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

Hartman, M.A.

Citation for published version (APA):
CHAPTER 1

General introduction
General introduction

The area covered by the Public Health Service of Amsterdam is a large city, characterized by its diversity of residents. Residents not only differ with regard to age, gender, marital status, having children or not, and socio-economic status, but also regarding ethnic backgrounds. Health and risk factors for diseases are not equally distributed within the multiethnic population. For instance, overweight and physical inactivity are more common among non-Western ethnic minority women than among ethnic Dutch women. The municipality of Amsterdam aims to reduce such health disparities. But how should programs that promote healthy behaviors and fit the ethnically diverse population be developed or chosen? Adapting lifestyle programs to risk groups might result in a better fit. However, this should be balanced against the efforts needed (e.g., time and costs). Might there also be a common base for 'one-size-fits-all' programs? If not, what kinds of adaptations are required? These are questions which are systematically addressed by this PhD thesis.

Target population of the Public Health Service of Amsterdam: Ethnically diverse

Globally, populations in high-income countries are becoming increasingly ethnically diverse, as is the population in the Netherlands [1-4]. Ethnic minorities are likely to congregate in large cities [5, 6]. For example, the target population of the Public Health Service of Amsterdam consists of more than 175 nationalities [7]. Amsterdam may be considered as one of the most ethnically diverse cities in the world [8]. Approximately half of its residents are from ethnic minorities, of which 35% belong to a non-Western ethnic minority group [7]. Box 1.1 contains an explanation of the terms nationalities’, ethnic groups’, and non-Western ethnic minorities’.

Box 1.1 Ethnicity measured by nationality, country of birth, and self-identification

Ethnicity is neither a simple nor a consistently used concept. It can be described as a group of people who share unique history and origins. In the Netherlands, in the second half of the 20th century nationality was frequently used as indicator for ethnicity. However, nationality is an imprecise measure to get insight in the number of people who are not originally from the Netherlands. The measure does not include naturalized migrants who have adopted the nationality of the host country. Moreover, migrants from former Dutch colonies, like the Netherlands Antilles and Suriname, can have the Dutch nationality. Therefore, the number of nationalities in a country, city, or district might provide an indication of its ethnic diversity, but is less useful to identify ethnic backgrounds and ethnic minorities.

These days, the Dutch government (e.g., in the municipal population register) classifies ethnicity by a person’s country of birth and that of his or her parents. According to the standard definition of Statistics Netherlands (CBS), a person belongs to the ethnic majority if both parents are born in the Netherlands and to the ethnic minority if at least one of the parents is born in another country. This indicator enables distinguishing between first and second generation ethnic minorities. Ethnic minority residents are considered first generation of they were born in another country themselves, and second generation if they were born in the Netherlands to at least one parent born in another country. Among first generation ethnic minorities, ethnic background is defined by their own country of origin. Among second generation ethnic minorities, the birth country of the mother is decisive, unless the mother’s birth country is the Netherlands, when ethnicity is defined by the father’s birth country. A further distinction is made between non-Western and Western ethnic minority groups. The former refers to people that originate from Africa, Latin America, Asia (with exception of Japan and Indonesia because of their advantaged socioeconomic and sociocultural positions), or Turkey. The latter refers to people that originate from Europe, North-America, Oceania, Japan, and Indonesia.
Burden of diseases is unequally distributed in multiethnic populations. For instance, coronary heart disease, diabetes, and mental health problems affect some ethnic groups more than others [2]. One of the core principles of practice in public health is that it addresses health problems in subpopulations that are most affected [9]. Accordingly, health policy by the municipality of Amsterdam is focused on disadvantaged residents. Among these disadvantaged residents, non-Western ethnic minorities are overrepresented [10].

