Author’s response to reviews

Title: Using Intervention Mapping to develop a programme to prevent sexually transmittable infections and HIV among heterosexual migrant men.

Authors:

Mireille E.G. Wolfers (wolfersm@ggd.rotterdam.nl)
Caty van den Hoek (vandenhoekk@ggd.rotterdam.nl)
Johannes Brug (j.brug@erasmusmc.nl)
Onno de Zwart (dezwarto@ggd.rotterdam.nl)

Version: 3 Date: 2 April 2007

Author’s response to reviews: see over
Dear editor,

Please find enclosed the second revision of our manuscript entitled “Using Intervention Mapping to develop a programme to prevent sexually transmittable infections and HIV among heterosexual migrant men.” by Mireille E.G.Wolfers et al. (MS: 2034236425111032)

We much appreciate the reviewer’s comments of our earlier review. Concerning the comments of Dr. J. Zenilman we want to stress the point of importance and practical use of the IM model. We much appreciate the detailed comments of Dr. D.E. Wight, which we believe have helped us again to further improve the manuscript. We are pleased that you have given the chance to revise the manuscript and hope that this revised manuscript can be accepted for publication in your journal.

In this letter we give an account of how we have used the reviewers comments to adjust our manuscript.

Reaction on comments of Dr. Jonathan Zenilman
We would like to stress the point that IM as a planning model certainly is being used in practice. Also funding agencies prefer project proposals for evidence-based health promotion and health education interventions in which theory and evidence is used and which are systematically planned. Review studies on the effectiveness of prevention programmes have demonstrated that in order to increase the likelihood of effectiveness, they should be systematically planned, and theory- and evidence –based [1-6]. IM provides a framework in doing so and is also used by others to develop interventions (e.g. [7-12]).

Reaction on comments on Daniel Edward Wight

No.1

pp.3, 4, 5, 10, 13, 14 The authors have attempted to clarify how the theoretical bases of the interventions were selected, but this still remains very confusing.

Answer:
We acknowledge that our manuscript might have been confusing in explaining the theoretical background of the intervention development as we tried tot summarize the theoretical background of IM in a few sentences. In accordance with the referents comments we have revised the manuscript on this subject.

1.1) In the covering letter the authors state that the theoretical bases for the intervention are ‘behavioural determinant theory’ and ‘behaviour change theory’. This is not clearly stated in the paper. I can only find two mentions of ‘behavioural determinant theory’ (p.3 and 4) and no explanation of it

Answer:
When we wrote the article we assumed that the readers were familiar with such theories, but we agree with the reviewer that this needs further clarification. But at page 3, line 15-20 we now added 3 lines explaining what is meant by behavioural determinant theory:

(... ) explaining the risk behaviour and guiding the search for modifiable factors. Determinants may include personal behavioural determinants informed by behavioural determinant theories such as the Theory of Planned Behaviour [13], Social Cognitive Theory [28], Protection Motivation Theory [14], and social ecological models which include potential behavioural determinants such as attitude, self-efficacy, social norms, risk perception, as well as physical and social cultural environmental factors [15].

1.2) and I missed any reference to ‘behaviour change theory’

**Answer:**

Although we have mentioned ‘behaviour change theory’ at p.4. line 3 we agree that this is confusing since the step was not specified and there is no explanation to it.

In the revision, we have removed the sentence (“In this step, specific behaviour change theories are used to inform intervention development.”)

On page 4. line 3-5 we added explanation on how important behavioural determinants were selected using both determinant and change theories:

*Again, explanatory behaviour theories are used to identify determinants that have strongest correlates with the risk behaviour. Change theories and theoretical change methods are then used to assess the changeability of the determinants. Behaviour change theories are focused on ways how to change behaviour.*

At page 4 line 14-15 we have added explanation on how change theories are used in step 3:

*Behaviour change theories are used when selecting and specifying intervention strategies and methods that should lead to the desired changes.*

1.3) Neither theory is mentioned on p.10 where there is a list of other theories that have been used.

**Answer:**

We have added a line at page 10 line 24-25 eliciting that the methods used are derived from change theories and theoretical change methods:

*Based on the review of the literature models or theories on behaviour change we used the following theories: Social Cognitive Theory [28], Implementation Intentions Theory [16], and inoculation theory [17].*

1.4) It is still unclear to me whether these theories were chosen on the basis of how well they fit with the previously decided objectives, or whether the authors’ prior theoretical approach determined their understanding of what objectives were possible. On this point the sentence running from p.3-4 seems to contradict the one that immediately follows it.

