A review of interventions to improve mental health and wellbeing of gang-affiliated young people

A rapid evidence synthesis
What works to improve mental health and wellbeing of gang-affiliated young people?

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1. Key message

This evidence synthesis assessed interventions aiming to improve the mental health and wellbeing of gang-affiliated young people. Mental health is defined by the WHO as “a state of wellbeing in which every individual realises his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community”. Five studies were included. The studies reported largely positive results, although the quality of the evidence was medium to low. Key details such as recruitment methodology, drop-out rates of participants, exact scores on outcome measures, consideration of confounders in analysis, and length and quality of follow-up after the intervention were largely missing from the studies.

Three of the studies reported a statistically significant mental health and/or wellbeing benefit following the intervention. Cognitive-behavioural group therapy led to lower levels of post-traumatic stress disorder (PTSD) among inmates of a juvenile detention centre, but no changes in anger, anxiety or depression; a community-based peer mentoring programme led to improved knowledge and attitudes regarding violence and prevented an increase in problem behaviours among children in a neighbourhood with high volumes of gang activity; and a community-based wellbeing service reduced the severity of mental health needs among young people with experience of the criminal justice system and labelled as ‘gang-affiliated’.

The evidence was too limited in scope and quality to provide recommendations in relation to what works.

However, future mental health interventions for this population should consider:

- the use of group work (such as group therapy or peer mentoring)
- the inclusion of participants in the design of the intervention and in the direction of their own care
- a holistic approach which addresses multiple stressors in their lives, psychological and practical, both gang-related and not, could be employed

The paucity of good quality evidence in this field suggests further work is needed and it is essential that interventions incorporate a robust evaluation plan from the outset. It was generally difficult to identify good quality interventions which focused on mental health and/or wellbeing improvement as a primary outcome. Poor mental health and wellbeing and gang-affiliation appear to have a cyclical relationship, so this area of research should be a priority for medical and criminal justice professionals alike.
2. Introduction

This evidence synthesis assessed interventions aiming to improve the mental health and wellbeing of gang-affiliated young people. Mental health is defined by the WHO as “a state of wellbeing in which every individual realises his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community” (1). Good mental health is not merely the absence of a diagnosable mental disorder (2). This review builds on previous work done by PHE on gangs which concluded that improving the mental health of vulnerable young people can help those people move away from gang-related activities (3). We developed this further by evaluating interventions aiming to improve the mental health and wellbeing of gang-affiliated young people. This report is intended to be read by mental health practitioners, social workers, community leaders and other health and social care professionals who work with and for gang-affiliated young people.

Gangs as a phenomenon are notoriously difficult to define. Many definitions have centred exclusively on the US context. The Eurogang network have developed cross-national criteria to redress this, which describe a gang as “any durable, street-oriented youth group whose involvement in illegal activity is part of its group identity” (4)(p32). For the purposes of this evidence synthesis, ‘gang-affiliated’ is defined as one or more of the following: is/was a gang member; is/was involved in gang activity; has/had a close friend or family member in a gang; lives in an area with high volumes of gang activity.

The link between mental health and gang affiliation has been well described in recent research. Men (18-34 years old) in gangs have higher levels of mental illness than both men in the general population and violent men not affiliated with gangs (5). At the point of arrest, 40% of gang-affiliated young people (10-18 years old) had severe behavioural problems before the age of 12 compared with 13% of all those arrested (6). Young people with early aggressive traits are twice as likely to stay in a gang for a year or longer (7). Poor mental health can be both a risk factor for and a result of gang involvement. Gangs offer a sense of protection and social support to young people experiencing fear and anxiety or with low self-esteem (8, 9). Involvement in a gang increases the likelihood of exposure to violence which in turn increases the risk of depression, anxiety and post-traumatic stress disorder (10-12). Identifying effective mental health interventions for gang-affiliated young people is therefore important both to address the effects of gang affiliation but also to prevent gang affiliation itself.