Core function of the Public Health Service of Amsterdam: Health Promotion

Health promotion is one of the statutory municipal tasks executed by the Public Health Services (GGD’en) in the Netherlands [14]. Health promotion is directed at promoting health behaviors to prevent diseases [15, 16]. Health behaviors are linked to 20 to 25% of the global burden of diseases [WHO]. Smoking, physical inactivity and overweight can be seen as risk factors with the most diminishing impact on health [10].

Health promotion practitioners not only use traditional health education to promote such health-related behaviors, but also the elimination of environmental barriers and the provision of facilities[15, 16]. Examples of interventions that are employed by the Public Health Service of Amsterdam in collaboration with external parties include Jump-in, a school-based program to promote physical activity among children in deprived neighborhoods [17], and ‘Healthy Shopping, Healthy Cooking’; a nutrition program with four weekly sessions aimed at women from the same neighborhoods [18].

Targeting health promotion interventions to ethnic minority groups

The increasingly ethnically diverse target population is a challenge for health promotion practitioners from Public Health Services of large cities. This is particularly so because health promotion oriented towards the general population does not always seem to fit ethnic minority populations. For instance, channels used to deliver health promotion interventions may not reach ethnic minority groups [19, 20]. Another example is that ethnic minority women can experience cultural barriers towards the use of general exercise facilities. For instance religious barriers among Muslim women might hinder their use of sport facilities that lack gender-segregation [21].

Targeting health promotion to at-risk groups, such as certain ethnic minority groups, is suggested to increase the likelihood of a better fit and intervention effectiveness [9, 22, 23]. Targeting can be defined as ‘a health promotion approach developed or adapted for a de-
fined population subgroup that takes into account characteristics shared by the subgroup's members [9]. In Box 1.2 we summarize key terms used in three papers linked to targeting health promotion to ethnic groups, and relate these to our considerations for the need for targeting.

At some level, from the point of view of individual relevance, one might say that targeting is always better than no targeting, if well-implemented [9, 23]. Nevertheless, there are also counterarguments of ethnicity-based targeting. Adaptations to ethnic groups might increase costs significantly and may be unfeasible to implement in very ethnically diverse target populations [23, 24]. Moreover, there is a risk that targeting health promotion interventions

**Box 1.2** Targeting health promotion to ethnic groups – our focus and terminology used in three key papers

Three papers with topics linked to ethnicity-based targeting were key papers in the design of our study approaches and the writing of this thesis. The articles concerned are by Resnicow et al. [22], Kreuter et al. [9], and Hornik and Ramirez [23]. They can be considered as complementary. Resnicow et al. describe a model for understanding cultural sensitivity from a public health perspective. They define cultural sensitivity as the extent to which ethnic/cultural characteristics, experiences, norms, values, behavioral patterns and beliefs of a target population as well as relevant historical, environmental and social forces are incorporated in the design, delivery, and evaluation of targeted health promotion materials and programs. Cultural sensitivity is further conceptualized by two primary dimensions. The surface structure dimension involves matching intervention materials and messages to observable, 'superficial' characteristics of a target population (e.g., using people, language, music, familiar to, and preferred by, the target audience but also identifying appropriate channels for intervention delivery). Deep-structure sensitivity engages with the cultural, social, historical, environmental and psychological forces that influence health behavior.

Kreuter et al. distinguish five strategies to make health promotion programs and materials more culturally appropriate. Peripheral strategies try to make the appearance of an intervention cultural appropriate by packaging them in ways likely to appeal to a given group (e.g., using colors and pictures that overtly convey relevance to the cultural group). Evidential strategies seek to enhance the perceived relevance of a health issue for a given group by presenting evidence of its impact on that group (e.g., epidemiological data specific to a given population). Linguistic strategies involve providing the intervention in the dominant or native language of the target group. Constituent-involving strategies draw directly on the experiences of members of the target group, such as training of community health workers. Socio-cultural strategies involve recognition, reinforcement, and building upon a group's cultural values, beliefs, and behaviors to address health-related issues.

