

Reducing television, videotape, and video game use in children decreased peer rated aggressive behaviour

Robinson TN, Wilde ML, Navracruz LC, et al. *Effects of reducing children's television and video game use on aggressive behavior: a randomized controlled trial. Arch Pediatr Adolesc Med* 2001 Jan;155:17–23.

QUESTION: In children, does reducing television (TV), videotape (VT), and video game (VG) use decrease aggressive behaviour?

Design

8 month cluster randomised (unclear allocation concealment*), blinded (outcome assessors)*, controlled trial with follow up at post-test.

Setting

2 public elementary schools in San Jose, California, USA.

Participants

225 third and fourth grade children (mean age 8.9 y) from 2 schools in a single school district that were socio-demographically and scholastically matched.

Intervention

One school was allocated to implement a programme to reduce TV, VT, and VG use and 1 school was allocated to be an assessments only control school. The intervention consisted of eighteen 30–50 minute classroom lessons taught by the regular third and fourth grade teachers, who were trained by research staff. Lessons included self monitoring and reporting of TV, VT, and VG use; challenging children to cease these activities for 10 days (TV Turnoff), encouraging implementation of a 7 hour/week TV, VT, and VG budget; teaching children to become intelligent viewers; and enlisting children to become advocates of reducing media use. Parents of intervention group children received newsletters with suggested strategies for limiting TV, VT, and VG use.

Main outcome measures

The primary outcome measure was change in peer ratings of aggressive behaviour (15 questions on the behaviour of classmates). Secondary outcomes were perceptions of a mean and scary world, playground observation of aggressive behaviour, and parent ratings of aggressive and delinquent behaviour.

Main results

Analysis was by intention to treat. Children in the intervention school had decreased peer ratings of aggressive behaviour compared with the control school (adjusted decrease 2.4%, 95% CI 0.2 to 4.6; $p=0.03$). A 60% random sample of children were observed for aggressive behaviour on the playground: intervention school children were less verbally aggressive than control school children (adjusted decrease 0.1 acts/min, CI 0.03 to 0.18; $p=0.01$).

Conclusion

In children, reducing television, videotape, and video game use decreased peer rated aggressive behaviour.

*See glossary.

COMMENTARY

The study by Robinson *et al* shows the potentially positive effects of reducing media exposure in children. The authors reported small to moderate effects on outcomes from 2 independent sources: student sociometric ratings and direct playground observations. Compared with the small effect sizes typically reported in studies of universal school based interventions,¹ these are very promising findings.

Screening programmes targeting high risk children often fail to detect children who might benefit from an intervention or inaccurately label children as low risk.² Reducing media exposure, in contrast, is a universal approach which could benefit all children in a school. While this study focused on third and fourth grade students, the effect of this intervention might be enhanced by beginning at school entry and revisiting the commitment to a reduction in media exposure through the middle and secondary years.

Because the media reduction programme is conducted by classroom teachers, it is affordable in most communities. None the less, eighteen 30–50 minute lessons might pose a burden in some schools. Given the positive effects of this programme on at least 1 other measure of public health concern, childhood obesity,³ delivery could be shared by public health services, family physicians, parent training programmes, or paradoxically, the media itself.

The mechanisms responsible for reductions in aggressive behaviour require further study. The reductions in aggressive behaviour reported here could be attributable to change in the school's management of child behaviour or an increase in extracurricular activities which may, themselves, have preventive effects.⁴ None the less, the effects of reducing media exposure and its effect in combination with other effective school based programmes^{5,6} merit additional studies.

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- Hundert J, Boyle MH, Cunningham CE, et al. Helping children adjust—a Tri-ministry study: II. program effects. *J Child Psychol Psychiatry* 1999;40:1061–73.
- Bennett KJ, Lipman EL, Brown S, et al. Predicting conduct problems: can high-risk children be identified in kindergarten and grade 1? *J Consult Clin Psychol* 1999;67:470–80.
- Robinson TN. Reducing children's television viewing to prevent obesity: a randomized controlled trial. *JAMA* 1999;282:1561–7.
- Jones MB, Offord DR. Reduction of antisocial behavior in poor children by non-school skill-development. *J Child Psychol Psychiatry* 1989;30:737–50.
- Cunningham CE, Cunningham LJ, Martorelli V, et al. The effects of primary division, student-mediated conflict resolution programs on playground aggression. *J Child Psychol Psychiatry* 1998;39:653–62.
- Stoolmiller M, Eddy JM, Reid JB. Detecting and describing preventive intervention effects in a universal school-based randomized trial targeting delinquent and violent behavior. *J Consult Clin Psychol* 2000;68:296–306.