

# Preventing alcohol misuse in young people: an exploratory cluster randomised controlled trial of the Kids, Adults Together (KAT) programme

Jeremy Segrott,<sup>1,2\*</sup> Heather Rothwell,<sup>1,2</sup>  
Gillian Hewitt,<sup>1,2</sup> Rebecca Playle,<sup>3</sup> Chao Huang,<sup>3</sup>  
Simon Murphy,<sup>1,2</sup> Laurence Moore,<sup>4</sup>  
Matthew Hickman<sup>5,6</sup> and Hayley Reed<sup>1,2</sup>

<sup>1</sup>Cardiff School of Social Sciences, Cardiff University, Cardiff, UK

<sup>2</sup>UKCRC Centre for the Development and Evaluation of Complex Interventions for Public Health Improvement (DECIPHer), Cardiff University, Cardiff, UK

<sup>3</sup>South East Wales Trials Unit (SEWTU), Cardiff University, Cardiff, UK

<sup>4</sup>MRC/CSO Social and Public Health Sciences Unit, University of Glasgow, Glasgow, UK

<sup>5</sup>School of Social and Community Medicine, University of Bristol, Bristol, UK

<sup>6</sup>UKCRC Centre for the Development and Evaluation of Complex Interventions for Public Health Improvement (DECIPHer), University of Bristol, Bristol, UK

\*Corresponding author

**Declared competing interests of authors:** none

Published November 2015

DOI: 10.3310/phr03150

## Scientific summary

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Public Health Research 2015; Vol. 3: No. 15

DOI: 10.3310/phr03150

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# Scientific summary

## Background

Alcohol misuse has high social, economic and personal costs, and misuse by young people is of particular concern. Schools are a key setting for the delivery of interventions to prevent alcohol misuse owing to their near-to-complete coverage of the target population and their expanding function as health promoting institutions. To date, however, most programmes have been designed for secondary schools and have not always included parents/carers, despite parental involvement being identified as a characteristic of effective programmes. Intervention earlier in the life course could capitalise on the greater social influence of parents/carers and teachers before children start drinking regularly and socialise more with peers.

The Kids, Adults Together (KAT) programme is an alcohol misuse prevention programme drawing on the social development model (SDM). The SDM proposes that young people learn social behaviour through interactions with others, resulting in the formation of attachments which, if strong, can have a lasting effect on behaviour through supporting acquisition of skills and influencing norms and values. Attachment to others who offer opportunities for and reward pro-social behaviour (e.g. parents/carers, teachers) is a protective factor against antisocial behaviour, such as underage drinking. Thus, involvement of parents/carers and children in interventions may increase the quality and frequency of parent-child interactions.

The KAT programme comprises (1) teacher-delivered classwork on the effects of alcohol consumption, and preparation for a family event; (2) the family event, involving children and parents/carers in activities addressing key health messages around alcohol; and (3) a 'goody bag' for families with an educational digital versatile disc (DVD) for parents/children to watch together. KAT requires approximately 5 days' classroom time, but can be delivered over a longer period to suit the class teacher's needs, plus approximately 1 hour for the KAT family event at the school.

Kids, Adults Together operationalises the SDM by providing opportunities for children to interact with their parents/carers through homework related to what they learn in class about the social and health effects of alcohol; attending the KAT event, where parents/carers can see and praise their children's work; and watching the DVD together at home. Through this mechanism of strengthening pro-social family norms and communication about alcohol, KAT aims to reduce future alcohol misuse in participating children.

Programmes that aim to involve parents/carers frequently struggle to engage them. KAT schools ask parents/carers to attend just a single event held in school at a time that is convenient to them, and this is promoted as an opportunity for them to see what their children have been learning in class, not as an educational event about alcohol misuse.

Kids, Adults Together has been piloted in two schools in Wales, where it showed potential to influence knowledge and family communication processes and an ability to engage large numbers of parents/carers. In line with the Medical Research Council evaluation framework for complex interventions, it was therefore appropriate to move forward to an exploratory trial of KAT.