Kreuter et al. emphasize, moreover, that race and ethnicity may be important/central parts of a given culture, but are not, in and of themselves, culture. They suggest the identification of at-risk groups, such as an ethnic minority group, and use this as starting point for a more thoughtful exploration of the group's cultural characteristics. Because we assume that the relationship between ethnicity and health might be mediated by more than culture alone, for instance also by emigrational background and socio-economic position [Stronks], we keep ethnicity as our starting point for further consideration of the need for program adaptations.

Hornik and Ramirez also take (race and) ethnicity as starting point for segmentation decisions. Whereas Resnicow et al. and Kreuter et al. describe ways in which health promotion programs can be adapted; Hornik and Ramirez add a step-wise approach showing how to consider adaptations to ethnic groups. This step-wise approach considers the need for adaptation of four different aspects of large-scale health communication programs to ethnic groups. These intervention aspects suit the aforementioned ways of adaptation. After establishing a need for a segmented health behavioral focus (behavioral segmentation), they propose consideration of the need for message, channel, and execution segmentation respectively.

Channel and execution segmentation could be seen as surface structure sensitivity as defined by Resnicow et al. Examples of execution segmentation are the use of ethnically-matched actors, or the adaptation of language used. These can be associated with the ‘linguistic’ and ‘constituent-involving’ strategies of Kreuter et al. Finally, Hornik and Ramirez describe message segmentation as choosing different message foci for different ethnic groups, for instance implication of religious identity in the message for one ethnic group versus an accent on health benefits for the other. This is an example of deep structure sensitivity as described by Resnicow et al., and of a sociocultural strategy described by Kreuter et al.

We refer to this latter approach as consideration of the need for targeting the behavioral determinants addressed by health promotion to ethnic groups.
might result in stigmatization. Implicitly, it may carry the message that the target group of such interventions are particularly needy or have ‘bad health behaviors’ [23]. Finally, one might argue that targeting to ethnic groups is ineffective if the wrong intervention aspect is adapted, if the kind of adaptation is not effective, or if differences are actually larger within ethnic groups than between them [23]. Therefore, there is a need to carefully consider ethnicity-based targeting to make health promotion more relevant for multiethnic target populations.

**Step-wise consideration of the need for targeting intervention aspects**

Consideration of the need for targeting health promotion to ethnic groups can be applied to several individual intervention aspects and, subsequently, to a health promotion intervention as a whole. Hornik and Ramirez [23] describe in their article four intervention aspects for which ‘targeting-decisions’ can be made. Although their article concerns large-scale health communication programs intended to affect behavior change (i.e., mass media campaigns), they already referred to the possible application to other kinds of interventions. If we translate their approach into health promotion, the following four intervention aspects require targeting-decisions.

1. Health promotion practitioners might choose different behavioral goals for different ethnic groups. Behavioral risks may differ between ethnic groups, or ethnic groups may differ in their stage of behavioral change. If so, this would imply a need for distinct behavioral aims and performance objectives for health promotion interventions [23, 25].

2. The health promotion intervention might address different determinants of health behaviors dependent of the ethnic target group. Influences on behavior change may differ between ethnic groups. Well-implemented targeting to behavioral determinants (e.g., sociocultural determinants) is thought to increase effectiveness of health promotion interventions on behavioral change [22, 26].

3. Different channels might be used to deliver a health promotion intervention towards different ethnic groups. Different ethnic groups may differ in their use and perception of communication channels (e.g., the perceived credibility). Targeting channels to different ethnic groups for intervention delivery might result in a better reach [23, 27].

4. The way of intervention execution might be adapted to different ethnic groups. For example, the language used might be targeted to the native language of a given ethnic minority group, or ethnically matched intervention executive might be employed. This kind of targeting is thought to increase receptivity, accessibility, and acceptance [22, 23, 27].

