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)	Public attitudes towards healthcare policies promoting tobacco
	cessation in Germany: results from the representative German
	Study on Tobacco Use (the DEBRA study)
AUTHORS	Kastaun, Sabrina; Kotz, Daniel; Brown, Jamie; Shahab, Lion;
	Boeckmann, Melanie

VERSION 1 - REVIEW

REVIEWER	Steven Fu Minneapolis VA Medical Center
	USA
REVIEW RETURNED	03-Oct-2018

GENERAL COMMENTS	Public attitudes towards healthcare measures promoting tobacco
	cessation in Germany
	Major Comments
	This paper is well written, interesting, and relevant for the field.
	Rates of tobacco use are higher in Germany compared to other European countries and this paper addresses public attitudes to
	assess potential support for four specific health care policies
	promoting tobacco cessation that are recommended by Article 14.
	Findings indicate that the majority of the public in Germany would
	be supportive of these four health care policies. Strengths of the
	study include its' relatively large and representative sample size.
	Limitations include its cross-sectional design. Specific comments
	are provided to enhance clarity of the paper.
	Specific comments
	Specific comments • Abstract line 8. Consider making reference to article 14 in
	the objective in order to demonstrate why these four specific
	health care measures are relevant.
	 Participants line 25: Should be "≥14". Current symbol
	indicates less than 14 years of age.
	Consider use of the term healthcare "policy" or "policies"
	instead of measures throughout the paper. While healthcare
	"measures" is technically correct, it might confuse the reader who
	could potentially think you are referring to methodologic measures
	(e.g., a scale to measure public support).
	• Page 6. Line 50- please define what is meant by other tobacco products. Are these all combustible tobacco products? If
	smokeless tobacco is part of other tobacco products, it may be

more engrapriete to say current tabassa usare instead of current
more appropriate to say current tobacco users instead of current
tobacco smokers
For reviewing Line numbering should be continuous
throughout the paper and not start over with each page.
 Page 7, Line 11- the heading measure of public support
seems inappropriate. Makes it seem like you are developing a
scale to measure public support.
Page 8, lines 13-14. This sentence is confusing because
it is trying to combine at least two ideas into one sentence. Revise
to make clear that there are at least two separate regression
models, one model among the whole sample, and one model
among current smokers only.

REVIEWER	Iraj Poureslami
	UBC, Faculty of Medicine, Respiratory Medicine Division
REVIEW RETURNED	31-Oct-2018

GENERAL COMMENTS	Overall, I don't think the article provides useful information for your
	reviewers, as it only summarizes the information collected from
	one health system that may or may not be applicable to other
	health system, even in Europe. Also, there murmurous
	methodological and interpretation of the findings issues that
	prevent the acceptance of the article for publication in your journal.

REVIEWER	Elena Ratschen University of York United Kingdom I have no direct competing interests as such, but would like to state that I was involved in some design aspects of the DEBRA study (which is led by the first two authors, and which is the vehicle through which this new study was delivered) and that I am familiar with the team of authors. However, I have not had knowledge of this new survey element.
REVIEW RETURNED	02-Feb-2019

GENERAL COMMENTS	Thank you for the opportunity to review this interesting, well-conducted and neatly written-up study that makes a substantial contribution to the emerging tobacco-related evidence base in Germany. I have not reviewed the statistical methods (as others are better placed to do this), and my comments are overall minor, referring mainly to matters of context.
	ABSTRACT
	When arriving (in my reading process) at line 33, I first thought there was a discrepancy between FOUR measures assessed (as stated in the objectives), and apparently three measures stated here. It took me a short moment to work out that questions referring to support related physical and mental health were probably separate - but that was not apparent.
	STRENGTH and LIMITATIONS OF THE STUDY
	Is bullet point four really needed? It appears to me the nature of any kind of survey seeking to investigate opinions/attitudes etc is

that responses might change if the context/environment changes - and so this statement seemed somewhat unnecessary to me.

(Applies also to discussion section - this issue seems a bit 'drawn out' and could perhaps be shortened a bit...).

INTRODUCTION

I have two main comments on the introduction, one referring to paragraph three, which evokes a nostalgically glorified picture of perfect tobacco control in England, and one referring to the absence of content related to smoking and mental health.

