Health promotion for a multiethnic population: the case of weight-gain prevention among a multiethnic population of mothers living in Amsterdam South-East
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CHAPTER 6

Is channel segmentation necessary to reach a multiethnic population with weight-related health promotion?

An analysis of use and perception of communication channels

Marieke A Hartman, Vera Nierkens, Stephan W Cremer, Arnoud P Verhoeff, Karien Stronks

Under review
Abstract

Objective: To explore similarities and differences in the use and perception of communication channels to access weight-related health promotion within women in three ethnic minority groups. The aim was to determine whether similar communication channels reach ethnic minority women in general or whether segmentation to ethnic groups is required.

Design: Eight ethnically homogeneous focus groups were conducted among 48 women with a Ghanaian, Antillean/Aruban, or Afro-Surinamese background living in Amsterdam. Our questions concerned which communication channels they usually used to access weight-related health advice or information about facilities, and whose information they most valued. The data were analyzed by content analysis.

Results: The participants mentioned four types of channels – healthcare, media, gatherings (e.g., at churches and events), and interpersonal communication – that were oriented toward the general or ethnically specific audience. We observed differences rather than similarities between the ethnic groups in their use and perception of these communication channels. For example, regular healthcare seemed most accessible and trusted by Surinamese women and least by Ghanaian women; the reverse was found for traditional healthcare. In accordance, the Ghanaians, and to a lesser extent, Antilleans favored their own ethnic channels, such as Ghanaian churches, Antillean events, and interpersonal communication with Antilleans in their home country. This was less often the case among the Surinamese. The preference for use and the perceived credibility of ethnically specific channels were associated with a lower socio-economic position, a first language other than Dutch, first-generation immigrants, and a relatively short residence after migration.

Conclusion: The large differences in channel use and perception between ethnic groups indicate a need for channel segmentation to reach a multiethnic target group with weight-related health promotion. The study reveals possible alternative segmentation criteria to ethnicity worthy to further investigate, such as local-language proficiency and time since migration.
Introduction

The Netherlands and other European countries are becoming more ethnically diverse. Unequal burden of disease between ethnic groups has been found in coronary heart diseases, diabetes, and mental health [1]. Health risk factors such as overweight and physical inactivity during leisure time are more prevalent among ethnic minority groups [2-6]. Therefore, there is a need for effective health promotion aimed at weight-loss and related behaviors among ethnic minority groups. However, it can be challenging for health promoters to reach ethnic minority groups with health promotion programs [7, 8].

Communication channels are an essential element for promoting health in a target population; they are the means by which messages – e.g., direct health advice or advice about available facilities – get from one individual or organization to another [9]. Different ethnic groups may have different access to communication channels, which might result in differences in their usage. Moreover, perceptions of a channel (e.g., credibility) can vary, which might influence the degree of persuasiveness of a health message [10]. Therefore, channel segmentation by ethnic group might increase reach and receptivity among ethnic minority groups.

However, current evidence for the effectiveness of segmentation, such as channel segmentation, by ethnic group to reduce ethnic health disparities is lacking [11, 12]. Although the logic behind such segmentation is strong, it can also increase costs, implementation may not be feasible, and it is ineffective if the wrong intervention aspect (e.g., channel versus message) is segmented or if differences are actually larger within ethnic groups than between them [11]. Therefore, consideration of segmentation is of ongoing concern. Without evidence from experimental studies, project-specific formative studies are a useful source of evidence for making informed decisions about whether and how to implement segmentation. If such studies reveal large, transparent differences between ethnic groups about channel use and perception, channel segmentation within a multiethnic population is advisable. In contrast, when ethnic groups commonly value and use certain channels, then providing similar channels might be more appropriate to reach a multiethnic target population [11].

Most of the few studies comparing the communication channel use and perception of different ethnic groups have been conducted in the USA [10, 11, 13, 14]. These studies focused mainly on media use. Replicating such studies among different ethnic groups within European countries seems worthwhile, as migration histories and the healthcare system are different from those of the ethnic groups studied in the USA [15, 16]. Moreover, insight into differences as well as similarities on a variety of potential channels is necessary for making good segmentation decisions. An open, qualitative approach can provide insight into such a variety of channels.

Therefore, to get more insight into the need for channel segmentation, the aim of this qualitative study was to investigate similarities and differences in the use and perception of
communication channels within three ethnic minority groups. The focus was on the channels through which women access weight-related health promotion.