## Objectives

The aim was to further develop and evaluate KAT in a larger number of schools in order to determine the value and feasibility of an effectiveness trial. Specific objectives were to:

1. refine the theoretical model and outcome pathways of the intervention
2. assess the feasibility and acceptability of the intervention
3. assess intervention reach and rates of participation, including equality of engagement across socioeconomic localities and groups
4. assess trial recruitment and retention rates
5. identify possible effect sizes that are likely to be detected as part of a definitive trial and an appropriate sample size
6. determine the cost and feasibility of the proposed methods for measuring primary and secondary outcomes
7. identify the costs of delivering KAT, and to pilot methods for assessing cost-effectiveness as part of a future definitive trial; and
8. determine whether or not to proceed with a definitive trial.

Thus, the study did not assess the effectiveness of KAT, but tested intervention feasibility and trial methods.

## Methods

### Research design

An exploratory cluster randomised controlled trial (RCT) of KAT with an embedded process evaluation was undertaken. In October 2011, English medium schools with Year 5/6 classes in Newport in south Wales were invited to participate. Eight schools which responded were stratified by free school meal entitlement and size and then randomly assigned to the intervention or control in a 1 : 1 ratio. One school in the intervention group withdrew before data collection at baseline and was replaced, but the replacement school also withdrew after baseline. In both schools, reasons for withdrawal appeared to relate to the nature of the intervention. Seven schools remained in the study.

The intervention was administered at cluster (school) level and consisted of the KAT programme in addition to any existing alcohol-related lessons/school activities. Head teachers in each intervention school selected two or three classes, including two Year 4/5 classes in two schools with mixed year-group classes. In intervention schools, all children in participating classes received KAT whether or not they provided data for the research. KAT activities were linked to the curriculum and integrated into normal classroom work and all parents/carers were invited to attend the KAT family events. All children in classes which received KAT, and their parents/carers, were eligible to take part in the trial regardless of the extent of their participation in the programme.

Training for staff was organised at intervention schools, and teachers of participating classes received a programme handbook and other resources. Teachers were encouraged to choose their own way of achieving programme aims rather than adhere strictly to activities suggested in the handbook. The four control group schools continued with their normal activities, including any school activities/classroom work on alcohol.

Participating children completed two questionnaires: one at baseline and another 4 months later. Children in intervention schools also took part in focus groups for the process evaluation. Participating parents/carers took part in telephone interviews 6 months after baseline and some parents/carers of intervention-group children also took part in interviews for the process evaluation.

### Measures

Key outcomes were acceptability, participation equity and the quality of programme implementation; recruitment and retention of research participants; and the feasibility and acceptability of research processes, including methods for data collection. The study also assessed the acceptability and feasibility to children and parents/carers of providing demographic data and of answering questions measuring potential outcomes of any future effectiveness trial.

Potential primary outcome measures used at baseline and follow-up to assess their acceptability and feasibility were:

- ever had an alcoholic drink
- ever been drunk
- frequency of alcohol consumption
- frequency of being drunk; and
- frequency of smoking cigarettes.

Kids, Adults Together is hypothesised to prevent alcohol misuse through improving adult–child communication and, thus, promote the formation of attachments to parents/carers or other influential adults. Relevant literature was searched for measures used in similar studies. Questionnaires for children were adapted after piloting at baseline and again between baseline and follow-up. Measures used were:

- KIDSCREEN-52: parent relationship and home-life dimension (baseline and follow-up)
- Family Activities Scale (baseline and follow-up)
- Targeted Parent–Child Communication about Alcohol Scale (baseline only)
- Parent–Child Communication Scale (PCCS) (follow-up only)
- Family Communication Scale (follow-up only).

Secondary outcome measures for parents/carers were:

- Family Activities Scale
- PCCS
- Family Communication Scale.

The acceptability and feasibility of measuring changes in parents/carers' alcohol-related behaviour were also evaluated using two measures:

- change in alcohol-related behaviour; and
- Daily Drinking Questionnaire.