Starting with the first concern, I am afraid it is not true (anymore) that 'smokers can easily access country-wide Stop Smoking Services'... As we witness the increasing de-comissioning of nowadays often fragmented services spread, I dare say that this, unfortunately, is no longer a correct statement. Even GPs have partly been de-commissioned to prescribe NRT (unbelievable but true in some places). As a side note, the term for performance indicators in secondary care is CQUIN, not QoF (so that needs to be corrected in the script, of this para stays as it is). May I also add that the QoF is considered by some to be a tick box exercise rather than a Wundermittel (and the same is true for smoking-related CQUINS). There are pitfalls with such approaches.

I suppose what I am trying to say is this: 1) the paragraph in question paints an overly rosy picture of the status quo in the UK, and 2) do you need this paragraph? It reads a bit like an advert. It doesn't even refer directly to your outcome measures, as these are taken from the Toolkit study and have a slightly different angle.

Secondly, seeing as substantial parts of the results and discussion section refer to smoking and mental health, I wonder whether it might be useful to introduce the subject just with a very small paragraph or so, in the introduction.

DISCUSSION

I suspect reference 30 might be the wrong reference? If it is not, then I'd still suggest to cite something a bit more 'direct' here - there is a whole universe of smoking and mental illness literature out there, including a number of systematic reviews (e.g. by Peckham, Gilbody et al, 2017), UK RCP/RCPsych reports, etc..

On a similar note, I feel findings related to mental health should be placed into context somewhat more comprehensively, referring to the international literature. Misconceptions relating to smoking and mental health are very well documented, and at least one coauthor is very knowledgeable in the area (and has co-authored a recent systematic review on attitudes/barriers etc in this area). While I agree that in Germany, mental health problems are still more highly stigmatised than in some other countries, I don't think this is necessarily the reason for the survey findings, as suggested on page 10 - it appears more likely (especially in view of the international literature) that misconceptions relating to smoking and mental health specifically (alleged therapeutic value; alleged inability of people with mental health problems to quit, etc.) are at play here. This should be further investigated (i.e. could be a clear research recommendation here).

One could also consider pointing out that integrating information on study participants' mental health conditions/treatment into future or ongoing studies (like DEBRA) would be important to support future research.
Minor note: in one place, you refer to 'psychological problems' (or similar) when in other places you talk about mental health suggest to revise for consistency.

REVIEWER	Nadra UCSF, USA
REVIEW RETURNED	11-Mar-2019

GENERAL COMMENTS	Your definition of never smoker is having never smoked for a year or more. This seems too loose. Typically the cutoff of 100 cigarettes is used. Can you justify this decision? Why weren't the descriptive and regression analyses weighted?
	NOTE: I only performed a statistical review.

REVIEWER	Louise M. Hassan
	Bangor University, UK.
REVIEW RETURNED	05-Apr-2019

GENERAL COMMENTS	A well written paper on an important topic. It is indeed important to
	track public acceptance of policies that relate to the FCTC. Check
	the use of greater/less than symbols throughout as the symbol for
	age in the abstract is incorrect. I found the sentence
	"(dichotomous dependent variable "agree on a potential
	healthcare policy measure" (yes vs.no))" a little confusing because
	of the use of yea/no here when the scale was agree/disagree.
	Perhaps you could reconsider the wording. Perhaps further
	consideration should be given to the discussion regarding the 40%
	greater support statement comparing smokers and non-smokers
	as to me this is quite a difference. I would recommend this needs
	to be put more in context regarding other studies that find
	differences in views between smokers and non-smokers. Good
	luck with your research.

VERSION 1 – AUTHOR RESPONSE

Point-by-point reply (Revision 1)

Reviewer: 1

Reviewer Name: Steven Fu

Institution and Country: Minneapolis VA Medical Center, USA

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

Please leave your comments for the authors below

Major Comments

This paper is well written, interesting, and relevant for the field. Rates of tobacco use are higher in Germany compared to other European countries and this paper addresses public attitudes to assess potential support for four specific health care policies promoting tobacco cessation that are recommended by Article 14. Findings indicate that the majority of the public in Germany would be supportive of these four health care policies. Strengths of the study include its' relatively large and representative sample size. Limitations include its cross-sectional design. Specific comments are provided to enhance clarity of the paper.