Mental ill health and gang affiliation share several risk factors, including social disadvantage and inequality, family dysfunction, and adverse childhood experiences, which lead to health inequalities (7, 13, 14). This review therefore contributed to PHE priorities by helping to better understand these inequalities.
What works to improve mental health and wellbeing of gang-affiliated young people?

3. Methods

Literature search

This report employed a rapid review approach, which uses one or more recognised techniques to shorten the timescale compared to a traditional systematic review (15). In this review, we limited the location and language of the studies.

This evidence synthesis was first proposed as an update to an earlier report which investigated the mental health needs of gang-affiliated young people (3). After consultation with this review’s commissioner, it was decided to focus more specifically on assessing the evidence on interventions to address these needs. The research question was:

What interventions work to improve the mental wellbeing and/or mental health of gang-affiliated young people?

The PICO framework was used to structure the search which stands for:

- population - young people (up to 25 years) who are gang affiliated i.e. are or were gang members, are or were involved in gang activity, have or had a close associate (friend or family) in a gang, or live in an area with high levels of gang activity
- intervention - any family-, community-, or school-based intervention aiming to improve the mental wellbeing and/or mental health of gang-affiliated young people
- comparator - usual care, waitlist control, self-comparison (before and after intervention)
- outcome - effect on mental wellbeing and/or health, including depression, anxiety, post-traumatic stress disorder (PTSD), self-esteem, conduct disorder, personality disorder, anger, aggression and substance use/misuse

Protocol

A protocol was produced by the project team before the synthesis began, specifying the research question, parameters of the review, and the inclusion and exclusion criteria. Some minor changes have been made from the protocol to the literature search following some pilot scoping of the literature – the publication date limitation was removed, and the age of the target population was defined as up to 25 years. The protocol is available to review on request.
Sources searched

A wide variety of databases and search engines were included: Ovid Medline, Ovid Embase, Ovid Psycinfo, Ovid Social Policy & Practice, NICE Evidence, Turning Research into Practice (TRIP), Social Care Online, Wiley Cochrane Library, Google Scholar, Prospero and Google.

Search strategy

An example search strategy from Ovid Medline, developed by Knowledge and Library Services (KLS), is given in Appendix 1.

Inclusion criteria

Inclusion criteria were:

- location - Organisation for Economic Co-operation and Development (OECD)
- language - English
- study types - randomised controlled trials (RCT), non-RCTs, pre-post studies, observational studies, systematic reviews of above
- year of publication - no limit
- setting - no limit
- grey literature

Exclusion criteria were:

Exclusion criteria were:

- clinical/non-general sub-populations (e.g. children with traumatic brain injury)
- cross-sectional studies, feasibility studies, protocols
- qualitative research

Screening

An initial screen for clearly irrelevant studies was conducted by one reviewer. Title and abstract screening and full text screening were done independently by 2 reviewers and disagreements resolved. Figure 1 illustrates this process.

Data extraction tables were set up and agreed by the project team. The first reviewer conducted the data extraction and the results were checked by the second reviewer and discussed before a final check by the advisory team. Completed data extraction tables accompany this report.
Both reviewers conducted independent quality appraisal using an amended version of the Critical Appraisal Skills Programme (CASP) cohort checklist, including assigning an overall quality rating (16).

**Internal and external review**

All stages of the review were overseen by the advisory team, including research question design, protocol design, search strategy, inclusion and exclusion criteria, data extraction forms, and quality appraisal forms. The advisory team also reviewed a draft of the final report. The report was then reviewed by 2 external peer reviewers.
4. Results

The initial search of all databases retrieved 2,210 citations. These were downloaded into Endnote and then EPPI-Reviewer Beta and duplicates removed, leaving 1,547 references for screening. Following an initial screen for clearly irrelevant references, the remaining 732 references were screened by both reviewers by Title and Abstract, followed by full text screening of 50 references. Five studies were included in the evidence synthesis and are summarised in Table 1.

