

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Are Mass-media Campaigns Effective in Preventing Drug Use? A Cochrane Systematic Review and Meta-analysis
AUTHORS	Allara, Elias; Ferri, Marica; Bo, Alessandra; Gasparrini, Antonio; Faggiano, Fabrizio

VERSION 1 - REVIEW

REVIEWER	Victoria Allgar University of York, England
REVIEW RETURNED	11-Feb-2015

GENERAL COMMENTS	<p>Heterogeneity using the chi-squared test and the I² statistic. It was not stated how this informed the choice of fixed or random effect analysis.</p> <p>More detail is needed on the standardized mean difference calculations, in what outcome measures were used and how these were combined.</p> <p>There was a wide range of mass-media campaigns, so effect sizes may vary.</p> <p>Some studies are included 2/3 times in the same analysis - it was not clear if these were different datasets (Fig 2b). Funnel plot needed.</p> <p>Further detail is needed on the approach to interrupted time series analysis and interpretation of findings.</p> <p>The discussion section is quite brief.</p>
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REVIEWER	Jason Siegel Associate Professor Claremont Graduate University United States
REVIEW RETURNED	22-Feb-2015

GENERAL COMMENTS	<p>I am very mixed in regards to this manuscript. I think it works as a review piece; I am less convinced that the meta-analysis is useful. My statistical prowess is not such that I would catch nuanced errors, so I hope someone more advanced with statistics will be reviewing this piece. My concern with the meta-analysis is that there are so few studies, and they are all so different, that I wonder if a meta-analysis is appropriate. As far as a review, the manuscript is useful in that it brings together numerous findings, but I am unsure how</p>
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	<p>much this adds to what we know about campaign effectiveness. With that said, it is useful in that it does illustrate how little we know about the utility of mass media drug campaigns. All together, if the meta-analysis is deemed appropriate and accurate, I think the manuscript could be useful. I would appreciate some additional insight from the authors as far as the differences between the campaigns revealed to have worked in comparison to those that did not. Specifically, what did the successful campaigns have in common? What did the unsuccessful campaigns have in common?</p> <p>The reviewer also provided a marked copy with detailed comments. Please contact the publisher for full information about it.</p>
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VERSION 1 – AUTHOR RESPONSE

Reviewer Name Dr Victoria Allgar

Institution and Country University of York, England

Please state any competing interests or state 'None declared': None declared

Please leave your comments for the authors below

Heterogeneity using the chi-squared test and the I² statistic. It was not stated how this informed the choice of fixed or random effect analysis.

Thank you for your question. A p-value of the chi-squared test lower than 0.10 and I² statistic higher than 50% suggested evidence of heterogeneity. This information was included in the original review, and we have now included it in this paper as well.

More detail is needed on the standardized mean difference calculations, in what outcome measures were used and how these were combined.

Standardized mean difference is a useful way to summarise variables that adopt different scales. Standardized mean differences (i) were calculated by dividing the difference in mean outcome between groups by the standard deviation of outcome between participants (http://handbook.cochrane.org/chapter_9/9_2_3_2_the_standardized_mean_difference.htm); (ii) were used for both drug use and intention to use drugs. The complete list of scales is available at pages 87 to 97 of the original review. Standardized mean differences and their standard errors were calculated with Review Manager – the software developed by the Cochrane Collaboration to conduct systematic reviews – and then pooled together with the same program. We updated the text to add such information.

There was a wide range of mass-media campaigns, so effect sizes may vary.

We agree with your remark, which has been stressed further in the discussion section (page 15, second paragraph).

Some studies are included 2/3 times in the same analysis - it was not clear if these were different datasets (Fig 2b). Funnel plot needed.

Some studies evaluated more than one intervention versus a control arm. For example, Polansky 1999 included three intervention arms and one control group; similarly did Yzer 2003. We carried out

pair-wise comparisons of each intervention vs. the control group (with the shared control group divided out evenly among the comparisons), assuming independence of comparisons (http://handbook.cochrane.org/chapter_16/16_5_4_how_to_include_multiple_groups_from_one_study.htm).

We could not include a funnel plot due to the small number of studies. The Cochrane Collaboration recommends testing for funnel plot asymmetry with at least 10 studies (http://handbook.cochrane.org/chapter_10/10_4_3_1_recommendations_on_testing_for_funnel_plot_asymmetry.htm), whereas we had 5 studies for the meta-analysis of studies evaluating drug use, and 4 studies for the meta-analyses of studies evaluating intention to use drugs. We felt that the funnel plot would have not been very informative, and we thus opted for not including it.

Further detail is needed on the approach to interrupted time series analysis and interpretation of findings.

We have added further detail in the text.

The discussion section is quite brief.

BMJ Open recommends that the discussion section is no longer than five paragraphs. While we did our best to keep the paper as concise as possible, we have now added further information to the discussion section re: what we think are the characteristics of successful and unsuccessful campaigns (as suggested by another reviewer).

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Reviewer Name Jason Siegel

Institution and Country Associate Professor

Claremont Graduate University

United States

Please state any competing interests or state 'None declared': "None Declared"

Please leave your comments for the authors below

I am very mixed in regards to this manuscript. I think it works as a review piece; I am less convinced that the meta-analysis is useful. My statistical prowess is not such that I would catch nuanced errors, so I hope someone more advanced with statistics will be reviewing this piece. My concern with the meta-analysis is that there are so few studies, and they are all so different, that I wonder if a meta-analysis is appropriate. As far as a review, the manuscript is useful in that it brings together numerous findings, but I am unsure how much this adds to what we know about campaign effectiveness. With that said, it is useful in that it does illustrate how little we know about the utility of mass media drug campaigns. All together, if the meta-analysis is deemed appropriate and accurate, I think the manuscript could be useful. I would appreciate some additional insight from the authors as far as the differences between the campaigns revealed to have worked in comparison to those that did not. Specifically, what did the successful campaigns have in common? What did the unsuccessful campaigns have in common?

Thank you for your comments and questions. We agree that the studies were heterogeneous and we believe that this is informative per se, as mentioned in the discussion section. The Forest plots presented in Figure 2 show that the studies' confidence intervals overlap in both meta-analyses, indicating comparability of the studies. We thus pooled the data and accounted for any heterogeneity

of the studies by using a random effects model.

Due to the small number of studies and their heterogeneity, it was difficult to identify the characteristics shared by successful campaigns, as well as the features common to unsuccessful campaigns. However, we have tried to provide further information, available in the discussion section.