Authors' response:

Thank you for your comments and constructive suggestions. We have incorporated all suggestions into the revision.

Specific comments

1. Abstract line 8. Consider making reference to article 14 in the objective in order to demonstrate why these four specific health care measures are relevant.

RESPONSE: We have added reference to art. 14 of the FCTC.

REVISION: Abstract lines 4-5: "The aim of this study was to assess public acceptance of four possible healthcare policies supporting tobacco dependence treatment in line with Framework Convention for Tobacco Control (FCTC) Article 14 implementation in Germany. "

2. Participants line 25: Should be "≥14". Current symbol indicates less than 14 years of age.

RESPONSE: We have made that change.

REVISION: Abstract: "≥14"

3. Consider use of the term healthcare "policy" or "policies" instead of measures throughout the paper. While healthcare "measures" is technically correct, it might confuse the reader who could potentially think you are referring to methodologic measures (e.g., a scale to measure public support).

RESPONSE: This is a good point. We had gone back and forth on how to correctly name what we are describing, since these are not comprehensive policies. For the sake of not confusing readers we have made the change to policy/policies as per your suggestion.

REVISION: We have changed "measure" to "policy/policies" where appropriate throughout the manuscript, please see the resubmitted manuscript with track changes.

4. Page 6. Line 50- please define what is meant by other tobacco products. Are these all combustible tobacco products? If smokeless tobacco is part of other tobacco products, it may be more appropriate to say current tobacco users instead of current tobacco smokers...

RESPONSE: We only asked about combustible tobacco products. The wording in the questionnaire is: "I do not smoke cigarettes at all, but I do smoke tobacco of some kind (e.g., pipe or cigar)" (the questionnaire can be also found as an amendment of the study protocol1).

REVISION: We have added the word "combustible".

5. For reviewing Line numbering should be continuous throughout the paper and not start over with each page.

RESPONSE: We are unsure whether the lining is an issue of the BMJ submission system. However, we prefer to keep this type of lining now, since it facilitates a quick locating of reviewer comments/our changes to the manuscript.

REVISION: None

6. Page 7, Line 11- the heading measure of public support seems inappropriate. Makes it seem like you are developing a scale to measure public support.

RESPONSE: In line with the changes from measure to policy, we also rephrased this sentence.

REVISION: "Measuring public support for healthcare policies" is the new subheading.

7. Page 8, lines 13-14. This sentence is confusing because it is trying to combine at least two ideas into one sentence. Revise to make clear that there are at least two separate regression models, one model among the whole sample, and one model among current smokers only.

RESPONSE: We amended this paragraph.

REVISION: Page 8, lines 7-12: "Associations between support of suggested healthcare policies and sample characteristics were assessed with exploratory multivariable logistic regression analyses using unweighted data (dichotomous dependent variable "agree on a potential healthcare policy" (yes vs.no)). A second multivariable model was run with the subsample of current smokers, assessing associations between support of suggested healthcare policies and smoking characteristics. Sample characteristics included in both models were sex, age, net household income, education, and smoking status."

Reviewer: 2

Reviewer Name: Iraj Poureslami

Institution and Country: UBC, Faculty of Medicine, Respiratory Medicine Division

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

Please leave your comments for the authors below

1. Overall, I don't think the article provides useful information for your reviewers, as it only summarizes the information collected from one health system that may or may not be applicable to other health system, even in Europe. Also, there murmurous methodological and interpretation of the findings issues that prevent the acceptance of the article for publication in your journal.

RESPONSE: Dr. Poureslami neither gave any suggestions for improvement, nor concrete information regarding the methodological problems he recognized in our manuscript. DEBRA is a national population survey, hence our data may not be applicable to other health systems, but can be compared with international data, which we did in our manuscript. As the design mirrors the UK Smoking Toolkit Study very closely, there is at least the comparison to UK data, which we also describe. The methodology of our study has undergone editorial review with BMC Public Health (study protocol1), as well as external review of the ethics committee and of our funder. Moreover, it is closely aligned to the renowned English Smoking Toolkit Study (www.smokinginengland.info).