If there are large, transparent differences on multiple aspects one might consider the development of distinct program approaches [23, 28]. This means that interventions are
specifically developed and implemented for a particular ethnic group. A second approach can be the use of a standard program approach that is adapted to differences between ethnic groups in one or more of the aforementioned aspects [23, 28]. In contrast, when ethnic groups share important risk behaviors, behavioral determinants, channels used, and/or preferences for execution, then general, common-denominator approaches regarding these particular aspects might be appropriate for multiethnic populations [23]. A final approach, the single approach, can be that the whole health promotion intervention is directed toward shared elements, whether or not these are the most important behavioral risk factors, determinants, channels used, or suitable to execute [23, 28].

Knowledge gap and practical questions

Although the logic behind targeting interventions to ethnic groups is strong, after all an intervention that is fully adapted to the needs and characteristics of a target population is expected to be most likely to promote behavioral change, the current evidence regarding ethnicity-based targeting limits the ability to draw definite conclusions about its effectiveness [9, 23, 25]. In addition, as described before, there also may be practical barriers to targeting interventions towards ethnic groups within multiethnic populations (e.g., it may increase costs and be unfeasible to implement). Therefore, there is a need for an empirical basis for targeting-decisions.

First, it may be good to realize, that targeting is a method, a family of strategies, and targeting is possible on several aspects of a health promotion intervention [23, 25]. It is unclear which kinds of targeting contribute to its effectiveness, for instance is it language adaptation and/or may it be the use of ethnically matched recruiters? Furthermore, it remains unclear which intervention aspects require targeting (e.g., the determinants addressed versus channel use).

Subsequently, for implementation in practice it is useful to know to whom, and under which conditions targeting might contribute to intervention effectiveness [29, 30]. It can be questionable whether ethnicity is the most urgent targeting criteria. Heterogeneity within ethnic groups may be larger than across ethnic groups. If so, other targeting criteria (e.g., to socioeconomic status, stage of change) may be more suitable [23]. It is useful to know on which kind of personal characteristics common approaches can be grounded.

Finally, insight into how to consider the need for ethnicity-based targeting or the possibility for the use of common denominator approaches is still in its developmental stages. A systematic approach how to consider program adaptation might be worthy for health promotion practitioners.
Case: weight-related health promotion among mothers from different ethnic groups

We try to get more insight into these practical questions and the knowledge gap by focusing on a specific case. This case considers weight-gain prevention among mothers from non-Western ethnic minority groups. Overweight and obesity have reached epidemic proportions globally [31]. This is a major public health issue because it is a major risk factor for, for example, diabetes, coronary heart diseases, and mental health problems [32]. A high prevalence of overweight and obesity is present in most population subgroups, but non-Western ethnic minority groups have a higher risk [33-36].

In the Netherlands, ethnic differences in overweight are especially prevalent among women [37, 38]. Percentages of overweight and obesity are found to be higher among Turkish, Moroccan, Surinamese (especially Afro-Surinamese), Antillean/Aruban, and Ghanaian women compared to their Dutch counterparts [37-40]. Physical inactivity and high-caloric dietary intake are the main behavioral risk factors of overweight. Physical inactivity is found to be more prevalent among non-Western ethnic minorities, especially women, compared to the Dutch population [41, 42]. Dietary habits are strongly related to ethnicity and culture, and thereby are likely to differ within multiethnic populations [43-47]. However, how dietary patterns differ between ethnic groups and which differences might be related to ethnic differences in overweight is less clear.

Most weight gain is observed in the age group of 25-44 years [38, 48], which can be regarded as child-bearing age. Mothers with young children are found to be at increased risk for weight gain and decreased physical activity compared to women of the same age without children [49-51]. This does not only have health consequences for themselves, but is also likely to affect their children. Intervention studies have indicated that changes in parents’ dietary and physical activity behaviors influence their children's changes in dietary and physical activity behaviors. Parents model behaviors for their children, and they also control the availability of foods and activities in their households [52-56].