**Methods**

To elicit information about channel use and perception, we conducted ethnically homogeneous focus groups. We chose the focus group methodology because it enables the exploration of interwoven aspects of topics or processes [17]. The effects of channels are complex and often interrelated with source, message, and receiver factors [10]. For example, it can be difficult to distinguish between the influence of a church (channel) and the influence of a church leader (source).

**Recruitment and procedure for the focus groups**

This study was conducted in Amsterdam South-East in 2008. Amsterdam South-East is an ethnically diverse district in which immigrants from Ghana and the former Dutch colonies of Suriname and the Netherlands Antilles/Aruba form the largest ethnic groups. Focus groups were conducted with mothers from these three main ethnic minority groups. The prevalence of overweight and obesity is greater among them than among the ethnic Dutch population [2, 3]. Box 6.1 presents more context information about these ethnic groups.

We interviewed Ghanaian, Antillean, and Surinamese key people – mainly women from immigrant organizations – before the focus groups to get insight into how best to conduct the focus groups. We adapted the recruitment channels, settings, moderators, and language used on their advice.

Purposive sampling methods were used to recruit participants: the researchers instructed intermediaries to recruit women (if possible, mothers whose youngest child was 0 to 12 years old) from Amsterdam South-East. At women’s religious services, a prominent church member asked Ghanaian women to participate in a focus group. Antillean and Afro-Surinamese women from immigrant organizations provided flyers and personally invited the women to join a focus group in a familiar setting, such as a women’s empowerment centre.

In total, we conducted eight ethnically homogeneous focus groups with four to ten women: two focus groups with Ghanaian women, three with Afro-Surinamese (hereafter referred to as Surinamese), and three with Antillean/Aruban (hereafter referred to as Antillean). Two researchers (a moderator and an observer) led each focus group. The moderators were Dutch researchers trained in focus-group interview techniques. A recruiter (i.e., a key person) was present in the focus groups to increase confidence (because of perceived similarity and familiarity) and to translate if necessary [22, 23]. A Ghanaian nurse was trained to moderate the Ghanaian focus groups, as these discussions were held in Akan.
Data collection

Before the focus group started, the moderator gave a brief introduction about the content of the focus group and the future use of the results (i.e., to make future programs more appropriate). Anonymity in the transcripts and reporting was assured. Participants consented to the discussion being taped before the interview. Because it complied with Dutch legislation, the study did not require review by a medical ethics board.

During the focus group discussion, the participants were asked who or which organizations gave them advice about weight loss, diet, and physical activity or information about related health-promotion facilities, and whose advice they perceived as most valuable. If the group discussed these topics spontaneously, the moderator asked further explorative questions. The focus groups lasted an average of 75 minutes and incentives were given afterwards (a €10 gift voucher).

At the end of the interview, a short survey asked for participant characteristics that can be seen as receiver characteristics. The survey included questions about the participant’s age and youngest child, self-reported weight and height for calculating the body mass index, migration background, partner, education, and employment. We determined the ethnicity and generation level by asking for the participant’s country of birth and that of their parents. Ethnic minority participants were considered first generation if they were born in another country, and second generation if they were born in the Netherlands to at least one parent born in another country [24]. Because local-language proficiency might be another characteristic of ethnic groups related to channel access [25], information about the primary
language in the home country – as a proxy of Dutch language proficiency – was derived from the available context information (Box 1).

**Data analyses**

The audio-taped focus-group interviews were transcribed verbatim. The moderator translated the interviews into Akan during transcription. These transcripts were subjected to content analysis. First findings were discussed with key people (women’s leaders in immigrant organizations and a Surinamese dietician) to verify, interpret, and complement the results. The conversations with key people created the context for the interpretation and coding of the data.

The analysis consisted of the three main stages in qualitative analysis: data management (sorting), description (or summarizing), and explanation (or associating) [26]. Maxqda (2010) software was used for data management. Relevant excerpts regarding communication channels and perceptions were deductively derived from the data. Then, the kinds of communication channels and perceptions were inductively derived. After coding, the outcomes were charted in a table by ethnic group and communication channel. During the final stage, associations of use and perception of communication channels versus characteristics of the study population were analyzed [26]. A second coder, VN, checked the transcripts for additional or conflicting outcomes and agreement for the conclusions.