REVISION: None.

Reviewer: 3

Reviewer Name: Elena Ratschen

Institution and Country: University of York, United Kingdom

Please state any competing interests or state 'None declared': I have no direct competing interests as such, but would like to state that I was involved in some design aspects of the DEBRA study (which is led by the first two authors, and which is the vehicle through which this new study was delivered) and that I am familiar with the team of authors. However, I have not had knowledge of this new survey element.

Please leave your comments for the authors below

Thank you for the opportunity to review this interesting, well-conducted and neatly written-up study that makes a substantial contribution to the emerging tobacco-related evidence base in Germany. I have not reviewed the statistical methods (as others are better placed to do this), and my comments are overall minor, referring mainly to matters of context.

Authors' response:

Thank you for your constructive feedback and the great points on contextual shifts even within the UK, our point of comparison. We hope our revisions are able to address your concerns.

ABSTRACT

1. When arriving (in my reading process) at line 33, I first thought there was a discrepancy between FOUR measures assessed (as stated in the objectives), and apparently three measures stated here. It took me a short moment to work out that questions referring to support related physical and mental health were probably separate - but that was not apparent.

RESPONSE: We have added numbers to the four measures to make it clear that physical and mental health are addressed separately.

REVISION: "Public acceptance was measured regarding 1) treatment cost reimbursement, 2) standard training on offering cessation treatment for health professionals, and making cessation treatment a standard part of care for smokers with 3) physical or 4) mental disorders."

STRENGTH and LIMITATIONS OF THE STUDY

2. Is bullet point four really needed? It appears to me the nature of any kind of survey seeking to investigate opinions/attitudes etc is that responses might change if the context/environment changes - and so this statement seemed somewhat unnecessary to me.

RESPONSE: Thanks for your assessment. In this particular case it seems important to mention as there could be a bias towards supporting policies that pose no actual "threat" as they do not exist. We therefore kept the sentence as is - but are willing to delete it is you think this is necessary.

REVISION: None at this moment, happy to revisit this point.

3. (Applies also to discussion section - this issue seems a bit 'drawn out' and could perhaps be shortened a bit...).

RESPONSE: We shortened the discussion paragraph on this topic.

REVISION: Page 11, line 30-Page 12, line 5: "The policies assessed here are only hypothetical. We are therefore unable to say whether public support would change in light of actual implementation. In addition, respondents were not asked about who would pay for free cessation treatment. Other studies have found that the public is willing to pay for effective tobacco control however, this willingness to spend has its limits. "

INTRODUCTION

I have two main comments on the introduction, one referring to paragraph three, which evokes a nostalgically glorified picture of perfect tobacco control in England, and one referring to the absence of content related to smoking and mental health.

4. Starting with the first concern, I am afraid it is not true (anymore) that 'smokers can easily access country-wide Stop Smoking Services'... As we witness the increasing de-comissioning of nowadays often fragmented services spread, I dare say that this, unfortunately, is no longer a correct statement. Even GPs have partly been de-commissioned to prescribe NRT (unbelievable but true in some places). As a side note, the term for performance indicators in secondary care is CQUIN, not QoF (so that needs to be corrected in the script, of this para stays as it is). May I also add that the QoF is considered by some to be a tick box exercise rather than a Wundermittel (and the same is true for smoking-related CQUINS). There are pitfalls with such approaches.

I suppose what I am trying to say is this: 1) the paragraph in question paints an overly rosy picture of the status quo in the UK, and 2) do you need this paragraph? It reads a bit like an advert. It doesn't even refer directly to your outcome measures, as these are taken from the Toolkit study and have a slightly different angle.

RESPONSE: It is interesting to see that the text evokes such a strong reaction, certainly we had no intention of glorifying the UK context. The country being at the top of the Tobacco Control Scale of course lends itself to painting a rosy picture compared to Germany, but we get that this might seem ironic to those within the UK system. In the interest of keeping the article brief and on point, we deleted the paragraph as you suggested.

REVISION: Deleted the paragraph on smoking cessation in the UK.

