

## PEER REVIEW HISTORY

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### ARTICLE DETAILS

<b>TITLE (PROVISIONAL)</b>	Factors associated with attitudes toward HIV cure research among transgender women and travestis: a cross-sectional survey in São Paulo, Brazil
<b>AUTHORS</b>	Wozniak, Robert; Cerqueira, Natalia; Dantas, Maria; Mahafe, Bianca; Barros, Daniel A. C.; Alves de Medeiros, Edmilson; Soares de Oliveira, Ana; Sabino, Thiago; Roggenbuck, Albert; Avelino-Silva, Vivian; Johnston, Carrie; Marston, Jez; Bidegain, Sebastian; Magnus, Manya; Kallas, Esper; Nixon, Douglas; Donini, Camila

### VERSION 1 – REVIEW

<b>REVIEWER</b>	Nico Canoy Ateneo de Manila University, Philippines.
<b>REVIEW RETURNED</b>	01-Jun-2020

<b>GENERAL COMMENTS</b>	<p>The study examines the perception and awareness of HIV cure research among transgender and travesty population in in São Paulo, Brazil. This type of study is important as it tackles one of the most at-risk subgroups targeted in HIV programming most especially in disadvantaged settings. The paper is well written. However, my main issue regarding this paper is that it did not fully engage with the wealth of literature available on understanding trans HIV vulnerabilities in relation to specific HIV programming and research on trans populations. Although they have cited relevant literature in scoping the need to focus on trans women (e.g., Baral and colleagues), what I find theoretically and empirically lacking is the study's rather weak treatment of wider social factors or social determinants influencing HIV knowledge and practices of trans women (as it is already recognized in existing literature) . At one hand, I appreciated the contextualization of trans vulnerabilities in Brazil (citing stigma etc.) on pages 5-6. But how these literatures translated theoretically and methodologically in the current study seemed weak or superficial (almost like background info but weakly informs choices made in the method section, especially variables to be analyzed). For example, on page 14, authors only included few items pertaining to stigma and cost etc. Despite including social demographic variables such as gender identity, race, age groups, and education, the analytical treatment of these social variables were not maximized (e.g., potentially important subgroup analyses are missing here; relating intersecting categories might be produce more pointed findings) to show a more contextually nuanced analysis of differentiating HIV perceptions and attitudes of trans women in Brazil. While from a dominant public health perspective the issue of heterogeneity (which by the way is not trivial) maybe unintentionally lump together for simplicity, remember that trans</p>
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	<p>populations have diverse realities. I think there is only one key finding highlighted that may pertain to more social dimensions of the study (i.e., differences in education level attributed to missing data). While this is maybe true from a method standpoint, level of education (or even employment --- a variable also mentioned in the results) fundamentally impacts how HIV programs and researches are received by marginalized groups as part of their everyday realities in making sense of medical 'expert' knowledge). Perhaps, it may be more meaningful to analyze further the findings in the tables as correlated/stratified by specific social variables (aside from a general viewpoint).</p> <p>I guess, as a reader, it's difficult for me to locate the contextual meaningfulness of the contributions of the study. As such, in the discussion section, the way findings are elaborated sounded like a restatement of the results. The latter part of the discussion was just an identification of some method limitations. To me, it did crystallize more grounded insights specific to Sao Paulo Brazil as a setting. In this regard, the paragraph on page 23, I think, is not helpful at all (e.g., countries such as Australia and the US have different social conditions, economic and culture wise affecting HIV vulnerabilities). Instead of this, I suggest that the authors follow through some of the important questions they posed at the introduction (see page 4, line 40 onwards) which can be the broader points they need to grapple with in the discussion section (rather than cite these questions as mere rhetoric). Also, theoretically, the paper can benefit to include an explicit way of framing the results beyond the descriptive level.</p>
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<b>REVIEWER</b>	Joseph Daniels Charles R. Drew University United States
<b>REVIEW RETURNED</b>	10-Jun-2020