**Results**

**Characteristics of the study population**

Table 6.1 shows the characteristics of the study participants. The mean ages of the women and their youngest child were highest among Ghanaian and Surinamese women. Most participants were overweight: in particular, many Surinamese and Antilleans were obese.

All Ghanaian and Antillean participants were first-generation migrants. They had migrated 14 years previously on average, although the range was greater among Antillean women (7–40 years versus 4–26 years). In contrast, 5 of the 16 Surinamese participants were second-generation. The first-generation Surinamese participants had migrated an average of 25 years previously.

The Ghanaian had the lowest socio-economic status (SES); and the Surinamese, the highest. The Ghanaians had the least education on average; they had mainly blue-collar jobs (e.g., cleaning). The Antillean level of education was generally intermediate or lower. More than half the Antilleans were unemployed; the others had mainly white-collar jobs. The Surinamese level of education was mainly intermediate or higher, and all but three had jobs, mostly white-collar jobs.
Use and perception of communication channels

The participants mentioned general audience-oriented and ethnically specific channels that can be divided into four broad categories: (1) regular healthcare and traditional care from the home country, (2) general audience-oriented and ethnically specific media, (3) ethnically specific and multiethnic gatherings, and (4) personal communication with people in the Netherlands or in their home country. Similarities and differences in use and perception of these channels between the ethnic groups will be described below, after which differences will be additionally associated with other participant characteristics than ethnicity alone (Table 6.2).
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(1) Regular and traditional healthcare

In the Netherlands, primary care providers, paramedics, and health promoters in public health services can actively be involved in giving weight-related health advice or referrals to health facilities. All the ethnic groups named sources in this regular healthcare, particularly the physician and the dietician, as channels. The Ghanaians named fewer healthcare professionals than the Antilleans and the Surinamese. The Antillean women also named the public health service, pregnancy course, and child healthcare clinic; whilst the Surinamese women mentioned the physical therapist and the psychologist. Furthermore, Surinamese and Antillean women were aware of primary-care lifestyle programs.

In all ethnic groups, participants spoke positively about healthcare providers if they had severe illness or health risk and these providers’ advice had contributed to weight loss. In all other cases, the perception of the healthcare differed among the ethnic groups. Ghanaians were the most negative about the regular healthcare. As a group, they felt that they were not taken seriously. They were dissatisfied and distrusted the physician as a consequence of their own negative experiences or those of others. This might possibly be due to communication barriers, although one woman refuted this:

M: ‘Are there places in the community where we can go to for help or advice?’
- ‘The physician is the immediate person to turn to, but they are not always helpful to us. In fact, we Ghanaians are never well taken care of. They just look at your face and give you a prescription without letting you finish explaining your problem.’
- ‘Some people say it is because of the language barrier that he gives us the wrong diagnosis and treatment. But I always go to the physician with my daughter who was born here [in the Netherlands] and who has higher vocational training. She speaks and understands Dutch well and is a good interpreter. And yet they always make the same mistakes.’

The Antilleans had various perceptions of healthcare, or more specifically, its messages, that might be due to a mismatch with their personal needs. Some Antilleans did appreciate the weight they lost due to the dietician’s advice. Others wished to lose a lot of weight quickly. Their perceptions of the dietician’s approach were that it takes too much effort and has too little effect:

- [tried to lose weight on dietician’s advice] ‘It went well in the beginning, until I was only losing two pounds a week.’
- ‘That’s not what you want, you want to lose more in a week.’
- ‘You don’t want to see it or hear it
M: ‘And then you quit?’
- ‘Yes, I quitted directly.’
The Surinamese women appeared to have easy access to and much confidence in regular healthcare. They said, for example, You can easily ask a dietician for nutritional advice, though', and spoke about Going to the physician every 3 months. The Surinamese long sojourn in the Netherlands might have affected trust in healthcare. For example, one woman had known her physician since she was 6 years old, which reinforced the credibility of the physician's message for her.

With regard to traditional care from the home country, we observed the opposite: Ghanaians were oriented toward traditional care and trusted it, while the Surinamese did not. The Ghanaians said that they got traditional care from Ghanaian shops in town, or from people in their home country. They called home' or asked holiday goers to bring them healthcare products such as natural herbs, bitters, and medicines. They seemed to trust this care more than regular Dutch healthcare:

M: 'Because we say we don’t trust the physicians, are there any other ways to get help?'
- 'Yes, we can use our native treatments like bitters and many others from our Ghanaian shops around town.'

