stresslidelse, og vi kan dermed ikke trekke noen konklusjoner om effekt av kombinasjonstiltak rettet mot denne gruppen.

Annen relevant forskning

Mengden forskning på barn og ungdom med psykiske problemer er stadig voksende. Siden vi avsluttet denne rapporten har det kommet til flere nye mulig relevante oversikter på feltet. Videre har The British Psychological Society oppsummert studier på tiltak rettet mot barn og unge med depresjon med tanke på å utvikle retningslinjer for praksisfeltet. Oversikten inkluderer tiltak gitt i primærhelsetjenesten, spesialisthelsetjenesten og tiltak gitt gjennom andre kanaler (for eksempel skole)

(58). To andre nylig publiserte systematiske oversikter har sett på effekt av fysisk aktivitet og sport på depresjon hos barn (59,60). I begge oversiktene fant man at å delta i fysiske/sportslige aktiviteter kan ha en liten, men positiv effekt på depresjon og psykososial helse hos barn.

Implikasjoner for praksisfeltet

Det kan være flere årsaker til at konklusjonene fra de inkluderte oversiktene om effekt av psykososiale tiltak rettet mot barn og unge går i ulike retninger og har ulik styrke.

Sammenliknet med ingen tiltak ser man en positiv effekt av psykologiske/pedagogiske tiltak på depresjon, men når man sammenlikner med annen behandling eller narretiltak er ikke psykologiske/pedagogiske tiltak bedre enn disse. En forklaring på dette kan være at barn med mange/sterke symptomer på depresjon sannsynligvis har nytte av tiltak uansett hva det inneholder, også tiltak i form av ekstra oppmerksomhet fra voksne. Med andre ord kan hvilket som helst tiltak tenkes å være bedre enn ingen tiltak for barn med depresjon.

Kognitiv terapi synes å ha effekt i behandling av angst, posttraumatisk stresslidelse og tvangslidelser hos barn. Når kognitiv terapi kombineres med antidepressiva ser man imidlertid at det ikke virker bedre enn antidepressiva alene i behandling av depresjon hos barn. Den samme tendensen gjelder for behandling av tvangslidelser. Dette indikerer at kognitiv terapi kan være bedre enn ingen tiltak, men at det muligens har en begrenset effekt sammenliknet med antidepressiva. Det er imidlertid viktig å påpeke at de fleste utfallene i disse oversiktene ble målt kort tid etter terapien. Det er derfor mulig at kognitiv terapi har større effekt på lang sikt gitt at hensikten med terapien er å endre uhensiktsmessige tankemønstre og atferd. Det er videre viktig å være forsiktig med å sammenlikne funn fra oversikter som har sett på forskjellige typer tiltak og tiltak rettet mot ulike grupper.

Selv om det meste av dokumentasjonen i de inkluderte oversiktene er vurdert til å ha lav til svært lav kvalitet, er det ikke sikkert at styrken og retningen på effektene ville vært annerledes om dokumentasjonen var av bedre kvalitet.

Konklusjon

Forskning tyder på at behandlingstiltak som kognitiv terapi trolig hjelper barn med angst, posttraumatisk stresslidelse og tvangslidelse. Psykologiske/pedagogiske tiltak er muligens gunstig for depresjon sammenliknet med ingen tiltak, men har muligens ingen effekt sammenliknet med narretiltak. Sammen med antidepressiv medisin har kognitiv terapi muligens liten eller ingen effekt på depresjon, funksjonsevne eller tilfriskning fra depresjon, men kan muligens være gunstig for barn med tvangslidelse.

Det er vanskelig å konkludere om effekten av de inkluderte tiltakene siden mesteparten av kunnskapsgrunnlaget er vurdert til å være av lav eller svært lav kvalitet.

Key messages (English)

Many children and adolescents struggle with mild symptoms of depression and/or anxiety at some point. When these symptoms begin to interfere with daily functioning and quality of life, children may need professional assistance to improve their well-being. Psychosocial interventions aimed at depression or anxiety are non-medicinal interventions, and can target children from risk groups (preventive interventions), children with elevated symptoms of, or diagnoses of depression or anxiety (treatment interventions).

The Norwegian Knowledge Centre for the Health Service has identified, evaluated and summarized research on the effect of psychosocial interventions. We included nine systematic reviews. The available evidence shows:

Preventive interventions: We are uncertain of the effect of preventive interventions.

Treatment interventions:

- CBT for children with anxiety disorders seems to result in fewer symptoms of anxiety, depression and post-traumatic stress. The evidence is of low quality.
- CBT possibly reduces the severity of symptoms of obsessive compulsive disorder. The evidence is of low quality.
- CBT combined with medication compared to medication alone has possibly little or no effect on functioning, depressive symptoms or suicidal thoughts among children with depression. Children with obsessive compulsive disorder possibly improve after treatment with CBT. The evidence is of low quality.
- Children who receive psychological/educational treatment possibly show fewer symptoms of depression after three to nine months after treatment when compared to no treatment. The interventions have possible no effect when compared with placebo. The evidence is of low quality.

It is difficult to conclude on the effects of any of the included interventions given that the results are mostly based on evidence of very low to low quality.

Title:

The effect of psychosocial interventions for preventing and treating depression and anxiety among at-risk children and adolescents

Type of publication:

Systematic review

A review of a clearly formulated question that uses systematic and explicit methods to identify, select, and critically appraise relevant research, and to collect and analyse data from the studies that are included in the review. Statistical methods (meta-analysis) may or may not be used to analyse and summarise the results of the included studies.

Doesn't answer everything:

- Excludes studies that do not meet the inclusion criteria
- Excludes studies of low or moderate quality
- No health economic evaluation
- No recommendations

Publisher:

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External peer review:

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Executive summary (English)

Background

Many children and youth struggle with depression and anxiety, which can continue into adulthood (2). Some groups of children are at greater risk for developing anxiety or depression based on individual (e.g. personality or exposure to trauma), family (e.g. parent with a mental health disorder) or community characteristics (e.g. poor neighbourhood). Psychosocial interventions are non-medicinal (pharmacological) interventions aimed either at preventing or treating depression and anxiety symptoms among at-risk children and adolescents, or those who have already been diagnosed. Examples of psychosocial interventions include coping skills programmes (such as parenting programmes for teenage parents), exercise, psychological or educational interventions, cognitive behavioural therapy (CBT), or combined therapy (psychological therapy with antidepressant medications).

Objective

The objective of this report is to systematically identify, evaluate, and review the evidence on the effects of psychosocial prevention and treatment interventions for at-risk children and adolescents (0-18 years old).

Method

We searched for systematic reviews in relevant databases from January to April 2013. Two researchers independently assessed titles and full text articles for inclusion based on predefined inclusion criteria: systematic reviews of high quality that examined the effect of selective and indicated psychosocial interventions and psychosocial treatment interventions aimed at preventing or treating depression and/or anxiety among children and adolescents (0-18 years old) exposed to either child, family or community risk factors for developing symptoms of depression and/or anxiety, or who have an existing diagnosis. Preventive interventions are aimed at children who are exposed to risk factors. Treatment interventions target children who have been identified as having elevated symptoms of, or a diagnosis of depression and/or anxiety.

Relevant reviews were then critically appraised by two researchers, and moderate and low quality reviews were excluded. We extracted data from the remaining included reviews using a form. We then assessed the quality of the evidence using GRADE. We reviewed the quality of the evidence for outcomes related to symptoms severity, presence of diagnosis, and quality of life.

Results

We identified 3392 systematic reviews in the literature search. We assessed the quality of relevant systematic reviews using the checklist for systematic reviews from the Norwegian Knowledge Centre. We included nine high quality systematic reviews. These reviews included children and adolescents in risk groups, such as teenage parents, and those with depression, anxiety, obsessive compulsive disorder, and post-traumatic stress disorder. Most of the interventions were compared to wait-list, treatment as usual, or a placebo. The certainty of the evidence was of very low to moderate quality, however, most was assessed as having very low to low quality. This was often because there were an insufficient number of participants or the results were too imprecise (the confidence intervals around the effect size were very wide) to draw strong conclusions from, or because the primary studies were at high risk of bias. Based on the available evidence, we found that:

Preventive interventions: We are uncertain of the effect parenting programs for adolescent parents.

Treatment interventions:

- CBT compared to wait list/placebo probably leads to improvement among children with anxiety diagnoses, and improves anxiety, PTSD and depression symptoms (moderate quality evidence).
- CBT compared to wait list may improve the severity of obsessive compulsive symptoms. When compared to placebo it may lead to fewer OCD symptoms, and remission from OCD after treatment (low quality evidence).
- CBT combined with medication compared to medication alone may have little or no effect on levels of functioning and depressive symptoms, remission rates, and suicide thoughts among children with depression. It may slightly reduce the severity of OCD symptoms and improve remission post-treatment (low quality evidence).
- Psychological/educational interventions compared to no intervention may improve depressive scores and remission (number with diagnosis) up to three to nine months post-treatment. Compared to placebo they may have little or no effect on depression scores post-treatment (low quality evidence).

Discussion

The evidence for selective, indicated and treatment interventions for depression and anxiety disorders was assessed as being mainly of very low to low quality, with the exception of evidence on CBT for anxiety and post-traumatic stress disorders which was of moderate quality. This is mostly because the included reviews included small studies with high methodological concerns or insufficient reporting of methods and/or results. Moreover, results from the meta-analyses in the included reviews were often imprecise. This very low and low quality evidence means that we are very uncertain regarding the results for most of the reported outcomes.

Conclusion

The available evidence suggests that treatment interventions, such as cognitive behavioural probably benefit children and adolescents with anxiety or post-traumatic stress disorder and the severity of obsessive compulsive symptoms. Psychological/ educational interventions, may benefit children with depression compared with no treatment, and have possibly no effect compared with placebo or attention control.

CBT combined with medication may have little or no effect on depressive symptoms, functioning or remission from depression, but may benefit children with obsessive compulsive disorder (OCD).

It is difficult to conclude with certainty on the effects of most of the included interventions given that the results are based on evidence of low or very low quality.

Need for further research

While it is likely that more primary research has been published since the included systematic reviews were conducted, there is still a need for high quality primary research examining at-risk groups of children and youth. Given that the majority of relevant reviews were excluded from this review due to low methodological quality, we also need more high quality systematic reviews with recent searches in order to capture primary research conducted after 2011. We also need more systematic reviews examining interventions such as talk therapy, physical activity, and psycho-education. Moreover there is a need for reviews on the effect of psychosocial interventions on risk groups such as children in contact with child services, children of divorced parents, or children who have a parent with mental health problems.

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Forord

Nasjonalt kunnskapssenter for helsetjenesten fikk i oppdrag fra Barne-, ungdoms- og familiedirektoratet (Bufdir) å oppsummere tilgjengelig forskning om psykososiale forebyggende tiltak og behandling mot depresjon og angst for risikoutsatte barn og ungdom. Denne oversikten over systematiske oversikter er tenkt som et dokumentasjonsgrunnlag for nasjonale faglige retningslinjer for psykososiale tiltak for barnevernsbarn og -ungdom.

Prosjektgruppen har bestått av:

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Vi takker forsker Rigmor C. Berg og forsker Astrid Austvoll-Dahlgren, begge Kunnskapssenteret, for bidrag som interne fagfeller.

Denne oversikten er ment å hjelpe beslutningstakere i Bufdir til å fatte velinformerte beslutninger som kan forbedre kvaliteten i tjenestene som er tilbudt barn og ungdom som er har depresjon eller angst. I møtet med den enkelte barn eller ungdom må forskningsbasert dokumentasjon ses i sammenheng med andre relevante forhold inklusive barnas behov.

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Objective

Many children and adolescents struggle with mild symptoms of depression and/or anxiety at some point. However, when these symptoms begin to interfere with daily functioning and quality of life, children and adolescents may need professional assistance to improve their well-being. Psychosocial selective, indicated and treatment interventions are non-medicinal interventions to prevent or reduce depressive or anxiety symptoms among children and adolescents in risk groups for depression and/or anxiety, or those with an existing diagnosis. Examples of such interventions include exercise, educational interventions, and cognitive behavioural therapy.

This systematic review identifies, evaluates and summarizes systematic reviews examining the effect of psychosocial interventions to prevent and to treat depression and/or anxiety among at-risk children and adolescents and their families.

Background

Depression and anxiety among children

It is estimated that one out of every three to four children and adolescents (hereafter referred to as children) will meet criteria for a Diagnostic and Statistical Manual of Mental Disorders (DSM) mental disorder during a lifetime (3). Only a small proportion, approximately one out of ten, will actually have sufficiently severe symptoms (distress or impairment) to warrant intervention (4).

Results from Merikangas and colleagues' 2010 (2) survey of American youth indicate that the lifetime prevalence of mood disorders for 13 to 18 years-olds is 11.2%. In this study 11.7% of adolescents met criteria for major depressive disorder (MDD) or dysthymia. Lifetime prevalence for anxiety among this same group is estimated to be 31.9% (2).

According to Wichstrøm's (5) study of 12000 Norwegian adolescents, 5% are quite distressed or troubled according to Kandel and Davies' measure of depressed mood score (6). Wichstrøm points out that "[t]his figure is within the range of prevalence estimates of depressive disorder commonly found in adolescent community samples" (5) p. 236). Furthermore, Heiervang and colleagues found that only 13% of Norwegian children (8-10 years-old) who suffer from internalizing problems report receiving treatment (7). A meta-analysis of epidemiologic studies based on children born between 1965 and 1996 conducted by Costello, Erkanli and Angold (2006) found that prevalence for depression was 3% for children (under 13), and 6% for adolescents 13-18 (girls: 6%, boys: 5%) (8). Merikangas and colleagues found that the prevalence of 12-Month, DSM-IV-Defined anxiety disorders in US Children 8 to 15 years old was 0.7 for anxiety disorders without impairment, and 0.4 for disorders with severe impairment (9).

Depression can hamper a child or adolescent's ability to perform at school (10) and can also lead to more serious consequences such as suicide (11). Depression often begins in adolescence but continues well into adulthood in many cases (12). It is therefore important to ensure that appropriate and effective interventions to prevent and/or treat mental health problems, such as depression, are available to support children, especially those who are at risk or demonstrate elevated symptoms.

Children and adolescents at risk

The first challenge in defining “at-risk” children and what that label implies, according to Schonert-Reichl’s 2000 discussion paper (13), is the frequency and variation in how it is used (p. 5). Schonert-Reichl (13) discuss how the term ‘at-risk’ is used differently in literature on socially-disadvantaged children, in the educational literature and in developmental psychology literature.

A second challenge of defining “at-risk” adolescents is defining what they are at risk for. Statham (14) attempts to address this issue by quoting the UK National Service Framework which defines the term “children in special circumstances” as children who are likely to be “at risk of achieving poorer outcomes than their peers” (p. 290). According to Statham (14) the category, “at-risk” children, can include children who: 1) are asylum seeking and refugees, 2) are engaged in anti-social/criminal behaviour, 3) have families who are homeless, are teenage parents, 4) have parents with drug, alcohol or mental health problems, 5) live/have lived with domestic violence, or 6) have been abused or neglected (14). Children may experience several of these disadvantages concurrently.

For the purpose of this review of reviews, we have defined “at-risk children” as children who have been exposed to one or more of the following categories of risk factors. The following categories and descriptions are based on Moore 2006 (15):

Child risk factors: measures include personality/temperament, experience of trauma/abuse (16, 17), contact with child welfare services or the criminal justice system.

Family risk factors: measures include poverty, low parental education, no homeownership, single parents (18), welfare dependence (19), family dysfunction, abuse (20), parental mental illness, substance abuse or other illness (16).

Community risk factors: measures include poverty, crime, unemployment, factors related to the neighbourhood or school, or high rates of teen parenthood

Types of internalizing problems

Although symptoms of depression and anxiety are often a normal part of child development, when they become extreme, it can indicate a more serious mental health problem. According to a recent survey by the Centre for Disease Control and Prevention in the United States, after attention deficit hyperactivity disorder (ADHD) and behavioural/conduct disorders, anxiety (point prevalence 3.1%) and depression (2%) are the most common mental health issues for children ages three to 17 years (21) p.

1). The term “internalizing problems” is a broad description of how individuals perceive, attribute and control problems. Internalizing problems are often seen as problems of “over-control” of internal states of emotions and cognitions where social withdrawal, demand for attention, feeling of inferiority and dependency are central aspects of this problem type (22). Anxiety and depression are examples of two common internalizing problems. In this report, the terms anxiety and depression will refer to the descriptions below, unless otherwise specified (for example when review authors have a significantly different definition).¹

Anxiety disorders

Anxiety disorders are one of the most common classes of psychiatric disorders among children (23). Anxiety during late childhood or adolescence leads to a two to three fold risk of anxiety and depression in adulthood (24). We limited inclusion of anxiety disorders to generalized anxiety disorder (GAD), social phobia/anxiety, separation anxiety, post-traumatic stress disorder (PTSD), and obsessive-compulsive disorder (OCD) as these tend to be the most prevalent among types of anxiety disorders (25).

The Diagnostic and Statistical Manual of Mental Disorders (4th Ed;DSM-V) (26) defines anxiety disorders as follows (27)²:

- With generalized anxiety disorder (GAD) the individual experiences excessive worry most days over a period of at least six months and during which has problems controlling the feeling. For children, the individual must exhibit at least one of the following symptoms, which are not part of another mental disorder: feeling tense, fatigued, problems concentrating, irritability, muscle tension, or sleep problems. The symptoms cause distress and difficulty functioning in daily life and are not due to substance abuse or a medical issue (28). GAD typically makes its debut in older children and is more common among women than men (29).
- Social phobia is a fear of social situations or situations where performance is required.
- Separation anxiety refers to the stress a child feels when a primary caregiver is absent.
- Obsessive-compulsive disorders are characterized by obsessions (constant and often irrational thoughts which seem uncontrollable) and compulsions (routines or actions enacted to address thought).
- PTSD follows a traumatic event and causes fear or feelings of helplessness.

¹ Children and adolescents who demonstrate elevated levels for some of the symptoms listed below, and those who are at risk for developing these symptoms are also included.

² Although Norwegian clinicians use ICD-10, most research internationally is based on DSM, so these definitions are therefore used in this report.

Depression

For the purpose of this paper we limited depressive disorders to the definition given by the DSM-IV-TR (26): a depressive disorder is given as a diagnosis when a person experiences predefined symptoms persisting at least two weeks with either impaired functioning or clinical distress (26). These symptoms include depressed mood and/or loss of pleasure in addition to at least four of the following somatic and/or cognitive symptoms: changes in weight or appetite, sleep changes, psychomotor changes (agitation or retardation), loss of energy, worthlessness or guilt, concentration problems or indecisiveness, and thoughts of death/suicide (26). Irritability has been added in DSM-IV-TR in addition to the two main symptoms (depressed mood and loss of pleasure) of adolescent depressive disorders (26, 30). Children between three and six years old who suffer from depression are distinguished by feelings of guilt and extreme exhaustion, but otherwise do not show delayed development (31).

Comorbidity

Comorbidity for anxiety and depression among children is estimated to range from 15.9% to 61.9% (32). In a review of empirical studies, Brady and Kendall 1992 (32) conclude that there is a significant relationship between anxiety and depression in children, including a large overlap between symptoms of the two disorders. They continue, however, that the two disorders are distinguishable, and that there are differences between depressed, anxious and dually diagnosed children (32).

Psychosocial interventions

According to Huibers (33), “[a] general characteristic of psychosocial interventions is that some sort of psychological process comprises the central dynamic in the treatment of the patient” (p.5). Psychosocial interventions for children include among other things, exercise therapy, programmes to increase coping skills (e.g. parenting programmes for teenage parents), psychological/educational interventions, psychological treatment (including cognitive behavioural therapy (CBT) and trauma-focused CBT), and combined therapy (psychological treatment plus antidepressants). Any of the above interventions can also involve family members in addition to the child/adolescent. In Norway, psychosocial interventions for children are usually offered by the commune, or by the Centre for Child and Adolescent Mental Health (BUP).

Timing and target group of intervention

There are different levels of interventions targeting depression and/or anxiety, based on the perceived or real level of risk. Universal preventive interventions target the population at large regardless of their risk status. According to Gordon 1983 (34), selective preventive interventions are implemented for individuals who are “a member of a subgroup of the population distinguished by age, sex, occupation, or

other obvious characteristic whose risk of becoming ill is above average” (p. 108). Indicated interventions target individuals who have been identified as having precursory but noticeable symptoms or biological markers related to mental disorders, but who have not yet been diagnostic with a condition ((35)p. 25). Treatment programs target individuals who have been diagnosed with a condition. In this review, we have not included universal interventions. Preventive interventions have been defined as those aimed at risk-groups (selective interventions). Treatment interventions are those aimed at youth with symptoms of or a diagnosis of depression and/or anxiety (and include indicative interventions).

There exists a large body of research on interventions for depression and anxiety among children, both in terms of empirical studies and systematic reviews. The current amount of research makes it difficult for decision makers to assess exactly what works and what does not. This review of reviews is important in that it provides an overview of high quality systematic reviews in an effort to summarize the effects of a range of interventions for depression and anxiety among children.

Method

In this systematic review of reviews a systematic literature search was conducted by a research librarian. Thereafter, at least two researchers independently went through each of the following steps: identification of relevant systematic reviews, quality appraisal of relevant reviews, data extraction from high quality relevant reviews, and an assessment of the quality of the evidence. We will describe each of these steps below.

Literature Search

We searched systematically through the following databases for relevant systematic reviews:

- Ovid MEDLINE
- Ovid EMBASE
- Ovid PsycINFO
- Campbell Library
- Cochrane Database of Systematic Reviews
- Database of Abstracts of Reviews of Effects (CRD)
- ISI Web of Science/Social Science Citation Index
- Sociological Abstracts
- NHS Evidence
- Cinahl
- ERIC
- OpenSIGLE
- SBU
- Sosialstyrelsen
- SFI

We also searched for grey literature in Google and Google Scholar and went through the reference lists of relevant reviews to identify more references.

The research librarian, Karianne Thune Hammerstrøm, planned and conducted the systematic search together with project leader Heather Menzies Munthe-Kaas (HMK). The full search strategy can be found in appendix 1. (see www.kunnskaps-senteret.no/xxx). The search was last updated in April 2013.

Inclusion Criteria

Given the broad scope of this review question, both in terms of population and intervention, and that there already exists a large body of literature reviews and summaries on interventions for depression and anxiety among children, we chose to search for and summarize systematic reviews instead of primary studies.

With the commissioners of the report and other experts in child welfare, we developed a definition of the population and interventions which would be relevant for this review of reviews.

We included only systematic reviews of high methodological quality. For the purpose of this review, a systematic review is defined as a systematic literature search of two or more databases where two or more authors have included relevant studies according to pre-defined inclusion/exclusion criteria, and appraised the methodological quality of the included studies. Where we identified reviews of reviews, we went through the reference list for the review and included relevant systematic reviews.

Population:

- “At-risk” children (0-18 years old) exposed to either child, family or community risk factors for developing symptoms of internalizing problems (as defined on page 4);
- children/adolescents who have been identified (diagnosed) as having internalizing problems (as defined on page 4) regardless of pre-existing risk factors, and their respective families.

Systematic reviews which defined the population as “at-risk” without discussing child, family or community risk factors specifically, and which met all other inclusion criteria were included.

Intervention:

Psychosocial interventions (where *psychosocial* includes psychological therapies and psychosocial interventions) aimed at preventing or treating depression and/or anxiety among:

1. “at-risk” children and/or their families or;
2. children/adolescents diagnosed with depression and/or anxiety.

These interventions could be implemented alone or in addition to treatment as usual (including pharmaceutical treatments). Family interventions had to have included an element directed at the child/adolescents.

Comparison: No intervention, other psychosocial interventions, or care as usual

Outcomes: Primary: Presence or symptoms of depression and/or anxiety; duration of episode, recurrence, or continuation into adulthood

Secondary: Quality of life, school performance, community engagement, social skills, coping skills, functioning, use of health care services, levels of stress, physical health.

Studies were not excluded on the basis of outcomes. All durations were included (including outcomes after acute phase treatment, 12-16 weeks).

We included systematic reviews that reported parent, teacher, practitioner and/or child self-report measures as well as all diagnostic scales. Both measurements and scales aimed at identifying depression and anxiety separately and together were included.

Language: No limits

Exclusion Criteria

Study design: Systematic reviews of low quality; systematic reviews which did not examine/analyse medical and psychosocial interventions separately or which examined interventions aimed at the general populations (i.e. adults and children) and did not include a sub-group analysis of the relevant population.

Population: Children and adolescents with drug addictions, children with a primary diagnosis (the diagnosis which induces the most problems in daily life) other than depression and/or anxiety.

Intervention: Pharmaceutical interventions only, such as selective serotonin reuptake inhibitors (SSRIs); alternative treatments, such as homeopathic remedies, herbal medicine or acupuncture; universal preventative interventions (targeting the general population of children without them having been identified as at-risk, or diagnosed with anxiety and/or depression); interventions targeting externalizing problems.

Outcomes: Service delivery or process implementation; access to mental health services.