<b>GENERAL COMMENTS</b>	<p>The manuscript, 'Factors associated with attitudes toward HIV cure research among transgender women and travestis', by Wozniak et al offers a baseline understanding of HIV cure research knowledge and engagement interest among transgender women and travestis in Brazil. The manuscript is well written and offers a jumping off point for future research, but the manuscript could benefit from a few key revisions.</p> <p>First, given that the focus is on transgender women and travestis in Sao Paulo, the Introduction would benefit from a complete summary of HIV testing and treatment access barriers for this group and any research that describes factors influencing their engagement in HIV research. Right now, this content is missing, and without reading the abstract, the reader does not know that transgender and travesti communities are of focus until the third and fourth paragraph. Centering transgender and travesti communities in your manuscript is needed. The medical mistrust literature may be helpful in this regard too. Second, the methods and measures are well conceived, and the discussion of missing data is insightful, but the manuscript could benefit here from a summary of other incentives used in HIV research with transgender women that may be unique and motivating for HIV cure engagement, which, as a result, may also need to be framed as a limitation of the study.</p>
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	<p>A few other minor clarification points would be to: 1) explain if HIV status was self-reported or not, and 2) if the variable section of the Methods could be shortened by referencing the questionnaire that is part of the study or create a table since the variable section seems long. Also, the reference to the Berlin patient as an interpretation of a perception of existing, accessible HIV cure in the Discussion seems of a bit stretch as it is written now, and again, referring to the medical mistrust literature, especially with regard to how undetectable = untransmittable is understood at the community level, may be beneficial here and more relevant. Overall, this is an interesting paper for an emerging field, and a discussion of long-acting ART injectables may be important here too as this is the next step in treatment.</p>
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### VERSION 1 – AUTHOR RESPONSE

#### Reviewer 1 Comments to Author:

The study examines the perception and awareness of HIV cure research among transgender and travesty population in in São Paulo, Brazil. This type of study is important as it tackles one of the most at-risk subgroups targeted in HIV programming most especially in disadvantaged settings. The paper is well written.

The authors appreciate the reviewer's comment about the importance of the study and overall writing of the paper.

However, my main issue regarding this paper is that it did not fully engage with the wealth of literature available on understanding trans HIV vulnerabilities in relation to specific HIV programming and research on trans populations. Although they have cited relevant literature in scoping the need to focus on trans women (e.g., Baral and colleagues), what I find theoretically and empirically lacking is the study's rather weak treatment of wider social factors or social determinants influencing HIV knowledge and practices of trans women (as it is already recognized in existing literature).

The authors appreciate the reviewer's comment about the treatment of wider social factors or determinants in influencing HIV knowledge and practices with respect to the transgender population. The authors have substantially revised the introduction of the paper, specifically in paragraphs 3, 4, and 5, to include a description of the social context in which the realities of the transgender population exist in São Paulo. We specifically address structural issues, such as education, employment, and housing, as well as more social and interpersonal issues, such as discriminatory practices in and out of healthcare, gender identity-based violence, and the intersection of racism. These factors are later addressed in our Methods and Conclusion sections.

At one hand, I appreciated the contextualization of trans vulnerabilities in Brazil (citing stigma etc.) on pages 5-6. But how these literatures translated theoretically and methodologically in the current study seemed weak or superficial (almost like background info but weakly informs choices made in the method section, especially variables to be analyzed).

The authors appreciate the reviewer's comment. We have attempted to more clearly explain how the methods were formed based on the context provided in the updated Introduction.

For example, on page 14, authors only included few items pertaining to stigma and cost etc. Despite including social demographic variables such as gender identity, race, age groups, and education, the

analytical treatment of these social variables were not maximized (e.g., potentially important subgroup analyses are missing here; relating intersecting categories might produce more pointed findings) to show a more contextually nuanced analysis of differentiating HIV perceptions and attitudes of trans women in Brazil.