In contrast, the Surinamese mentioned only one traditional product they knew, but they did not use it in the Netherlands because they distrusted its different labeling. Traditional care was perceived as something from their ancestors in Surinam, while now they live in the Netherlands:

M: 'Is there no alternative care from Surinam?'
- 'There are so few of those people.'
- 'Ancestors.'
- 'And we live here in Europe, and, you see, those people are all in Surinam.'

(2) General audience-oriented and ethnically specific media
The Ghanaians mentioned no media use, while their Antillean and Surinamese counterparts did. Both groups spoke of information leaflets, searching the Internet, and watching television, although it is uncertain whether they actually read written media. One Surinamese woman said, about leaflets, To be honest, 9 times out of 10 you throw them away'.

Of the general audience-oriented media, national television seemed the most used kind of media among the Antilleans and Surinamese. However, whereas television programs about extreme weight loss seemed to reinforce the Antilleans’ needs to lose weight (quick and extensive), the Surinamese women did not perceive them as credible. Surinamese participants seemed to consider the consequences and alternative options more often:
- ‘I really want to exercise with a coach. The way they do with those XXXLs and those others: ‘The weight losers’. The first episodes...’
- ‘Yes, they were good, they got really slim.’

(Antillean women)

- ‘I should really lose 110 pounds, but then everything sags and then it would be another operation. I have seen a lot of documentaries where people lose an extreme amount of weight.’
- ‘But if you do it gradually, bit by bit.’
- ‘With exercise, I know.’

(Surinamese women)

Antillean television and Antillean or Surinamese radio were only mentioned by the key persons present in the focus groups. It remained unclear whether the participants frequently watched this television channel and listened to these radio stations, and what their perceptions of these channels were.

(3) Ethnically specific and multiethnic gatherings

Regarding gatherings, Ghanaian and Antillean women were focused on their own churches and events. The high attendance at the religious services and, subsequently, the high participation rate in the Ghanaian focus groups indicated that these Ghanaian churches (via a Ghanaian key person) can reach many Ghanaian women. Participants asked the moderator for health and weight-change-related advice several times in both focus groups. They showed to be used to this:

‘If there are people in the community apart from the family physician, we do not know about them. But we often get help from lectures given by representatives of organizations like the ones we have here, with you.’

The Antilleans explained that Antillean events reach many people because of the social aspect – You know that you will see each other again – and that you get something (a party, free groceries, etc.). Such an event should consist of more than providing information alone, and as an Antillean woman said:

‘Either organize events or you have to know where to find the groups. People do come, don’t they, but they always want some advantage. Just information, who’s interested in that?’
Among the Surinamese and, to a lesser degree, the Antilleans, multiethnic events were also considered a way to get information. Both groups seemed to appreciate an active approach via events, but Surinamese women also emphasized that it would be advisable to involve various ethnic groups:

‘You just have to come with a good plan about how you approach these people, the diverse target groups. Not only the Surinamese women. Include other cultures, Antilleans, Ghanaians, to approach people. You really have to organize events in order to reach them.’

(4) Interpersonal communication in the Netherlands and in the home country
Participants from all ethnic groups gave examples of interpersonal communication about experiences with healthcare or weight-loss methods and nutritional advice. These interpersonal communications concerned the needs of the women such as weight loss (Ghanaians and Antilleans) and healthful eating combined with the business of motherhood (Surinamese women). Most women perceived this advice and its effects as positive.

The Antilleans explicitly referred to word-of-mouth communication as a channel through which they got information. Tangible outcomes such as weight loss due to a strict diet seemed to trigger this interpersonal communication. They shared such information frequently and enthusiastically:

‘Yes, I hear it a lot: ‘Oh, this diet is good’. ‘Send him to me’. It’s like that.’

This was not only spoken of within the context of the Netherlands, but also across borders. The Antillean women knew about several Antillean weight-loss methods. They had heard about the quick and extensive effects of these methods, which made them enthusiastic:

‘Yes, for example, I phone my sister very often [in Curaçao], she takes good care of her health’… She has lost a whole lot of weight on the diet of a well-known Antillean.’