Figure 1. PRISMA Flow Diagram (17)
Table 1. Summary of included studies

<table>
<thead>
<tr>
<th>Study</th>
<th>Sample</th>
<th>Intervention type/duration</th>
<th>Comparator</th>
<th>Outcomes of interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Koffman et al, 2009</td>
<td>Los Angeles, US, Middle and high school</td>
<td>Community-based whole child program addressing risk factors in multiple domains, 6 months</td>
<td>Before and after intervention, matched on age, sex, and census tract</td>
<td>Depression levels; symptoms of anger, anxiety, and depression; behavioural issues</td>
</tr>
<tr>
<td>Ovaert et al, 2003</td>
<td>Los Angeles, US, 13-18 years</td>
<td>Cognitive-behavioural group therapy in juvenile detention facility, 6 weeks</td>
<td>Before and after intervention</td>
<td>Violence knowledge and attitudes; behavioural change</td>
</tr>
<tr>
<td>Sheehan et al, 1999</td>
<td>Chicago, US, High school</td>
<td>Community-based peer mentoring program, 18 months</td>
<td>75 controls matched on age, sex, and census tract</td>
<td>Depression, anxiety and stress levels</td>
</tr>
<tr>
<td>Smaller, 2012</td>
<td>Illinois, US, High school</td>
<td>School-based psychoanalytic treatment, 2 years</td>
<td>Before and after intervention, matched on age, sex, and census tract</td>
<td>Accessing mental health and wellbeing support; mental health and wellbeing needs; resilience</td>
</tr>
<tr>
<td>Stubbs &amp; Durcan, 2017</td>
<td>London, UK, Students previously expelled for gang-related activity</td>
<td>Community-based wellbeing service, 6-24 months</td>
<td>Before and after intervention, matched on age, sex, and census tract</td>
<td>Depression, anxiety and stress levels</td>
</tr>
</tbody>
</table>

### Result

- **Proportion of participants in normal range for depression measure**
  - PTSD levels significantly lower in whole sample, although still in the range of severity (mean change of 5.23). Among participants with gang-related trauma only, anger and anger expression scores also improved significantly. Behavioural problems significantly worse among youth with PTSD who had not completed treatment than those who had, although difference no longer significant 6 months after treatment.

- **Violence knowledge and attitudes**
  - Significantly improved in cases compared to controls. Problem behaviour remained steady in case subjects and significantly worsened among control subjects.

- **Depression, anxiety and stress levels**
  - All fell - significance not reported. Greater relative improvement after additional individual treatment - significance not reported.

- **Significant reduction in severity of mental health needs**
  - Likelihood of accessing mental health and wellbeing support rose - significance not reported. No significant change in mental resilience.
Four studies took place in the US (18-21); the other took place in the UK (22). Two of the studies were over 10 years old (19, 20). Three studies reported on community-based interventions (18, 20, 22); one reported on an intervention in a juvenile detention facility (19); and one reported on a school-based intervention (21). In 4 studies, the post-intervention assessment took place immediately after the intervention ended; in the other, it took place while the intervention was ongoing, between 6 months and 2.5 years after participants first joined (22). In 4 studies before/after designs were used where post-intervention scores were compared to the participants’ own baseline scores (although several studies reported that relatively few participants completed the assessments at every time point); in the other, participants receiving the intervention were compared with age-, sex- and census-matched controls (20). All studies were rated as either medium or low quality. Just one study took place in the UK (22); all the rest were US-based. Findings from the US studies may not translate well to a UK context.