The authors appreciate the comment regarding the analytical treatment of the social variables in the study. The data has been reanalyzed and we have addressed the influence of specific demographic/social variables, specifically education level, employment, and HIV status. We have attempted to find significant differences between other demographic/social groups, including race, gender identity, sexual orientation, age, etc.; however, due to our sample size and varying number of participants belonging to each demographic category, many of these analyses did not achieve significant results. This study limitation is addressed in the Conclusion section, paragraphs 6 and 7.

While from a dominant public health perspective the issue of heterogeneity (which by the way is not trivial) maybe unintentionally lump together for simplicity, remember that trans populations have diverse realities. I think there is only one key finding highlighted that may pertain to more social dimensions of the study (i.e., differences in education level attributed to missing data). While this is maybe true from a method standpoint, level of education (or even employment --- a variable also mentioned in the results) fundamentally impacts how HIV programs and researches are received by marginalized groups as part of their everyday realities in making sense of medical 'expert' knowledge). Perhaps, it may be more meaningful to analyze further the findings in the tables as correlated/stratified by specific social variables (aside from a general viewpoint).

The authors appreciate the comment regarding the diverse realities within the transgender and travesti population and completely agree this is an important point to emphasize. We have attempted to further analyze and discuss how social variables, such as employment and education, play a large role in this study, specifically in the Results section and in the Discussion section, paragraphs 2, 3, and 4.

I guess, as a reader, it's difficult for me to locate the contextual meaningfulness of the contributions of the study. As such, in the discussion section, the way findings are elaborated sounded like a restatement of the results.

The authors appreciate the comment regarding the Discussion section. This section has been substantially revised to include more social context and relate the study's findings to the current circumstances in São Paulo, especially in the final two paragraphs.

The latter part of the discussion was just an identification of some method limitations. To me, it did crystallize more grounded insights specific to São Paulo Brazil as a setting.

The authors appreciate the comment regarding the Discussion section. This section has been substantially revised to include more social context and relate the study's findings to the current circumstances in São Paulo, especially in the final two paragraphs.

In this regard, the paragraph on page 23, I think, is not helpful at all (e.g., countries such as Australia and the US have different social conditions, economic and culture wise affecting HIV vulnerabilities). Instead of this, I suggest that the authors follow through some of the important questions they posed at the introduction (see page 4, line 40 onwards) which can be the broader points they need to grapple with in the discussion section (rather than cite these questions as mere rhetoric).

The authors appreciate the comment regarding the specific paragraph and the questions we propose in the Introduction. This paragraph has been removed, and the questions are addressed in paragraph

8 of the Discussion section.

Also, theoretically, the paper can benefit to include an explicit way of framing the results beyond the descriptive level.

The authors appreciate the comment regarding the results. We have revised this section and attempted to provide a thorough overview while doing so in a less descriptive manner that specifically identifies the most important information that is related to the broader context of the study.

Reviewer 2 Comments to Author:

The manuscript, 'Factors associated with attitudes toward HIV cure research among transgender women and travestis', by Wozniak et al offers a baseline understanding of HIV cure research knowledge and engagement interest among transgender women and travestis in Brazil. The manuscript is well written and offers a jumping off point for future research, but the manuscript could benefit from a few key revisions.

The authors appreciate the reviewer's comment about the importance of the study and overall writing of the paper.

First, given that the focus is on transgender women and travestis in Sao Paulo, the Introduction would benefit from a complete summary of HIV testing and treatment access barriers for this group and any research that describes factors influencing their engagement in HIV research. Right now, this content is missing, and without reading the abstract, the reader does not know that transgender and travesti communities are of focus until the third and fourth paragraph. Centering transgender and travesti communities in your manuscript is needed. The medical mistrust literature may be helpful in this regard too.

The authors appreciate the reviewer's comment about the treatment of wider social factors or determinants in influencing HIV knowledge and practices with respect to the transgender population. The authors have substantially revised the introduction of the paper, specifically in paragraphs 3, 4, and 5, to include a description of the social context in which the realities of the transgender population exist in São Paulo. We specifically address structural issues, such as education, employment, and housing, as well as more social and interpersonal issues, such as discriminatory practices in and out of healthcare, gender identity-based violence, and the intersection of racism. These factors are later addressed in our Methods and Conclusion sections.