In contrast, the Surinamese said they were unfamiliar with Surinamese weight-loss methods, partly because they did not try to lose weight in Surinam. That started in the Netherlands. If there were current methods, they had not heard of them:

‘We were never concerned with weight loss there [in Surinam], you know, in the way that you use a means to lose weight… but here you do, yes. Here one does that, but there one doesn’t. Maybe now, but…’
<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Ghanaian</th>
<th>Antillean</th>
<th>Surinamese</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age of mother</td>
<td>(\mu = 42.7) years</td>
<td>(\mu = 37.6) years</td>
<td>(\mu = 39.3) years</td>
</tr>
<tr>
<td>Age of youngest child</td>
<td>(\mu = 11.4) years</td>
<td>(\mu = 7.8) years</td>
<td>(\mu = 11.8) years</td>
</tr>
<tr>
<td>BMI</td>
<td>(\mu = 29.4) kg/m(^2)</td>
<td>(\mu = 32.4) kg/m(^2)</td>
<td>(\mu = 34.6) kg/m(^2)</td>
</tr>
<tr>
<td>Generation</td>
<td>First</td>
<td>First</td>
<td>First and second</td>
</tr>
<tr>
<td>Time since migration (range)</td>
<td>(\mu = 14.1(4–26)) years</td>
<td>(\mu = 14.8(7–40)) years</td>
<td>(\mu = 25.5(7–39)) years</td>
</tr>
<tr>
<td>First language (home country)</td>
<td>Akan and English</td>
<td>Papiamento and Dutch</td>
<td>Dutch</td>
</tr>
<tr>
<td>Educational level</td>
<td>Lowest</td>
<td>Low to moderate</td>
<td>Moderate to high</td>
</tr>
<tr>
<td>Employment status</td>
<td>Mostly full-time blue-collar jobs</td>
<td>Half unemployed – half full-time white-collar jobs</td>
<td>Most had part-time or full-time white-collar jobs</td>
</tr>
</tbody>
</table>

### Communication channel

#### Regular healthcare

<table>
<thead>
<tr>
<th>Use</th>
<th>Ghanaian</th>
<th>Antillean</th>
<th>Surinamese</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician</td>
<td>• Fewer other healthcare providers</td>
<td>• Several other healthcare providers</td>
<td>• Several other healthcare providers</td>
</tr>
<tr>
<td>Fewer other healthcare providers</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Perception

- Explanation
  - Negative: distrust and dissatisfaction
  - Negative experiences with care (felt not taken seriously)
  - Potential communication barrier
  - Resistance to neutral
  - Mismatched message and needs (quick and easy weight loss)
  - Gap between what is seen and what is said (hereditary overweight)
  - Positive, credible
  - Long history with physician reinforced reliability

#### Explanation

- Positive, trust

### Traditional care from home country

<table>
<thead>
<tr>
<th>Use</th>
<th>Ghanaian</th>
<th>Antillean</th>
<th>Surinamese</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional healthcare (shops in town, in home country)</td>
<td>n.m.</td>
<td>• No use of traditional healthcare from home country</td>
<td></td>
</tr>
</tbody>
</table>

### General audience-oriented media

<table>
<thead>
<tr>
<th>Use</th>
<th>Ghanaian</th>
<th>Antillean</th>
<th>Surinamese</th>
</tr>
</thead>
<tbody>
<tr>
<td>Television</td>
<td>n.m.</td>
<td>• Television most frequently</td>
<td></td>
</tr>
<tr>
<td>Written</td>
<td>n.m.</td>
<td>• Only leaflets and internet</td>
<td></td>
</tr>
</tbody>
</table>

#### Perception

- Explanation
  - Positive (about weight-loss TV programs)
  - Skepticism (towards weight-loss TV programs)
  - Not seen as preferred example, consider consequences more

### Ethnically oriented media

<table>
<thead>
<tr>
<th>Use</th>
<th>Ghanaian</th>
<th>Antillean</th>
<th>Surinamese</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radio and television</td>
<td>n.m.</td>
<td>• Unclear, only mentioned by key people</td>
<td>• Unclear, only mentioned by key people</td>
</tr>
</tbody>
</table>

#### Perception

- n.m. | n.m. | n.m. | n.m. |
Communication channel use in a multiethnic population

Differences in use and perception of communication channels arranged by characteristics of the ethnic groups

Their use and perception of communication channels shows that Ghanaians and Antilleans focused mainly on ethnically specific channels, such as their own churches, care, events and/or personal contacts with people in their home country. This seemed to be least true for the Surinamese (Table 6.2). The difference in using ethnically specific channels runs parallel to differences in generations and the time since migration: first-generation Ghanaians and Antilleans who migrated later seemed to use ethnic communication channels more than the Surinamese, of whom some were second generation or had migrated earlier. Concomitantly, Ghanaian participants, and to a lesser degree, Antillean participants, had a lower SES than the Surinamese. Furthermore, Dutch was not the main language of these groups, and the Ghanaians were the least familiar with it.