Study location: Amsterdam South-east

In this thesis, we focus specifically on mothers from Amsterdam South-East. Residents of Amsterdam South-East score less favorably on overweight, physical activity, and dietary behaviors in comparison with the total population of Amsterdam (see Figure 1.1) [57, 58]. In fact, this district can benefit most from weight-related health promotion compared with all the other districts in Amsterdam. Moreover, a relatively large number of residents would like to get help in losing weight [58].

Amsterdam South-East is also a very ethnically diverse district. In 2007, the start of our thesis project, 141 nationalities lived in Amsterdam South-East, where 63% belonged to a non-Western ethnic minority group [7]. The largest ethnic groups were the Surinamese, Antilleans, and Ghanaians, besides the ethnic-Dutch. These ethnic minority groups were the
General introduction

On the national level, Surinamese took the 2nd and Ghanaians take the 9th position. Despite their large proportion in the Netherlands, we know relatively little about their motives and barriers towards weight loss and related behaviors. More studies were done among the largest ethnic groups in the Netherlands, the Turkish and Moroccans (e.g., [60-63]). Therefore, Amsterdam South-East provides an excellent opportunity to study the need for targeting weight-related health promotion to ethnic minority groups, and to get more insight in large, but relatively understudied ethnic minority groups.

Aim of this thesis

The main aim of this thesis was to explore whether there is a need for targeting health promotion interventions to specific ethnic minority groups, or whether general approaches might be applicable. We study the need for adaptations of several intervention aspects – particularly the addressed behavioral determinants, the used channels to deliver the intervention, and the way of execution – to improve reach, participation, and the potential effectiveness on behavioral change. For this purpose, we do research on a specific case: weight-gain prevention (hereafter also referred to as weight-related health promotion) among a multi-ethnic group of mothers. Thereby we will provide an application of a step-wise approach, and give additional recommendations on how targeting health promotion interventions could be systematically considered.

Outline of thesis and methods used: a systematic approach

We used a systematic approach to gain insight into the need for ethnicity-based targeting of health promotion interventions. In this approach we employed two types of studies, summative and formative studies, to answer three main research questions. This thesis is structured in three parts based on these main research questions (Table 1.1).

Summative studies evaluate whether the intervention approach is successful in promoting behavioral change. To draw conclusions as to whether targeting interventions contribute to
its effectiveness, targeted interventions must be compared to credible non-targeted alternative interventions [23]. We conducted two summative studies, systematic literature reviews, which used this comparative approach to answer our first main research question:

1. **What is the current evidence for targeting physical activity and nutrition interventions to mothers with young children (review 1), or an ethnic minority group (review 2) to promote attendance and/or effectiveness?**

Project-based formative studies can provide additional insight in the need for targeting. Our project, aimed at promoting weight-related behaviors among mothers with young children living in Amsterdam South-East, uses the steps of systematic health promotion [25, 26]. We started with a needs assessment. The formative studies used included an epidemiological assessment, and conducting focus groups. The needs assessment was guided by the second main research question:

2. **Are there differences in weight retention after pregnancy, behavioral determinants of weight-related behaviors, and communication channels to access weight-related health promotion between women from different ethnic groups, that would imply a need for ethnicity-based targeting weight-related health promotion? Or are there similarities which might imply the possible application of general (i.e., common denominator) approaches?**

The outcomes of the needs assessment provided the basis for informed decisions about whether to apply targeted or general health promotion strategies. Health promotion programs were chosen which in the basis could fit the multiethnic target group of mothers, or could be adapted if necessary. For this purpose, program descriptions of existing weight-related health promotion programs were translated to potential behavioral change strategies used, and it was assessed whether these might address the behavioral determinants derived from the needs assessment. For this assessment, additional insight was gained from observations of the program. Subsequently, channels used for delivery of the existing interventions were compared to channels used as indicated by Ghanaian, Surinamese, and Antillean women.