**Answer:**
We have removed this sentence (p.3-4), as we agree this is confusing. Since we have now added an explanation earlier in this paragraph on the use of theories in the needs assessment phase, we think the role of theory in this phase is clarified. We agree, that the statement ‘In this step,’ (p.4, line 3) was ambiguous, but in the revision, we have removed the sentence:

1.5) On p.5, line 18, it is suggested that the intervention was shaped on the basis of what practitioners had found worked in practice. However, at the bottom of the page it is stated that the intervention techniques were derived from theory-based methods.

**Answer:**
We understand the referee’s concern about the theoretical foundation of the intervention development, since this is crucial to IM. We have sincerely used theoretical principles in the design of the intervention and have used the experience of the prevention officers to form ideas on how to translate the theory into practical techniques suitable for the target group. We probably have not explained this well enough in the paper. We now have added some lines on this matter at page 6 line 1-5:

*We examined the intervention techniques suggested to identify its underlying effective components to be able to judge whether these specific techniques could be used to address the change objectives of the intervention as were formulated in step 2. We also encouraged the prevention officers to think of techniques they had used for example to change specific determinants such as self-efficacy and skills to buy or use condoms.*

1.6) On p.10 there is a paragraph that seems to refer to several different social cognition theories to explain why particular cognitions were targeted. Why were these cognitions selected? Was it on the basis of empirical evidence (from other studies?) of the strongest associations between cognitions and behaviour?

**Answer:**
The referee is right to comment that we should explain why they were selected, but we did elaborate on the choice of the determinants we targeted in the intervention. However, it would have been more accurate to explain that the rational for this choice was not only our own qualitative study, but also a review of existing literature. We have added this information in the manuscript on page 10 line 2-4:

*We used our own qualitative study, as well as a review of existing literature on safe sex interventions literature and reviews on correlates of condom use to determine which factors were both important to our target group and changeable.*

1.7) On p.13 it is stated that self-efficacy and social influence were chosen as the most important target determinants. Why is this only stated in the Discussion? What was the basis of this choice?

**Answer:**
We agree that it is important that the choice of the most important determinants should not only be stated in the discussion. Actually, we did address the choice for the determinants in the original manuscript as
well as in the revised manuscript (page 10 line 1-10). However, we agree that the hierarchy in importance was not explicitly stated. We have now changed this at page 10 line 4-12:

*The personal determinants of self-efficacy, skills for buying, carrying and using condoms, awareness of peer behaviour, and subjective partner norms on condoms as well as the environmental determinant social norms regarding condoms were selected as most important determinants. Other important environmental determinants were, the availability of condoms (the ease of obtaining and purchasing) and their accessibility (having a condom at hand). Socio-cultural determinants were considered not to be changeable in a short intervention, but were used to tailor the interventions culturally (some examples are given in the next section which describes step 4 of IM). Attitude, risk perception and knowledge were considered important determinants, and would also be addressed. Subsequently, a matrix of change objectives was developed for each subgroup (Table 3).*

1.8) On p.14, line 9, it is suggested that the academics moulded the health promoters’ intervention ideas to fit their theories, rather than that they drew out the implicit theories underlying the health promoters’ ideas. This is what should be clarified.

**Answer:**

We have elaborated on the process of choosing practical techniques derived from theoretical methods and how we used the prevention officers experiences in this process on page 6 line 1-5:

*We examined the intervention techniques suggested to identify its underlying effective components to be able to judge whether these specific techniques could be used to address the change objectives of the intervention as were formulated in step 2. We also encouraged the prevention officers to think of techniques they had used for example to change specific determinants such as self-efficacy and skills to buy or use condoms.*

We are confident that we incorporated theoretical methods in the intervention design, instead of just using the existing ideas of the practitioners. We hope that our explanation will substantiate this.

No.2

Abstract. ‘There is little experience with carefully developed interventions in the HIV/STI prevention field aimed at heterosexual target groups...’ This is still overstated. It should at least be qualified by saying ‘....adult heterosexual target groups...’ : there is at least one very sophisticated intervention for young people in the Netherlands.

**Answer:**

The referee is right to point out that there a few intervention are available. However they are aimed at other target groups students (for example “Long live love”: at 12-16 years scholars at vocational training centers, [18]. So we have now added the word ‘adult’.

No.3
It is a pity that the authors have not widened their references to include literature suggested in the earlier comments.

**Answer:**
We have now added more references on page 2 line 16-17:
Careful developed interventions are documented for men having sex with men, students and drug users [7-9, 11, 18-21]

No.4
p.2, 2nd para. Need for theoretically based interventions has been recognized long before 2005 (Green and Kreuter). Would be more accurate to write: ‘It has been recognized since the 1990s that prevention interventions…’.

**Answer:**
The referee is right in that this need has been recognized much longer. We are aware of this, although it appears in the manuscript that we mean only since 2005, because of the addition of the 2005 reference. We thank the referee for rewording this sentence and we incorporated it. (page 2 line 13-14)

No.5
p.2, line 19 Wording would be less confusing if as follows: ‘…migrant men, those with an Afro-Caribbean and those with a Turkish/Moroccan background….’

