MASTEROPPGAVE

Masterstudium i empowerment og helsefremmende arbeid

September 2019

Promoting physical activity through public health campaigns: A synthesis using meta-ethnography

Kaja Ulland

OsloMet – storbyuniversitetet

Fakultet for helsevitenskap

Institutt for sykepleie og helsefremmende arbeid

Sammendrag – Forskningsartikkel og refleksjonsoppgave

Bakgrunn: Folkehelsekampanjer som har til hensikt å fremme fysisk aktivitet, har som mål å nå store deler av en befolkning. Sosioøkonomiske forskjeller gjør det likevel utfordrende å treffe alle grupper i befolkningen gjennom kampanjer. Forskningsartikkelen i masteroppgaven undersøker voksne menneskers erfaringer med folkehelsekampanjer med fokus på å fremme fysisk aktivitet. I masteroppgavens refleksjonsoppgave er hensikten å diskutere muligheter og utfordringer ved bruk av sosiale markedsføringsprinsipper i helsekampanjer.

Metode: Forskningsartikkelen er en kvalitativ syntese basert på 10 primærstudier som ble analysert i tråd med Noblit og Hares metaetnografi. Det ble gjort søk i Cinahl, Medline, SPORTDiscus og Web of Science sammen med en spesialbibliotekar. Refleksjonsoppgaven er en litteraturstudie basert på fire utvalgte artikler fra Cinahl, Medline og SPORTDiscus. Gjennomgang av litteraturlister har også bidratt til relevant litteratur.

Resultater: Analyseprosessen i artikkelen ledet til tre temaer som synliggjør folks erfaringer med helsekampanjer. Disse var; forståelse av helsebudskapet, barrierer knyttet til å følge helsebudskapet og ønsker for helsekampanjer som fremmer fysisk aktivitet. I refleksjonsoppgaven fremkommer: tilpasning av helsebudskapet, kunnskap om atferdsteori og evaluering av helsekampanjer, som viktige komponenter ved bruk av sosiale markedsføringsprinsipper i helsekampanjer.

Diskusjon: Funnene i artikkelen ble tolket og drøftet i lys av Antonovskys teori om salutogenese. Forskningsartikkelen kan gi nyttig informasjon om erfaringer fra ulike målgrupper. Dette vil være viktig kunnskap ettersom brukerperspektivet i økende grad vektlegges når en utformer helsekampanjer relatert til fysisk aktivitet. Funnene i refleksjonsoppgaven drøftes i lys av den folkelige helsemodellen, som er sentral for å kunne få innsikt i hva slags helseinformasjon som faktisk når frem til ulike grupper i et samfunn. På bakgrunn av dette, trekkes det paralleller mellom refleksjonsoppgavens resultater og brukermedvirkning, health literacy og motivasjon, som er viktige elementer for å møte målgruppens behov og interesser.

Nøkkelord: Folkehelsekampanjer, Fysisk aktivitet, Syntese, Metaetnografi, Salutogenese, Den folkelige helsemodellen.

Summary - Research article and reflection paper

Background: Public health campaigns promoting physical activity, aim at large parts of a population. However, socio-economic differences make it challenging to reach all groups in a population through campaigns. The research article in the master's thesis explore adult's experiences with public health campaigns promoting physical activity. The purpose of the reflection paper is to discuss the possibilities and challenges of using principles of social marketing in health campaigns.

Method: The research article is a qualitative synthesis based on 10 primary studies that were analyzed following Noblit and Hare's meta-ethnography. Searches were conducted in Cinahl, Medline, SPORTDiscus and Web of Science with an expert librarian. The reflection paper is a literature study based on four selected articles from Cinahl, Medline and SPORTDiscus. Review of literature references also contributed to relevant literature.

Results: Analysis and synthesis in the research article, indicated that people´s experiences with health campaigns are influenced by three themes. These were; understanding the health message, barriers in following the health message and wishes for health campaigns promoting physical activity. In the reflection paper, three components emerged as important in using social marketing principals in health campaigns. These were; adapting the health message, knowledge of behavioral theory and evaluation of health campaigns.

Discussion: The findings in the article were interpreted and discussed in light of Antonovsky's theory of salutogenesis. The research article can provide useful information about experiences from target audiences. This will be important knowledge as the user perspective is increasingly emphasized when designing health campaigns related to physical activity. The findings in the reflection paper are discussed in the light of "the public health model", which is central to gain insight into the kind of health information that actually reaches different groups in a society. Based on this, parallels were drawn between the results of the reflection paper and user participation, health literacy and motivation, which are important elements to meet the needs and interests of a target group.