Study selection

The project leader, Heather Menzies Munthe-Kaas (HMK), and one of three other researchers (Nora Blaasvær (NB), Sissel Johansen (SJ) or Wendy Nilsen (WN)) independently of one another went through all titles and abstracts that resulted from the systematic literature search, and included/excluded references according to pre-defined inclusion criteria from the project plan (outlined above), and discussed their assessments. In the case of disagreement, the reference was promoted to the full-text level. References meeting the inclusion criteria were ordered and read in full-text. HMK, WN, NB and SJ independently of one another read the full-text articles and assessed them for inclusion/exclusion based on a pre-defined inclusion form (see Appendix 8) and discussed their assessments.

Quality appraisal

Two of the researchers independently (HMK, SJ, WN, NB) appraised the quality of each of the relevant systematic reviews using the Norwegian Knowledge Centre Checklist for Systematic Reviews (36). The assessments were compared, and where there were disagreements, a third person was consulted. We originally intended to include systematic reviews of moderate and high quality. However, we identified more relevant systematic reviews than expected, and it was not feasible to extract and synthesize data from such a large number of reviews given the available time and resources. Systematic reviews assessed as having low or moderate quality were thus excluded. See Appendix 7 for a table with the final quality assessment scores for each review.

Data extraction and synthesis

High quality systematic reviews were only included if they had the same research question or inclusion criteria (PICO; population, intervention, comparison, outcomes) as outlined above. In the case where a systematic review looked at a more general PICO, but included a sub-group analysis matching the relevant PICO, we extracted data from the review for the relevant primary studies only.

HMK extracted data from the included reviews using a standard form developed based on the inclusion criteria and project plan, and one other researcher double checked the extraction. The following types of data were extracted: author, title, date of publication, date of literature search, number of studies included in the review, number of participants in the included studies, country of origin in the original studies, size of the study population, dropout, methods for evaluating methodological

quality of the primary studies, quality of the primary studies, type of intervention, type of control group/intervention, length of follow-up, and relevant outcome measures.

When there was overlap between systematic reviews (i.e., included the same studies, or examine the same question), we extracted data from the systematic review with the most recent search date.

Where possible, we reported the effect sizes from the individual meta-analyses from the included systematic reviews. Where meta-analyses were not performed, we presented narrative description of the findings, or a description of the primary studies included in a relevant sub-group analysis as described in the systematic review.

Grading the quality of the evidence

We assessed the certainty of the synthesized evidence for each main outcome using GRADE (Grading of Recommendations, Assessment, Development, and Evaluation). GRADE is a method for assessing the certainty of the evidence in systematic reviews, or the strength of recommendations in guidelines. GRADE has four levels of certainty:

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

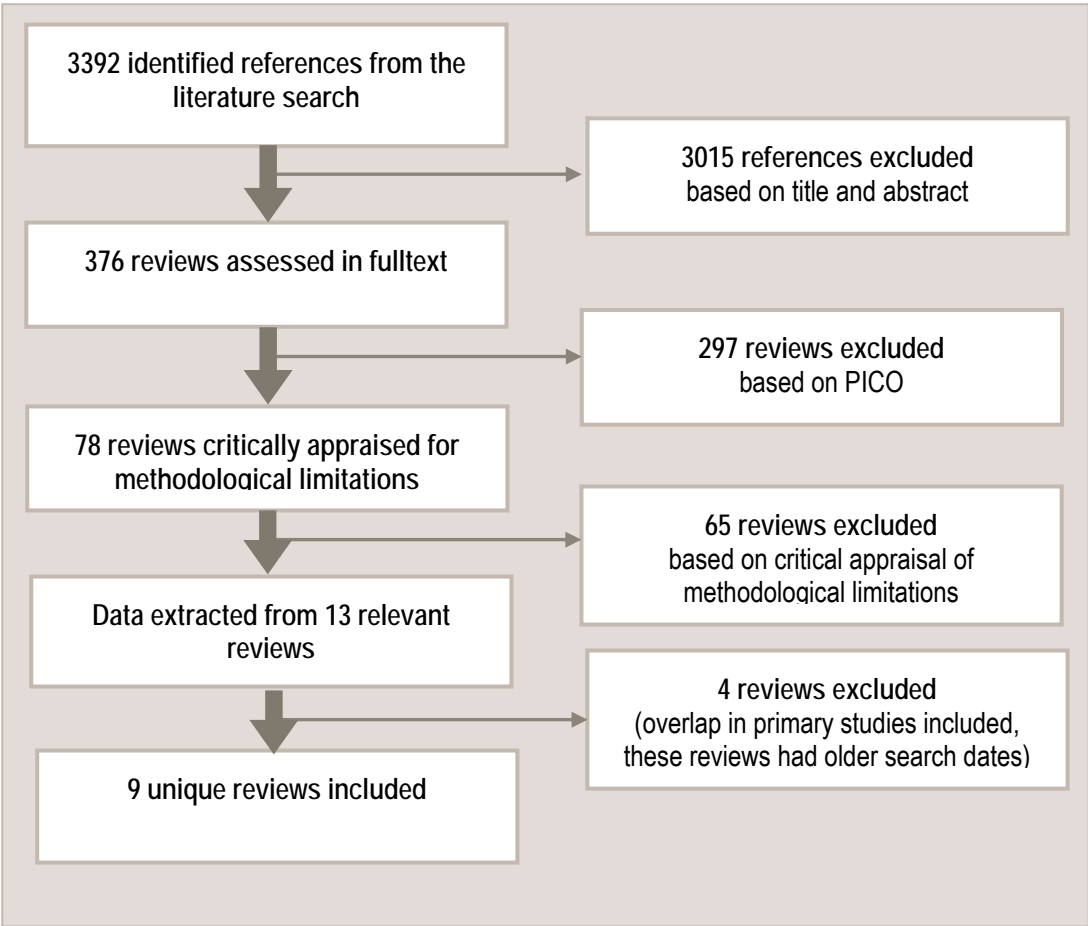
Very low quality: We are very uncertain about the estimate.

Assessments are done for each outcome and are based on evidence coming from the individual primary studies contributing to the outcome. For more information on GRADE visit www.gradeworkinggroup.org, or see Balshem and colleagues 2011 (37). For a detailed description of the Norwegian Knowledge Centre's procedures, visit www.kunnskapssenteret.no to access our Handbook.

Results

The systematic literature search for systematic reviews was conducted from January to April 2013. We identified 3392 unique references. The flow chart for search results, references and full text is presented in figure 1.

Figure 1. Flow chart for search results



Of the 3392 references we identified, we assessed 376 as potentially relevant and ordered them in full text. Many of these were literature reviews without systematic searches, or did not specifically examine interventions for children.

After excluding 297 articles that did not meet the inclusion criteria, we critically appraised the remaining 78 systematic reviews. Sixty-five of these were assessed as

having moderate or low methodological quality, and were thereby excluded (see Appendix 4.2). Reviews were most often assessed as having low or moderate quality due to a lack of reporting on critical appraisal of included primary studies (method and/or whether it was conducted), that there was only one review author, or that there was an inadequate (description) of the literature search.

Thirteen systematic reviews were assessed as having high quality (that they fulfilled all or most of the items on the critical appraisal checklist) (1, 38-49). There was a great deal of overlap between these systematic reviews. In cases where multiple reviews addressed the same PICO, we included the review with the most recent search. We were left with nine reviews (one selective, one indicated and seven treatment interventions) that examined the following:

- **Preventive interventions:**
 - psychosocial parenting programmes aimed at improving the well-being of teenage parents (45) (n= 1 review).
- **Treatment interventions:**
 - psychological/educational interventions (44)) (n = 1 review).
 - exercise therapy (49), and included a sub-group analysis on indicated interventions for risk groups (n=1 review).
 - Behavioural/cognitive behavioural therapy (1, 38, 48) (n=3 reviews)
 - combined therapy (psychological intervention plus medication) (40-42) (n=3 reviews).

Systematic reviews of high quality included in this report are described below and in Appendix 3. Review authors in bold are the 13 reviews from which we extracted data. Primary studies from Dubicka 2010, Calati 2011, Hetrick 2011 and Macdonald 2012 (39, 43, 46, 47) are either partially or fully covered by the nine included systematic reviews (written in bold text in table 1):

Table 1: Table of included systematic reviews

Review author, year	Intervention	Population	Outcomes
James 2004	Cognitive behavioural therapy	Children and adolescents 6-19 with DSM or ICD anxiety diagnosis	Presence/absence of anxiety disorder diagnosis
Larun 2006	Exercise therapy	Children and youth at-risk of depression or with diagnosis of depression	Depressive symptoms, anxiety symptoms
O'Kearney 2006	Behavioural therapy/Cognitive behavioural therapy	Participants under 18 at time of treatment or considered children or adolescents as defined by primary study authors.	Severity of obsessive compulsive disorder, remission of OCD

Dubicka 2010	Combination therapy (vs antidepressants alone)	Adolescents (11-18) with depression	Depression and impairment scores, overall improvement, suicidality, adverse events
Hetrick 2010	Combination therapy (vs antidepressants alone)	Any age/gender with primary diagnosis of PTSD (subgroup analysis on females children, sexually abused)	N/A
Barlow 2011	Parenting interventions	Teenage parents	Depression symptoms
Calati 2011	Combination therapy (vs antidepressants alone)	Adolescents with depression or anxiety	Depressive symptoms, global functioning
Hetrick 2011	Combination therapy (vs antidepressants alone)	Children and youth (4-18) with treatment-resistant depression	Depression severity, rate of response
Merry 2011	targeted psychological or educational intervention	children and youth at risk of depression	Depressive symptoms
Cary 2012	Trauma-focused cognitive behavioural therapy	Adolescents (under 18) who had survived at least one traumatic event	Post-traumatic stress disorder symptoms, depression
Cox 2012 (315)	Combination therapy (vs antidepressants alone)	Children and youth (6-18) with depression	Remission, depressive symptoms, functioning
Cox 2012 (316)	Combination therapy (vs antidepressants alone)	Children and youth under 15 who had responded/remitted from MDD or DD	Prevention next episode, functioning, depressive symptoms
Macdonald 2012	Cognitive behavioural therapy (with or without parents)	Adolescents up to 18 who had been sexually abused	Depression, anxiety, PTSD

Preventive interventions

Psychosocial parenting programmes for teenage parents compared to waitlist

We identified one systematic review, conducted by Barlow and colleagues 2011 (45) that summarized research on the effect of psychosocial parenting interventions to

improve psychosocial outcomes for teenage parents and their children. This review compared parenting interventions against waiting list, no treatment or treatment as usual. The systematic review was last updated in May 2010. We searched for reviews that included any number of risk groups, including for example, juvenile delinquents, looked-after children and youth, and children from families with low socioeconomic status (see inclusion criteria above). However, the review by Barlow and colleagues 2011 (45) is the only high quality review we identified which examined a risk group as defined in the inclusion criteria.

The review included eight studies, however, only one of these studies examined the effect of parenting interventions on a relevant outcome (depression in the teenage parents). The other primary studies examined the effect of parenting programmes on confidence in parenting, and child-related outcomes. The relevant primary study was a randomized controlled trial assessed as having high risk of bias. It was conducted in Canada, and included 20 participants (16 in the analysis). The participants were all female pregnant or adolescent mothers (14-20 years old, mean 17 years old), who were clinically depressed and had difficult relationships with their families of origin. The intervention group received a group-based prevention/intervention parenting programme and the control group received treatment as usual. Treatment as usual consisted of access to an educational support programmes that included self-esteem courses, educational parenting, and child development courses, and access to medical services.

The parenting programme was delivered in a community setting and consisted of ten sessions over a period of six months, where each session included three components: group analysis of playtime with children, techniques to encourage reflection on parenting the participants had received and wished to use with their children, and provision of information on maternal and infant mental health. Depression was measured using the Beck Depression Inventory - Depressive symptoms. We cannot be certain whether the intervention was harmful, beneficial or actually had no effect (MD -5.97, 95% CI -14.80, 2.86). The study also reported on participants' sense of competence in parenting. They did not report on depression/anxiety scores among the children of the teenage parents.

Quality of the evidence

The evidence was assessed as having very low quality. The very low quality is due to high risk of bias in one small study. The results and quality assessments are summarized in Table 2, and the complete GRADE evidence profile is shown in appendix 5.1.

Table 2: Summary of findings table for parenting programmes compared to treatment as usual for well-being among teenage parents

Patient or population: teenage parents Settings: Canada Intervention: parenting programmes Comparison: treatment as usual						
Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of participants (Studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk treatment as usual	Corresponding risk parenting programmes				
Depressive symptoms Assessed with Beck Depression Inventory Scale from: 0 to 63 ⁴ Follow-up: post-intervention	The mean Depressive symptoms in the control group was 17.69 points	The mean Depressive symptoms in the intervention group was 5.97 lower (14.8 lower to 2.86 higher)	-	16 1 RCT	⊕○○○ VERY LOW ¹²³	

*The basis for the **assumed risk** (e.g. the median control group risk across studies) is provided in footnotes. The **corresponding risk** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval; RR: Risk ratio; OR: Odds ratio;

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are very uncertain about the estimate.

1. One study at high risk of bias.
2. One primary study with few participants.
3. Wide confidence interval that includes both considerable benefit and considerable harm.
4. Higher score indicates greater symptom severity

What does the evidence say?

Teenage parenting interventions:

- It is uncertain whether psychosocial parenting interventions have any effect on depressive symptoms compared to treatment as usual, because the evidence is of very low quality.

Teenage parents make up a very specific risk group that is not necessarily generalizable to other risk groups. Since we did not identify any other reviews that examined risk groups, it is not possible to conclude on the effects of preventive interventions for depression and/or anxiety in general.

Treatment interventions

We identified eight systematic reviews which examined the effect of treatment interventions for children/adolescents with depression and/or anxiety. These systematic reviews evaluated the following treatment interventions:

- Psychological/educational interventions (N=1)
- Exercise interventions (N=1)
- Cognitive behavioural interventions (N=1)
- Trauma-focused cognitive behavioural interventions (N=1)
- Individual/Group behavioural/cognitive behavioural therapy (N=1)
- Combined CBT therapy with antidepressants (N=3)

The results from these systematic review are summarized below.

Treatment interventions: Psychological/educational interventions to prevent depression among at-risk children

We identified one systematic review by Merry and colleagues 2011 (42) that summarized research on the effect of psychological or educational interventions to prevent depression among at-risk children. The review was last updated in July 2010.

The review included the following two comparisons that are relevant for this review of reviews:

- Psychological/educational intervention compared to no treatment/waiting list/treatment as usual for children at risk of depression
- Psychological/educational intervention compared to placebo/attention control/other treatment for children at risk of depression

Psychological/educational intervention compared to no treatment/waiting list/treatment as usual for children at risk of depression

The review conducted by Merry and colleagues (44) summarized the post treatment effect of psychological/educational intervention compared to no treatment/waiting list/treatment as usual for children at risk of depression. Six studies (seven intervention arms) examined the effect of psychological/education interventions on diagnosis of depressive disorder, and 23 studies (32 intervention arms) examined the effect on depression scores.

The review included 68 primary studies, however, many of the included studies included multiple intervention arms, and are therefore included under multiple comparisons. Only 39 of the studies are relevant for this review of reviews. The included relevant primary studies were conducted in North America, Australia, Canada, UK, Spain, Switzerland, Iceland, Bosnia, China, South Korea, Taiwan, Indonesia, Puerto Rico, Sri Lanka, and Uganda. Children were defined as at-risk if they had elevated symptoms of depression, but were not clinically diagnosed as depressed. The average age of participants in the included studies (n=68) ranged from 4.7 to 19 years old.

In this review by Merry 2011, the key point of differentiation between psychological and educational interventions is that the former attempt to change how people think, while the latter merely provide information about depression. Many of the psychological/educational interventions included in the primary studies included some element of cognitive behavioural therapy. Others included a focus on self-efficacy, stress reduction, trauma or optimism. Some of the programmes targeted either girls or boys specifically, and some focused on family members. Many of the interventions were conducted in a group, and took place in a school or primary care setting, or were internet-based (44). The number of sessions in the primary studies included in the systematic review ranged from three to 30 and varied in length. The interventions were delivered either by clinicians, teachers, counsellors, or trained facilitators. The review authors did not specify which interventions were used under “treatment as usual”.

Immediately following treatment there was a small, but significant difference on depressive symptoms in favour of the intervention group (SMD=-0.31, 95%CI -0.41, -0.21), and a small but significant difference in number of depression diagnoses in favour of the intervention group (RD -0.07; 95% CI -0.22 to -0.02). After three to nine months participants who received psychological/educational interventions compared to those in the control group continued to have greater improvement in depressive symptoms (SMD=0.22 , 95% CI -0.32, -0.12) and were still less likely to have a continued diagnosis of depression (RD -0.06, 95%CI (-0.10 to -0.03)).

Quality of the evidence

The evidence was assessed as being of low quality. The low quality is due to high risk of bias in the included studies, and evidence of heterogeneity. The results and quality assessments are summarized in table 3 and the complete GRADE evidence profile is shown in appendix 5.2.

Table 3. Summary of findings table for effect of targeted psychological/educational intervention compared to no intervention/wait-list/treatment as usual in children at risk of developing depression

Patient or population: children at risk of developing depression
 Settings: North America, Australia, Canada, UK, Spain, Switzerland, Iceland, Bosnia, China, South Korea, Taiwan, Indonesia, Puerto Rico, Sri Lanka, and Uganda
 Intervention: targeted psychological/educational intervention
 Comparison: no intervention/wait-list/usual care

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of participants (Studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk	Corresponding risk				
	No intervention/wait-list/usual care	Targeted psychological/educational intervention				
Depression scores Assessed with: various measures ⁴ Follow-up: post-treatment	The standardized mean Depression scores (post-treatment) in the control group was not reported	The standardized mean Depression scores (post-treatment) in the intervention group was 0.31 standard deviations lower (0.41 lower to 0.21 lower)	-	4174 (32 RCTs)	⊕⊕○○ LOW ¹²	
Depressive disorder Assessed with: various measures Follow-up: post-treatment	242 per 1000	17 fewer per 1000 (29 fewer to 5 fewer)	RD -0.07 (-0.12 to -0.02)	890 (7 RCTs) ³	⊕⊕○○ LOW ¹²	
Depression scores Assessed with: various measures ⁴ Follow-up: 3-9 months	The standardized mean Depression scores (post-treatment) in the control group was not reported	The standardized mean Depression scores (post-treatment) in the intervention group was 0.22 standard deviations lower (0.32 lower to 0.12 lower)	-	3146 (17 RCTs ⁵)	⊕⊕○○ LOW ¹²	
Depressive disorder Assessed with: various measures Follow-up: 3-9 months	232 per 1000	14 fewer per 1000 (23 fewer to 7 fewer)	RD -0.06 (-0.10 to -0.03)	1306 (7 RCTs) ⁷	⊕⊕○○ LOW ¹²	
Depression scores Assessed with: various measures ⁴ Follow-up: 36 months	The mean Depression scores (post-treatment) in the control group was not reported	The mean Depression scores (post-treatment) in the intervention group was 0.24 standard deviations lower (0.47 lower to 0.02 lower)	-	301 (2 RCTs)	⊕○○○ VERY LOW ¹²⁶	
Depressive disorder Assessed with: various measures Follow-up: 36 months	-	-	RD -0.08 (-0.21 to 0.05)	125 (1 RCTs)	⊕○○○ VERY LOW ¹²⁶	

*The basis for the assumed risk (e.g. the median control group risk across studies) is provided in footnotes. The corresponding risk (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

CI: Confidence interval; RR: Risk ratio; OR: Odds ratio; RD: Risk difference

GRADE Working Group grades of evidence
 High quality: Further research is very unlikely to change our confidence in the estimate of effect.
 Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.
 Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.
 Very low quality: We are very uncertain about the estimate.

1. All studies at high risk of bias due to limitations associated with allocation, blinding, implementation integrity.
2. Moderate heterogeneity.
3. Seven intervention arms from six studies.
4. Lower score indicates improvement.

5. 24 intervention arms.
6. One or few studies with few participants.
7. 10 intervention arms in 7 RCTs.

What does the evidence say?

Psychological or educational interventions:

- Psychological/educational interventions compared to no intervention/wait list/treatment as usual may improve depressive scores and remission (number with diagnosis) at post-treatment and after 3 to 9 months, but the results are uncertain given that the evidence is of low quality.
- We are uncertain if psychological/educational interventions have an effect at 36 months because the evidence is of very low quality.

Psychological/educational intervention compared to placebo/attention control/other treatment for children at risk of depression

The review conducted by Merry and colleagues (44) summarized the effect of psychological/educational intervention compared to placebo/attention control/other treatment for children at risk of depression post treatment. One included primary study examined the effect of psychological/education interventions on diagnosis of depressive disorder, and three studies examined the effect on depression scores.

Placebo/attention control groups included group sessions similar in nature to the intervention, but without the active elements of the intervention, an attention control group, parent teacher consultation only, and classroom-based psychoeducation (44). Psychological/educational interventions have little or no effect on either depressive symptoms or diagnosis rates (SMD=0.14, 95%CI -0.4, 0.12; RD=-0.17, 95%CI -0.19, 0.04).

Quality of the evidence

The evidence was assessed as being of low quality. The low quality is due to high risk of bias in the included studies, small sample sizes and evidence of heterogeneity. The results and quality assessments are summarized in table 4 and the complete GRADE evidence profile is shown in appendix 5.3.

Table 4. Summary of findings table for targeted psychological/educational prevention interventions compared to placebo/attention/other intervention in children at risk of developing depression

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of participants (Studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk	Corresponding risk				
	Placebo/attention/other intervention	Targeted psychological/educational prevention interventions				
Depression scores Assessed with: various measures ⁵ Follow-up: post-treatment	The standardized mean Depression scores (post-treatment) in the control group was not reported	The standardized mean Depression scores (post-treatment) in the intervention group was 0.14 standard deviations lower (0.4 lower to 0.12 higher)	-	231 (3 RCTs)	⊕⊕○○ LOW ¹²³	
Depressive disorder Assessed with: dichotomous scales ⁶ Follow-up: post-treatment	Not reported	-	RD -0.07 (-0.19 to 0.04)	(1 RCT)	⊕○○○ VERY LOW ¹²⁴	
Depression scores Assessed with: various measures ⁵ Follow-up: 3-9 months	The standardized mean Depression scores (post-treatment) in the control group was not reported	The standardized mean Depression scores (post-treatment) in the intervention group was 0.14 standard deviations lower (0.4 lower to 0.12 higher)	-	66 (1 RCTs)	⊕○○○ VERY LOW ¹²⁴	

*The basis for the assumed risk (e.g. the median control group risk across studies) is provided in footnotes. The corresponding risk (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

CI: Confidence interval; RR: Risk ratio; OR: Odds ratio; RD: Risk difference

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are very uncertain about the estimate.

1. All studies at high risk of bias due to limitations associated with allocation, blinding, implementation integrity.
2. Wide confidence interval that includes both considerable benefit and considerable harm.
3. Total number of participants is less than 300.
4. Total number of events is less than 400.
5. Lower score indicates improvement.
6. Clinical interviews or cut-off points on various scales.

What does the evidence say?

Psychological or educational interventions:

- Psychological or educational interventions relative to placebo may have little or no effect on depression scores post-treatment in children with elevated

symptoms of depression, however the results are uncertain because the evidence is of low quality.

- We are uncertain of the effect of psychological or education interventions compared with placebo on the diagnosis (remission) of depressive disorder post-treatment given that the evidence is of very low quality.
- We are uncertain of the effect of psychological or education interventions compared with placebo on depressive symptoms after three to nine months given that the evidence is of very low quality.

Treatment intervention: Exercise

Exercise interventions for children in treatment or at-risk for anxiety and/or depression

We identified one systematic review conducted by Larun and colleagues 2006 (49) that summarized research on the effect of exercise as a treatment intervention on anxiety and/or depression for children. The review was last updated in 2005.

The review by Larun and colleagues 2006 (49) included 16 primary studies. Only six of these studies were included in relevant sub-group analyses (comparisons with relevant populations) for this review of reviews, all conducted in USA. The other ten studies were included in comparisons that looked at universal interventions for non-risk groups. Some of the included studies included multiple treatment arms, and were therefore included in more than one comparison below. Participants from the relevant included studies were in treatment in psychiatric institutions, or were deemed at risk for depression. The mean age of participants in the six relevant primary studies ranged from 12 to 18.9 (one study included university students). Children and adolescents in treatment refer to populations that were recruited from psychiatric institutions. Exercise was deemed a treatment intervention by the review authors.

The interventions included different aerobic exercise (e.g. walking, running, aerobics) or weight lifting for a period of six to forty weeks. “No intervention” was defined in the review as no treatment, waiting list or regular physical activity provided by the school, low intensity interventions were defined as low intensity physical exercise, relaxation classes, or yoga. Psychosocial interventions included discussion groups, or group counselling.

This review included the following four relevant comparisons:

- Exercise compared to no intervention for children in treatment
- Exercise compared to low intensity exercise for children in treatment
- Exercise compared to psychosocial interventions for children in treatment
- Exercise compared to no intervention for children at risk for depression

Exercise compared to no intervention for children in treatment

The review by Larun and colleagues 2006 (49) examined the effects of exercise compared to no intervention for children in psychiatric treatment. One primary study compared exercise to no intervention for children in treatment. Participants in this study were boys and girls (n=11) in psychiatric facility with primary diagnoses of either dysthymia or conduct disorders. The intervention consisted of aerobic exercise. The comparison group received regularly scheduled physical activity classes. The study included 11 participants and showed a non-significant difference in depression scores measured on the BDI after nine weeks of the intervention (SMD=0.78, 95%CI -0.47, 2.04).