Second, the methods and measures are well conceived, and the discussion of missing data is insightful, but the manuscript could benefit here from a summary of other incentives used in HIV research with transgender women that may be unique and motivating for HIV cure engagement, which, as a result, may also need to be framed as a limitation of the study.

The authors appreciate the comment regarding a broader discussion of the incentives used in HIV research. The authors have addressed this in the revised Introduction section, paragraph 5.

A few other minor clarification points would be to: 1) explain if HIV status was self-reported or not

The authors appreciate the comment. It is specified in paragraph 1 of the "Variables" section of the Methods that HIV status was self-reported, along with all other demographic variables.

and 2) if the variable section of the Methods could be shortened by referencing the questionnaire that is part of the study or create a table since the variable section seems long.

The authors appreciate the reviewer comment regarding the length of the Methods section. This section has been significantly edited/shortened and references the questionnaire.

Also, the reference to the Berlin patient as an interpretation of a perception of existing, accessible HIV cure in the Discussion seems of a bit stretch as it is written now, and again, referring to the medical mistrust literature, especially with regard to how undetectable = untransmittable is understood at the community level, may be beneficial here and more relevant.

The authors appreciate the comment. The paragraph regarding the Berlin patient has been removed, and the medical mistrust literature is addressed in the Discussion section, paragraph 3.

Overall, this is an interesting paper for an emerging field, and a discussion of long-acting ART injectables may be important here too as this is the next step in treatment.

The authors appreciate the comment. The authors provide a brief discussion of long-acting ART injectables in the Introduction, paragraph 5.

### VERSION 2 – REVIEW

<b>REVIEWER</b>	Nico Canoy Ateneo de Manila University, Philippines
<b>REVIEW RETURNED</b>	29-Aug-2020

<b>GENERAL COMMENTS</b>	Thank you very much for a thorough revision. I am satisfied with the changes made. Best of luck to the researchers and their work!
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<b>REVIEWER</b>	Joseph Daniels Charles R. Drew University of Science and Medicine
<b>REVIEW RETURNED</b>	03-Sep-2020

<b>GENERAL COMMENTS</b>	Thank you for revising the manuscript, which has been significantly improved as a result. Additional revision is highly recommended, however. Introduction: The HIV prevalences for transgender women in Brazil especially this prevalence by race are missing, but the content starting with 'Despite these advances....' is a more powerful opening statement for your manuscript. I would highly recommend re-working the first two paragraphs such that transgender women are mentioned in the first line and focus of this section. You may even condense the first two paragraphs into one paragraph with the given content. Both transgender- and travisti-identifying are used in the Introduction. You need to define each identity in this section of the manuscript with references. The concept Intersectionality is used without appropriate references, or if that is not the intent, then I suggest using words like 'at the intersections.' Methods: Did the questionnaire use Likert Scale? If so, please specify. Where do these variables come from? Why chosen? You need references to justify use or provide a more clear justification based on previous or ongoing studies. It's not clear if questions were asked regarding any concerns about interactions of HIV cure medication/treatment on hormone therapy. If not asked, then I would outline this in the Limitations. Discussion: The added bolded content requires references in places with lines starting 'This highlights the need', 'It also supports'. Along these lines, areas need elaborated
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	<p>comparisons to other research conducted such as 'Notably, those with higher education', 'In parallel', 'This suggests that although', and 'Again, this demonstrates'. Other added bolded areas would benefit from review to ensure that statements can be supported from other research. Conclusion: The new sections added read more like an brief Implications section. I might add such a section with references. Finally, the text below requires more elaboration with references:</p> <p>"Because the various forms of marginalization and stigma toward the transgender and travesti population are ingrained in several aspects of society, it is unclear whether a cure would affect the social position of PLWH and the broader transgender community. Still, this population appears to be motivated and willing to be a part of scientific and clinical initiatives that push us closer to a cure."</p> <p>Thank you again for your revision.</p>
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## VERSION 2 – AUTHOR RESPONSE

### Reviewer 1 Comments to Author:

Thank you very much for a thorough revision. I am satisfied with the changes made. Best of luck to the researchers and their work!