The ethnic groups that more often used ethnically specific channels were also more positive about these channels, while they expressed themselves more negatively or had mixed

<table>
<thead>
<tr>
<th>Multietnic gatherings</th>
<th>Use</th>
<th>n.m.</th>
<th>• Minor issue</th>
<th>• Only multietnic gatherings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Percepción</td>
<td>n.m.</td>
<td>n.m.</td>
<td>• Positive</td>
</tr>
<tr>
<td></td>
<td>Explanación</td>
<td>n.m.</td>
<td>n.m.</td>
<td>• Positive</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ethnic gatherings</th>
<th>Use</th>
<th>• Ghanaian churches</th>
<th>• Accent on Antillean events</th>
<th>n.m.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percepción</td>
<td>• Positive, demand or expectation</td>
<td>• Positive</td>
<td>• Active approach of health promoters’ appreciated</td>
<td>n.m.</td>
</tr>
<tr>
<td>Explanación</td>
<td>• Familiar with lectures from organizations in church</td>
<td>• Seeing each other and getting something</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Interpersonal – in the Netherlands</th>
<th>Use</th>
<th>• Some examples of interpersonal advice</th>
<th>• Word-of-mouth communication main channel</th>
<th>• Some examples of interpersonal advice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percepción</td>
<td>• Mixed</td>
<td>• Positive</td>
<td>• Active approach of health promoters’ appreciated</td>
<td>n.m.</td>
</tr>
<tr>
<td>Explanación</td>
<td>• Suits needs, not always useful</td>
<td>• Suits needs</td>
<td>• Observable (tangible) effects on weight loss</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Interpersonal – with people from home country</th>
<th>Use</th>
<th>n.m.</th>
<th>• Communication about weight loss methods with people from the Dutch Antilles</th>
<th>• No communication about weight loss methods with people from Surinam</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percepción</td>
<td>n.m.</td>
<td>• Positive</td>
<td>• No weight loss methods in Surinam when they were there</td>
<td></td>
</tr>
<tr>
<td>Explanación</td>
<td>n.m.</td>
<td>• Suit needs: (quick, extensive weight loss)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

BMI = Body mass index, µ = mean, n.a. = not applicable, n.m. = not mentioned
feelings about general audience-oriented channels like regular healthcare. For example, the Ghanaians were the most dissatisfied with regular healthcare. Their different perceptions distinguished them from the Antillean, Surinamese, and Dutch women in language (poorer) and SES (lower). Although the Antilleans seemed to trust the healthcare professionals, their advice did not always fit Antillean needs (quick weight loss). The resulting resistance runs parallel to their SES, which was lower than that of their Surinamese counterparts, but their generation (first generation only) and time since migration (longer) also differed.

The differences in communication channel usage and perceptions between ethnic groups might not be a consequence of differences in other participant characteristics, such as age and body mass index, which had different patterns.

**Discussion**

The participating ethnic minority groups did not have one or more communication channels that they used similarly or perceived equally. Although all the groups mentioned Dutch healthcare and interpersonal communication in the Netherlands, the rate of use and the perceptions seemed to differ between the ethnic groups. For example, the Antilleans were the ones who were particularly oriented toward and positive about interpersonal communication with other Antilleans in the Netherlands and across borders. Regular healthcare seemed most accessible and trusted by the Surinamese women and least by Ghanian women; the opposite was true for traditional healthcare. Regarding other channels, we found that Ghanian women, and to a lesser extent Antillean women, focused more on their own ethnic channels like Ghanaian churches and Antillean events than the Surinamese. These differences in use and perceived credibility of ethnically oriented channels run parallel to differences in socio-economic position, the main language, generation level, and time since migration: women with a lower SES and poor local language proficiency, who were first-generation migrants and resided in Amsterdam a shorter time since migration, focused more on ethnically oriented channels.

This study has some limitations and strengths that we must consider before interpreting these results. First, there were at least two focus groups in every ethnic group for the initial exploration of the use of communication channels and the perceptions of mothers in different ethnic minority groups living in the Netherlands. More focus groups per ethnic group might have resulted in new information. However, to minimize this potential bias, we obtained the most complete and reliable picture possible by involving key people in all phases of the study [23, 27].