Quality of the evidence

The evidence was of very low quality. The very low quality of evidence is due to small study size, and that the evidence comes from only one study with high risk of bias. The results and quality assessments are summarized in table 5 and the complete GRADE evidence profile is shown in appendix 5.4.

Table 5. Summary of findings table for exercise compared to no exercise for children in treatment

Patient or population: children in treatment (recruited from psychiatric institutions) Settings: USA Intervention: exercise Comparison: no exercise						
Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of participants (Studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk	Corresponding risk				
	No exercise	Exercise				
Depression - post treatment score Assessed with: Beck Depression Inventory ³ Follow up: 9 weeks	The standardized mean Depression - post treatment score in the control group was not reported	The standardized mean Depression - post treatment score in the intervention group was 0.78 standard deviations ⁴ higher (0.47 lower to 2.04 higher)	-	11 (1 RCT)	⊕○○○ VERY LOW ¹²	

*The basis for the assumed risk (e.g. the median control group risk across studies) is provided in footnotes. The corresponding risk (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

CI: Confidence interval; RR: Risk ratio; OR: Odds ratio;

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are very uncertain about the estimate.

1. One study with a small number of participants. The confidence interval includes both considerable benefit and considerable harm.
2. One study at high risk of bias.
3. Lower score indicates better outcome.
4. As reported in Larun 2006.

What does the evidence say?

Exercise compared to no intervention:

- We are uncertain of the effect of exercise compared to no exercise on depression scores in children in psychiatric treatment because the evidence is of very low quality.

Exercise compared to low intensity exercise for children in treatment

The review by Larun and colleagues 2011 (49) examined the effects of exercise compared to low intensity exercise for children in psychiatric treatment. Two primary studies compared exercise (aerobic or weight lifting) to low intensity exercise for a total of 70 participants, and showed little or no difference between groups in depression scores measured on the BDI or CDI after eight weeks of the intervention (SMD=-0.31, 95%CI -0.78, 0.16). One of the studies had two control arms, one of which was lower intensity exercise, and the other which was psychosocial interventions (see table 7). These studies included participants who were patients at psychiatric treatment centres (including inpatients) ages 12 to 18. Adolescents in the inter-

vention groups participated either in outdoor weight-training or high intensity training (aerobic exercise at 70-85% of maximum heart rate). The control groups received lower intensity versions (non-aerobic, below 40% of maximum heart rate) of the same programmes as the intervention group or relaxation therapy.

Quality of the evidence

The evidence was of very low quality. The very low quality of evidence is due to small study sizes, and that the evidence comes from only two studies at moderate and high risk of bias. The results and quality assessments are summarized in table 6 and the complete GRADE evidence profile is shown in appendix 5.5.

Table 6. Summary of findings table for exercise compared to low intensity exercise/relaxation for children in treatment

Patient or population: children in treatment (recruited from psychiatric institutions) Settings: USA Intervention: exercise Comparison: low intensity exercise/relaxation						
Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of participants (Studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk	Corresponding risk				
	Low intensity exercise/relaxation	Exercise				
Depression score Assessed with: Beck Depression Inventory and Children's Depression Inventory ⁴ Follow up: 8 weeks ¹⁴	The standardized mean Depression score in the control group was not reported	The standardized mean Depression score in the intervention group was 0.31 standard deviations lower (0.78 lower to 0.16 higher)	-	70 (2 RCTs) ⁴	⊕○○○ VERY LOW ²³	

*The basis for the assumed risk (e.g. the median control group risk across studies) is provided in footnotes. The corresponding risk (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

CI: Confidence interval; RR: Risk ratio; OR: Odds ratio;

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are very uncertain about the estimate.

1. SMDs were calculated using a random effects model.
2. One study was at low risk of bias, the other study was assessed as being at a moderate risk of bias.
3. Total population is less than 400 and the 95% CI includes no effect.
4. Higher score indicate worse outcome.

Exercise compared to low intensity exercise:

- We are uncertain of the effect of exercise compared to low intensity exercise on depression scores in children in psychiatric treatment because the evidence is of very low quality.

Exercise compared to psychosocial interventions for children in treatment

The review by Larun and colleagues 2011 (49) examined the effects of exercise compared to psychosocial interventions for children in psychiatric treatment. One primary study compared exercise (aerobic) to recreational therapy for 53 participants, and showed little or no difference in depression scores measured on the CDI after eight weeks of the intervention (SMD=-0.31, 95%CI 0.97, 0.35). Participants in this study had a mean age of 13.32 (n=53) and were patients at a psychiatric treatment centre. The intervention group engaged in high intensity exercise (aerobic exercise at 70-85% of maximum heart rate) and the control group received recreational therapy.

Quality of the evidence

The evidence was of very low quality. The very low quality of evidence is due to the fact that the evidence comes from only one small study at moderate risk of bias. The results and quality assessments are summarized in table 7 and the complete GRADE evidence profile is shown in appendix 5.6.

Table 7. Summary of findings table for exercise compared to psychosocial interventions for children in treatment

Patient or population: children in treatment (recruited from psychiatric institutions) Settings: USA Intervention: exercise Comparison: psychosocial interventions						
Outcomes	Illustrative comparative risks ¹ (95% CI)		Relative effect (95% CI)	No of participants (Studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk	Corresponding risk				
	Psychosocial interventions	Exercise				
Depression score Assessed with: Children's Depression Inventory ³ Follow up: 8 weeks	The standardized mean Depression score in the control group was not reported	The standardized mean ⁴ Depression score in the intervention group was 0.31 standard deviations lower (0.97 lower to 0.35 higher)	-	53 (1 RCT)	⊕○○○ VERY LOW ¹	

*The basis for the assumed risk (e.g. the median control group risk across studies) is provided in footnotes. The corresponding risk (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

CI: Confidence interval; RR: Risk ratio; OR: Odds ratio;

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are very uncertain about the estimate.

1. One study at moderate risk of bias.
2. Total population is less than 400 and the confidence interval includes both benefit and harm.
3. Higher score indicates worse outcome.
4. As reported in Larun 2006.

What does the evidence say?

Exercise compared to psychosocial interventions:

- We are uncertain of the effect of exercise compared to psychosocial interventions on depression scores in children in psychiatric treatment because the evidence is of very low quality.

Exercise compared to no intervention for children at risk of depression

The review by Larun and colleagues 2011 (49) also included one relevant sub-group analysis under universal interventions which examined children at-risk of depression. This sub-group analysis included three studies. Children at-risk of depression in this review referred to children with elevated levels of depressive symptoms, juvenile delinquents, and adolescents/young adults with a high number of negative life experiences. The participants in the included studies had a mean age of between 12 and 18.9. The interventions included walking-running programmes with or without strength exercises, 1.5 hours of physical fitness per week. The control groups received no treatment.

All three of the included studies examined the effect of exercise on depression, and showed a reduction in depression scores among participants in the treatment group (SMD=-0.79, 95%CI -1.27, -0.31). Two studies examined the effect of exercise on anxiety, showed a small reduction in anxiety symptoms among participants in the intervention groups, however, given the broad confidence intervals around this effect, we cannot be certain whether the intervention was harmful, beneficial or actually had no effect (SMD=-0.08, 95%CI -0.47, 0.31). There was high heterogeneity, however, that could not be explained by participants' characteristics (juvenile delinquents in one study, and female university students in the other).

Quality of the evidence

The evidence was of very low quality. The very low quality of evidence is due to small study sizes, and that the evidence comes from studies at high risk of bias. The results and quality assessments are summarized in table 8 and the complete GRADE evidence profile is shown in appendix 5.7.

Table 8. Summary of findings table for exercise compared to no intervention for children at risk

Patient or population: children in treatment (recruited from psychiatric institutions) Settings: USA Intervention: exercise Comparison: no intervention						
Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	№ of participants (Studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk	Corresponding risk				
	No intervention	Exercise				
Depression Assessed with: Beck's Depression Inventory and RADS ⁵ Follow up: range 6-20 weeks	The standardized mean Depression score in the control group was not reported	The standardized mean Depression score in the intervention group was 0.08 standard deviations lower (0.47 lower to 0.31 higher)	-	107 (3 RCTs)	⊕○○○ VERY LOW ¹²	
Anxiety Assessed with: Spielberger Trait-state Anxiety Inventory (STAI) ³ Follow-up: range 6-20 weeks	The standardized mean Anxiety score in the control group was not reported	The standardized mean ⁴ Anxiety score in the intervention group was 0.79 standard deviations lower (1.27 lower to 0.31 lower)	-	79 (2 RCTs)	⊕○○○ VERY LOW ¹²	

*The basis for the assumed risk (e.g. the median control group risk across studies) is provided in footnotes. The corresponding risk (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

CI: Confidence interval; RR: Risk ratio; OR: Odds ratio;

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are very uncertain about the estimate.

1. Included studies at high risk of bias.
2. Total population is less than 400 and the 95% CI includes no effect.
3. Higher scores indicate greater anxiety.
4. As reported in Larun 2006.
5. Higher score indicates worse outcome.

What does the evidence say?

Exercise compared to no intervention:

- We are uncertain of the effect of exercise compared to no intervention on depression scores in children at risk of depression because the evidence is of very low quality.
- We are uncertain of the effect of exercise compared to no intervention on anxiety in children at risk of depression because the evidence is of very low quality.

Treatment intervention: Cognitive behavioural therapy

We identified four systematic reviews that summarized the effect of cognitive behavioural therapy interventions (CBT) conducted by Cary and colleagues 2012, Macdonald and colleagues 2012, O’Kearney and colleagues 2006, James and colleagues 2005 (1, 38, 46, 48). Having controlled for overlap between reviews, we included three reviews (Cary 2012, O’Kearney 2006, James 2005) (see appendix 3). These reviews included the following relevant comparisons:

- Cognitive behavioural therapy (CBT) compared to wait list/attention placebo for children with diagnosis of anxiety disorder
- Trauma-focused CBT compared to attention control/standard community care/wait list control for children who experienced a traumatic event
- Behavioural/Cognitive behavioural therapy (BT/CBT) compared to wait list for children with OCD
- BT/CBT compared to placebo for children with OCD

CBT compared to wait list/attention placebo for children with diagnosis of anxiety disorder

We included one systematic review conducted by James and colleagues 2005 (1) that summarized the research on cognitive behavioural interventions for children who had been diagnosed with anxiety disorders. Thirteen studies met the inclusion criteria for the review, involving 817 participants. The review was last updated in 2004.

Participants in the included studies were recruited from the community or were outpatients from psychiatric clinics. The age range of participants was six to eighteen years old.

Twelve studies were included in the analysis on anxiety diagnosis. There was a moderate and significantly better response among participants who received CBT than control groups (RR=0.58, 95% CI 0.50, 0.67). Reductions in anxiety symptoms (measured with RCMAS) were reported in ten included studies, and results from a pooled analysis showed that CBT has a moderate positive effect on anxiety symptoms (SMD=-0.58, 95%CI -0.76, -0.40) (1).

Quality of the evidence

The evidence was assessed as being of moderate quality. The moderate quality is due to methodological limitations in some of the included studies. The results and quality assessments are summarized in table 9 and the complete GRADE evidence profile is shown in appendix 5.8.

Table 9. Summary of findings table for cognitive behavioural therapy for adolescents meeting diagnostic criteria for anxiety disorder compared to wait list/placebo

Patient or population: children meeting diagnostic criteria for anxiety disorder Settings: recruited from community Intervention: cognitive behavioural therapy Comparison: wait list/placebo						
Outcomes	Illustrative comparative risks [*] (95% CI)		Relative effect (95% CI)	No of participants (Studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk	Corresponding risk				
	Wait list/placebo	Cognitive behavioural therapy				
Remission from anxiety diagnosis Assessed with: diagnosis according to DSM-III or ICD criteria (dichotomous) Follow -up: not reported	Not reported	-	RR 0.58 (0.5 to 0.67)	765 (12 RCTs)	⊕⊕⊕○ MODERATE ¹	
Reduction in anxiety symptoms Assessed with: Revised Children's Manifest Anxiety Scale (RCMAS) ² Follow -up: not reported	The standardized mean reduction in anxiety symptoms in the control group was not reported	The standardized mean ³ reduction in anxiety symptoms in the intervention group was 0.58 standard deviations lower (0.76 lower to 0.4 lower)	-	579 (10 RCTs)	⊕⊕⊕○ MODERATE ¹	

*The basis for the assumed risk (e.g. the median control group risk across studies) is provided in footnotes. The corresponding risk (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

CI: Confidence interval; RR: Risk ratio; OR: Odds ratio;

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are very uncertain about the estimate.

1. All studies gave poor details on the process of randomisation.
2. Higher score indicates worse outcome.
3. As reported in James 2005.

What does the evidence say?

Cognitive behavioural therapy:

- Cognitive behavioural therapy compared to wait list/placebo probably leads to fewer anxiety diagnoses and improves anxiety symptoms among children.

Other findings

The review authors also examined the effects of the different forms of CBT (individual, group, family) as a sub-group analysis, and found that after receiving treatment, 54.2% of participants who received individual CBT had no anxiety diagnosis, 56.8% who received group CBT had no anxiety diagnosis, and 67% of those who received

family CBT had no diagnosis (1) p. 7). The total number of participants in each group was not reported.

Treatment intervention: Trauma-focused CBT

Trauma-focused CBT compared to attention control/standard community care/wait list control for children who experienced a traumatic event

We included one systematic review conducted by Cary and colleagues 2012 (38) that compared trauma-focused CBT to attention control for adolescents who have experienced a traumatic event. Trauma-focused CBT refers to a broad category of interventions, and includes the branded version of TF-CBT developed by Cohen and colleagues 2006 (50) which is manualized, highly structured, and includes the following components: psycho-education and parenting skills, relaxation, affective expression and regulation, cognitive coping, trauma narrative development and processing, in vivo gradual exposure, conjoint parent/child sessions, and enhancing safety/future development (38). This systematic review examined separately the effects of branded TF-CBT, and versions of TF-CBT that included all or most (4/5) of the key treatment features according to the review authors (i.e., exposure, cognitive processing and reframing, stress management, parental treatment, and psychoeducation (38), p. 750). Below is a summary of the effects of TF-CBT treatments that included most of the five treatment features.

The review included ten studies (12 treatment arms). All of the studies were relevant for this comparison, but only ten of the treatment arms. Nationalities of the included studies were not reported. The sample size for the included studies ranged from 12 to 92 children between three and eighteen years old.

Interventions included the branded version of TF-CBT, Overshadowing the Threat of Terrorism (OTT), Recovering from Abuse Program (RAPP), mother and child cognitive behavioural therapy, family cognitive behavioural therapy, TF-CBT (based on CBT for sexually abused children (CBT-SAP), cognitive behavioural intervention for trauma in schools (CBITS). The included studies were high quality randomized controlled trials.

A meta-analysis of the included studies conducted by the review authors found that there was a medium effect (using Hedges' g to calculate Cohen's d) on post-traumatic stress symptoms in favour of the intervention group (SMD=0.67, 95% CI 0.53, 0.82) and a small effect on depression symptoms (SMD= 0.38, 95% CI 0.22, 0.54) at post-treatment. After 12 months this effect remained to a lesser degree for post-traumatic stress symptoms (SMD=0.39, 95% CI 0.15, 0.63), but the effect was no longer present on depression symptoms (SMD= 0.17, 95% CI -0.07, 0.41).

The review authors found that findings were consistent across meta-analyses. When they examined branded TF-CBT, or interventions that were similar (five of five components, four of five components) separately, the pooled estimates were similar.

Quality of the evidence

The evidence was assessed as being of moderate quality. The moderate quality is due to methodological limitations in some of the included studies. The results and quality assessments are summarized in table 10 and the complete GRADE evidence profile is shown in appendix 5.9.

Table 10. Summary of findings table for TF-CBT compared to attention control/CAU/wait list for children who have experienced a traumatic event

Patient or population: children who have experienced a traumatic event Settings: university clinic or community setting Intervention: TF-CBT ¹ Comparison: attention control/CAU/wait list						
Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of participants (Studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk	Corresponding risk				
	Attention control/CAU/wait list	TF-CBT				
Post-traumatic stress symptoms Assessed with: various measures ⁴ Follow -up: post-treatment	The standardized mean Post-traumatic stress symptoms in the control group was not reported	The standardized mean PTSD symptoms in the intervention group was 0.67 standard errors higher (0.53 higher to 0.82 higher)	-	881 (10 RCTs) ³	⊕⊕⊕○ MODERATE ²	
Depressive symptoms Assessed with: various measures ⁴ Follow -up: post-treatment	The standardized mean Depressive symptoms in the control group was not reported	The standardized mean Depression symptoms in the intervention group was 0.38 standard errors higher (0.22 higher to 0.54 higher)	-	707 (8 RCTs) ³	⊕⊕⊕○ MODERATE ²	
Post-traumatic stress symptoms Assessed with: various measures ⁴ Follow -up: 12 months	The standardized mean Post-traumatic stress symptoms in the control group was not reported	The standardized mean PTSD symptoms in the intervention group was 0.39 standard errors higher (0.15 higher to 0.63 higher)	-	-5 (2 RCTs) ³	⊕⊕⊕○ MODERATE ²	
Depressive symptoms Assessed with: various measures ⁴ Follow-up: 12 months	The standardized mean Depressive symptoms in the control group was not reported	The standardized mean Depression symptoms in the intervention group was 0.17 standard errors higher (0.07 lower to 0.41 higher)	-	-5 (3 RCTs) ³	⊕⊕⊕○ MODERATE ²	

*The basis for the assumed risk (e.g. the median control group risk across studies) is provided in footnotes. The corresponding risk (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

CI: Confidence interval; RR: Risk ratio; OR: Odds ratio;

Table 10. Summary of findings table for TF-CBT compared to attention control/CAU/wait list for children who have experienced a traumatic event

Patient or population: children who have experienced a traumatic event
 Settings: university clinic or community setting
 Intervention: TF-CBT¹
 Comparison: attention control/CAU/wait list

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of participants (Studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk	Corresponding risk				
	Attention control/CAU/wait list	TF-CBT				

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are very uncertain about the estimate.

1. Interventions with at least 4 of the following 5 elements: exposure, cognitive processing and reframing, stress management, parental involvement and psychoeducation.
2. Overall high study quality, but concerns related to attrition rates and blinding of assessors in some included studies.
3. Total population for each outcome unclear.
4. Improvement indicated by higher scores.
5. Population size unclear. Original population in included studies was 333, however there was a 72-76% loss to follow-up.

What does the evidence say?

Trauma-focused cognitive behavioural therapy:

- Trauma-focused cognitive behavioural therapy compared to attention control/wait list probably improves PTSD symptoms among children who have been exposed to a traumatic event.
- Trauma-focused cognitive behavioural therapy attention control/wait list probably slightly improves depression symptoms among children who have been exposed to a traumatic event.

Other findings

The systematic review by Cary and colleagues 2012 (38) also examined the effect of TF-CBT compared to active treatment conditions. This comparison included two studies which had multiple treatment arms and were also included in the comparison above. There was a small and insignificant effect on PTSD symptoms and depression symptoms.

A review by Macdonald and colleagues 2012 (46) was partially covered by Cary 2012. Macdonald and colleagues examined the effect of CBT (with or without family members) for adolescents who had been sexually abused. It included ten primary studies in total, seven of which were not included in Cary 2012, seemingly because they did not examine TF-CBT (or at least four of the treatment features). To avoid double counting of the primary studies that were included in both reviews, we have not reported the full results from Macdonald 2012. Results from Macdonald 2012 indicate, however, that CBT compared to no CBT had a non-significant effect on childhood

depression at post-treatment (n=5, MD=-1.92, 95%CI -4.24, 0.40), a small but significant effect on post-traumatic stress (n=6, SMD=-0.44, 95%CI 0.16, 0.73), and a small but significant effect on anxiety (n=5, SMD=-0.23, 95%CI 0.03, 0.42) (46), p. 16).

Behavioural and cognitive behavioural therapy for children with obsessive-compulsive disorder (OCD)

We included one systematic review by O’Kearney and colleagues 2006 (48) that summarized the research on the effect of behavioural therapy/cognitive behavioural therapy (BT/CBT) for children with OCD. The review included eight primary studies, conducted in Netherlands, Australia, USA, Brazil and UK. The search was last updated in August 2008.

Participants in the included studies ranged in age from four to eighteen years and had a diagnosis of Obsessive Compulsive Disorder. Interventions in the included studies lasted between 12 and 20 sessions. Some of the studies included a parental involvement. One primary study included a group BT/CBT intervention.

Treatment intervention: Behavioural and cognitive behavioural therapy

Behavioural and cognitive behavioural therapy compared to wait list for children with OCD

O’Kearney and colleagues 2006 (48) included three studies, from Australia and the UK, in a meta-analysis which examined the efficacy of BT/CBT compared to a wait-list control group on OCD symptoms. A new search for relevant studies was conducted in 2009, but did not identify anything (therefore the review was unchanged). The pooled effect size indicated participants who received BT/CBT scored significantly lower on the Children’s Yale-Brown Obsessive Compulsive Scale (by 10.71 points) compared to wait-list (MD=-10.71, 95% CI -17.04, 4.38). Lowered scores on the scale indicate a reduction in the frequency and intensity of obsessions and compulsions as well as the degree to which these symptoms interfere with normal functioning and the amount of distress they produce.

Two of the included studies examined the effect of BT/CBT relative to waitlist on depression (MD = -1.81, -5.73, 2.11; MD = 0.12, -7.57, 7.81). However, the results from the two studies were contradictory, and therefore we are unable to conclude the actual effects (48), p. 11).

The effect of BT/CBT on anxiety relative to waitlist was lower for group BT/CBT (n=1; MD= -10.38, 95% CI -19.96 to -0.80). However, there was no evidence of a similar effect for individual BT/CBT group (n=2; MD= 0.90, 95%CI -7.90, 9.70; MD = -5.63, 95% CI -24.69, 13.43).

Quality of the evidence

The evidence was assessed as being of very low to low quality. The low quality is due to methodological limitations in some of the included studies, imprecise results, and small population samples. The results and quality assessments are summarized in table 11 and the complete GRADE evidence profile is shown in appendix 5.10.

Table 11. Summary of findings table for BT/CBT compared to wait-list control in children with OCD

Patient or population: children with OCD Settings: Australia, UK Intervention: BT/CBT Comparison: wait-list control						
Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of participants (Studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk	Corresponding risk				
	Wait-list control	BT/CBT				
Severity of obsessive compulsive symptoms Assessed with: Children's Yale-Brown Obsessive Compulsive Scale (CY-BOCS) Scale from: 0 to 40 ⁷ Follow-up: post-treatment	The mean severity of obsessive compulsive symptoms (CY-BOCS score) ranged across control groups from 19.6-24.04 points	The mean CY-BOCS in the intervention group was 10.71 lower (17.04 lower to 4.38 lower)	-	87 (3 RCTs)	⊕⊕○○ LOW ¹³	
Severity of obsessive compulsive disorder Assessed with: NIMH-GOCS Scale from: 1 to 15 ⁷ Follow-up: post-treatment	The mean severity of obsessive compulsive symptoms (NIMH-GOCS score) in the control group was 9 points	The mean Obsessive compulsive severity in the intervention group was 5.5 lower (6.72 lower to 4.28 lower)	-	48 (1 RCT)	⊕○○○ VERY LOW ¹²³	
Number with OCD at post treatment Assessed with: cut-off point on CY-BOCS Follow-up: post-treatment	Not reported	Not reported	RR ranged from 0.14 to 0.62 ⁴	68 (2 RCTs)	⊕○○○ VERY LOW ¹³	
Self-reported depression Assessed with: CDI Scale from: 0 to 27 ⁷ Follow-up: post-treatment	The mean Self-reported depression ranged across control groups from 8.07-12.78 points	The mean Self-reported depression in the intervention group was 0.21 points higher to 1.81 points lower ⁵	-	69 (2 RCTs)	⊕○○○ VERY LOW ¹²³	
Self-reported anxiety Assessed with: MASC and CDI ⁷ Follow-up: post-treatment	The mean Self-reported anxiety ranged across control groups from 49.47-63.63 points	The mean Self-reported anxiety in the intervention group ranged from 0.90 points higher to 5.63 points lower ⁶	-	69 (2 RCTs)	⊕○○○ VERY LOW ¹²³	

*The basis for the assumed risk (e.g. the median control group risk across studies) is provided in footnotes. The corresponding risk (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

CI: Confidence interval; RR: Risk ratio; OR: Odds ratio;

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are very uncertain about the estimate.

1. Included studies at high risk of bias

2. CI crosses line of no effect.
3. Total population is less than 400.
4. 95% CIs are (0.05, 0.38) and (0.37, 1.03).
5. 95% CIs are (-7.57, 7.81) and (-5.73, 2.11).
6. 95% CIs are (-7.90, 9.70) and (-24.69, 13.43).
7. Improvement indicated by lower scores.

What does the evidence say?