Measures of age, sex, socioeconomic status and ethnicity and (for parents/carers) employment and qualifications were utilised to assess their acceptability and comparability between control and intervention groups. For children, the Family Affluence Scale was used to measure socioeconomic status.

### Process evaluation

The objectives of the process evaluation were to:

- assess quality of delivery and fidelity
- develop and refine the programme logic model
- develop and refine the programme's theory of behaviour change; and
- assess programme reach, particularly in relation to hard-to-reach families and families with a history of alcohol misuse.

Interviews with head teachers of all participating schools explored their motivation to participate in the study; parental involvement in school events; normal practice in relation to education concerning alcohol; and, in the intervention group, their views on KAT and experiences of implementation. Eighteen hours of KAT classwork were observed along with the three family events to assess whether or not the programme was delivered in accordance with the aims stated in the handbook; the engagement of pupils and parents/carers; acceptability; and integration with class timetables. All teachers involved in programme delivery were interviewed about their experiences of implementing KAT classroom work and family events and their perceptions of children's engagement. Eighteen parents/carers of children in the intervention group were interviewed about their involvement in the family event and motivation to attend. Four focus groups were held with intervention-group children to explore their views on the programme components and engagement in KAT by members of their families.

### **Criteria for recommending an effectiveness trial of Kids, Adults Together**

Criteria were developed through discussions among the Trial Management Group to inform a decision on whether or not to proceed with a proposal to evaluate KAT in an effectiveness trial. The criteria, based on the objectives of the study listed in the protocol, related to the value, feasibility and acceptability of implementing the KAT programme and of conducting a RCT in schools.

## **Results**

### **The Kids, Adults Together programme**

Overall, teachers liked the way in which the programme fitted within the curriculum and they delivered the programme with skill and confidence. Pupils enjoyed working interactively to produce work for performance and display at the family events. KAT successfully engaged parents/carers at the family events organised in all three schools. Fifty per cent of families from all schools were represented by at least one adult member at family events and school staff were pleased with the high attendance rates. Parents/carers felt that the event was enjoyable and non-judgemental and that they had learned new things about alcohol in a non-stigmatising way. Parents/carers and teachers thought that it was desirable and appropriate to address the topic at primary school. Most children in the focus groups said that they had enjoyed the programme, although there was evidence that it might not be suitable for Year 4 children, some of whom found the group work and writing challenging.

Most key elements of KAT were implemented as intended in most schools. However, there were some gaps. One teacher took a negative approach to the topic of alcohol rather than communicating the more balanced 'not too much, not too soon' programme message. Only one school set KAT-related homework, and at two schools some children were given no active role in the family events. In one school, staff did not understand their role in organising and introducing activities at the family event. Some staff did not seem to be aware of the contents of the programme handbook or to have attended training sessions.

There was no evidence from either quantitative or qualitative findings that KAT had increased family communication. All confidence intervals for between-groups comparison of communication measures included the possibility of no intervention effect; in interviews, although some parents/carers and children said that they had talked more at home about alcohol, others maintained that they had always been open about discussing alcohol and that there was no change. A small number of interview data suggested that further development of programme theory might be required to understand pathways through which KAT might influence children from families with negative experiences of alcohol use.

Measures of alcohol consumption produced inconsistent responses and intermediate outcomes on family communication showed no evidence of intervention effect, suggesting that any potential long-term impacts on alcohol-related behaviours were likely to be small or non-existent. Sample size calculations based on 24.5% prevalence of 11- to 13-year-olds' past-month drinking found that 263 schools would be required for a trial with 80% power to detect a 2.5% between-groups difference.

### **Feasibility and acceptability of the research**

The nine schools recruited varied in terms of free school meal entitlement rates (an indicator of area deprivation) (from 1% to 37.2%; eligible schools median 18.4%) and in size (from 69 to 483 pupils; eligible schools median 211 pupils), enabling a test of the feasibility of both programme implementation and research methods within different school and area contexts.