The resulting chosen targeted or general health promotion strategies were subsequently **tested in practice**. For this purpose, another type of formative study was conducted, which relate to the earlier stages of intervention evaluation. Small-scale qualitative process evaluations were used to get insight into the third research question:

3. **Does targeting of recruitment strategies or general program approaches for mothers of ethnic minority groups seem to contribute to intervention effects?**
Such process evaluations give insight into the utility of the applied program approach with a particular focus on the conditions and mechanisms underlying its impact. Subsequently, they can give indications for well-informed summative research (i.e., randomized or non-randomized experiments) and practice.

**Table 1.1** Outline thesis according to theme, intervention aspect, and outcome measure addressed and type of study used

<table>
<thead>
<tr>
<th>Part I</th>
<th>What is the current evidence for targeting?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 2</td>
<td>Interventions aimed at mothers with young children</td>
</tr>
<tr>
<td></td>
<td>• Execution</td>
</tr>
<tr>
<td></td>
<td>• Behavioral determinants addressed</td>
</tr>
<tr>
<td></td>
<td>• Attendance</td>
</tr>
<tr>
<td></td>
<td>• Effectiveness on behavioral change</td>
</tr>
<tr>
<td></td>
<td>Systematic literature review</td>
</tr>
<tr>
<td>Chapter 3</td>
<td>Interventions aimed at an ethnic minority group</td>
</tr>
<tr>
<td></td>
<td>• Execution</td>
</tr>
<tr>
<td></td>
<td>• Behavioral determinants addressed</td>
</tr>
<tr>
<td></td>
<td>• Effectiveness on behavioral change</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part II</th>
<th>Are there differences that imply a need for targeting?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 4</td>
<td>Weight retention after pregnancy</td>
</tr>
<tr>
<td></td>
<td>• Behavioral aim</td>
</tr>
<tr>
<td></td>
<td>n.a.</td>
</tr>
<tr>
<td></td>
<td>Epidemiology</td>
</tr>
<tr>
<td>Chapter 5</td>
<td>Determinants of weight change and related behaviors</td>
</tr>
<tr>
<td></td>
<td>• Behavioral determinants addressed</td>
</tr>
<tr>
<td></td>
<td>n.a.</td>
</tr>
<tr>
<td></td>
<td>Focus groups</td>
</tr>
<tr>
<td>Chapter 6</td>
<td>Communication channels to access weight-related health promotion</td>
</tr>
<tr>
<td></td>
<td>• Channels</td>
</tr>
<tr>
<td></td>
<td>n.a.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part III</th>
<th>Testing the need for targeting in practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 7</td>
<td>Targeted recruitment channels and recruiter towards ethnic groups</td>
</tr>
<tr>
<td></td>
<td>• Channels</td>
</tr>
<tr>
<td></td>
<td>• Execution</td>
</tr>
<tr>
<td></td>
<td>• Reach</td>
</tr>
<tr>
<td></td>
<td>• Participation</td>
</tr>
<tr>
<td></td>
<td>Qualitative process evaluations</td>
</tr>
<tr>
<td>Chapter 8</td>
<td>Exercise program not targeted to specific ethnic groups</td>
</tr>
<tr>
<td></td>
<td>• Behavioral determinants addressed</td>
</tr>
<tr>
<td></td>
<td>• Execution</td>
</tr>
<tr>
<td></td>
<td>• Attendance</td>
</tr>
<tr>
<td></td>
<td>• Satisfaction</td>
</tr>
</tbody>
</table>

n.a. = not applicable
References

8. (2007, August 22). Amsterdam stad met meeste nationaliteiten (177) ter wereld [Amsterdam city with the most nationalities in the world. In Dutch]. Trouw.


57. GGD Amsterdam, D. O. (2009). *Zo gezond is Amsterdam Zuidoost!* [This healthy is Amsterdam South-East! In Dutch]. Amsterdam: Drukkerij Leijten Amsterdam.