Second, our study was limited to ethnic minority groups from 3 of the 175 nationalities living in Amsterdam, although it should be noted that the study groups represent three of the five largest ethnic minority groups in Amsterdam [28]. There were differences between the
ethnic groups we studied with regard to country of birth, SES, time since migration, generation, and language. We can only draw conclusions within this context. Comparing the results with those from other ethnic minority groups from other countries can provide insight into the broader applicability to multiethnic populations.

Third, while we adapted the recruitment strategy to the ethnic groups to promote their participation in the focus groups, this may have resulted in recruitment bias and may explain differences in characteristics between the ethnic groups. However, these differences in generation level, time since migration, and socio-economic position show a pattern similar to the pattern at the national level ([18, 21] and might therefore not be a result of the recruitment method.

When we compare our study results with those of the existing literature, we see that many interventions for health promotion aimed at ethnic minority communities use community channels such as ethnically specific media and events to increase the number of people they reach in these target groups [29]. Our study shows the potential usefulness of such ethnically oriented channels, although the appropriateness seems to differ between ethnic minority groups. We found, for example, that Surinamese women focus mainly on general audience-oriented alternatives. Moreover, we found that the various ethnic minority groups differed greatly in the type of channel they used mainly (e.g., their own churches and interpersonal communication versus healthcare). Previous studies comparing Hispanic and Black ethnic minorities in the USA also found differences in frequencies of types of channel used [13, 14].

These differences in communication channel use seem to be partly a direct consequence of differences in perceptions of communication channels. Subsequently, perceptions of channels related to source, language, or message (i.e., advice and treatment) seemed to interact with receiver characteristics [10]. Among the Ghanaians for example, the negative experiences with the physician (source) might be translated to healthcare in general. Moreover, their poor local language proficiency might have resulted in less satisfaction with regular healthcare, which generally communicates in the local language, as other international studies have found [30-32]. However, cultural factors might be equally important [33]. This study’s participants emphasized the kind of treatment as the cause of their dissatisfaction rather than a language. Especially Ghanaians, but also Antilleans, described healthcare as a less credible channel because the advice or treatment did not match their healthcare expectations and needs for short-term great weight loss.

These local language proficiency and socio-cultural expectations and needs might relate to other characteristics of the ethnic groups, such as first generation, shorter time since migration, and lower SES, which run parallel to more use and credibility ascribed to ethnically oriented channels. Similarly, a previous study has found that ethnic minority subgroups less fluent in local language tended to favor ethnically specific media [14]. Furthermore, Clayman and colleagues (2010) have also found such a clustering of characteristics within Hispanics: those born outside the USA (first generation) with a lower SES were more comfortable
speaking Spanish than speaking English. Subsequently, they find that differences in channel use among Hispanics depend on language preference, but this relationship disappears if the other characteristics are entered in the regression model [25]. From this point of view, one could wonder whether ethnicity is the most sensible criterion for segmentation or whether other characteristics of ethnic groups – such as local language proficiency, time since migration or SES– can serve as alternative practical segmentation criteria [11]. Unfortunately, our study design and earlier study designs limit the possibilities for drawing conclusions about this issue since these characteristics cannot be separated from ethnicity or be compared between different ethnic groups.

Further research is needed to explore whether these other channel segmentation criteria might be better to reach a multi-ethnic target group with weight-related health promotion. Small-scale qualitative studies using face-to-face interviews in different ethnic groups might be appropriate for unraveling information about differences in channel use, perception, and the relationship of source, message, and language with such personal characteristics. Large-scale quantitative studies of channel use and perception could test statistically significant relationships of these characteristics against differences in channel use and perception across ethnic groups.

We conclude that the large differences in channel use and perception between the ethnic groups indicate a need for channel segmentation to reach a multi-ethnic target group with weight-related health promotion. This study reveals that possible alternative practical segmentation criteria to ethnicity, such as local language proficiency, and time since migration are worthwhile matters to further investigate.

**Key messages**

- Three ethnic minority groups differed in the extent to which they chose ethnically specific channels and perceived them as credible. They also differed in the kind of channels they mainly used and appreciated (such as their own churches versus word of mouth versus regular healthcare).
- Distinct channels seem needed to reach a multi-ethnic group of women with weight-related health promotion.
- Potential alternative segmentation criteria such as local language proficiency and time since migration instead of ethnicity are worthy of further investigation.
References