All 5 studies reported improvements in participants’ mental health and/or wellbeing after their interventions, although neither Koffman et al (18) nor Smaller (21) reported whether these were statistically significant changes. Three studies reported significant results following the intervention. Cognitive-behavioural group therapy led to lower levels of PTSD among inmates of a juvenile detention centre but no significant changes in anger, anxiety or depression (19). A community-based peer mentoring programme led to improved knowledge and attitudes regarding violence and prevented an increase in problem behaviours among children in a neighbourhood with high volumes of gang activity (20). A community-based wellbeing service reduced the severity of mental health needs among young people with experience of the criminal justice system and labelled as ‘gang-affiliated’ but had no significant effect on mental resilience (22).
5. Discussion

Three of the studies included in this evidence synthesis reported a significant change in mental health and/or wellbeing of gang-affiliated young people following intervention (19, 20, 22). The other 2 studies also reported improvements but not whether they were statistically significant (18, 21). Researchers in the cognitive-behavioural group therapy intervention reported significantly decreased levels of PTSD among their population of male juvenile detention inmates (19). Subgroup analysis of only participants with gang-related trauma also showed improvement in measures of anger and anger expression. Following the peer mentoring program, children living in a neighbourhood with high volumes of gang activity had improved knowledge and attitude towards violence, and problem behaviour had not increased in contrast with the control group (20). The community wellbeing service led to decreased severity in mental health needs among young people with experience of the criminal justice system or labelled as ‘gang-affiliated’ (22). This was also the only study that took place in the UK, and its methods were low quality. Themes emerged from all studies included in the synthesis that may be transferable to England. These are explored below.

Mechanisms of success

Of the 3 studies with significant positive outcomes, 2 authors explored the possible mechanisms of their success. In the community wellbeing service, the holistic approach to addressing participants’ issues was reported as beneficial (22). This included helping participants with logistical problems such as applying for passports and driving licences, sources of stress which contributed to poor mental health and wellbeing. Participants who had been involved in the programme for longer appeared to derive more benefit from it. Qualitative feedback from participants described their increased capacity to cope with stressors rather than “flipping out” (22)(p45) and the reduced stigma relating to mental health – “I used to think mental health was crazy, but now I think it’s what goes on in your head” (22)(p46). In the cognitive-behavioural group therapy intervention, lower scores on PTSD measures after intervention were reported (19). Participants indicated that this arose from “acknowledging and sharing the traumatic event with sympathetic peers and group leaders” (19)(p298). It was noted that, regardless of their trauma type, almost every participant shared a story relating to gang or community violence. This commonality of experience might explain why this treatment was most effective for participants with gang-related trauma, rather than trauma stemming from physical or sexual abuse. The authors also report that for many (58.3%) of those who had a negative response to treatment this was their first time talking about their experiences, and that these participants may have benefitted from individual therapy first. Involving participants as active partners, by allowing them to ‘vote out’ members of their therapy group if they no longer trusted them or to design aspects of the intervention, also seems to have been helpful (19, 22).
Quality of evidence

Overall the quality of the evidence was poor. Three of the studies were rated as low quality (18, 21, 22) and the other 2 as medium (19, 20). This was largely due to inadequate reporting of important details, such as recruitment methodology, drop-out rates of participants, exact scores on outcome measures, consideration of confounders in analysis, and length and quality of follow-up after the intervention. One of the studies did not report an exact number of participants, instead saying that “more than 387 students” took part (18)(p241). It was sometimes difficult to determine how the interventions were carried out and even whether they had been successful – 2 studies reported positive results but not whether these were statistically significant (18, 21).

Much of this could have been avoided had evaluation of the intervention been embedded in the planning for the intervention from the beginning. It is impossible to know if these key details are missing due to incomplete reporting or because they were not recorded in the first place. There were also privacy considerations that limited reporting in at least one case – individual scores could not be reported for the community wellbeing service to preserve anonymity (private correspondence with author).

The low quality ratings prevent us from drawing strong conclusions from this synthesis. For the 3 studies that reported significant positive results it is difficult to determine which aspects of the interventions should be replicated and which parts adapted depending on population and setting. Sheehan et al were the only group to compare baseline scores between those who were lost to follow-up and those who completed the intervention (no significant difference was found) (20). None of the others reported if or how many participants dropped out before completion. Therefore, we cannot know if the interventions are workable in a real life scenario – there may be important systematic differences between those participants who dropped out and those who did not.