Behavioural and cognitive behavioural therapy:

- BT/CBT compared to wait list may improve the severity of obsessive compulsive symptoms (measured with CY-BOCS), but the results are uncertain given that the evidence is of low quality.
- We are uncertain of the effect of BT/CBT compared to wait list on remission (the number with OCD diagnosis post-treatment), severity of OCD (measured with NIMH-GOCS), self-reported depressive or anxiety symptoms for children with OCD given that the evidence is of very low quality.

Behavioural and cognitive behavioural therapy compared to placebo for children with OCD

O’Kearney and colleagues 2006 (48) also examined the efficacy of BT/CBT compared to a placebo. A meta-analysis of two included studies, from Australia and the UK, found that BT/CBT was significantly more effective than the placebo (MD=-5.24, 95% CI -9.98, -0.50) at reducing symptoms of OCD, but that the effect was much smaller than the effect when compared to waiting list. Two studies showed that there was a slight difference in favour of the intervention group on number of participants with OCD diagnoses post-treatment, but it was not possible to pool the results of these two studies. There was little or no difference between groups on symptom severity among participants post-treatment.

Quality of the evidence

The evidence was assessed as being of very low to low quality. The low quality is due to methodological limitations in some of the included studies and small study sizes. The results and quality assessments are summarized in table 12 and the complete GRADE evidence profile is shown in appendix 5.11.

Table 12. Summary of findings table for behavioural therapy/cognitive behavioural therapy compared to placebo control in children with obsessive compulsive disorder

Patient or population: children with obsessive compulsive disorder Settings: Australia, UK Intervention: BT/CBT Comparison: placebo control						
Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of participants (Studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk	Corresponding risk				
	Placebo control	BT/CBT				
Severity of obsessive-compulsive symptoms Assessed with: Children's Yale-Brown Obsessive Compulsive Scale (CY-BOCS) Scale from: 0 to 40 ⁶ Follow-up: post-treatment	The mean CY-BOCS score ranged across control groups from 17.1-21.5 points	The mean CY-BOCS in the intervention group was 5.24 lower (9.98 lower to 0.5 lower)	-	98 (2 RCTs)	⊕⊕○○ LOW ¹²	
Number with OCD at post treatment Assessed with: cut-off point on CY-BOCS Follow-up: post-treatment	896 per 1000	-	RR ranged from 0.63 to 0.63 ³⁵	98 (2 RCTs)	⊕⊕○○ LOW ¹²	
Degree of improvement Assessed with: Clinical Global Impressions – Improvement Scale from: 0-7 ⁶ Follow-up: post-treatment	The mean symptom severity in the control group was 2.76 points	The mean symptom severity in the intervention group was 0.39 lower (1.07 lower to 0.29 higher)	-	42 (1 RCT)	⊕○○○ VERY LOW ²⁴	

*The basis for the assumed risk (e.g. the median control group risk across studies) is provided in footnotes. The corresponding risk (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

CI: Confidence interval; RR: Risk ratio; OR: Odds ratio;

GRADE Working Group grades of evidence
 High quality: Further research is very unlikely to change our confidence in the estimate of effect.
 Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.
 Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.
 Very low quality: We are very uncertain about the estimate.

1. One study at low risk of bias and one study at high risk of bias.
2. Total population less than 400.
3. CIs ranged: 0.39, 1.00; 0.46, 0.86
4. Wide confidence interval that includes both considerable benefit and considerable harm.
5. Placebo conditions are different (pill, relaxation therapy) so the results could not be pooled.
6. Lower score indicates improvement.

What does the evidence say?

Behavioural therapy/cognitive behavioural therapy:

- BT/CBT compared to placebo may improve OCD symptoms, and number with OCD diagnosis post-treatment, but the results are uncertain given that the evidence is of low quality.

- We are uncertain of the effect of BT/CBT relative to placebo on degree of improvement of OCD symptoms (measured with CGII) given that the evidence is of very low quality.

Group behavioural and cognitive behavioural therapy compared to wait-list or placebo for children with OCD

O’Kearney and colleagues 2006 (48) also examined the efficacy of group BT/CBT compared to a placebo. Only one included study from Australia examined the effect of group BT/CBT.

Quality of the evidence

The evidence was assessed as being of very low quality. The very low quality is due to methodological limitations in the one small included study. The results and quality assessments are summarized in table 13 and the complete GRADE evidence profile is shown in appendix 5.12.

Table 13. Summary of finding table for group behavioural therapy/cognitive behavioural therapy compared to wait-list or placebo in children with obsessive compulsive disorder

Patient or population: children with obsessive compulsive disorder Settings: Australia Intervention: group behavioural therapy/cognitive behavioural therapy Comparison: wait-list or placebo						
Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of participants (Studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk	Corresponding risk				
	Wait-list	Group BT/CBT				
CY-BOCS Assessed with: Children's Yale-Brown Obsessive Compulsive Scale Scale from: 0 to 40 ⁴ Follow-up: post-treatment	The mean CY-BOCS in the control group was 24.04 points	The mean CY-BOCS in the intervention group was 15.76 lower (18.9 lower to 12.62 lower)	-	53 (1 RCT)	⊕○○○ VERY LOW ¹²	
Number with OCD at post treatment Assessed with: cut-off point on CY-BOCS Follow-up: post-treatment	1000 per 1000	260 per 1000 (140 to 480)	RR 0.26 (0.14 to 0.48)	53 (1 RCT)	⊕○○○ VERY LOW ¹³	
Severity of OCD symptoms Assessed with: NIMH-GOCS Scale from: 1 to 15 ⁴ Follow-up: post-treatment	The mean Obsessive compulsive severity in the control group was 9 points	The mean Obsessive compulsive severity in the intervention group was 5.69 lower (6.87 lower to 4.51 lower)	-	48 (1 RCT)	⊕○○○ VERY LOW ¹²	
Self-reported depression Assessed with: CDI Scale from: 0-54 ⁴ Follow-up: post-treatment	The mean Self-reported depression in the control group was 8.07 points	The mean Self-reported depression in the intervention group was 4.72 lower (8.21 lower to 1.23 lower)	-	48 (1 RCT)	⊕○○○ VERY LOW ¹²	
Self-reported anxiety Assessed with: MASC Scale from: 0-156 ⁴ Follow-up: post-treatment	The mean Self-reported anxiety in the control group was 49.47 points	The mean Self-reported anxiety in the intervention group was 10.38 lower (19.96 lower to 0.8 lower)	-	48 (1 RCT)	⊕○○○ VERY LOW ¹²	

*The basis for the assumed risk (e.g. the median control group risk across studies) is provided in footnotes. The corresponding risk (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

CI: Confidence interval; RR: Risk ratio; OR: Odds ratio;

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are very uncertain about the estimate.

1. Included studies at high risk of bias.
2. Total population less than 400.
3. Total population less than 300.
4. Lower score indicates improvement.

What does the evidence say?

Group behavioural therapy/Cognitive behavioural therapy:

- We are uncertain of the effect of group BT/CBT compared to wait list on the severity of OCD symptoms, number with OCD diagnosis post-treatment, and self-reported depression and anxiety levels given that the quality of the evidence is very low.

Treatment intervention: Psychosocial interventions plus antidepressants (combined therapy)

We identified three systematic reviews that reviewed the evidence on the effect of combined therapy (psychosocial interventions plus antidepressants) conducted by Hetrick and colleagues 2010, Cox and colleagues 2012a, and Cox and colleagues 2012b, (40-42). We only included reviews that examined the relative effect of psychological therapies (in other words, combined therapy versus antidepressant medication alone). The included reviews had slightly different foci, but there was a great deal of overlap between the included primary studies.

The review done by Cox and colleagues 2012a (40), which had the most recent search date, evaluated the effect of combined therapy for child and adolescent depression. It was last updated in November 2011. Cox and colleagues 2012b (41) evaluated interventions for preventing relapse and recurrence of a depressive disorder in children, and looked specifically at one relevant comparison, the effect of combined therapies compared to medication alone. The search was last updated in June 2011. Hetrick and colleagues 2010 (42) examined combined therapy for children with PTSD. The search was last updated in June 2010. These reviews include the following comparisons:

- Combined therapy compared to antidepressants for child and adolescent depression
- Combined therapy compared to antidepressants for relapse and recurrence in child and adolescent depression
- Combined therapy compared to antidepressants for child and adolescent PTSD
- Combined therapy (BT/CBT with medication) compared to medication alone for children with OCD

Combined therapy compared to antidepressants for child and adolescent depression

Cox 2012a (40) included altogether ten studies, but only four of these were included in comparisons relevant for this review of reviews. These four studies evaluated the effect of combined therapy compared to antidepressant medication. They were conducted in USA (2), UK (1), and Australia (1) and included 618 participants. The participants were diagnosed as having depression, and were between the ages of 11 and

18. The interventions included CBT plus medication (including Fluoxetine, Setraline, or SSRIs generally). The authors searched for studies that included acute effects of treatment, and where data were available longer term follow-up (up to 12 months).

The included studies examined outcomes related to remission from depressive disorder, suicide related behaviours, depressive symptoms (clinician rated and self-rated), and level of functioning. The effect on remission rates at post-intervention favoured combined therapy, over antidepressant medication alone (OR 1.5, 95% CI 0.99, 2.27), but this was not significant. There was an unclear or no effect on suicidal ideation after six to nine months, as evidenced in meta-analyses of both dichotomous and continuous data (only continuous data presented below) (SMD=-1.89, 95%CI -4.50, 0.72). There was also an unclear effect of combined therapy post-intervention on both clinician rated and self-rated depressive symptoms, and level of functioning. We included outcomes measured at six to nine month follow-up since this was the longest follow-up available with the most amount of primary studies contributing to the finding (i.e., the meta-analysis for outcomes measured at 12 months follow-up were usually based on data from fewer studies than at 6-9 months follow-up). Combined therapy may have little or no effect on remission rates (OR 1.93, 95% 0.93, 4), functioning (SMD=0.08, 95%CI -0.12, 0.28), and clinician-rated and self-rated depressive symptoms (SMD=0.27, 95%CI -2.26, 1.72; SMD=0.06, 95%CI -0.28, 0.17) after six to nine months.

Quality of the evidence

The evidence was assessed as having very low to low quality. The very low and low quality is due to high risk of bias in the included studies, and small study populations. The results and quality assessments are summarized in table 14 and the complete GRADE evidence profile is shown in appendix 5.13.

Table 14. Summary of findings table for combined therapy compared to antidepressant medication in children with depression

Patient or population: children with depression Settings: USA, UK, Australia Intervention: Combined therapy Comparison: antidepressant medication						
Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	№ of participants (Studies)	Quality of the evidence (GRADE) ¹³	Comments
	Assumed risk	Corresponding risk				
	Antidepressant medication	Combined therapy				
Functioning Assessed with: various measures ⁴ Follow up: range 6-9 months	The standardized mean Functioning ranged across control groups from 57.8-68.15 points	The standardized mean Functioning in the intervention group was 0.08 standard deviations higher (0.12 lower to 0.28 higher)	-	385 (3 RCTs)	⊕⊕○○○ LOW ¹³	
Suicide ideation Assessed with: KSADS-PL, and SIQ-JR ⁵ Follow up: range 6-9 months	The mean suicide ideation score across control groups from 12.1-20.96 points	The mean suicide ideation score in the intervention group was 1.89 standard deviations lower (0.45 lower to 0.72 higher)		267 (2 RCTs)	⊕⊕○○○ LOW ¹³	
Depression symptoms Assessed with: clinician rated, CDRS-R Scale from: 17 to 113 ⁵ Follow up: range 6-9 months	The mean Depression symptoms ranged across control groups from 28.44-34.8 points	The mean Depression symptoms in the intervention group was 0.27 lower (2.26 lower to 1.72 higher)	-	408 (2 RCTs)	⊕⊕○○○ LOW ¹³	
Depression symptoms Assessed with: self-rated ⁵ Follow up: range 6-9 months	The standardized mean Depression symptoms ranged across control groups from 15.0-67.08 points	The standardized mean Depression symptoms in the intervention group was 0.06 standard deviations lower (0.28 lower to 0.17 higher)	-	610 (4 RCTs)	⊕⊕○○○ LOW ¹³	
Remission Assessed with: clinical interview (ITT) (dichotomous) Follow up: range 6-9 months	743 per 1000	848 per 1000 (728 to 920)	OR 1.93 (0.93 to 4)	203 (2 RCTs)	⊕○○○○ VERY LOW ¹²³	

*The basis for the assumed risk (e.g. the median control group risk across studies) is provided in footnotes. The corresponding risk (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

CI: Confidence interval; RR: Risk ratio; OR: Odds ratio;

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are very uncertain about the estimate.

1. Included studies at high risk of bias.
2. Total population less than 400.
3. CI crosses line of no difference.
4. Higher score indicates improvement.
5. Lower score indicates improvement.

What does the evidence say?

Combined therapy:

- Combined therapy compared to medication alone may have little or no effect on levels of functioning and depressive symptoms, and remission rates, but the results are uncertain given that the evidence is of low quality.
- We are uncertain of the effect of combined therapy relative to medication alone on suicide ideation and remission rates given that the evidence is of low quality.

Other findings

Calati and colleagues 2011 (39) also examined the effect of combined therapy, but included children with a broader set of diagnoses (including anxiety) than Cox 2012a (40), which resulted in the inclusion of two primary studies that were not included in Cox 2012a (40). It seems as though these studies were not included in Cox 2012a (40) because they focused on treatment resistant children, or on children who had anxiety disorders but not depressive disorders. Below is a brief narrative summary of the results from the meta-analysis from Calati 2011 (39), as it also included primary studies that were included in Cox 2012a (40).

The results of the meta-analysis conducted in the review by Calati and colleagues 2011 (39) review showed a significant difference in global functioning scores (CGAS), and clinical global impressions scores (CGI-I) which favored combined therapy over antidepressants alone. However, there was no difference found between groups for depression scores as measured by the CDRS-R, which echoes the results of Cox 2012a (40).

Combined therapy compared to antidepressants for children with depression who have relapsed at least once

One review done by Cox and colleagues 2012b (41) examined the effect of combined therapy compared to antidepressants for relapse and recurrence in child and adolescent depression. The review included nine primary studies, however, only three were relevant. The included studies had between 46 and 344 participants (mean ages ranged from 11 to 18) who had relapsed at least once.

Two of the studies looked at the effect of combined therapy compared to medication management alone. One study examined the effect of psychological therapy (booster CBT sessions) compared to no intervention (frequent, or annual assessments, but no therapy). Data was only available at one follow-up point (24 weeks).

Data was only available for one study. In this study, participants receiving antidepressants alone relapsed more often than those receiving combined therapy after 24 weeks of treatment, but the difference was not statistically significant (OR 0.26; 95% CI 0.06 to 1.15). Furthermore, one out of 22 participants in the combined therapy

group experienced a suicide-related event, compared with two out of 22 participants who received only medication.

In one study, the intervention was divided into two phases, the acute phase, and the maintenance phase. Those who responded to treatment in the acute phase then continued into the maintenance phase (responders). For those responders, 20 of 86 participants who were allocated to combined therapy during the maintenance phase relapsed into depression while 10 of the 67 participants who received medication alone during the maintenance phase relapsed. The second study, a three-armed trial (a trial comparing three groups of participants exposed to three different interventions/no intervention) comparing booster CBT sessions to frequent assessments and annual assessments, found that when the assessment only sessions were combined and compared to CBT booster sessions, four out of 15 participants in the CBT group compared to three out of 25 in the assessment group had relapsed after 12 months. The results at 24 months showed that five of the 14 CBT group participants, and three out of 23 participants from the assessment only group had relapsed. Neither clinician nor self-rated depressive symptoms or functioning scores differed between the groups after 12 or 24 months (41) p. 22).

Quality of the evidence

The evidence was assessed as having low quality. The low quality is due to high risk of bias in the included studies, and small study populations. The results and quality assessments are summarized in table 15 and the complete GRADE evidence profile is shown in appendix 5.14.

Table 15. Summary of findings table for combined therapy compared to antidepressant medication in children who have relapsed at least once from depression

Patient or population: children with depressive disorder who had relapsed at least once Settings: not specified Intervention: combined therapy Comparison: medication						
Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of participants (Studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk	Corresponding risk				
	Medication	Combined therapy				
Prevention of a second/next depressive episode Assessed with: number relapsed/re-curred Follow up: 24 weeks	Not reported	Not reported	OR 0.26 (0.06 to 1.15)	46 (1 RCT)	⊕○○○ VERY LOW ¹³⁴	
Suicide-related behaviours Assessed with: not reported Follow up: 24 weeks	Not reported	Not reported	OR 0.52 (0.04, 6.21) ⁶	46 (1 RCT)	⊕○○○ VERY LOW ¹³⁴	
Depressive symptoms Assessed with: Clinician rated, CDRS-R Scale from: 17 to 113 ⁶ Follow up: 24 weeks	The mean Depressive symptoms in the control group was not reported	The mean Depressive symptoms in the intervention group was 6.2 lower (12.96 lower to 0.56 higher)	-	46 (1 RCT)	⊕○○○ VERY LOW ¹²³	
Functioning Assessed with: C-GAS Scale from: 1 to 100 ⁷ Follow up: 24 weeks	The mean Functioning in the control group was not reported	The mean Functioning in the intervention group was 1.3 higher (4.42 lower to 7.02 higher)	-	46 (1 RCT)	⊕○○○ VERY LOW ¹²³	
Depressive symptoms – Assessed with self-rated not reported Follow up: 24 weeks	Not reported	Not reported	not estimable	-	-	

*The basis for the assumed risk (e.g. the median control group risk across studies) is provided in footnotes. The corresponding risk (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

CI: Confidence interval; RR: Risk ratio; OR: Odds ratio;

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are very uncertain about the estimate.

1. One study at high risk of bias.
2. Total population less than 400.
3. CI crosses line of no difference.
4. Total population is less than 300.
5. Review authors only provided absolute numbers (Intervention: 1/22 vs comparison 2/22). We calculated OR and 95%CI.
6. Lower score indicates improvement.
7. Higher score indicates improvement.

What does the evidence say?

Combined therapy:

- We are uncertain of the effect of combined therapy relative to medication alone on relapse prevention, depressive symptoms (clinician- and self-rated), suicidal ideation and functioning given that the confidence intervals include benefits, harms and not effect, and the evidence is of very low quality.

Combined therapy compared to antidepressants for child and adolescent PTSD

One review done by Hetrick and colleagues 2010 (42) examined combined therapy for children with PTSD, but found no relevant primary studies. The search was last updated in June 2010.

BT/CBT combined with medication compared to medication alone for children with OCD

O’Kearney and colleagues 2006 (48) examined the post-treatment effect of BT/CBT combined with medication compared to medication alone. The included relevant studies were conducted in the USA. A meta-analysis included two studies. The mean age of the participants in these studies ranged from 11.7 to 14.5. The participants were diagnosed with OCD.

The interventions included BT/CBT combined with either sertraline or fluvoxamine and lasted between ten and twelve weeks. Participants that received combined therapy (BT/CBT with medicine) had slightly less severe symptoms at post-treatment according to the CY-BOCS and NIHM-GOCS scale, however the results was only significant for the CY-BOCS scale (MD=-4.55 95%CI -7.40, -1.70). Results from the NIHM-GOCS scale showed that the combined therapy intervention may have had no effect, beneficial effect or harmful effect (MD=-0.20 95%CI -2.31, 1.91). Participants who received combined treatment also had better levels of functioning, and fewer participants with OCD diagnosis post-treatment.

Quality of the evidence

The evidence was assessed as being of low quality. The low quality is due to methodological limitations in the two small studies. The results and quality assessments are summarized in table 16 and the complete GRADE evidence profile is shown in appendix 5.15.

Table 16. Summary of findings table for behavioural therapy/cognitive behavioural therapy combined with medication compared to medication alone in children with obsessive compulsive disorder

Patient or population: children with obsessive compulsive disorder
 Settings: USA
 Intervention: behavioural therapy/cognitive behavioural therapy combined with medication
 Comparison: medication alone

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of participants (Studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk	Corresponding risk				
	Medication alone	BT/CBT combined with medication				
Severity of OCD symptoms Assessed with: Children's Yale-Brown Obsessive Compulsive Scale Scale from: 0 to 40 ⁷ Follow-up: post-treatment	The mean severity of OCD symptoms ranged across control groups from 16.5-19.3 points	The mean CY-BOCS in the intervention group was 4.55 lower (7.4 lower to 1.7 lower)	-	76 (2 RCTs)	⊕⊕○○ LOW ¹²	
Number with OCD at post treatment Assessed with: cut-off point on CY-BOCS follow-up: post-treatment	818 per 1000	0 to 483 fewer per 1000	RR ranged from 0 to 0.59	66 (2 RCTs)	⊕⊕○○ LOW ³⁶	
Severity of OCD symptoms Assessed with: NIMH-GOCS Scale from: 1 to 15 ⁷ Follow-up: post-treatment	The mean degree of OCD symptoms in the control group was 7.1 points	The mean degree of OCD symptoms in the intervention group was 0.2 lower (2.31 lower to 1.91 higher)	-	20 (1 RCT)	⊕○○○ VERY LOW ²³⁵	
Level of functioning Assessed with: CGIS Scale from: Follow-up: post-treatment	The mean level of functioning in the control group was 4.2 points	The mean level of functioning in the intervention group was 0.7 lower (1.15 lower to 0.25 lower)	-	20 (1 RCT)	⊕○○○ VERY LOW ²⁵	
Degree of improvement Assessed with: CGI-I scale Scale from: 0-7 ⁷ Follow-up: post-treatment	The mean degree of symptom severity in the control group was 3 points	The mean degree of symptom severity in the intervention group was 0.7 lower (1.34 lower to 0.06 lower)	-	20 (1 RCT)	⊕○○○ VERY LOW ²⁵	

*The basis for the assumed risk (e.g. the median control group risk across studies) is provided in footnotes. The corresponding risk (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).
 CI: Confidence interval; RR: Risk ratio; OR: Odds ratio;

GRADE Working Group grades of evidence
 High quality: Further research is very unlikely to change our confidence in the estimate of effect.
 Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.
 Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.
 Very low quality: We are very uncertain about the estimate.

1. One study at low risk of bias and one study at high risk of bias.
2. Total population less than 400.
3. Wide confidence interval that includes both considerable benefit and considerable harm.
4. 95% CIs are (0, 0) and (0.38, 0.92)
5. One study at high risk of bias.
6. Total population is less than 300.
7. Lower score indicates improvement.

What does the evidence say?

Behavioural therapy/cognitive behavioural therapy combined with medication:

- Behavioural/cognitive behavioural therapy combined with medication compared to medication alone may slightly reduce the number of children with OCD diagnosis post-treatment, and reduce the severity of OCD symptoms (CY-BOCS), but the results are uncertain given that the quality of the evidence is low.
- We are uncertain of the effect of combined BT/CBT and medication relative to medication alone on the severity of OCD symptoms (NIMH-GOCS), the level of functioning and degree of improvement given that the quality of the evidence is very low.

Discussion

In this review of reviews we found nine systematic reviews of high quality examining the effects of interventions for children at risk of or with depression or anxiety. These were divided into the following categories: preventive interventions, indicated interventions, and treatment interventions.

Effects of preventive interventions for children at risk of depression

Preventive interventions target individuals who belong to a “subgroup of the population, distinguished by age, sex, occupation, or other obvious characteristic whose risk of becoming ill is above average” (34) p. 108).

Effects of psychosocial parenting programmes

Children and adolescents exposed to individual, family, or community level risk factors are considered at risk for developing depression and/or anxiety. Although we searched for reviews that examined preventive interventions from all risk groups mentioned in the inclusion criteria, we only identified one review that looked at teenage parents as a risk group. Teenage parents are considered to be at higher risk of having mental health problems compared to the general population (51). Psychosocial parenting programmes offer one way of targeting this group. One systematic review (45) evaluated the effect of parenting programmes for teenage parents and found an unclear effect on depressive symptoms. However, we are unable to draw any conclusions on the effect of parenting programmes to prevent depression among teenage parents, given that the evidence supporting this result is of low quality. Furthermore, we cannot generalize the findings from this review to other groups of at-risk youth, since adolescent parents with clinical depression and problems with their families of origin are a very specific group.

It is not possible to conclude on the effect of any preventive interventions for anxiety and/or depression, since we identified only one review which included one type of risk group (teenage parents) and the evidence was of very low quality. We did identify systematic reviews that examined the effect of interventions on other risk groups, including juvenile delinquents, ethnic minorities, and adolescents with learning disabilities. These were excluded, however, due to methodological concerns (see appendix 4.2). We did not identify any reviews which examined risk groups

such as children of divorced parents or children with parents that have a mental health disorder.

Effects of treatment interventions for children with symptoms or diagnosis of depression and/or anxiety

We identified eight reviews which examined the effect of psychosocial treatment interventions for depression/anxiety among children. These reviews evaluated the effect treatment interventions such as exercise, and behavioural and cognitive behavioural therapy. Although we searched for other types of treatment interventions, (e.g., talk therapy, vocational and social training, psycho-education, short-term psycho-dynamic therapy, interpersonal therapy, play therapy), we did not identify any high quality systematic reviews which examined such interventions.