5. Secondly, seeing as substantial parts of the results and discussion section refer to smoking and mental health, I wonder whether it might be useful to introduce the subject just with a very small paragraph or so, in the introduction.

RESPONSE: We have introduced this issue with a half sentence and a reference. Since the relationship between smoking and mental health cannot be seen as a direct primary outcome of our study, we do not aim to introduce this topic intensively.

REVISION: Page 1, line 7: "Moreover, smoking is unequally distributed across different groups within the population, with higher rates of smoking in more disadvantaged socioeconomic groups,2 and in people with poor mental health.3"

DISCUSSION

6. I suspect reference 30 might be the wrong reference? If it is not, then I'd still suggest to cite something a bit more 'direct' here - there is a whole universe of smoking and mental illness literature out there, including a number of systematic reviews (e.g. by Peckham, Gilbody et al, 2017), UK RCP/RCPsych reports, etc..

RESPONSE: Thank you for the careful reading of our manuscript. It is indeed the wrong reference.

REVISION: We have deleted this one and replaced it with two appropriate references: 3, 4.

7. On a similar note, I feel findings related to mental health should be placed into context somewhat more comprehensively, referring to the international literature. Misconceptions relating to smoking and mental health are very well documented, and at least one co-author is very knowledgeable in the area (and has co-authored a recent systematic review on attitudes/barriers etc in this area). While I agree that in Germany, mental health problems are still more highly stigmatised than in some other countries, I don't think this is necessarily the reason for the survey findings, as suggested on page 10 - it appears more likely (especially in view of the international literature) that misconceptions relating to smoking and mental health specifically (alleged therapeutic value; alleged inability of people with mental health problems to quit, etc.) are at play here. This should be further investigated (i.e. could be a clear research recommendation here).

RESPONSE: We added a reference and a sentence on misconceptions as a possible explanation.

REVISION: Page 10, Lines 26-29: "Another possible explanation are misconceptions relating to smoking and mental health. A recent systematic review found that even among mental health professionals, smoking is often perceived as a tool to manage stress in patients, and some mental health professionals believe that quitting smoking may be too much for their patients to take on while in treatment."

8. One could also consider pointing out that integrating information on study participants' mental health conditions/treatment into future or ongoing studies (like DEBRA) would be important to support future research.

RESPONSE: Added.

REVISION: Added a sentence to page 10 line 4-5: Integrating information on study participants' mental health conditions and treatment into future or ongoing population surveys could further support research on cessation for these groups."

9. Minor note: in one place, you refer to 'psychological problems' (or similar) when in other places you talk about mental health -- suggest to revise for consistency.

RESPONSE: Changed.

REVISION: Used "mental health" instead of psychological problems and similar in the discussion section.

Reviewer: 4

Reviewer Name: Nadra

Institution and Country: UCSF, USA

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

Please leave your comments for the authors below

NOTE: I only performed a statistical review.

1. Your definition of never smoker is having never smoked for a year or more. This seems too loose. Typically the cutoff of 100 cigarettes is used. Can you justify this decision?

RESPONSE:

There are several possible definitions. The large ongoing ITC Project, for example, uses another definition, without using any cutoff

(https://www.itcproject.org/files/ITC_4CV1_web_Eng_03Dec2018.pdf, page 21), same is true for the Ash survey. In general, every definition is somewhat arbitrary, and we think that our current definition is no looser than the one with the 100 cigarettes. The latter may sound more valid because of the concrete figure, but it probably isn't. Who counts the cigarettes? This might particularly be difficult for those people who smoked only a few (e.g., 50, 70, 90) cigarettes during their lifetime. Since one aim of our survey is to be comparable with an ongoing survey of the English population (please see the aims of DEBRA in the study protocol1) we decided to adopt our baseline questions/definitions to this Smoking Toolkit Study from UK (http://smokinginengland.info/).

REVISION: None.

2. Why weren't the descriptive and regression analyses weighted?

RESPONSE: Thank you for this important question. Weighting was an issue which we discussed very intensively prior to the data collection of the DEBRA study, also together with international colleagues who are experts in the field of population survey research (e.g., researchers from the Smoking Toolkit Study, United Kingdom).