More broadly we discovered a paucity of literature that met our inclusion criteria, which partly explains why just 5 studies were included in this synthesis. We noted during screening that a number of studies had used interventions such as therapy but had not measured mental health outcomes. Instead they used proxy outcomes such as criminal convictions or weapon carrying. These studies were excluded as they didn’t meet our outcome criteria. It seems that mental health and well-being work is being done with gang-affiliated young people, but unfortunately its results are often not directly measured. It should be possible to investigate both the societal and personal effects of these interventions. The same neglect and lack of funding that may increase the risk of gang affiliation for these young people may also be preventing high quality research to address some of its consequences. As noted in the Introduction, mental health issues can both lead to and result from gang affiliation so addressing this link is in the interest of both medical and criminal justice professionals.
Limitations

In line with rapid review methodology, the scope of the search strategy was limited in terms of language of the studies. It is possible some key studies published in languages other than English were not included.

The first screen for clearly irrelevant studies was conducted by the first reviewer only, rather than by 2 independently. Data extraction as conducted by the first reviewer with a subsequent full check by the second reviewer and the advisory team. Gold-standard reviewing methods would call for both reviewers to conduct data extraction independently, although the method employed here is in line with rapid review practices (15).

Just one of the included studies was UK-based, with the remaining 4 taking place in the US, and the results may not be transferable to a UK context.

Conclusion

This evidence synthesis builds on earlier work by Hughes et al (3). We identified few studies all of relatively low quality, meaning the results should be treated with caution; more high quality research on this topic is needed. Bearing this in mind, the results of this synthesis suggest that the following elements might contribute to the success of future mental health interventions: the use of group work was seen as beneficial; participants could be included in the design of the intervention and in the direction of their own care; a holistic approach which addresses multiple stressors in their lives, both gang-related and not, psychological and practical, could be employed. A plan for evaluation should be included in the design of the intervention from the beginning.
What works to improve mental health and wellbeing of gang-affiliated young people?

6. References

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6. Khan, L; Brice, H; Saunders, A ; Plumtree, A. A need to belong: What leads girls to join gangs. Centre for Mental Health; 2013.


7. Acknowledgements

We would like to acknowledge the contributions of the following:

Advisory team

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Peer reviewers

Jay Perkins (Clinical Lead, Child, Adolescent and Family Psychodynamic Psychotherapist, Safer London), Peer reviewer 2 (anonymous).
Appendix 1 – sample search strategy

1. mental health.tw,kw.
2. mental illness*.tw,kw.
3. wellbeing.tw,kw.
4. personality disorder*.tw,kw.
5. psychos*.tw,kw.
6. anxiet*.tw,kw.
7. (depression or depressive*).tw,kw.
8. antisocial behav*.tw,kw.
9. anti-social behav*.tw,kw.
10. psychiatric morbidity.tw,kw.
11. conduct disorder*.tw,kw.
12. suicid*.tw,kw.
14. PTSD.tw,kw.
15. post traumatic stress disorder*.tw,kw.
16. (attention deficit hyperactivity disorder* or ADHD).tw,kw.
17. psychiatric comorbidit*.tw,kw.
18. psychiatric illness*.tw,kw.
19. (aggression or aggressive).tw,kw.
20. (inattention or inattentive).tw,kw.
21. impulsiv*.tw,kw.
22. Mental Health/
23. exp Mental Disorders/
24. exp Suicide/
25. aggression/ or social isolation/
26. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25
27. (gang or gangs).tw,kw.
29. gang-involv*.tw,kw.
30. gang-relat*.tw,kw.
31. ex-gang*.tw,kw.
32. non-gang*.tw,kw.
33. 27 or 28 or 29 or 30 or 31 or 32
34. 26 and 33
35. limit 34 to english language