Effects of psychological/educational interventions

One systematic review evaluated the effect psychological/educational interventions. Authors of this review examined a range of interventions, mostly delivered in schools, including programmes with components of therapy common to CBT, group based programs, programmes including family members, computer based programmes, or programmes focussed on self-efficacy, stress reduction, trauma or optimism (44) p. 10).

Psychological/educational interventions compared to no intervention/wait list/treatment as usual may improve depressive scores and remission (number with diagnosis) at post-treatment and after 3 to 9 months (44). However, we are uncertain if this effect continues at 36 months because the evidence is of very low quality.

When compared with placebo or another intervention, psychological or educational interventions relative to placebo may have little or no effect on depression scores post-treatment in children with elevated symptoms of depression. However the results come from low quality evidence, so it is difficult to conclude with certainty. We are uncertain of the effect of psychological or education interventions compared with placebo on the diagnosis (remission) of depressive disorder post-treatment given that the evidence is of very low quality. Furthermore, we are uncertain of the longer term effects (three to nine months post treatment) of psychological or education interventions on depressive symptoms given that the evidence is of very low quality.

While psychological/educational interventions may have an effect when compared to no intervention, there is no evidence of an effect when compared to a placebo condition. While the placebo effect is well-known (52), it is difficult to comment on whether this is relevant in this case given the low to very low quality of the evidence.

Effects of exercise interventions on children in psychiatric treatment

Health guidelines in many countries, including Norway and the United States, recommend physical exercise as a way to combat depression and maintain mental health (53, 54). There are a myriad of theories as to how exercise impacts depression, including the effect of the rise in body temperature, the distracting nature of exercise from what is causing the depression, endorphins, or merely enhancement of self-efficacy (55). Exercise is a relatively inexpensive and accessible intervention to implement with children, regardless of their socio-economic status, age, or geographical location, and there are no known negative effects. We identified one high quality systematic review that examined exercise interventions (aerobic training, weight training, or a combination).

We are uncertain of the effect of exercise interventions for children already in psychiatric treatment due to the very low quality of the evidence (49).

The research on exercise for children under psychiatric care seems to be scarce, and the included studies only examine the effect on depression. The included studies examine primarily children over 16, meaning that it is difficult to draw conclusions on the effect of exercise on younger children in psychiatric treatment. Furthermore, since the studies only follow up for six to eight weeks, the long-term effect of these interventions is unknown.

Effects of cognitive behavioural therapy treatment interventions for children at risk of depression

CBT is a type of psychological therapy that attempts to improve maladaptive behaviours by changing the individuals cognitive processing around these behaviours through a gradual goal-oriented and highly structured procedure. Kendall 1993 notes that “cognitive–behavioural strategies with children use enactive, performance-based procedures as well as cognitive interventions to produce changes in thinking, feeling and behaviour” (56), p. 235).

The three reviews we included that examined the effect of cognitive behavioural therapy included children with either post-traumatic stress disorder, anxiety or obsessive compulsive disorder. CBT is a broad psychotherapeutic approach that encompasses many types of treatment. The interventions evaluated in these systematic reviews included trauma-focused CBT, behavioural and cognitive behavioural therapy that focused on exposure to situational/internal triggers of anxiety which leads to compulsive behaviours, and manualized CBT (at least eight sessions) conducted by trained therapists.

CBT probably improves both anxiety symptoms, and reduces the number of anxiety diagnoses among children post-treatment when compared to wait list or no intervention (1).

Trauma-focused CBT, used with children who have PTSD symptoms or a diagnosis of PTSD, probably improves PTSD symptoms and depressive symptoms (38). Moreover, the effect on PTSD symptoms seemed to continue 12 months after treatment had ended. The review authors, however, found that PTSD symptoms improved for all participants, regardless of whether or not they received an intervention. Improvement could sometimes therefore be merely related to the passage of time since a traumatic incident (38), p. 754). Although TF-CBT does not seem to be more effective than alternative treatment, the review authors indicate that most of the active control conditions included elements of TF-CBT.

BT/CBT compared to wait list may improve the severity of obsessive compulsive symptoms, but the results are uncertain given that the evidence is of low quality. We are uncertain of the effect of BT/CBT compared to wait list on remission (the number with OCD diagnosis post-treatment), severity of the OCD (measured with NIMH-GOCS), self-reported depressive or anxiety symptoms for children with OCD given that the evidence is of very low quality. When compared with placebo, BT/CBT may improve OCD symptoms, and remission (number with OCD diagnosis post-treatment). However, we are uncertain of the effect of BT/CBT relative to placebo on OCD symptom severity (measured with CGI) given that the evidence is of very low quality (48).

While CBT appears to be the most widely researched type of psychosocial intervention, there are still few high quality systematic reviews available on the topic.

Effects of combined therapy interventions for children with depression, post-traumatic stress disorder or obsessive compulsive disorder

Most guidelines recommend that professionals use medication cautiously in treating child and adolescent mental disorders. Combined therapy is the use of psychosocial therapy alongside antidepressant medication. The four systematic reviews we included that evaluated the effect of combined therapy included children with various diagnoses, including depression, post-traumatic stress disorder or obsessive compulsive disorder diagnosis. Most of the interventions included elements of CBT as part of the psychosocial approach and an SSRI as part of the medication approach.

There was little or no effect of combined therapy compared to medication alone on functioning, depressive symptoms, or remission rates in children who have a diagnosis of depression, but have no history of remitting after treatment. However, we are uncertain of these results given that the evidence supporting these results is of very low to low quality (40).

For adolescents who have relapsed at least once from depression, combined therapy compared to medication alone has little or no effect on prevention of future relapse, depressive symptoms (clinician- and self-rated), or functioning. However, we are uncertain of these results given that they are based on very low quality evidence (41). Based on narrative results from primary studies included in the review by Cox and colleagues 2012b (41), there may even be evidence that combined therapy is less effective than medication alone in preventing relapse.

We are unsure of the effect of combined therapy on post-traumatic stress disorder since there was no relevant evidence available (42).

Behavioural/cognitive behavioural therapy combined with medication compared to medication alone may slightly reduce the number of children with OCD diagnosis post-treatment, and reduce the severity of OCD symptoms (CY-BOCS). However, we are uncertain of the effect on the severity of OCD (NIMH-GOCS), the level of functioning and degree of improvement given that the quality of the evidence is very low. Moreover, the effect of combined therapy on the severity of symptoms is unclear as results from two different scales were inconsistent(48). Two different scales were used to measure the severity of OCD symptoms (CY-BOCS and NIMH-GOCS). One scale showed a small but significant improvement in symptom severity for the intervention group, and the other scale showed little or no effect. Tek and colleagues 1995 (57) found both instruments to be reliable and valid for assessment of symptom severity of OCD, so it is unclear as to why they present contradicting results.

Other relevant research

The field of child and adolescent mental health is constantly growing. Since we finished this report, we have identified a number of potentially relevant systematic reviews, but we have not critically appraised them. The British Psychological Society has identified and summarized research on interventions for childhood and adolescent depression in order to develop clinical practice guidelines. They have included primary, community and secondary care interventions (58). Two systematic reviews have been published which examine the effect of physical activity and participation in sport (59, 60). Both found that participation in sport and physical activity has a small but positive effect on depression and psychosocial health of children.

Implications for practice

Drawing from the results presented above, we will now discuss three plausible explanations for why some of the psychosocial interventions included in this review apparently differ in magnitude or direction of effect when applied to different populations, or when the control condition is changed:

Firstly, given that the positive effects of psychological/educational interventions on depressive symptoms diminish when compared with another treatment or placebo, it is possible that children with elevated symptoms of depression would benefit from any type of preventive intervention, or merely increased attention from adult figures in their life. In other words, some kind of intervention is better than no intervention.

Secondly, CBT is probably beneficial for anxiety, post-traumatic stress disorder and obsessive compulsive disorder. However, when combined with medication (combined therapy) the results are different. CBT combined with antidepressants is not more beneficial than medication alone for depression, and only possibly slightly better for obsessive compulsive symptoms. This indicates that CBT is more beneficial than nothing, but does not have a large relative effect compared to medication alone for treating depression. However, important to note is that most outcomes from the included reviews were measured in the short term; it is possible that CBT has more significant long term effects given that it aims to improve maladaptive behaviours by changing an individual's cognitive processing around these behaviours. Furthermore, we must be cautious interpreting and comparing evidence from reviews that examine different psychosocial interventions, and interventions aimed at different groups of children.

Since the majority of the results are based on very low to low quality evidence, it is not certain that the magnitude and direction would not be different if the evidence was of better quality.

Strengths and weaknesses of this report

In this report we have presented a systematic overview of the available systematic summarized research on the effects of psychosocial interventions and treatments for depression and anxiety on at-risk children and their families. We systematically searched the relevant databases and grey literature, and assessed the relevance of identified references based on pre-specified inclusion and exclusion criteria. Furthermore, we have critically appraised the methodological limitations of the included systematic reviews, and only included those of high quality. Overviews of reviews are especially helpful for research questions where there already exists a great deal of systematic reviews, or in cases where there are a large number of interventions, as in the case of this overview. By identifying, assessing the quality of, and summarizing findings from the included systematic reviews we are able to identify any knowledge gaps related to psychosocial interventions for at-risk children. Finally, assessing the certainty of the evidence using GRADE allows the researcher to transparently communicate the strength and weaknesses of evidence behind individual review outcomes, which then allows an end user to evaluate which review findings could be the basis for decisions related to implementing an intervention.

The research question was developed in cooperation with Barne-, ungdoms- og familiedirektoratet to ensure relevance and accuracy. The search terms were developed by the research librarian with input from the project leader and experts in the area of child and adolescent mental health. The search was conducted very broadly and without any restrictions regarding language, and identified a great number of studies. It is therefore unlikely that we did not capture the majority of relevant systematic reviews.

A weakness related to systematic reviews of reviews generally is that we must limit ourselves to information presented in the included systematic reviews, and not the primary studies themselves. This limits the amount of information or depth of description we are able to retrieve on individual interventions for example, or the appropriateness of synthesis methods. When possible, we contacted review authors if we needed more information concerning their search, inclusion criteria or description of included studies.

A further weakness is that a systematic review of reviews may miss relevant research in the form of primary studies, since the review of reviews is only as up-to-date as the search date in the most recent systematic review. Furthermore, the inclusion criteria of the individual systematic reviews may differ slightly from PICO for the review of reviews meaning that some relevant primary studies may have been missed. Generalizability from one population to another can sometimes be an issue for concern in both systematic reviews and reviews of reviews. This is partially addressed by the GRADE tool, however given the breadth of the research question in this review, we did not downgrade any of the evidence supporting relevant outcomes for being indirect with respect to the population.

A weakness of this particular systematic review of reviews is a lack of long-term follow-up reported in the included systematic review. Given that many children and adolescents may struggle with depression and anxiety throughout their life, this lack of follow-up diminishes the usability of many of the findings in practical settings.

Most of the evidence in this review has been assessed to be of low or very low quality. This is mostly due to methodological limitations and small sample sizes in the relevant primary studies. It is difficult to conclude on the state of the primary literature now, however, given that most of the included reviews were conducted before 2012.

Conclusion

Psychosocial preventive and treatment interventions for depression and/or anxiety among children may be beneficial.

Treatment interventions such as cognitive behavioural therapy probably reduces anxiety symptoms and increases remission rates among children with anxiety and reduces PTSD and depression symptoms among children with PTSD. It may also be beneficial for children with obsessive compulsive disorder (OCD).

When combined with medication CBT may have little or no effect on levels of functioning and depressive symptoms, and remission rates for depression. It may slightly reduce the number of children with OCD diagnosis post-treatment, and reduce the severity of OCD symptoms.

Indicated interventions such as psychological/educational interventions may improve depressive symptoms and reduce the number of depression diagnoses up to three to nine months post-treatment for at-risk youth when compared with no treatment, and may have little or no effect on depression scores or number of depression diagnoses post-treatment when compared with placebo or attention control.

It is difficult to conclude with certainty on the effects of most of the included interventions given that the results are based on evidence of low or very low quality.

Need for further research

There is a need for more large high quality high quality systematic reviews with search dates that capture primary research published after 2011. Specifically, there is a lack of systematic reviews on certain at-risk populations, such as looked-after children, juvenile delinquents and victims of domestic/sexual abuse. It is difficult to conclude on the state of primary literature given that we only searched for systematic reviews. However, it maybe difficult to conduct studies with adequate sample sizes of these populations. The lack of systematic reviews on risk groups such as children of divorced parents or children with parents that have a mental health disorder, however, is especially concerning, given that these risk groups are quite common in many countries.

We did identify some moderate quality systematic reviews that examined types of psychosocial interventions not addressed in the included systematic reviews, such as interpersonal therapy, relaxation therapy, and social or vocational skills training. However, there are no high quality systematic reviews available which examine these interventions. This may be due to a historical bias: a large number of studies published to date come from CBT tradition. The next generation of interventions likely have a higher degree of scientific sophistication and effect, but are yet to make it into reviews in sizeable numbers. An update of this review of reviews will hopefully identify more high quality systematic reviews on other types of psychosocial interventions.

Future systematic reviews should not only examine outcomes connected to specific mental illnesses (such as depression, anxiety, obsessive compulsive symptoms), but also quality of life, social networks and academic achievement, as these are important preventative factors against recurrence of mental illness for children. Furthermore, studies with good follow-up data are needed as they would be able to trace the strength of an intervention over time.

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Appendices

Appendix 1. Terminology and acronyms (Begræpsforklaringer og forkortelser)

Begrep	Forklaring
Allocation	<p>Distribution of participants in an effort to measure and control group. Concealed allocation means steps have been taken to conceal allocation to groups from those responsible for assessing participants when they enter the study. This is ensured by robust randomization.</p> <p>Open allocation means allocation to intervention and control groups is not hidden to those who are assessing participants when they enter the study.</p>
BT	<p>Behavioural therapy “focuses attention on increasing access to pleasant events and positive reinforcers through the use of activity scheduling and social skills development” (Cox 2012a, p.5)</p>
Blinding	<p>In a controlled trial: the process that prevents those involved in the study know the group to which participants belong. The risk of bias is reduced when as few people as possible know who is receiving the experimental intervention and who is in the control group.</p> <p>Participants, people involved in administering the intervention, researchers/assessors and the one who do the analysis, are all candidates for blinding. Blinding is not always possible.</p>
Brief Psychiatric Rating Scale (BPRS)	<p>An instrument to measure positive symptoms, generally psychopathology and affective symptoms. The total score ranges from 0 to 126, and higher scores indicate more severe symptoms.</p>
CBT	<p>Cognitive behavioural therapy “uses cognitive restructuring training and teaching behavioural changes” (Cox 2012a, p.5).</p>
CDI	<p>The Children’s Depression Inventory (CDI) is a 27-item scale to measure severity of depression symptoms. It is a self-rated and used for children ages 7 to 17.</p>
C-GAS	<p>The Children’s Global Assessment Scale is used by clinicians to rate the general functioning of children (under 18).</p>
CDRS(-R)	<p>The Children’s Depression Rating Scale (-Revised) is a 16-item scale to measure severity of depressive symptoms among children aged 6 to 12. Assessment is based on a combination of self-report, and parent and teacher reports.</p>
CGI-I (Clinical Global Impression-Improvement scale)	<p>Commonly used tool to measure whether and how much symptoms have improved among individuals with mental disorders.</p>

CGI-S (Clinical Global Impression-Severity of Illness)	Commonly used tool to measure symptom severity of individuals with mental disorders.
Children's Global Assessment Scale (CGAS)	Et instrument for å måle generell global funksjon og symptomer blant barn og ungdom. Rangeres fra 0 til 100. Høyere skår indikerer bedre funksjon.
CY-BOCS	The Children's Yale–Brown Obsessive Compulsive Scale is used to assess the severity of obsessive-compulsive symptoms among children
Effect	The observed relationship between an intervention/exposure and a consequence that is expressed as the outcome.
Effect size	The measure for effect, for example mean, frequency, percentage, relative risk, odds ratio, «number need to treat to benefit», standardized mean difference, weighted mean difference.
GRADE	A method for assessing the quality of documentation (for each outcome) across the primary studies included in the systematic reviews, and strength of recommendations in guidelines.
Heterogeneity	Different, varied. Populations or studies are heterogeneous if they have diverse or varied characteristics, meaning that they are different from each other.
IPT	Interpersonal therapy “whereby the relationship between mood and relationship problems is explored and the focus is on improving relationship skills” (Cox 2012a, p. 5)
Internalizing problems	Characterized by focusing problems/behaviours inward (towards oneself).
Confidence Interval (CI)	Statistics expression for margin of error of frequency statistics. It specifies the interval by a specified probability (usually 95%) containing the "true" value of the variable measured. The precision of the result is given as extremes of an interval, for example. when you write 10.5 ± 0.5 (95% CI), this means that the measurement was 10.5, and the confidence interval ranging from 10.0 to 11.0. The narrower the interval, the greater the precision.
Quality of the evidence	A scoring of the quality of the knowledge base that expresses the extent to which one can rely on the conclusions across primary studies. GRADE is often used for this purpose.
K-SADS (Kiddie Schedule for Affective Disorders and Schizophrenia)	The Kiddie Schedule for Affective Disorders and Schizophrenia (SADS) is a collection of diagnostic criteria and symptom rating scales for psychiatric problems, including depression and anxiety. It is used for children ages 8 to 16.
MASC	The Multidimensional Anxiety Scale for Children is a 39-item scale used to assess pediatric anxiety symptoms.
Meta-analysis	A statistical technique for combining the results of included primary studies.
Methodological quality	Assessment of the overall quality of a primary study or a systematic review. This is done by considering the design, instruments, etc. results. Checklists are often used for this purpose.
NIMH-GOCS	The National Institute of Mental Health Global Obsessive Compulsive Scale (US)
Review of systematic reviews	The same as a systematic review, only that the research being assessed, synthesized and analysed is systematic reviews.
Primary study	A single study. Original research where data is collected.

RADS	The Reynolds Adolescent Depression Scale is a 30-item scale using self-report that measures the four dimensions of depression: Dysphoric Mood, Anhedonia/Negative Affect, Negative Self-Evaluation, and Somatic Complaints
Randomization	A process which assigns participants randomly to one of the arms of a controlled trial. There are two components of randomisation: generating a random sequence, and its implementation, ideally in a way so that those that include participants in a study are not aware of the sequence (allocation concealment). A good randomization method is typically a method where participants are allocated to a group from a central point (for example, by telephone or e-mail), and the is sequence generated by a random generator on a computer.
Recreational therapy	Therapy for rehabilitation and to improve overall well-being. It can take the form of play, music, dance, etc.
Relativ risiko, RR	Et mål på effekt. Forholdet mellom risikoen i to grupper. I tiltaksstudier er dette risikoen i tiltaksgruppen delt på risikoen i kontrollgruppen. En relativ risiko på 1 indikerer at det ikke er forskjell på de to gruppene. For uønskede utfall indikerer en relativ risiko < 1 at tiltaket er effektivt for å redusere risikoen for dette utfallet.
Risk difference, RD	Risk difference describes the absolute change in risk that can be attributed to the intervention, and is calculated by subtracting the risk in the control group from the risk in the intervention group <i>minus</i> risk in the control group.
SIQ-JR	Suicidal Ideation Questionnaire-Junior given to middle-school students to evaluate severity and frequency of suicidal ideation
Standardized mean difference (SMD)	The difference between two estimated averages divided by an estimate of the standard deviation. It is used to combine the results of studies that use different methods to measure the same concept, eg. mental health. By expressing the effects as a standardized value, the results can be combined as they do not refer to a specific scale. Standardized mean difference is sometimes referred to as a d-index.
Statistically significant	If a result is statistically significant, it is unlikely to be coincidental. The usual limit for this assessment is that the result, or more extreme results would occur with a probability less than 5% if the null hypothesis were true. Statistical tests gives a p-value used to assess this.
Systematic review	An review of a clearly defined research question. The review uses systematic and transparent methods to identify, select and critically appraise relevant research (primary studies), as well as to collect and analyze data from the studies included in the overview. Statistical methods (meta-analysis) will in some cases be used to analyze and summarize the results of the included studies. In other cases the studies can be summarized without the use of statistical methods.
Search strategy	Method used in a review to identify relevant studies. A combination of keywords, search filter, time period and electronic databases used to identify studies. The method may be supplemented by hand searching relevant journals, contacting relevant experts, other forms of personal contact or checking reference lists.
SSRIs	Selective serotonin reuptake inhibitors. Medication used for depressive symptoms. For example, sertraline or fluvoxamine
TF-CBT	Trauma-focused cognitive behavioural therapy is a child and parent psychotherapy approach aimed at children and adolescents who have been exposed to at least one traumatic event.

Appendix 2. Search Strategy

Databaser: Embase <1980 to 2013 Week 03> (715)

Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations and Ovid MEDLINE(R) <1946 to Present> (887)

PsycINFO <1806 to January Week 4 2013> (951)

Dato: 29.01.2013

Treff: 1917 (2553 for dublettkontroll)

- 1 exp Anxiety/
- 2 exp Anxiety Disorders/
- 3 exp Major Depression/
- 4 "depression (emotion)"/
- 5 Depression/
- 6 exp Depressive Disorder/
- 7 (anxiet* or anxious* or depress* or dysthym* or gad or angst* or dysphor* or panic or ptsd or (((post adj traumatic*) or posttraumatic) adj2 stress) or phobi* or anankasti* or (obsessive adj compulsive) or ocd).tw.
- 8 or/1-7
- 9 exp Child/
- 10 exp Adolescent/
- 11 (child\$ or adolescen\$ or pediatric\$ or paediatric\$ or boy\$1 or girl\$1 or kid\$1 or preschool\$ or juvenil\$ or under?age\$ or teen\$ or minor\$ or pubescen\$ or young people or young person\$ or youth\$ or infant* or baby or babies or toddler\$).tw.
- 12 or/9-11
- 13 exp psychotherapy/
- 14 Social Skills Training/
- 15 ((group or behavio\$ or general or network\$ or social or supporti\$ or interpersonal or inter-personal or individual or family or families or brief or psycho\$ or vocation\$ or coping\$) adj2 (therap\$ or treatment\$ or counsel\$ or rehabilitat\$ or habilitat\$ or support\$ or intervention\$)).tw.
- 16 (psychotherap\$ or psycho-therap\$ or psychoeducat\$ or psycho-educat\$ or psychodynam\$ or psycho-dynam\$ or psychoanaly\$ or psycho-analy\$ or psychosocial or psycho-social).tw.
- 17 exp Exercise/
- 18 exp Exercise Therapy/
- 19 ((Physical or therap*) adj1 exercis*).tw.
- 20 exp mental health programs/
- 21 exp Mental Health Services/
- 22 Mental Health Service/
- 23 exp outreach programs/

- 24 exp prevention/
- 25 (therap\$ or treatment\$ or counsel\$ or rehabilitat\$ or habilitat\$ or support\$ or intervention\$ or program\$).tw.
- 26 prevent*.tw.
- 27 or/13-26
- 28 8 and 12 and 27
- 29 limit 28 to "reviews (maximizes specificity)"

Database: Cochrane Library

Dato: 31.01.2013

Treff: Cochrane reviews: 128, DARE: 14

- #1 MeSH descriptor: [Anxiety] explode all trees
- #2 MeSH descriptor: [Anxiety Disorders] explode all trees
- #3 MeSH descriptor: [Depression] explode all trees
- #4 MeSH descriptor: [Depressive Disorder] explode all trees
- #5 (anxiet* or anxious* or depress* or dysthym* or gad or angst* or dysphor* or panic or ptsd or (((post next traumatic*) or posttraumatic) near/2 stress) or phobi* or anankasti* or (obsessive next compulsive) or ocd):ti,ab
- #6 #1 or #2 or #3 or #4 or #5
- #7 MeSH descriptor: [Child] explode all trees
- #8 MeSH descriptor: [Adolescent] explode all trees
- #9 (child* or adolescen* or pediatric* or paediatric* or boy* or girl* or kid* or pre-school* or juvenil* or under?age* or teen* or minor* or pubescen* or young people or young person* or youth* or infant* or baby or babies or toddler*):ti,ab
- #10 #7 or #8 or #9
- #11 MeSH descriptor: [Psychotherapy] explode all trees
- #12 (therap* or treatment* or counsel* or rehabilitat* or habilitat* or support* or intervention* or program* or prevent*):ti,ab
- #13 MeSH descriptor: [Exercise] explode all trees
- #14 MeSH descriptor: [Exercise Therapy] explode all trees
- #15 MeSH descriptor: [Mental Health Services] explode all trees
- #16 #11 or #12 or #13 or #14 or #15
- #17 #6 and #10 and #16

Database: ISI Web of Science

Dato: 28.01.2013

Treff: 1476

- # 1,509 #8 AND #7
- 9

Databases=SCI-EXPANDED, SSCI, A&HCI
Timespan=All Years

139,400 Topic=((systematic* near/1 review*)) OR
8 Topic=((meta-anal* or metaanal*))
Databases=SCI-EXPANDED, SSCI, A&HCI
Timespan=All Years

36,744 #6 AND #3
7 Databases=SCI-EXPANDED, SSCI, A&HCI
Timespan=All Years

5,936,468 #5 OR #4
6 Databases=SCI-EXPANDED, SSCI, A&HCI
Timespan=All Years

77,426 Topic=((physical near/1 (exercis* or activit*)))
5 Databases=SCI-EXPANDED, SSCI, A&HCI
Timespan=All Years