**Answer:**
We agree this rewording is an improvement and we have changed this sentence. (page 2 line 22)

No.6
p.3 The second paragraph would be easier to read if split into further paragraphs.

**Answer:**
We agree and have split the paragraph into further paragraphs.

No.7 p.3 The authors do not clarify why they persist in using the terms 'performance objectives' and 'change objectives' when these are inherently unhelpful. It would be possible to use more self-explanatory terms (as suggested in previous comments) and in brackets explain how the terms are referred to in the original IM protocols.

**Answer:**
The IM model provides a framework for the development of interventions. We have used this model and have therefore kept the terms as used in the IM mode. We think it would be confusing to introduce new terms into the IM jargon. In their latest edition Bartolemew et al. have simplified the terminology on objectives: all objectives within matrix cells are now called ‘change objectives’ in stead of ‘learning objectives’ or ‘change objectives’ and ‘proximal program objectives. And we have used this revised edition. Other authors also use IM terms in their description of the development process [1, 7, 9-12]
With all due respect to the reviewer, we would like to keep to the original terms of this state-of-the-art planning model in the manuscript. Only in the abstract we have used the more general term specific objectives for “change objectives” which we have put in brackets.

No.8
8.1) p.4, line 14 What are ‘focus group interviews’? Group discussions or individual interviews? This is very confusing.

Answer:
With ‘focus group interviews’ we mean group discussions. We have checked the manuscript on other inconsistency in the terms focus groups interviews / interviews in stead of group discussions and changed the inconsistencies (group discussions or focus group discussions as the correct term).

8.2) Also, why state that seven were conducted and then only give details of four?

Answer:
We agree this is not correct, we have specified how many discussion groups of each ethnic subgroup were conducted (Page 4 line 29 until page 5 line 4). We held two groups with married TM men and 3 groups with unmarried TM men:

Separate group discussions were conducted with AC men between 16 and 25 years old (n=5, three men originating from Surinam, one originating from the Dutch-Caribbean, and one from Cape Verde; average age 21) and with AC men above 25 years (n=3, two three men originating from Surinam and one from Cape Verde; average age 30), and two groups with married TM men (Number of participants per group: 4 and 9; average age 39) and three groups of unmarried TM men (Number of participants per group: 4, 6 and 7; average age 18).

No.9
p.4, line 15 There is still confusion about whether the authors started with six ethnic groups or five. Which list of ethnic groups had five groups?

Answer:
We think this confusion is about the Dutch Caribbean people: The Dutch Antilles and Aruba. they all belong to the Dutch Caribbean islands, but since Aruba has its autonomy as a country within the Kingdom of the Netherlands Aruba should be mentioned separately and not together with the other islands as the Dutch Antilles.

We have decided to refer to these islands as the Dutch Caribbean, making clear they are seen as belonging to the same ethnic group. It means the five groups are: Surinamese, Dutch Caribbean, Cape Verdian, Moroccan, and Turkish (page 3, line 3-4).

No.10
p. 7-8 It is good practice to state which discussion group quotes come.

Answer:
We have added statements now from which discussion groups quotes come.

No.11
p.8, 3rd para.: should be in the past tense.

**Answer:**
We have changed this (page 8 line 24-25).

No.12
p.8, 4th para. I don’t recall any description of the interviews: are these meant to be group discussions?

**Answer:**
The referee is right: the group discussions are meant here. We have checked the manuscript on other inconsistency in the terms focus groups interviews / interviews in stead of group discussions and changed the inconsistencies. (group discussions or focus group discussions as the correct term).

No.13
p.9, top. Not clear why condoms should be used in all serial-monogamous sex, since these are ‘steady relationships’, unless health promotion is trying to establish universal condom use.

**Answer:**
No, we don’t try to establish universal condom use. However, the young unmarried Turkish and Moroccan men are not supposed to have sex, and therefore have more casual sex than relationships. Their sex lives consist of a number of sex contacts with different girls/women. We think that consistent condom use in this phase of their life is helpful.

We acknowledge that the use of the term serial-monogamous sex can give the impression that we try to promote consistent condom use in steady relationships. Therefore we have removed this term at page 9 line 21.

No.14
p.11, line 9: should this not be ‘unsafe sex’, not ‘safe sex’?

**Answer:**
We do mean ‘safe sex’. We made pictures of the young Turkish and Moroccan men making statements about safe sex, not about ‘unsafe sex’. In some of the pictures we use modeling the desired behaviour and showing positive consequences of this behaviour with the aim of changing attitudes. A parameter for the use of modeling (derived from Social Cognitive Theory) is ‘reinforcement of the model’ [22]. Reinforcement of the models is done by positive outcomes of the behaviour (condom use) and social rewards.