Obviously, it depends on each research question but we have tended to focus on prevalence or unadjusted differences in weighted figures, or differences in unweighted figures with adjustments. In our view, it seems slightly unusual to weight to reflect the population and then argue to control for difference. Which to a certain extent has imposed with weights – plus, it has potential to cause some spurious associations because the weights are imposed without respect to the outcome measure, which should help the figure be more accurate on average, but then if trying to adjust for differences, as it has been weighted without respect to outcome, cases may be 'over-represented' when applying the adjustment in a model. For this reason we do not weight regression analyses.

E.g., say on average, from a sample, we had to over-weight some men to get the overall sample towards nationally representative. As we don't know the true proportion of men who should be represented within those who have support for a policy, on average, a weighting for the national profile should make the overall figure more accurate on average.

However, if we then adjust for men – which by chance includes a disproportionate number of the over-weighted male cases, then the adjustment for men may multiply this chance imbalance by inferring being male was more important than it actually was (because we don't know if the additional weighting of men there was fair with respect to accurate knowledge).

Baseline characteristics of the final sample who took part in our survey are presented unweighted since these data doesn't aim to reflect the German population. Overall, weighting procedures are presented transparently throughout our manuscript, and all figures a labelled as "weighted" or "unweighted".

REVISION: None.

Reviewer: 5

Reviewer Name: Louise M. Hassan

Institution and Country: Bangor University, UK.

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

Please leave your comments for the authors below

A well written paper on an important topic. It is indeed important to track public acceptance of policies that relate to the FCTC.

1. Check the use of greater/less than symbols throughout as the symbol for age in the abstract is incorrect.

RESPONSE: We corrected the symbol in the abstract.

REVISION: Symbol corrected: Representative random sample of 2,087 people (> 14 years) of the German population.

2. I found the sentence "(dichotomous dependent variable "agree on a potential

healthcare policy measure" (yes vs.no))" a little confusing because of the use of yea/no here when the scale was agree/disagree. Perhaps you could reconsider the wording.

RESPONSE: We made that change.

REVISION: Changed to "agree vs. disagree."

3. Perhaps further consideration should be given to the discussion regarding the 40% greater support statement comparing smokers and non-smokers as to me this is quite a difference. I would recommend this needs to be put more in context regarding other studies that find differences in views between smokers and non-smokers. Good luck with your research.

RESPONSE: Thank you for this point. We are providing some more references for a comparison between ours and others' findings.

REVISION: Page 10 Lines 14-17: "These findings are in line with results from 89 surveys on smokefree policy in the US and Canada;5 however, a study from China found equal support for policies among smokers and non-smokers.6 Men were less supportive than women, which was also observed in the review of surveys from the US and Canada,5 but most SES characteristics were not consistently associated with public acceptance"

References

- 1. Kastaun S, Brown J, Brose LS, et al. Study protocol of the German Study on Tobacco Use (DEBRA): a national household survey of smoking behaviour and cessation. BMC Public Health 2017;17:378.
- 2. Kotz D, Böckmann M, Kastaun S. The Use of Tobacco, E-Cigarettes, and Methods to Quit Smoking in Germany. A representative study using 6 waves of data over 12 months (the DEBRA study). Dtsch Arztebl Int 2018;115:235-42.
- 3. Royal College of Physicians, Royal College of Psychiatrists. Smoking and mental health. Royal College of Psychiatrists Council Report CR178. 2013. https://www.rcplondon.ac.uk/projects/outputs/smoking-and-mental-health. Accessed 14.04.2019.
- 4. Taylor G, McNeill A, Girling A, et al. Change in mental health after smoking cessation: systematic review and meta-analysis. BMJ 2014;348:g1151.
- 5. Thomson G, Wilson N, Collins D, et al. Attitudes to smoke-free outdoor regulations in the USA and Canada: a review of 89 surveys. Tob Control 2016;25:506-16.
- 6. Li Q, Hyland A, O'Connor R, et al. Support for smoke-free policies among smokers and non-smokers in six cities in China: ITC China Survey. Tob Control 2010;19 Suppl 2:i40-6.