5,898,811 Topic=((therap* or treatment* or counsel* or reha-
4 bilitat* or habilitat* or support* or intervention* or
program* or prevent*))
Databases=SCI-EXPANDED, SSCI, A&HCI
Timespan=All Years

73,802 #2 AND #1
3 Databases=SCI-EXPANDED, SSCI, A&HCI
Timespan=All Years

1,743,083 Topic=((child or children or childhood* or adoles-
2 cen* or pediatric* or paediatric* or boy* or girl* or
kid or kids or preschool* or juvenil* or underage*
or under-age* or teen* or minor or minors or pu-
bescen* or (young near/1 people) or (young near/1
person*) or youth* or infant* or baby or babies or
toddler*))
Databases=SCI-EXPANDED, SSCI, A&HCI
Timespan=All Years

625,459 Topic=(anxiet* or anxious* or depress* or dys-
1 thym* or gad or angst* or dysphor* or panic) OR
Topic=(ptsd or (((post near/1 traumatic*) or post-
traumatic) near/2 stress) or phobi* or anankasti*
or (obsessive near/1 compulsive) or ocd)
Databases=SCI-EXPANDED, SSCI, A&HCI
Timespan=All Years

Database: Cinahl (EBSCO)

Dato: 1.01.2013

Treff: 115

Search ID#	Search Terms	Search Options
S18	S4 AND S15 AND S16	Limiters - Clinical Queries: Review - High Specificity Search modes - Boolean/Phrase
S17	S4 AND S15 AND S16	Search modes - Boolean/Phrase
S16	S8 OR S9 OR S10 OR S11 OR S12 OR S13 OR S14	Search modes - Boolean/Phrase
S15	S5 OR S6 OR S7	Search modes - Boolean/Phrase
S14	TI prevent* OR AB prevent*	Search modes - Boolean/Phrase
S13	(MH "Preventive Health Care+")	Search modes - Boolean/Phrase
S12	(MH "Mental Health Services+") OR (MH "Mental Health Care (Saba CCC)+")	Search modes - Boolean/Phrase
S11	TI (((Physical or therap*) N1 exercis*)) OR AB (((Physical or therap*) N1 exercis*))	Search modes - Boolean/Phrase
S10	(MH "Exercise+") OR (MH "Therapeutic Exercise+")	Search modes - Boolean/Phrase
S9	TI ((therap* or treatment* or counsel* or rehabilitat* or habilitat* or support* or intervention* or program* or prevent*)) OR AB ((therap* or treatment* or counsel* or rehabilitat* or habilitat* or support* or intervention* or program* or prevent*))	Search modes - Boolean/Phrase
S8	(MH "Psychotherapy+")	Search modes - Boolean/Phrase
S7	TI (child* or adolescen* or pediatric* or paediatric* or boy* or girl* or kid* or preschool* or juvenil* or under?age* or teen* or minor* or pubescen* or (young people) or (young person*) or youth* or infant* or baby or babies or toddler*) OR AB (child* or adolescen* or pediatric* or paediatric* or boy* or girl* or kid* or preschool* or juvenil* or under?age* or teen* or minor* or pubescen* or (young people) or (young person*) or youth* or infant* or baby or babies or toddler*)	Search modes - Boolean/Phrase

S6	(MH "Adolescence+")	Search modes - Boolean/Phrase
S5	(MH "Child+")	Search modes - Boolean/Phrase
S4	S1 OR S2 OR S3	Search modes - Boolean/Phrase
S3	TI (anxiet* or anxious* or depress* or dysthym* or gad or angst* or dysphor* or panic OR (ptsd or (((post n1 traumatic*) or posttraumatic) n2 stress) or phobi* or anankasti* or (obsessive n1 compulsive) or ocd)) OR AB (anxiet* or anxious* or depress* or dysthym* or gad or angst* or dysphor* or panic OR (ptsd or (((post n1 traumatic*) or posttraumatic) n2 stress) or phobi* or anankasti* or (obsessive n1 compulsive) or ocd))	Search modes - Boolean/Phrase
S2	(MH "Depression+")	Search modes - Boolean/Phrase
S1	(MH "Anxiety+") OR (MH "Anxiety Disorders+")	Search modes - Boolean/Phrase

Databaser: ERIC, Social Services Abstracts, Sociological Abstracts

Dato: 31.01.2013

Treff: 90 (etter intern dublettkontroll)

S9	s7 and s8	3 data-bases
S8	ab((systematic* near/2 review*) or (meta near/1 analy*)) OR ti((systematic* near/2 review*) or (meta near/1 analy*))	3 data-bases
S7	s3 and s6	3 data-bases
S6	s5 or s4	3 data-bases
S5	ab(therap* or treatment* or counsel* or rehabilitat* or habilitat* or support* or intervention* or program* or prevent*) OR ti(therap* or treatment* or counsel* or rehabilitat* or habilitat* or support* or intervention* or program* or prevent*)	3 data-bases
S4	SU.EXACT.EXPLODE("Psychotherapy") OR SU.EXACT.EXPLODE("Therapy") OR SU.EX-	3 data-bases

ACT.EXPLODE("Exercise") OR SU.EXACT.EX-
PLODE("Mental Health Services") OR SU.EX-
ACT("Prevention")

S3 s1 and s2

3 data-
bases

SU.EXACT.EXPLODE("Children") OR SU.EX-
ACT.EXPLODE("Adolescents") OR ab((child*
or adolescen* or pediatric* or paediatric* or
boy* or girl* or kid* or preschool* or juvenil* or
under?age* or teen* or minor* or pubescen* or

S2

young people or young person* or youth* or in-
fant* or baby or babies or toddler*)) OR
ti((child* or adolescen* or pediatric* or paediat-
ric* or boy* or girl* or kid* or preschool* or ju-
venil* or under?age* or teen* or minor* or pu-
bescen* or young people or young person* or
youth* or infant* or baby or babies or toddler*))

3 data-
bases

S1

(SU.EXACT.EXPLODE("Anxiety Disorders")
OR SU.EXACT.EXPLODE("Anxiety")) OR
SU.EXACT.EXPLODE("Depression (Psychol-
ogy)") OR ab(anxiet* OR anxious* OR depress*
OR dysthym* OR gad OR angst* OR dysphor*
OR panic) OR ti(anxiet* OR anxious* OR de-
press* OR dysthym* OR gad OR angst* OR dys-
phor* OR panic OR ptsd or (post n/1 trau-
matic*) or (posttraumatic n/2 stress) or phobi*
or anankasti* or (obsessive n/1 compulsive) or
ocd)

3 data-
bases

Database: DARE

Dato: 27.01.2013

Treff: 194 treff

NB. Dette søket har ikke tekstord tilsvarende de andre databasene – det skyldes at
tesktordene søker all tekst, inkludert vurderinger av SRer, og gir derfor et langt høy-
ere antall irrelevante treff

1 (therap* or treatment* or counsel* or rehabilitat* or habilitat* or support* or
intervention* or program* or prevent*)

2 MeSH DESCRIPTOR Anxiety EXPLODE ALL TREES

3 MeSH DESCRIPTOR Anxiety Disorders EXPLODE ALL TREES

4 MeSH DESCRIPTOR Depression EXPLODE ALL TREES

5 MeSH DESCRIPTOR Depressive Disorder EXPLODE ALL TREES

6 MeSH DESCRIPTOR Child EXPLODE ALL TREES

7 MeSH DESCRIPTOR Adolescent EXPLODE ALL TREES

8 MeSH DESCRIPTOR Psychotherapy EXPLODE ALL TREES

- 9 MeSH DESCRIPTOR Exercise EXPLODE ALL TREES
- 10 MeSH DESCRIPTOR Exercise Therapy EXPLODE ALL TREES
- 11 MeSH DESCRIPTOR Mental Health Services EXPLODE ALL TREES
- 12 #1 OR #8 OR #9 OR #10 OR #11
- 13 #6 OR #7
- 14 #2 OR #3 OR #4 OR #5
- 15 #12 AND #13 AND #14

Appendix 3. Included reviews

Preventive interventions (children and adolescents at risk)							
Preventive interventions (children at risk)	Quality	Comments	Last search date	Intervention	Population	Primary studies	Outcomes
Barlow 2011	high		May 2010	parenting interventions	teenage parents	Stirtzinger 2002	depression symptoms
Larun 2006	high		August 2005	exercise therapy	children and youth at-risk of depression or with diagnosis of depression	Beffert 1994; Brown 1992; Cohen-Kahn 1995; Hilyer 1982; Kanner 1991; Roth 1987; Lau 2004; MacMahon 1988; McArthur 1989; Carl 1984	depressive symptoms, anxiety symptoms
Indicated Interventions							
Psychological or educational intervention	Quality	Comments	Last search date	Intervention	Population	Primary studies	Outcomes

Merry 2011	high		July 2010	targeted psychological or educational intervention	children and youth at risk of depression	Arnarson 2009; Balle 2009; Barnet 2007; Berger 2008; Berry 2009; Cabiya 2008; Castellanos 2006; Clarke 1995; Clarke 2001; Compas 2009; Cowell 2009; Garber 2009; Gillham 1995; Gillham,Hamilton 2006a; Gillham, Reivich 2006b; Hyun 2005; King a1990; Kumakech 2009; Lamb 1998; Layne 2008; McLaughlin 2007; Petersen 1997; Palermo 2009; Puskar 2003; Raider 2008; Roberts 2003; Schmiede 2006; Seligman 1999; Seligman 2007; Shen 2002; Simpson 2008; Stice 2006; Stice, 2008; Tol 2008; Wolchik 2000; Young 2006; Yu 2002; Zehnder 2010	depressive symptoms
Treatments							
Cognitive behavioural therapy (acute and maintenance)	Quality	Comments	Last search date	Intervention	Population	Primary studies	Outcomes
Macdonald 2012	high	Partical overlap with Cox 2012	December 2011	Cognitive behavioural therapy (with or without parents)	adolescents up to 18 who had been sexually abused	Berliner 1996; Celano 1996; Cohen 1996; Deblinger 1996; Burke 1998; Cohen 1998; King 2000; Deblinger 2001; Dominguez 2001; Cohen 2004	Depression, anxiety, PTSD

Cary 2012	high		2011	Trauma-focused cognitive behavioural therapy	adolescents (under 18) who had survived at least one traumatic event	Berger 2007; Celano 1996; Cohen 2004/Deblinger 2006; Cohen 2011; Cohen 2005; Deblinger 1996; King 2000; Scheeringa 2011; Jackson 2011; Smith 2007; Stein 2003	PTSD, Depression
O'Kearney 2006	high		August 2006	Behavioural therapy/Cognitive behavioural therapy	Participants under 18 at time of treatment or considered children or adolescents as defined by primary study authors. "Diagnosis of OCD established by clinical assessment or standardized diagnostic interviews"	Asbahr 2005; Barrett 2004; Bolton 2008; de Haan 1998; Freeman 2008; Neziroglu 2000; POTS 2004 (Franklin 2003); Williams ND	Severity of OCD, remission of OCD
James 2004	high		January 2004	Cognitive behavioural therapy	Children and adolescents 6-19 with DSM or ICD anxiety diagnosis	Barrett 1996; Barrett 1998; Dadds 1997; Flannery-S 2000; Ginsburg 2002; Haywood 2000; Kendall 1994; Kendall 1997; Mendlowitz 1999; Nauta 2003; Shortt 2001; Silverman 1999; Spence 2000	Presence/absence of anxiety disorder diagnosis
Combined therapy (psychotherapy + antidepressants)	Quality	Comments	Last search date	Intervention	Population	Primary studies	Outcomes

Cox 2012 (315)	high		November 2011	Combination therapy (vs anti-depressants alone)	children and youth (6-18) with depression	ADAPT 2007 (Goodyer 2007); Clarke 2005; Melvin 2006; TADS 2004 (March 2004)	Remission, depressive symptoms, functioning
Cox 2012 (316)	high		June 2011	Combination therapy (vs anti-depressants alone)	children and youth under 15 who had responded/remitted from MDD or DD	Kennard 2008	Prevention next episode, functioning, depressive symptoms
Dubicka 2010	high		March 2009	Combination therapy (vs anti-depressants alone)	adolescents (11-18) with depression	March 2004; Goodyer 2007; Clarke 2005; Melvin 2006; March 2007 (TADS population)	Depression and impairment scores, Overall improvement, suicidality, adverse events
Hetrick 2011	high		February 2011	Combination therapy (vs anti-depressants alone)	children and youth (4-18) with treatment-resistant depression	Goodyer 2007 (ADAPT); Brent 2008 (TORDIA population)	Depression severity, rate of response
Calati 2011	high		April 2011	Combination therapy (vs anti-depressants alone)	adolescents with depression or anxiety	ADAPT 2007 (Goodyer 2007); Clarke 2005; Walkup 2008; TADS 2004 (March 2004); TORDIA 2008 (Brent 2008)	Depressive symptoms, global functioning

Hetrick 2010	high		June 2010	Combination therapy (vs anti-depressants alone)	Any age/gender with primary diagnosis of PTSD (subgroup analysis on females children, sexually abused)	no relevant studies included	PTSD symptom severity, number of withdrawals due to adverse events, global functioning score, comorbid depression/anxiety, suicidal ideation, comorbid substance use, vocational and social functioning, quality of life, cost of treatment
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Appendix 4.1 All excluded systematic reviews

Study First author, year (reference no.)	Cause for exclusion of study
Abramowitz 2005 (1564)	Low quality
Agius 2010 (2525)	Not a systematic review
Ahmead 2008 (353)	No sub-group analysis of relevant diagnosis
Albano 2002 (3261)	Other primary diagnosis
Albert 2012 (330)	Not a systematic review
Anderson 2005 (909)	Population not at risk under 18 (or with depression/anxiety)
Asarnow 2009 (2692)	Not a systematic review
Asbahr 2004 (954)	Not a systematic review
Bachmann 2010 (2593)	Not a systematic review
Bachmann 2008 (1403)	Not a systematic review
Bachmann 2008 (1402)	Not a systematic review
Backer 2009 (658)	Not a systematic review
Baggerly 2009 (1355)	No systematic literature search described

Barmish 2005 (3127)	Did not critically appraise the included primary studies.
Barrett 2008 (2033)	no systematic literature search described
Baskin 2010 (2530)	Did not critically appraise the included primary studies.
Baskin 2010 (2569)	Did not critically appraise the included primary studies.
Baving 2001 (1655)	Not a systematic review
Beale 2006 (2043)	Population with other primary diagnosis
Beelmann 2003 (3248)	Not a systematic review
Beidel 2001 (3604)	No literature search described
Bengston 2004 (grey)	Not a systematic review
Berk 2010 (554)	No literature search described
Bertolin-Guillen 2011 (102)	Not enough information
Biddle 2011 (2326)	Review of reviews with some relevant SRs - pick them out
Björgvinsson 2008 (3521)	Primary study
Bortolotti 2008 (703)	Population not at risk under 18 (or with depression/anxiety)
Braam 2010 (1971)	Population not at risk under 18 (or with depression/anxiety)
Braga Gomes 2011 (2035)	No sub-group analysis of relevant interventon
Breinholst 2012 (2194)	Low quality
Breisch 2010 (grey)	Inclusion criteria not described
Brendel (3624)	Did not critically appraise the included primary studies.

Brewer 2007 (2050)	Population not at risk under 18 (or with depression/anxiety)
Britton 2005 (3173)	Literature search not described
Britton 2007 (1449)	Did not critically appraise the included primary studies.
Brown 2012 (1226)	Literature search not described
Brown 2005 (1541)	Literature search not described
Brown 2012 (grey)	Not a systematic review
Brunstein-Klomek 2007 (777)	Literature search not described
Brunwasser 2009 (2677)	Did not critically appraise the included primary studies.
Bunting 2004 (3689)	Review of reviews with some relevant references
Burns 1999 (1676)	Literature search not described
Butler 2006 (3092)	Review of reviews with some relevant SRs - pick them out
Calear 2010 (2586)	Moderate quality
Calfas KJ. (grey)	Did not critically appraise the included primary studies.
Carmody (grey)	Not available in fulltext
Carr 2008 (2897)	No literature search described
Carr 2009 (2769)	Not a systematic review
Carter 2003 (3596)	Not a systematic review
Cartwright-Hatton 2004 (3583)	Moderate quality

Castellanos 1999 (1085)	No literature search described
Chorpita 2011 (2383)	Did not critically appraise the included primary studies.
Christensen 2010 (545)	No sub-group analysis of relevant population
Chu 2007 (751)	No sub-group analysis of relevant population
Clark 2012 (3431)	Population not at risk under 18 (or with depression/anxiety)
Clarke 2006 (3682)	Did not examine a psychosocial intervention
Cohen 1998 (1699)	Did not critically appraise the included primary studies
Compton 2004 (1591)	Did not critically appraise the included primary studies
Condini 1972 (1827)	Not a systematic review
Coon 2011 (2434)	Population not at risk under 18 (or with depression/anxiety)
Cooper 2006 (841)	Did not examine a psychosocial intervention
Corcoran 2008 (3510)	Moderate quality
Crumlish N 2010 (332)	No sub-group analysis of relevant population
Cuijpers 1996 (1733)	Population not at risk under 18 (or with depression/anxiety)
Cuijpers 2009 (2714)	ikke vurderte kvaliteten av enkeltstudiene
Cuijpers 2005 (895)	Review of reviews
Cuijpers 2005 (920)	Low quality
Cuijpers 2006 (3054)	Moderate quality
Cuijpers 2007 (3004)	Population not at risk under 18 (or with depression/anxiety)

Cuijpers 2008 (2812)	No subgroup analysis of relevant population/intervention
Cuijpers 1998 (3341)	No subgroup analysis of relevant population
Cuijpers 2007 (2947)	No subgroup analysis of relevant population
Curry 2008 (1439)	No systematic literature search described
David-Ferdon 2008 (2038)	Moderate quality
Davidson 2010 (350)	Did not critically appraise the included primary studies
De Haan 2005 (1565)	Not a systematic review
De Los Reyes 2009 (2695)	Did not critically appraise the included primary studies
de Medeiros PC 2010 (193)	Duplicate
den Boer 2004 (928)	Population not at risk under 18 (or with depression/anxiety)
Diamond 2005 (897)	Did not critically appraise the included primary studies
Dopfner 2002 (3274)	Not a systematic review
Doughty C 2005 (138)	Low quality
Dowell 2010 (2651)	No appropriate sub-group analysis
Durlak 1992 (1754)	Not a systematic review
Durlak 1998 (3337)	Low quality
Elmqvist 2010 (grey)	Not a systematic review
Emslie 2008 (2838)	primary study
Erford 2011 (2332)	Low quality

Ernst 2000 (1059)	Population not at risk under 18 (or with depression/anxiety)
Farahmand 2011 (2280)	Did not critically appraise the included primary studies
Field A 2011 (294)	Low quality
Finkelhor 1995 (2054)	Did not critically appraise the included primary studies
Fisak 2011 (2334)	Did not critically appraise the included primary studies
Fisher 2011 (2322)	no intervention
Fleming 1993 (1750)	Not a systematic review
Flemming 2000 (3609)	Not a systematic review
Fonagy 2002 (1643)	not a systematic review
Franklin 2007 (1476)	Not a systematic review
Freeman 2007 (2056)	Did not critically appraise the included primary studies
Fullana 2012 (2200)	Did not critically appraise the included primary studies
Galantino 2008 (728)	Population not at risk under 18 (or with depression/anxiety)
Garland 2001 (1032)	Did not critically appraise the included primary studies
Gertler 2012 (1981)	Protocol. Population with other primary diagnosis
Gilbert 2008 (2813)	no systematic literature search. Ikke vurderte kvaliteten av enkeltstudiene
Gillham 2007 (3543)	Not a systematic review
Ginsburg 2008 (1417)	Did not critically appraise the included primary studies
Ginsburg 2006 (3048)	Not a systematic review

Glasscoe 2008 (702)	Not at risk under 18 (or with dep/anx)
Glinder 2002 (3602)	Population not at risk under 18 (or with depression/anxiety)
Gonzalez 2004 (3582)	Did not critically appraise the included primary studies
Greist 1996 (3362)	No systematic literature search
Griffiths 2006 (3681)	Population not at risk under 18 (or with depression/anxiety)
Griffiths 2010 (grey)	No sub-group analysis of relevant population
Groen 2008 (2905)	Not a systematic review
Grossman 1992 (1759)	Low quality
Guggisberg 2005 (1544)	Low quality
Gulliver 2012 (2134)	Population not at risk under 18 (or with depression/anxiety)
Gumes 2008 (2819)	Population not at risk under 18 (or with depression/anxiety)
Haby 2004 (grey)	Did not critically appraise the included primary studies
Hailey 2008 (2806)	Low quality
Harrington 1998 (3339)	Letter to the editor
Harrington 1998 (1702)	Not a systematic review
Harrington 1998 (2022)	Low quality
Harrington 1998 (2051)	Moderate quality
Harvey 2010 (128)	Did not critically appraise the included primary studies
Harvey ST 2010 (29)	Not a systematic review

Hazell 2009 (346)	Low quality
Hazell 2011 (345)	Low quality
Henken 2007 (2999)	No sub-group analysis of relevant poulation
Hensel 2006 (384)	Low quality
Herrera 2011 (304)	No systematic literature search described
Hetrick 2008 (1379)	No systematic literature search described
Hetzel-Riggin 2007 (231)	Not targeting depression/anxiety
Hofmann 2012 (2090)	Review of reviews
Holden 2003 (3597)	Not a systematic review
Holland 2007 (3007)	Population not at risk under 18 (or with depression/anxiety)
Horowitz 2006 (3063)	Did not critically appraise the included primary studies
Hou 2010 (2568)	No sub-group analysis of relevant poulation
Huey 2008 (2903)	Moderate quality
Huynh 2008 (3515)	Did not critically appraise the included primary studies
In-Albon 2007 (818)	Low quality
Ishikawa 2007 (3528)	Did not critically appraise the included primary studies
Ito 2008 (674)	Inclusion criteria not described
Jakobsen 2011 (73)	Not at risk under 18 (or with dep/anx)
James 1995 (1125)	Inclusion criteria not described

Jane-Llopis 2003 (3226)	Low quality
Janssen 2010 (126)	Population not at risk under 18 (or with depression/anxiety)
Jensen 2005 (262)	Did not critically appraise the included primary studies
Jordans 2009 (176)	Did not critically appraise the included primary studies
Jorm 2006 (3036)	Low quality
Jorm 2008 (1878)	No sub-group analysis of relevant population
Kaltenthaler 2002 (1003)	Population not at risk under 18 (or with depression/anxiety)
Kanji 2000 (3610)	Population not at risk under 18 (or with depression/anxiety)
Karver 2006 (3093)	Did not critically appraise the included primary studies
Kavanagh 2009 (grey)	Moderate quality
Kazdin 1993 (3391)	No systematic literature search described
Kazdin 1998 (3349)	No systematic literature search described
Keitner 2006 (1478)	Not a systematic review
Kenny 2005 (3120)	Population not at risk under 18 (or with depression/anxiety)
Kingsnorth 2011 (92)	Did not search explicitly for interventions for depression/anxiety
Klassen 2008 (2868)	Population not at risk under 18 (or with depression/anxiety)
Klein 2007 (2928)	Low quality
Kobak KA 1998 (410)	Population not at risk under 18 (or with depression/anxiety)
Kowalik 2011 (474)	Did not critically appraise the included primary studies

Kraft 2006 (1500)	Inclusion criteria not described
Kremberg 2005 (3172)	Did not critically appraise the included primary studies
Krysta 2012 (2101)	no systematic literature search described
Lane 2003 (1935)	other primary diagnosis
Lang 2010 (580)	Population not at risk under 18 (or with depression/anxiety)
Lang 2011 (2481)	Inclusion criteria not described
Levitan 2011 (399)	Review of reviews
Lewinsohn 1999 (3331)	No systematic literature search described
Lewinsohn 2000 (298)	No systematic literature search described
Linton 2007 (grey)	Population not at risk under 18 (or with depression/anxiety)
Lip 2003 (981)	not available in fulltext
Littell 2005 (3725)	Did not search explicitly for interventions for depression/anxiety
Liu 2008 (1410)	Not available in fulltext
Lloyd 2005 (111)	Did not search explicitly for interventions for depression/anxiety
Lovell 2011 (422)	Population not at risk under 18 (or with depression/anxiety)
Loyola 2010 (1245)	Low quality
Lubans 2012 (2230)	Low quality
Lungen 2009 (653)	Did not examine psychosocial interventions
Maag 2009 (1364)	ikke vurderte kvaliteten av enkeltstudiene