The authors appreciate the reviewer's comment about the revisions, and we thank them for their feedback throughout the revision process.

### Reviewer 2 Comments to Author:

Thank you for revising the manuscript, which has been significantly improved as a result. Additional revision is highly recommended, however.

The authors appreciate the reviewer's comment about the revisions, and we thank them for their feedback throughout the revision process.

Introduction: The HIV prevalences for transgender women in Brazil especially this prevalence by race are missing, but the content starting with 'Despite these advances....' is a more powerful opening statement for your manuscript. I would highly recommend re-working the first two paragraphs such that transgender women are mentioned in the first line and focus of this section. You may even condense the first two paragraphs into one paragraph with the given content.

The authors appreciate the reviewer's comment regarding the introduction of the paper. The first two paragraphs have been reworked into one paragraph that makes transgender women and travestis the immediate focus. The HIV prevalence among Brazilian transgender women and travestis is stated in the first sentence. It is now noted that little data exists on HIV prevalence rates that are stratified by race amongst the transgender population in Brazil; however, we provide other resources that demonstrate that Black or mixed race are associated with worse HIV-related outcomes.

Both transgender- and travesti-identifying are used in the Introduction. You need to define each identity in this section of the manuscript with references.

The authors appreciate the reviewer's comment. The definitions of these identities have been more

thoroughly discussed in the second paragraph.

The concept Intersectionality is used without appropriate references, or if that is not the intent, then I suggest using words like 'at the intersections.'

The authors appreciate the reviewer's comment. The concept of intersectionality is more thoroughly discussed and defined in the second paragraph.

Methods: Did the questionnaire use Likert Scale? If so, please specify.

The authors appreciate the reviewer's comment. The questionnaire used a modified Likert Scale, which is now specified in "Measurements and Main Outcomes" of the Methods section.

Where do these variables come from? Why chosen? You need references to justify use or provide a more clear justification based on previous or ongoing studies.

The authors appreciate the reviewer's comment. Our variables were chosen based on previous HIV cure research studies, namely a specific study completed by fellow members of this research team. This is now outlined with references in "Measurements and Main Outcomes" of the Methods section.

It's not clear if questions were asked regarding any concerns about interactions of HIV cure medication/treatment on hormone therapy. If not asked, then I would outline this in the Limitations.

The authors appreciate the reviewer's comment regarding hormone therapy treatment and its impact on HIV cure attitudes. This is an excellent point and is addressed in the limitations section of the Discussion.

Discussion: The added bolded content requires references in places with lines starting 'This highlights the need', 'It also supports'. Along these lines, areas need elaborated comparisons to other research conducted such as 'Notably, those with higher education', 'In parallel', 'This suggests that although', and 'Again, this demonstrates'. Other added bolded areas would benefit from review to ensure that statements can be supported from other research.

The authors appreciate the reviewer's comment regarding comparisons to other research studies and specific references. All noted sections have been expanded upon in the Discussion with appropriate references. It can be noted that the authors completed a very thorough and expansive literature review after receiving this revision comment, and over 20 new references have been added to the paper. A majority of these are referenced in the Discussion section, but they have also been added to the Introduction and Methods section, as noted in bold.

Finally, the text below requires more elaboration with references:

"Because the various forms of marginalization and stigma toward the transgender and travesti population are ingrained in several aspects of society, it is unclear whether a cure would affect the social position of PLWH and the broader transgender community. Still, this population appears to be motivated and willing to be a part of scientific and clinical initiatives that push us closer to a cure."

The authors appreciate the reviewer's comment regarding this section of the Discussion. It has been elaborated upon and several resources have been added to support the statements.

Thank you again for your revision.

The authors thank the reviewer for their feedback throughout the revision process.