PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (**http://bmjopen.bmj.com/site/about/resources/checklist.pdf**) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

ARTICLE DETAILS

TITLE (PROVISIONAL)	Early Onset Group B Streptococcus (EOGBS) infection subsequent to cessation of screening-based intrapartum prophylaxis: Findings of an observational study in West London, United Kingdom.
AUTHORS	Gopal Rao, Guduru; Townsend, Jane; Stevenson, Daniel; Nartey, Grace; Hiles, Stephen; Bassett, Paul; Lamagni, Theresa; Nicholl, Richard

VERSION 1 – REVIEW

REVIEWER	Eric Giannoni University Hospital of Lausanne, Switzerland
REVIEW RETURNED	05-Aug-2017

GENERAL COMMENTS	This single center observational study compares the incidence of GBS EOS in three different periods characterized by different prevention strategies. The study is well written with a very clear presentation of the main findings and limitations. Compared to other European countries, the incidence of GBS EOS at the author's institution is strikingly high, especially in the post-screening period. Do the authors have an explanation for such a high incidence of infection? What is the rate of GBS carriage among pregnant mothers? Additional information could be valuable to support the hypothesis that screening for GBS reduced the incidence of GBS EOS. Implementiong of GBS screening and IAP during the second period should be discussed. What proportion of pregnant women were screened during the 2014-2015 period? What proportion was positive? Among the GBS positive women, what proportion received a full prophylaxis? In table 2, authors provide clinical information on GBS EOS cases from the post-screening period. It would be interesting to have similar information for all cases, including the pre-screening and the screening period. In their discussion, authors only refer to studies performed in the UK and the USA. I suggest to broaden the scope of the discussion to other industrialized countries.

REVIEWER	Dr Robert Bryan Beattie University Hospital of Wales Heath Park Cardiff CF104XW Wales UK
REVIEW RETURNED	10-Sep-2017

GENERAL COMMENTS	Well written paper which clearly accepts the limitations of 1) it's generalizability in view of the background high EOGBS rate at the study hospital compared to population rates in the UK and 2) the potential influence of changing demographics which they have examined separately and does not seem to be a major confounding variable. The authors conclusions that the study supports adopting a screening based intrapartum antibiotic prophylaxis (SBIAP) rather than risk based screening approach (RBIAP) to reduce the rates of EOGBS seems reasonable. The potential concerns about widespread use of antibiotics is appropriately highlighted. It would be useful to report any cases of antibiotic anaphylaxis or significant allergic reactions during the prescreen, screening and post screen periods if this data is available. Page 14 Spelling correction needed "observedwe" should be "observed we" For ease of readability it would be useful to use the abbreviations RBIAP and SBIAP throughout to delineate risk based IAP and screening based IAP. The vertical audit of 60 patients was quite small with only 3 cases identified which mandated IAP and I wonder if it would have been more robust to increase the size of the audit

VERSION 1 – AUTHOR RESPONSE

Reviewer: 1
Reviewer Name: Eric Giannoni
Institution and Country: University Hospital of Lausanne, Switzerland
Please state any competing interests: None declared

Please leave your comments for the authors below

Comment: This single center observational study compares the incidence of GBS EOS in three different periods characterized by different prevention strategies.
The study is well written with a very clear presentation of the main findings and limitations.
Compared to other European countries, the incidence of GBS EOS at the author's institution is strikingly high, especially in the post-screening period. Do the authors have an explanation for such a high incidence of infection? What is the rate of GBS carriage among pregnant mothers?

Additional information could be valuable to support the hypothesis that screening for GBS reduced the incidence of GBS EOS. Implementation of GBS screening and IAP during the second period should be discussed. What proportion of pregnant women were screened during the 2014-2015 period? What proportion was positive? Among the GBS positive women, what proportion received a full prophylaxis?

Our response: Please see our previous paper where we have answered these questions. We have also discussed the strategies for prevention in other industrialized countries in that paper:
Gopal Rao G, Nartey G, McAree T, et al Outcome of a screening programme for the prevention of neonatal invasive early-onset group B Streptococcus infection in a UK maternity unit: an observational study BMJ Open 2017;7:e014634. doi: 10.1136/bmjopen-2016-014634

Comment: In table 2, authors provide clinical information on GBS EOS cases from the post-screening period. It would be interesting to have similar information for all cases, including the pre-screening and the screening period.

Our response: We have now revised Table 2 to include cases from pre-screening (data available only for 2013), screening and screening periods.

Comment: In their discussion, authors only refer to studies performed in the UK and the USA. I suggest to broaden the scope of the discussion to other industrialized countries.

Our response: We have discussed these aspects in our previous paper cited above and have not included these discussions in the current paper for the sake of brevity.

Reviewer: 2
Reviewer Name: Dr Robert Bryan Beattie
Institution and Country: University Hospital of Wales, Heath Park, Cardiff, CF104XW, Wales, UK
Please state any competing interests: None declared

Please leave your comments for the authors below

Well written paper which clearly accepts the limitations of
1) it's generalizability in view of the background high EOGBS rate at the study hospital compared to population rates in the UK and

2) the potential influence of changing demographics which they have examined separately and does not seem to be a major confounding variable.

The authors conclusions that the study supports adopting a screening based intrapartum antibiotic prophylaxis (SBIAP) rather than risk based screening approach (RBIAP) to reduce the rates of EOGBS seems reasonable. The potential concerns about widespread use of antibiotics is appropriately highlighted. It would be useful to report any cases of antibiotic anaphylaxis or significant allergic reactions during the prescreen, screening and post screen periods if this data is available.

Our response: We have now included a statement that we were not aware of any adverse reaction to IAP in the screening and post-screening periods. We did not have the data for the pre-screening period.

Comment: Page 14 Spelling correction needed "observedwe" should be "observed we"

Our response: We have made the correction.
For ease of readability it would be useful to use the abbreviations RBIAP and SBIAP throughout to delineate risk based IAP and screening based IAP.
Our response: We have now used the abbreviations RBIAP and SBIAP throughout the paper as recommended by the reviewer.

Comment: The vertical audit of 60 patients was quite small with only 3 cases identified which mandated IAP and I wonder if it would have been more robust to increase the size of the audit

Our response: We agree with the reviewer but due to practical considerations and limited resources we chose roughly 1% of the entire population. In its 'practical guide on sampling', the National Audit Office states "a sample size of between 50 and 100 should ensure that the results are sufficiently reliable for the majority of purposes". https://www.nao.org.uk/wp-content/uploads/2001/06/SamplingGuide.pdf

VERSION 2 – REVIEW

REVIEWER	Eric Giannoni Lausanne University Hospital, Switzerland
REVIEW RETURNED	30-Sep-2017

GENERAL COMMENTS	The title of table 2 should be changed to include prescreening and screening periods.

REVIEWER	Dr Robert Bryan Beattie Cardiff and Vale University Health Board University Hospital of Wales Cardiff CF104 XW Wales
REVIEW RETURNED	01-Oct-2017

GENERAL COMMENTS	The study provides useful evidence that SBIAP (Screening Based Intrapartum Antibiotic Prophylaxis) appears to be associated with a reduction in EOGBS infection and that reversion to a risk based approach is associated with an increase. The study is too small to evaluate complications such as anaphylaxis but this is recognised by the authors. The vertical audit was limited to 60 which is a small sample but this is also recognised as a limitation by the authors.