Macdonald 2008 (3733)	Included interventions not relevant
MacPhee 2003 (1601)	Did not search explicitly for interventions for depression/anxiety
Malouff 2007 (2995)	Population not at risk under 18 (or with depression/anxiety)
Manassis 2004 (942)	Not a systematic review
Manassis 2005 (3572)	Commentary on Cartwright-Hatton 2004
Manassis 2012 (348)	Population not at risk under 18 (or with depression/anxiety)
Maratos 2008 (2891)	No sub-group analysis of relevant population
Marcotte 1997 (2055)	Did not critically appraise the included primary studies
Marks 2007 (1465)	Population not at risk under 18 (or with depression/anxiety)
Martineztaboas 1992 (3399)	Did not critically appraise the included primary studies
McClellan 2003 (969)	Inclusion criteria not described
McDaid 2008 (108)	No sub-group analysis of relevant population
Mead 2010 (2628)	No sub-group analysis of relevant population
Mehta 2011 (2453)	Population not at risk under 18 (or with depression/anxiety)
Melfsen 2006 (3072)	Not a systematic review
Mendez 2002 (1626)	Did not critically appraise the included primary studies
Mendez Carrillo 2000 (297)	Did not critically appraise the included primary studies
Merry 2007 (2961)	Did not critically appraise the included primary studies

Merry 2008 (3519)	Commentary on Watanabe 2007
Merry 2007 (1462)	No systematic literature search described
Michael 2005 (1559)	Did not critically appraise the included primary studies
Michael 2000 (1666)	No systematic literature search described
Michael 2002 (1021)	Moderate quality
Milin 2003 (968)	Not a systematic review
Miller 2008 (2908)	Not a systematic review
Miller 2012 (3721)	Did not look at psychosocial interventions
Milling 2000 (2053)	Did not look at psychosocial interventions targeting depression/anxiety
Mirza 2004 (3591)	Population not at risk under 18 (or with depression/anxiety)
Mohr 2008 (2823)	Population not at risk under 18 (or with depression/anxiety)
Moyer 2004 (3217)	Did not critically appraise the included primary studies
Moyer 2011 (500)	Did not critically appraise the included primary studies
Mrazova 2010 (2535)	Low quality
Munn 2011 (3455)	No systematic literature search described
Munoz-Solomando 2008 (2844)	Review of reviews
Mychailyszyn 2012 (2145)	Did not critically appraise the included primary studies
Mychailyszyn 2012 (1229)	Did not critically appraise the included primary studies
Nanni 2012 (48)	Not a relevant PICO question

Neil 2009 (647)	Moderate quality
Neil 2007 (2973)	Moderate quality
Nevo 2009 (628)	Low quality
Newton 2010 (223)	Moderate quality
NICE 2005 (74)	Not a systematic review
Nicholas 1999 (137)	Low quality
Niemela 2010 (grey)	Did not critically appraise the included primary studies, no sub-group analysis of relevant population
Nimer 2007 (2934)	Did not look at psychosocial interventions targeting depression/anxiety
No author ND (3454)	Not a systematic review
North 1990 (1146)	Population not at risk under 18 (or with depression/anxiety)
O'Kearney 2007 (2046)	Low quality
Olatunji 2012 (1167)	Did not critically appraise the included primary studies
Olivares 2002 (1627)	Moderate quality
Olivares 2003 (2074)	Moderate quality
Ong 2008 (2801)	Did not critically appraise the included primary studies
Orgiles 2002 (1629)	Did not look at psychosocial interventions targeting depression/anxiety
Ost 2008 (691)	Population not at risk under 18 (or with depression/anxiety)
Oxman 2002 (1638)	Population not at risk under 18 (or with depression/anxiety)
Pai 2006 (849)	Population not at risk under 18 (or with depression/anxiety)

Passarela 2010 (2665)	Low quality
Passon 2011 (2479)	Moderate quality
Pattison 2006 (3053)	Low quality
Pattison 2006 (1493)	Low quality
Peacock 2013 (grey)	Population not at risk under 18 (or with depression/anxiety)
Pearsall 1997 (3355)	Not a systematic review
Peltonen 2010 (2620)	Low quality
Petruzzello 1991 (1145)	Did not critically appraise the included primary studies
Pfeiffer 2011 (2467)	Population not at risk under 18 (or with depression/anxiety)
Phillips 2004 (1579)	Low quality
Poirier 2010 (2018)	Did not critically appraise the included primary studies
Powers 2010 (533)	Population not at risk under 18 (or with depression/anxiety)
Pratt 2010 (1321)	No systematic literature search described
Prazeres 2007 (1386)	Population not at risk under 18 (or with depression/anxiety)
Prchal 2009 (596)	Did not critically appraise the included primary studies
Prchal 2009 (grey)	Did not critically appraise the included primary studies
Prout 1998 (3344)	Population not at risk under 18 (or with depression/anxiety)
Puttre 2011 (1237)	Low quality
Quide 2012 (2256)	Population not at risk under 18 (or with depression/anxiety)

Ramaratnam 2008 (2892)	Population not at risk under 18 (or with depression/anxiety)
Ranmal 2008 (682)	Population not at risk under 18 (or with depression/anxiety)
Reese 2010 (2513)	Did not critically appraise the included primary studies
Reinecke 1998 (1099)	Did not critically appraise the included primary studies
Rey 2009 (grey)	Not a systematic review
Reynolds 2008 (1401)	Did not include psychosocial interventions
Reynolds 2012 (377)	Moderate quality
Richardson 2006 (3105)	Population not at risk under 18 (or with depression/anxiety)
Richardson 2010 (2015)	No sub-group analysis of relevant interventions
Riosa 2011 (2297)	No sub-group analysis of relevant population
Ritter 1996 (1734)	Did not critically appraise the included primary studies
Robb 2009 (2742)	Did not include psychosocial interventions
Rodebaugh 2004 (932)	Review of reviews – looked for relevant references
Rodenburg 2009 (609)	Did not critically appraise the included primary studies
Rodgers 2012 (3434)	Population not at risk under 18 (or with depression/anxiety)
Rodin 2007 (2990)	Population not at risk under 18 (or with depression/anxiety)
Rodriguez 2003 (1604)	Low quality
Roehrlle 2008 (2803)	Population not at risk under 18 (or with depression/anxiety)
Rolfsnes 2011 (478)	Low quality

Rosa-Alcazar 2009 (2060)	Did not critically appraise the included primary studies
Rosa-Alcazar 2012 (281)	Did not critically appraise the included primary studies
Ryan 2004 (925)	Did not critically appraise the included primary studies
Sanchez-Meca 2002 (1630)	No systematic literature search described
Sanchez-Meca 2011 (2455)	Moderate quality
Sandil 2006 (1502)	Inclusion criteria not reported
Sansom-Daly 2010 (150)	Population not at risk under 18 (or with depression/anxiety)
Santacruz 2002 (1628)	Moderate quality
Santaguida 2012 (grey)	Low quality
Schaffer 2012 (1230)	Inclusion criteria not reported
Schimmelmann 2003 (977)	Did not include psychosocial interventions
Schneider 2004 (3215)	Not a systematic review
Schneider 2006 (3071)	Not a systematic review
Schneider 2006 (3080)	Not a systematic review
Schneider 2010 (2526)	Not a systematic review
Schulte-Korne 2012 (321)	Not a systematic review
Schwalbe 2012 (2259)	Did not critically appraise the included primary studies
Scott 2003 (974)	Did not include interventions targetting depression/anxiety

Scott 2005 (915)	Inclusion criteria not described
Segool 2008 (2896)	Did not critically appraise the included primary studies
Seitz 2009 (629)	Not at risk under 18 (or with depression/anxiety)
Sharpnack 2001 (1653)	Examines effect on greif and not depression
Shih 2009 (589)	Popualtion not at risk under 18 (or with depression/anxiety)
Shirk 2003 (3237)	Did not critically appraise the included primary studies
Shirk 2011 (2442)	Not a systematic review
Siegenthaler 2012 (2276)	Low quality
Silverman 2008 (2036)	Low quality
Silverman 2008 (2092)	Moderate quality
Solomon 1992 (1142)	Popualtion not at risk under 18 (or with depression/anxiety)
Soussana 2012 (375)	Popualtion not at risk under 18 (or with depression/anxiety)
Spielmans 2007 (792)	Did not critically appraise the included primary studies
Spielmans 2010 (2664)	No systematic literature search described
Stallard 2009 (3489)	Commentary on Neil 2009
Steele 2007 (2949)	No systematic literature search described
Stein 2006 (2008)	Inclusion criteria not described
Stice 2009 (637)	Did not critically appraise the included primary studies
Stock 2004 (1573)	Did not critically appraise the included primary studies

Sutton 2007 (2952)	No systematic literature search described
Taylor 2007 (2026)	Moderate quality
Taylor 2004 (2040)	Moderate quality
Taylor 2009 (342)	Did not critically appraise the included primary studies
Teubert 2011 (2288)	Low quality
Thorpe 2001 (1030)	No inclusion criteria described
Timmer 2011 (491)	Population not at risk under 18 (or with depression/anxiety)
Townsend 2001 (295)	Population not at risk under 18 (or with depression/anxiety)
Townsend 2010 (575)	Moderate quality
Trask 2011 (90)	Did not critically appraise the included primary studies
Trask 2009 (1331)	Low quality
Turner 2010 (3744)	Title only
Turner 2011 (3746)	Title only
Ulloa-Flores 2011 (2323)	Did not critically appraise the included primary studies
van Boeijen 2005 (260)	Population not at risk under 18 (or with depression/anxiety)
Van Der Toorn 2004 (238)	Not a systematic review
van der Watt 2008 (2894)	No systematic literature search described
Van Emmerik 2002 (291)	Population not at risk under 18 (or with depression/anxiety)
van Schaik 2002 (1640)	Population not at risk under 18 (or with depression/anxiety)

Varhely 2007 (1450)	Did not critically appraise the included primary studies
Venning 2009 (335)	Moderate quality
Ventegodt 2009 (588)	Popualtion not at risk under 18 (or with depression/anxiety)
Verdeli 2006 (2013)	Low quality
Vitiello 2009 (2738)	Not a systematic review
von Knorring 2005 (grey)	Popualtion not at risk under 18 (or with depression/anxiety)
von Sydow 2006 (3081)	Not a systematic review
Waddell 2007 (2009)	Moderate quality
Walitza 2011 (481)	No systematic literature search described
Watanabe 2007 (778)	Moderate quality
Watson 2008 (719)	Did not critically appraise the included primary studies
Watson 2008 (3512)	Duplicate
Weersing 2008 (3513)	Summary of Klein 2007
Weisz 1987 (311)	Included interventions not targeting depression/anxiety
Weisz 1995 (1127)	Did not critically appraise the included primary studies
Weisz 1995 (3376)	Included interventions not targeting depression/anxiety
Weisz 1998 (3350)	No systematic literature search described
Weisz 2004 (3186)	Did not critically appraise the included primary studies
Weisz 2005 (3163)	Did not critically appraise the included primary studies

Weisz 2006 (2041)	Did not critically appraise the included primary studies
Weisz 2006 (3038)	Did not critically appraise the included primary studies
Wethington 2008 (2820)	Moderate quality
White 2009 (1356)	Did not critically appraise the included primary studies
Williams 2011 (2358)	Did not critically appraise the included primary studies
Williams 2009 (645)	Review of reviews – searched for relevant references
Wipfli 2008 (693)	Did not critically appraise the included primary studies
Zaider 2003 (1614)	Did not critically appraise the included primary studies
Zalta 2011 (2387)	Did not critically appraise the included primary studies
Zamorski 2000 (1057)	No inclusion criteria reported
Zirkelback 2010 (2514)	No systematic literature search described

Appendix 4.2. Excluded relevant systematic reviews: Low and moderate quality

Study First author, year (reference no.)	Title of systematic review
Abramowitz 2005 (1564)	The Effectiveness of Treatment for Pediatric Obsessive-Compulsive Disorder: A Meta-Analysis.
Breinholz 2012 (2194)	CBT for the treatment of child anxiety disorders: A review of why parental involvement has not enhanced outcomes
Brown 2012 (grey)	Physical activity interventions and depression in children and adolescents
Calear 2010 (2586)	Systematic review of school-based prevention and early intervention programs for depression
Cartwright-Hatton 2004 (3583)	Systematic review of the efficacy of cognitive behaviour therapies for childhood and adolescent anxiety disorders
Corcoran 2008 (3510)	A meta-analysis of parent-involved treatment for child sexual abuse
Cuijpers 2005 (920)	Preventing the incidence of new cases of mental disorders: a meta-analytic review
Cuijpers 2006 (3054)	Screening and early psychological intervention for depression in schools
David-Ferdon 2008 (2038)	Evidence-based psychosocial treatments for child and adolescent depression (Structured abstract)
Doughty C 2005 (138)	The effectiveness of mental health promotion, prevention and early intervention in children, adolescents and adults: a critical appraisal of the literature
Durlak 1998 (3337)	Evaluation of indicated preventive intervention (secondary prevention) mental health programs for children and adolescents
Erford 2011 (2332)	Counseling Outcomes From 1990 to 2008 for School-Age Youth With Depression: A Meta-Analysis
Field A 2011 (294)	Eye movement desensitization and reprocessing as a therapeutic intervention for traumatized children and adolescents: a systematic review of the evidence for family therapists
Grossman 1992 (1759)	Self-control interventions with internalizing disorders: A review and analysis
Guggisberg 2005 (1544)	Methodological review and meta-analysis of treatments for child and adolescent obsessive-compulsive disorder

Hailey 2008 (2806)	The Effectiveness of Telemental Health Applications: A Review
Harrington 1998 (2022)	Psychological treatment of depression in children and adolescents: a review of treatment research (Structured abstract)
Harrington 1998 (2051)	Systematic review of efficacy of cognitive behaviour therapies in childhood and adolescent depressive disorder (Structured abstract)
Hazell 2009 (346)	Depression in children and adolescents
Hazell 2011 (345)	Depression in children and adolescents [updated search]
Hensel T 2006 (384)	Effectiveness of E ADR with psychologically traumatized children and adolescents
Huey 2008 (2903)	Evidence-based psychosocial treatments for ethnic minority youth
In-Albon 2007 (818)	Psychotherapy of childhood anxiety disorders: A meta-analysis
Jane-Llopis 2003 (3226)	Predictors of efficacy in depression prevention programmes - Meta-analysis
Jorm 2006 (3036)	Effectiveness of complementary and self-help treatments for depression in children and adolescents
Kavanagh 2009 (grey)	Inequalities and the mental health of young people: A systematic review of secondary school-based cognitive behavioural interventions
Klein 2007 (2928)	Cognitive-behavioral therapy for adolescent depression: A meta-analytic investigation of changes in effect-size estimates
Loyola 2010 (1245)	Evidence-based treatment of unipolar depression in adolescents
Lubans 2012 (2230)	Review: A systematic review of the impact of physical activity programmes on social and emotional well-being in at-risk youth
Michael 2002 (1021)	How effective are treatments for child and adolescent depression? A meta-analytic review
Mrazova 2010 (2535)	A Systematic Review of Randomized Controlled Trials Using Music Therapy for Children
Neil 2009 (647)	Efficacy and effectiveness of school-based prevention and early intervention programs for anxiety
Neil 2007 (2973)	Australian school-based prevention and early intervention programs for anxiety and depression: a systematic review
Nevo 2009 (628)	Outcomes for treated anxious children: a critical review of Long-Term-Follow-Up studies
Newton S 2010 (223)	Management of depression in adolescents and young adults: a systematic literature review

Nicholas B 1999 (137)	Effectiveness of early interventions for preventing mental illness in young people: a critical appraisal of the literature
O'Kearney 2007 (2046)	Benefits of cognitive-behavioural therapy for children and youth with obsessive-compulsive disorder: re-examination of the evidence (Structured abstract)
Olivares 2002 (1627)	Shyness and social phobia in children and adolescents: An emerging field.
Olivares 2003 (2074)	
Passarela 2010 (2665)	A systematic review to study the efficacy of cognitive behavioral therapy for sexually abused children and adolescents with posttraumatic stress disorder
Passon 2011 (2479)	Efficacy of school-based group interventions for the prevention of depression: A systematic review
Pattison 2006 (3053)	Adding value to education through improved mental health: A review of the research evidence on the effectiveness of counselling for children and young people
Pattison 2006 (1493)	Counselling children and young people: A review of the evidence for its effectiveness.
Peltonen 2010 (2620)	Preventive Interventions Among Children Exposed to Trauma of Armed Conflict: A Literature Review
Phillips 2004 (1579)	A meta-analysis of treatments for pediatric obsessive-compulsive disorder
Puttre 2011 (1237)	A meta-analytic review of the treatment outcome literature for traumatized children and adolescents
Reynolds 2012 (377)	Effects of psychotherapy for anxiety in children and adolescents: a meta-analytic review
Rodriguez 2003 (1604)	A quantitative review about the psychological treatment of social phobia in children and adolescents using the SPAI and SPAI-C.
Rolfesnes 2011 (478)	School-based intervention programs for PTSD symptoms: a review and meta-analysis
Sanchez-Meca 2011 (2455)	The psychological treatment of sexual abuse in children and adolescents: A meta-analysis
Santacruz 2002 (1628)	Generalized anxiety, separation anxiety and school phobia: The predominance of cognitive-behavioural therapy.
Santaguide 2012 (grey)	Treatment for depression after unsatisfactory response to SSRIs
Siegenthaler 2012 (2276)	Effect of Preventive Interventions in Mentally Ill Parents on the Mental Health of the Offspring: Systematic Review and Meta-Analysis

Silverman 2008 (2036)	Evidence-based psychosocial treatments for phobic and anxiety disorders in children and adolescents (Structured abstract)
Silverman 2008 (2902)	Evidence-based psychosocial treatments for children and adolescents exposed to traumatic events
Taylor 2007 (2026)	Can cognitive-behavioral therapy increase self-esteem among depressed adolescents: a systematic review (Structured abstract)
Taylor 2004 (2040)	Efficacy of treatment for child and adolescent traumatic stress (Provisional abstract)
Teubert 2011 (2288)	A meta-analytic review on the prevention of symptoms of anxiety in children and adolescents
Townsend 2010 (575)	Systematic review and meta-analysis of interventions relevant for young offenders with mood disorders, anxiety disorders, or self-harm
Trask 2009 (1331)	Efficacy of treatments for sexually abused children: A meta-analysis
Venning 2009 (335)	The effectiveness of Cognitive-Behavioural Therapy with hopeful elements to prevent the development of depression in young people: a systematic review
Verdeli 2006 (2013)	Review of evidence-based psychotherapies for pediatric mood and anxiety disorders (Structured abstract)
Waddell 2007 (2009)	Preventing mental disorders in children: a systematic review to inform policy-making (Provisional abstract)
Watanabe 2007 (778)	Psychotherapy for depression among children and adolescents: a systematic review
Wethington 2008 (2820)	The effectiveness of interventions to reduce psychological harm from traumatic events among children and adolescents - A systematic review

Appendix 5. GRADE evidence profiles

Appendix 5.1

Parenting programmes compared to treatment as usual for depression among teenage parents Bibliography (systematic reviews): Barlow J, Smailagic N, Bennett C, Huband N, Jones H, Coren E. Individual and group based parenting programmes for improving psychosocial outcomes for teenage parents and their children. Cochrane Database of Systematic Reviews 2011, Issue 3. Art. No.: CD002964. DOI: 10.1002/14651858.CD002964.pub2.											
Quality assessment							Summary of findings				
Nº of participants (studies) Follow-up	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Overall quality of evidence	Study event rates (%)		Relative effect (95% CI)	Anticipated absolute effects	
							With treatment as usual	With parenting programmes		Risk with treatment as usual	Risk difference with parenting programmes
Depressive symptoms (assessed with: Beck Depression Inventory; Scale from: 0 to 63)											
16 (1 RCT) 0 post-intervention	serious ¹	not serious	not serious	serious ²³	not serious	⊕○○○ VERY LOW	7	9	-	The mean Depressive symptoms in the control group was 17.69 points	MD 5.97 lower (14.8 lower to 2.86 higher)

1. One study at high risk of bias.
2. Total population less than 400.
3. Confidence intervals cross the line of no difference.

Appendix 5.2

Targeted psychological/educational intervention compared to no intervention/wait-list/usual care in children and youth at risk of developing depression											
Bibliography (systematic reviews): Merry SN, Hetrick SE, Cox GR, Brudevold-Iversen T, Bir JJ, McDowell H. Psychological and educational interventions for preventing depression in children. Cochrane Database of Systematic Reviews 2011, Issue 12.											
Quality assessment							Summary of findings				
Nº of participants (studies) Follow-up	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Overall quality of evidence	Study event rates (%)		Relative effect (95% CI)	Anticipated absolute effects	
							With no intervention/wait-list/usual care	With targeted psychological/educational intervention		Risk with no intervention/wait-list/usual care	Risk difference with targeted psychological/educational intervention
Depression scores (post-treatment) (assessed with: various measures)											
4174 (32 RCTs) 0 post-treatment	serious ²	serious ³	not serious	not serious	not serious	⊕⊕○○ LOW	1798	2376	-	The mean Depression scores (post-treatment) in the control group was not reported	SMD 0.31 lower (0.41 lower to 0.21 lower)
Depressive disorder (post-treatment) (assessed with: various measures)											
890 (7 RCTs) 0 post-treatment	serious ²	serious ³	not serious	not serious	not serious	⊕⊕○○ LOW	104/430 (24.2)%	61/460 (13.3)%	RD - 0.07 (-0.12 to -0.02)	Study population	
										242 per 1000	259 fewer per 1000 (271 fewer to 247 fewer)

1. No explanation was provided
2. All studies at high risk of bias due to limitations associated with allocation, blinding, implementation integrity.
3. Moderate heterogeneity.

Appendix 5.3

Targeted psychological/educational prevention interventions compared to placebo/attention/other intervention in children and youth at risk of developing depression Bibliography (systematic reviews): Merry SN, Hetrick SE, Cox GR, Brudevold-Iversen T, Bir JJ, McDowell H. Psychological and educational interventions for preventing depression in children. Cochrane Database of Systematic Reviews 2011, Issue 12.											
Quality assessment							Summary of findings				
Nº of participants (studies) Follow-up	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Overall quality of evidence	Study event rates (%)		Relative effect (95% CI)	Anticipated absolute effects	
							With placebo/attention/other intervention	With targeted psychological/educational prevention interventions		Risk with placebo/attention/other intervention	Risk difference with targeted psychological/educational prevention interventions
Depression scores (post-treatment) (assessed with: various measures)											
231 (3 RCTs) 0 post-treatment	serious ¹	not serious	not serious	serious ²	not serious	⊕⊕○○ LOW	111	120	-	The mean Depression scores (post-treatment) in the control group was not reported	SMD 0.14 lower (0.4 lower to 0.12 higher)
Depressive disorder (post-treatment) (assessed with: various measures)											
0 (1 RCT) 0 post-treatment	serious ¹	not serious	not serious	serious ²	not serious	⊕⊕○○ LOW	/0	0/0	RD - 0.07 (-0.19 to 0.04)	Study population 0 per 1000 0 fewer per 1000 (0 fewer to 0 fewer)	

1. All studies at high risk of bias due to limitations associated with allocation, blinding, implementation integrity.
2. Evidence of heterogeneity.
3. Wide confidence interval that includes both considerable benefit and considerable harm.
4. Total number of participants is less than 400.
5. Total number of events is less than 300.

Appendix 5.4

<p style="text-align: center;">Exercise compared to no exercise for children and youth in treatment</p> <p>Bibliography (systematic reviews): Larun L, Nordheim LV, Ekeland E, Hagen KB, Heian F. Exercise in prevention and treatment of anxiety and depression among children and young people. Cochrane Database of Systematic Reviews 2006, Issue 3. Art. No.: CD004691. DOI: 10.1002/14651858.CD004691.pub2.</p>											
Quality assessment							Summary of findings				
No of participants (studies) Follow-up	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Overall quality of evidence	Study event rates (%)		Relative effect (95% CI)	Anticipated absolute effects	
							With no exercise	With exercise		Risk with no exercise	Risk difference with exercise
<p>Depression - post treatment score (follow up: 9 weeks; assessed with: Beck Depression Inventory)</p>											

11 (1 RCT) 9 weeks	seri- ous ²	not serious	not se- rious	seri- ous ¹	not seri- ous	⊕○○○ VERY LOW	5	6	-	The mean Depression - post treatment score in the control group was not reported	SMD 0.78 higher (0.47 lower to 2.04 higher)
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1. Total population is less than 400 and the 95% CI includes no effect.
2. One study at high risk of bias.

Appendix 5.5

Exercise compared to low intensity exercise/relaxation for children and youth in treatment Bibliography (systematic reviews): Larun L, Nordheim LV, Ekeland E, Hagen KB, Heian F. Exercise in prevention and treatment of anxiety and depression among children and young people. Cochrane Database of Systematic Reviews 2006, Issue 3. Art. No.: CD004691. DOI: 10,10.1002/14651858.CD004691.pub2.											
Quality assessment							Summary of findings				
Nº of participants (studies) Follow-up	Risk of bias	Incon-sistency	Indi-rectness	Im-precision	Publi-cation bias	Overall qual-ity of evi-dence	Study event rates (%)		Relative effect (95% CI)	Anticipated absolute effects	
							With low inten-sity exercise/re-laxation	With exer-cise		Risk with low intensity exercise/relaxation	Risk difference with exercise
Depression score (follow up: 8 weeks; assessed with: Beck Depression Inventory and Children's Depression Inventory) ¹											

70 (2 RCTs) 8 weeks	serious ²	not serious	not serious	serious ³	not serious	⊕○○○ VERY LOW	33	37	-	The mean Depression score in the control group was not reported	SMD 0.31 lower (0.78 lower to 0.16 higher)
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1. The authors explained that since anxiety and depression were continuous outcomes, and were measured with similar, but not identical, instruments across studies, SMDs were calculated using a random effects model.
2. One study was at low risk of bias, the other study was assessed as being at a moderate risk of bias.
3. Total population is less than 400 and the 95% CI includes no effect.