'Opt-out' consent was sought from parents/carers for children to provide research data and proved acceptable to schools and parents/carers. At baseline, 74% (intervention group) and 81% (control group) of eligible pupils completed questionnaires. These figures were 68% and 74% respectively at follow-up.

The number of missing data for the potential primary outcome measures was small, indicating that pupils of this age are comfortable answering questions about alcohol consumption. However, both questions about alcohol use produced inconsistent responses, with some children saying that they had consumed alcohol at baseline but not at follow-up.

Reliability of adapted secondary outcome measures of family communication was demonstrated using Cronbach's alpha. Missing data rates were higher than for alcohol measures, but no questions stood out as presenting particular difficulties. Scoring methods for scales are likely to have at least partly accounted for the higher missing rates. However, experience during data collections suggested that many children did not readily understand some of the questions. Missing rates at follow-up were higher than at baseline: fewer boys than girls, and fewer children in Year 5 than in Years 4 and 6, completed follow-up questionnaires.

Children appeared to find the demographic questions easy to answer and there were few missing data. Only one question was not well understood and this concerned family structure: 'which grown-ups look after you all or most of the time?'

Recruitment rates were low for parent/carer telephone interviews. Estimating that eligible pupils had one parent/caregiver, only 12% volunteered to take part, with 6.5% ( $n = 27$ ) eventually providing data. Demographic data were summarised but no additional analyses were undertaken.

## **Conclusions**

Our findings suggest that it would be inappropriate to undertake an effectiveness trial of KAT. While the programme has significant strengths, including its ability to engage with families and to integrate with schools' curricular activities, teachers' participation in training was patchy and the withdrawal of two schools in the intervention group raised doubts about KAT's acceptability. Findings did not support programme theory. Secondary outcome analysis suggested that KAT may either be ineffective or produce small changes on alcohol-related behaviour which would require a very large sample size to be able to detect. Measurement error may have been a factor because it is uncertain whether or not children understood all of the research questions.

This study has highlighted areas for further research which would need to be undertaken should any future effectiveness trial of KAT take place. A number of these areas may be of more general importance in prevention of alcohol misuse:

1. consideration of the role and importance of data from parents/carers and the cost-effectiveness of recruiting representative samples of parents/carers for data collection
2. identification, development and validation of suitable primary and secondary outcome measures for children aged 9–11 years
3. assessment of the feasibility and acceptability of collecting follow-up data from pupils in secondary schools

4. further consideration of the final sample size calculation, and the feasibility of recruiting the necessary number of schools and pupils
5. inclusion in the design of adequate time, agency support and financial incentives to optimise school recruitment and retention rates.

## Trial registration

This trial is registered as ISRCTN80672127.

## Funding

Funding for the exploratory trial of this study was provided by the Public Health Research programme of the National Institute for Health Research and funding for the process evaluation was provided by the Economic and Social Research Council. The work was undertaken with the support of The Centre for the Development and Evaluation of Complex Interventions for Public Health Improvement (DECIPHer), a UK Clinical Research Collaboration Public Health Research Centre of Excellence. Joint funding (MR/KO232331/1) from the British Heart Foundation, Cancer Research UK, Economic and Social Research Council, the Welsh Government and the Wellcome Trust, under the auspices of the UK Clinical Research Collaboration, is gratefully acknowledged.





# Public Health Research

ISSN 2050-4381 (Print)

ISSN 2050-439X (Online)

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## This report

The research reported in this issue of the journal was funded by the PHR programme as project number 10/3002/03. The contractual start date was in May 2012. The final report began editorial review in August 2013 and was accepted for publication in July 2014. The authors have been wholly responsible for all data collection, analysis and interpretation, and for writing up their work. The PHR editors and production house have tried to ensure the accuracy of the authors' report and would like to thank the reviewers for their constructive comments on the final report document. However, they do not accept liability for damages or losses arising from material published in this report.

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