Appendix 5.6

Exercise compared to psychosocial interventions for children and youth in treatment Bibliography (systematic reviews): Larun L, Nordheim LV, Ekeland E, Hagen KB, Heian F. Exercise in prevention and treatment of anxiety and depression among children and young people. Cochrane Database of Systematic Reviews 2006, Issue 3. Art. No.: CD004691. DOI: 10,10.1002/14651858.CD004691.pub2.											
Quality assessment							Summary of findings				
No of participants (studies) Follow-up	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Overall quality of evidence	Study event rates (%)		Relative effect (95% CI)	Anticipated absolute effects	
							With psychosocial interventions	With exercise		Risk with psychosocial interventions	Risk difference with exercise
Depression score (follow up: 8 weeks; assessed with: Children's Depression Inventory)											
36 (1 RCT) 8 weeks	serious ¹	not serious	not serious	serious	not serious	⊕○○○ VERY LOW	16	20	-	The mean Depression score in the control group was not reported	SMD 0.31 lower (0.97 lower to 0.35 higher)

1. One study at moderate risk of bias.
2. Total population is less than 400 and the 95% CI includes no effect.

Appendix 5.7

Exercise compared to no intervention in children and youth at risk

Bibliography (systematic reviews): Larun L, Nordheim LV, Ekeland E, Hagen KB, Heian F. Exercise in prevention and treatment of anxiety and depression among children and young people. Cochrane Database of Systematic Reviews 2006, Issue 3. Art. No.: CD004691. DOI: 10.1002/14651858.CD004691.pub2.

Quality assessment							Summary of findings				
Nº of participants (studies) Follow-up	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Overall quality of evidence	Study event rates (%)		Relative effect (95% CI)	Anticipated absolute effects	
							With no intervention	With exercise		Risk with no intervention	Risk difference with exercise
Depression (follow up: range 6-20 weeks; assessed with: Beck's Depression Inventory and RADS)											
107 (3 RCTs) 6-20 weeks	serious ¹	not serious	not serious	serious ²	not serious	⊕○○○ VERY LOW	51	56	-	The mean Depression in the control group was not reported	SMD 0.08 lower (0.47 lower to 0.31 higher)
Anxiety											
79 (2 RCTs)	serious ¹	not serious	not serious	serious ²	not serious	⊕○○○ VERY LOW	38	41	-	The mean Anxiety in the control group was not reported	SMD 0.79 lower (0.47 lower to 0.31 higher)

1. Included studies at high risk of bias.
2. Total population is less than 400 and the 95% CI includes no effect.

Appendix 5.8

Cognitive behavioural therapy compared to youth with anxiety disorders for children and youth meeting diagnostic criteria for anxiety disorder

Bibliography (systematic reviews): James AACJ, Soler A, Weatherall RRW. Cognitive behavioural therapy for anxiety disorders in children. Cochrane Database of Systematic Reviews 2005, Issue 4. Art. No.: CD004690.

Quality assessment							Summary of findings				
Nº of participants (studies) Follow-up	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Overall quality of evidence	Study event rates (%)		Relative effect (95% CI)	Anticipated absolute effects	
							With youth with anxiety disorders	With cognitive behavioural therapy		Risk with youth with anxiety disorders	Risk difference with cognitive behavioural therapy
Remission from anxiety diagnosis (assessed with: various scales, diagnosis according to DSM-III or ICD criteria)											
0 (12 RCTs) 0 not reported	serious ⁴	not serious	not serious	not serious	not serious	⊕⊕⊕○ MODERATE	0/0	0/0	RR 0.58 (0.5 to 0.67)	Study population	
										0 per 1000	0 fewer per 1000 (0 fewer to 0 fewer)
Reduction in anxiety symptoms (assessed with: RCMAS)											
0 (10 RCTs) 0 not specified	serious ⁴	not serious	not serious	not serious	not serious	⊕⊕⊕○ MODERATE	0	0	-	The mean reduction in anxiety symptoms in the control group was not reported	SMD 0.58 lower (0.76 lower to 0.4 lower)

1. Total participants is 765.
2. ITT analysis
3. Total participants is 579.
4. All studies gave poor details on the process of randomisation.

Appendix 5.9

TF-CBT compared to attention control/CAU/wait list for children and youth who have experienced a traumatic event

Bibliography (systematic reviews): Cary CE, McMillen JC. The data behind the dissemination: A systematic review of trauma-focused cognitive behavioral therapy for use with children and youth. *Children and Youth Services Review* (2012); 34: 748-57.

Quality assessment							Summary of findings				
Nº of participants (studies) Follow-up	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Overall quality of evidence	Study event rates (%)		Relative effect (95% CI)	Anticipated absolute effects	
							With attention control/CAU/wait list	With TF-CBT		Risk with attention control/CAU/wait list	Risk difference with TF-CBT
PTSD symptoms (assessed with: various measures)											
881 (10 RCTs) 0 post-treatment ³	serious ¹	not serious	not serious	not serious	not serious	⊕⊕⊕○ MODERATE	0	0 ³	-	The mean PTSD symptoms in the control group was not reported	SMD 0.671 higher (0.527 higher to 0.815 higher) ⁴
Depression symptoms (assessed with: various measures)											
707 (8 RCTs) 0 post-treatment ³	serious ¹	not serious	not serious	not serious	not serious	⊕⊕⊕○ MODERATE	0	0 ³	-	The mean Depression symptoms in the control group was not reported	SMD 0.378 higher (0.218 higher to 0.537 higher) ⁴

1. Overall high study quality, but concerns related to attrition rates in 3 studies and blinding of assessors in 9 studies.
2. Authors included all languages and all publication status.
3. Total population for each outcome unclear.

4. Review authors used Hedge's g to account for small sample sizes.

Appendix 5.10

BT/CBT compared to waitlist control in children and youth with OCD											
Bibliography (systematic reviews): O'Kearney RT, Anstey K, von Sanden C, Hunt A. Behavioural and cognitive behavioural therapy for obsessive compulsive disorder in children. Cochrane Database of Systematic Reviews 2006, Issue 4.											
Quality assessment							Summary of findings				
Nº of participants (studies) Follow-up	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Overall quality of evidence	Study event rates (%)		Relative effect (95% CI)	Anticipated absolute effects	
							With waitlist control	With BT/CBT		Risk with waitlist control	Risk difference with BT/CBT
Severity of obsessive compulsive symptoms (assessed with: Children's Yale-Brown Obsessive Compulsive Scale (CY-BOCS); Scale from: 0 to 40)											
87 (3 RCTs) 0 post treatment	serious ¹	not serious	not serious	serious ³	not serious	⊕⊕○○ LOW	44	43	-	The mean CY-BOCS ranged across control groups from 19.6-24.04 points	MD 10.71 lower (17.04 lower to 4.38 lower)
Number with OCD at post treatment											
68 (2 RCTs) 0 post treatment	serious ¹	not serious	not serious	serious ²	not serious	⊕○○○ VERY LOW	34/34 (100.0)%	3/34 (8.8)%	RR ranged from 0.14 to 0.62 ⁴	Study population Not estimable	
Severity of obsessive compulsive symptoms (assessed with: NIMH-GOCS ; Scale from: 1 to 15)											
48 (1 RCT)	serious ¹	not serious	not serious	serious ²³	not serious	⊕○○○ VERY LOW	24	24	-	The mean Obsessive compulsive severity in the control group was 9 points	MD 5.5 lower (6.75 lower to 4.28 lower)

Self-reported depression (assessed with: CDI; Scale from: 0 to 27)											
69 (2 RCTs) 0 post treatment	seri- ous ¹	not seri- ous	not se- rious	seri- ous ²³	not se- rious	⊕○○○ VERY LOW	34	35	-	The mean Self-reported depres- sion ranged across control groups from 8.07-12.78 points ⁵	not estimable
Self-reported anxiety (assessed with: MASC and CDI)											
69 (2 RCTs)	seri- ous ¹	not seri- ous	not se- rious	seri- ous ²³	not se- rious	⊕○○○ VERY LOW	34	35	-	The mean Self-reported anxiety ranged across control groups from 49.47-63.63 points ⁶	not estimable

1. Included studies at high risk of bias
2. CI crosses line of no effect.
3. Total population is less than 400.
4. 95%CIs are (0.05, 0.38) and (0.37, 1.03).
5. CIs are [-5,73, 2,11) and (-7,57, 7,81).
6. CIs are (-7,90, 9,70) and (-24,69, 13,43).

Appendix 5.11

BT/CBT compared to placebo control in children and youth with OCD											
Bibliography (systematic reviews): O'Kearney RT, Anstey K, von Sanden C, Hunt A. Behavioural and cognitive behavioural therapy for obsessive compulsive disorder in children. Cochrane Database of Systematic Reviews 2006, Issue 4.											
Quality assessment							Summary of findings				
Nº of participants (studies) Follow-up	Risk of bias	Incon-sistency	Indi-rectness	Im-precision	Publi-cation bias	Overall qual-ity of evi-dence	Study event rates (%)		Relative effect (95% CI)	Anticipated absolute effects	
							With pla-cebo con-trol	With BT/CBT		Risk with placebo control	Risk differ-ence with BT/CBT

Severity of obsessive compulsive symptoms (assessed with: Children's Yale-Brown Obsessive Compulsive Scale (CY-BOCS); Scale from: 0 to 40)											
98 (2 RCTs) 0 post treatment	seri- ous ¹	not seri- ous	not se- rious	seri- ous ²	not se- rious	⊕⊕○○ LOW	48	50	-	The mean CY-BCOS ranged across control groups from 17.1-.21.5 points	MD 5.24 lower (9.98 lower to 0.5 lower)
Number with OCD at post treatment (assessed with: various cutoff points on CY-BOCS)											
98 (2 RCTs) 0 post treatment	seri- ous ¹	not seri- ous	not se- rious	seri- ous ²	not se- rious	⊕⊕○○ LOW	43/48 (89.6)%	28/50 (56.0)%	RR ranged from 0.63 to 0.63	Study population	
										896 per 1000	896 fewer per 1000 (331 fewer to 331 fewer)
Clinical Global Impressions - Improvement (assessed with: Clinical Global Impressions - Improvement)											
42 (1 RCT)	not seri- ous	not seri- ous	not se- rious	seri- ous ²⁴	not se- rious	⊕○○○ VERY LOW	20	22	-	The mean Clinical Global Impressions - Improvement in the control group was 2.76 points	MD 0.39 lower (1.07 lower to 0.29 higher)

1. One study at low risk of bias and one study at high risk of bias.
2. Total population less than 400.
3. CIs ranged: 0.39, 1.00; 0.46, 0.86
4. Wide confidence interval that includes both considerable benefit and considerable harm.

Appendix 5.12

Group BT/CBT compared to wait-list in children and youth with OCD	
Bibliography (systematic reviews): O'Kearney RT, Anstey K, von Sanden C, Hunt A. Behavioural and cognitive behavioural therapy for obsessive compulsive disorder in children. Cochrane Database of Systematic Reviews 2006, Issue 4.	
Quality assessment	Summary of findings

№ of participants (studies) Follow-up	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Overall quality of evidence	Study event rates (%)		Relative effect (95% CI)	Anticipated absolute effects	
							With wait-list	With group BT/CBT		Risk with wait-list	Risk difference with group BT/CBT
CY-BCOS (assessed with: Children's Yale-Brown Obsessive Compulsive Scale; Scale from: 0 to 40)											
53 (1 RCT) 0 post treatment	serious ¹	not serious	not serious	serious ²	not serious	⊕○○○ VERY LOW	24	29	-	The mean CY-BCOS in the control group was 24.04 points	MD 15.75 lower (18.9 lower to 12.62 lower)
Number with OCD at post treatment											
53 (1 RCT) 0 post treatment	serious ¹	not serious	not serious	serious ²	not serious	⊕○○○ VERY LOW	24/24 (100.0)%	7/29 (24.1)%	RR 0.26 (0.14 to 0.48)	Study population 1000 per 1000	740 fewer per 1000 (860 fewer to 520 fewer)
NIMH-GOCS (assessed with: NIMH-GOCS)											
48 (1 RCT) 0 post treatment	serious ¹	not serious	not serious	serious ²	not serious	⊕○○○ VERY LOW	24	24	-	The mean NIMH-GOCS in the control group was 9 points	MD 5.69 lower (6.87 lower to 4.51 lower)
Self-reported depression (assessed with: CDI)											
48 (1 RCT) 0 post treatment	serious ¹	not serious	not serious	serious ²	not serious	⊕○○○ VERY LOW	24	24	-	The mean Self-reported depression in the control group was 8.07 points	MD 4.72 lower (8.21 lower to 1.23 lower)
Self-reported anxiety (assessed with: MASC)											

48 (1 RCT) 0 post treatment	seri- ous ¹	not seri- ous	not se- rious	seri- ous ²	not seri- ous	⊕⊕○○ LOW	24	24	-	The mean Self-reported anxiety in the control group was 49.47 points	MD 10.38 lower (19.96 lower to 0.8 lower)
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1. One study at high risk of bias.
2. Total population less than 400.
3. Two studies at high risk of bias.
4. Total population less than 400. CI crosses line of no effect.

Appendix 5.13

Combination therapy compared to antidepressant medication in children with depression Bibliography (systematic reviews): Cox GR, Callahan P, Churchill R, Hunot V, Merry SN, Parker AG, Hetrick SE. Psychological therapies versus antidepressant medication, alone and in combination for depression in children and adolescents. Cochrane Database of Systematic Reviews 2012, Issue 11.											
Quality assessment							Summary of findings				
Nº of participants (studies) Follow-up	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Overall quality of evidence	Study event rates (%)		Relative effect (95% CI)	Anticipated absolute effects	
							With antidepressant medication	With combination therapy		Risk with antidepressant medication	Risk difference with combination therapy
Functioning (follow up: range 6-9 months; assessed with: various measures)											
385 (3 RCTs) 6-9 months	seri- ous ¹	not seri- ous	not se- rious	seri- ous ³	not se- rious	⊕⊕○○ LOW	189	196	-	The mean Functioning ranged across control groups from 57.8-68.15 points	SMD 0.08 higher (0.12 lower to 0.28 higher)
Suicide ideation (follow up: range 6-9 months; assessed with: K-SADS-PL and SIQ-JR)											

267 (2 RCTs) 6-9 months	seri- ous ¹	not seri- ous	not se- rious	seri- ous ²	not se- rious	⊕⊕○○ LOW	22	22	-	The mean suicide ideation score ranged across control groups from 12.1-20.96 points	SMD 1.89 lower (0.45 lower to 0.72 higher)
Depression symptoms (follow up: range 6-9 months; assessed with: clinician rated, CDRS-R; Scale from: 17 to 113)											
408 (2 RCTs) 6-9 months	seri- ous ¹	not seri- ous	not se- rious	seri- ous ²	not se- rious	⊕⊕○○ LOW	203	205	-	The mean Depression symptoms ranged across control groups from 28.44-34.8 points	MD 0.27 lower (2.26 lower to 1.72 higher)
Depression symptoms (follow up: range 6-9 months; assessed with: self rated)											
610 (4 RCTs) 6-9 months	seri- ous ¹	not seri- ous	not se- rious	seri- ous ²	not se- rious	⊕⊕○○ LOW	303	307	-	The mean Depression symptoms ranged across control groups from 15.0-67.08 points	SMD 0.06 lower (0.28 lower to 0.17 higher)
Remission (follow up: range 6-9 months; assessed with: clinical interview (ITT))											
203 (2 RCTs) 6-9 months	seri- ous ¹	not seri- ous	not se- rious	seri- ous ²	not se- rious	⊕○○○ VERY LOW	75/ 101 (74.3)%	86/ 102 (84.3)%	OR 1.93 (0.93 to 4)	Study population	
										743 per 1000	105 more per 1000 (14 fewer to 178 more)

1. Included studies at high risk of bias.
2. Total population less than 400.
3. CI crosses line of no difference.

Appendix 5.14

Combination therapy compared to medication in preventing relapse or recurrence among ch

Bibliography (systematic reviews): Cox GR, Fisher CA, De Silva S, Phelan M, Akinwale OP, Simmons MB, Hetrick SE. Interventions for preventing relapse and recurrence of a
Reviews 2012, Issue 11. Art. No.: CD007504. DOI: 10.1002/14651858.CD007504.pub2.

Quality assessment							Summary			
No of participants (studies) Follow-up	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Overall quality of evidence	Study event rates (%)		Relative effect (95% CI)	Antic Risk
							With medication	With combination therapy		
Prevention of a second/next depressive episode (follow up: 24 weeks; assessed with: number relapsed/recurred)										
46 (1 RCT) 24 weeks	serious ¹	not serious	not serious	serious ²³	not serious	⊕○○○ VERY LOW	24/24 (100.0)%	22/22 (100.0)%	OR 0.26 (0.06 to 1.15)	Study 1000
Suicide-related behaviour (follow-up not specified, assessed with: not reported)										
46 (1 RCT) 24 weeks	serious ¹	not serious	not serious	serious ²³	not serious	⊕○○○ VERY LOW	2/24 (9.0)%	1/22 (4.5)%	OR 0.52 (0.04 to 6.21) ⁶	Study
Depressive symptoms (follow up: 24 weeks; assessed with: Clinician rated, CDRS-R; Scale from: 17 to 113)										
46 (1 RCT) 24 weeks	serious ¹	not serious	not serious	serious ²³	not serious	⊕○○○ VERY LOW	24	22	-	The m was n
Functioning (follow up: 24 weeks; assessed with: C-GAS; Scale from: 1 to 100)										

46 (1 RCT) 24 weeks	serious ¹	not serious	not serious	serious ²³	not serious	⊕○○○ VERY LOW	24	22	-	The m repor
Depressive symptoms - not reported										
-	-	-	-	-	-	-	-	-	not estimable	-

1. One study at high risk of bias.
2. Total population less than 400.
3. CI crosses line of no difference.
4. Absolute number of participants not reported.
5. Review authors only reported absolute numbers. We calculated the OR and 95% CI.

Appendix 5.15

BT/CBT combined with medication compared to medication alone in children and youth with OCD											
Bibliography (systematic reviews): O'Kearney RT, Anstey K, von Sanden C, Hunt A. Behavioural and cognitive behavioural therapy for obsessive compulsive disorder in children and adolescents. Cochrane Database of Systematic Reviews 2006, Issue 4.											
Quality assessment							Summary of findings				
No of participants (studies) Follow-up	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Overall quality of evidence	Study event rates (%)		Relative effect (95% CI)	Anticipated absolute effects	
							With medication alone	With BT/CBT combined with medication		Risk with medication alone	Risk difference with BT/CBT combined with medication
Severity of OCD symptoms (assessed with: Children's Yale-Brown Obsessive Compulsive Scale)											

76 (2 RCTs) 0 post treatment	serious ¹	not serious	not serious	serious ²	not serious	⊕⊕○○ LOW	38	38	-	The mean CY-BOCS ranged across control groups from 16.6-19.3 points	MD 4.55 lower (7.4 lower to 1.7 lower)
Number with OCD at post treatment											
66 (2 RCTs) 0 post treatment	serious	not serious	not serious	serious ²³	not serious	⊕⊕○○ LOW	27/33 (81.8)%	18/33 (54.5)%	RR ranged from 0 to 0.59	Study population	
										818 per 1000	818 fewer per 1000 (818 fewer to 335 fewer)
Severity of OCD symptoms (assessed with: NIMH-GOCS)											
20 (1 RCT)	serious ⁵	not serious	not serious	serious ²³	not serious	⊕○○○ VERY LOW	10	10	-	The mean degree of OCD symptoms in the control group was -0.20 points	MD 0.2 lower (2.31 lower to 1.91 higher)
Level of functioning (assessed with: CGIS)											
40 (1 RCT) 0 post treatment	serious ⁵	not serious	not serious	serious ²	not serious	⊕○○○ VERY LOW	20	20	-	The mean level of functioning in the control group was 4.2 points	MD 0.7 lower (1.15 lower to 0.25 lower)
Degree of symptom severity (assessed with: CGII)											
20 (1 RCT) 0 post treatment	serious	not serious	not serious	serious ²	not serious	⊕○○○ VERY LOW	10	10	-	The mean degree of symptom severity in the control group was 3 points	MD 0.7 lower (1.34 lower to 0.06 lower)

1. One study at low risk of bias and one study at high risk of bias.
2. Total population less than 400.

3. Wide confidence interval that includes both considerable benefit and considerable harm.
4. CIs are (0, 0) and (0,38, 0,92)
5. One study at high risk of bias.

Appendix 6. Checklist for systematic reviews

Sjekkliste for systematiske oversikter*	Ja	Uklart	Nei
1 Beskriver forfatterne klart hvilke metoder de brukte for å finne primærstudiene?			
Kommentar			
2 Ble det utført et tilfredsstillende litteratursøk? (bruk hjelpespørsmål på neste side for å besvare dette spørsmålet)			
Kommentar			
3 Beskriver forfatterne hvilke kriterier som ble brukt for å bestemme hvilke studier som skulle inkluderes (studiedesign, deltakere, tiltak, ev. endepunkter)?			
Kommentar			
4 Ble det sikret mot systematiske skjevheter (bias) ved seleksjon av studier (eksplisitte seleksjonskriterier brukt, vurdering gjort av flere personer uavhengig av hverandre)?			
Kommentar			
5 Er det klart beskrevet et sett av kriterier for å vurdere intern validitet?			
Kommentar			
6 Er validiteten til studiene vurdert (enten ved inklusjon av primærstudier eller i analysen av primærstudier) ved bruk av relevante kriterier?			
Kommentar			
7 Er metodene som ble brukt da resultatene ble sammenfattet, klart beskrevet?			
Kommentar			
8 Ble resultatene fra studiene sammenfattet på forsvarlig måte?			
Kommentar			
9 Er forfatternes konklusjoner støttet av data og/eller analysen som er rapportert i oversikten?			
Kommentar			
10 Hvordan vil du rangere den vitenskapelige kvaliteten i denne oversikten?			
Kommentar			

*Basert på EPOC Checklist for Refereeing Protocols for Reviews. EPOC, Effective Practice and Organisation of Care group, Guide for review authors.

www.epoc.cochrane.org

Appendix 7. Critical appraisal assessments for included systematic reviews

	1	2	3	4	5	6	7	8	9	10
James 2004	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja
Larun 2006	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja
O'Kearney 2006	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja
Dubicka 2010	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja
Hetrick 2010	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja

Barlow 2011	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja
Calati 2011	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja
Hetrick 2011	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja
Merry 2011	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja
Cary 2012	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja
Cox 2012 (315)	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja
Cox 2012 (316)	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja
Macdonald 2012	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja

Appendix 8. Inclusion form

RefID	First author/title/year
Reviewer Initials	

		Ja	Ne i	?	Comments
1	Er det gjort et systematisk litteratursøketter primære studier?				
2	Er det tydelige inklusjonskriterier?				
3	Er det gjort kvalitetsvurdering av inkluderte studier?				
4	Har oversikten et klart definert formål?				

5	<p>Rapporteres data angående effekt av Psychosocial interventions or treatments aimed at depression/ anxiety (GAD, SF, SAD, OCD, PTSD)?</p> <ul style="list-style-type: none"> - Er tiltak/behandling “selective/indicated” (mao. Ikke gitt til alle)? Og/eller - Er tiltak/behandling rettet mot familien (må ha ett element rettet mot ungdom/barn også) 				
6	<p>Er populasjonen som er studert:</p> <ul style="list-style-type: none"> - risikoutsatte barn/unge <18 år og/eller familier med risikoutsatte barn og ungdom (se beskrivelse nedenfor)³. -barn med hovedsymptomer (primær-diagnose) depresjon og/eller angst? <p>*Også inkluderer SRs der de har definert barn/ungdom som risikoutsatte uten at de refererer til risikofaktorer nedenfor.</p>				
7	<p>Er utfall knyttet til depresjon/angst inkluderte?</p> <ul style="list-style-type: none"> - Primary: Presence or symptoms of depression and/or anxiety; duration of episode, recurrence, or continuation into adulthood - Secondary: Quality of life, school performance, community engagement, social skills, coping skills, functioning, costs, use of health care services, levels of stress, physical health. 				
8	<p>KONKLUSJON: Skal studien inkluderes for metodisk evaluering? (måtte svart ”Ja” på 1-6)</p>				

³ Child risk factors: measures include child limited reading skills, experience of trauma/abuse, disability/illness, contact with child welfare services or the criminal justice system.

Family risk factors: measures include poverty, low parental education, a large number of children, no homeownership, single parents, welfare dependence¹⁹. America's Children at risk. United States Department of Commerce, Bureau of the Census1997.18. America's Children at risk. United States Department of Commerce, Bureau of the Census1997.18. America's Children at risk. United States Department of Commerce, Bureau of the Census1997.(16, 2), family dysfunction, abuse, parental mental illness, substance abuse or other illness.

Community risk factors: measures include poverty, crime, unemployment, or high rates of teen parenthood

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