Keywords: Public health campaigns, Physical activity, Synthesis, Meta-ethnography, Salutogenesis, The public health model

INNHOLDSLISTE

RESEARCH

Promoting physical activity through public health campaigns: A synthesis using meta-ethnography

Kaja Ulland*[1],Kari Anne Hakestad[1] and Ingrid Ruud Knutsen[1]

Abstract

Background: Action plans and policy options promoting physical activity through public health campaigns are given a great deal of attention worldwide. Yet, questions can be raised if the health messages reach the people they are meant to reach. The purpose of this study is to analyze and synthesize qualitative studies regarding the adult population`s experiences with health campaigns promoting physical activity.

Method: A comprehensive literature search was conducted with an expert librarian in October 2018. We searched the four databases CINAHL, MEDLINE, SPORTDiscus and Web of Science. The synthesis is based on the inductive and interpretive approach meta-ethnography. By following Noblit and Hare`s seven-phase strategy for analysis, we synthesized findings across several qualitative studies.

Results: Ten primary studies met the inclusion criteria's. The results are based on 399 informants from western, English speaking countries. The synthesis indicated that people`s experiences with campaigns promoting physical activity are influenced by the following three themes 1) understanding the health message, 2) barriers in following the health message and 3) wishes for health campaigns promoting physical activity. The three themes were interpreted in light of Antonovsky´s theory of salutogenesis.

Conclusion: The concepts and contexts could be used to enhance the development of tailored public health campaigns promoting physical activity and could be used as potential opportunities in understanding people's experiences with health campaigns promoting physical activity.

Keywords: Physical activity, public health campaigns, health message, salutogenesis, qualitative synthesis, meta-ethnography

* Correspondence: s170652@oslomet.no
[1]Department of Nursing and Health Promotion
Oslo Metropolitan University, Kjeller, Norway.

Background

Public health is briefly about organized efforts of society, where prevention of disease and promotion of health are key aspects. The entire spectrum of health and wellbeing are central and can be promoted through public health campaigns (1).

Public health campaigns have an opportunity to raise understanding and awareness of diseases and health threats. They also have the opportunity to mobilize support for action where they can inform, convince and motivate people to adapt to healthy lifestyles (2). Communicating through public health campaigns in the mass- or social media and in social marketing initiatives, are well known (3). These types of campaigns have proven to be cost-effective and can quickly reach and raise awareness in large parts of a population (4). The World Health Organization (WHO) describes health promotion consisting of three key elements which are; good governance for health, health literacy and healthy cities (5). Further, in health promotion, Antonovsky´s theory about salutogenesis has a dominant position, where three factors influence an individuals' sense of coherence (SOC). Antonovsky´s framework involves to what extent one has a lasting, consistent and at the same time a dynamic sense of trust to that both inner and outer stimuli are perceived as understandable (comprehensibility), having resources available (manageability) and a feeling that engaging in it is meaningful to the individual (meaningfulness) (6). According to Antonovsky (6), these three factors in the theory of salutogenesis, are elements that together can be understood as fundamental in the human ability to respond to stressful situations and view of life.

Public health campaigns have frequently been used to promote the benefits of physical activity (henceforth PA) in the preventive work of inactivity and noncommunicable diseases. Inactivity is known to be one of the leading risk factors for mortality worldwide (7). Nevertheless, large parts of the public does not meet WHO (8) recommended levels of PA with 150 minutes of moderate aerobic exercise or 75 minutes of vigorous activity per week. Increasing people´s level of PA is, therefore, a public health priority (2). In parallel, there are significant social inequalities in health and living habits. WHO (9) has emphasized that social gradients of health are a challenge and that vulnerable groups in the population need support. It is further a challenge that people with lower socioeconomic status to a lesser extent than the general population change behaviour based on one-dimensional information campaigns. Such campaigns may even be counterproductive increasing social inequalities in health (9). A concern that might follow, could be that the health campaigns improve the health of the people with greater access to resources, in contrary to those with lower access to resources. This unevenness could further exacerbate health disparities (10).

In today´s society, we are surrounded by a substantial amount of information, and health campaigns must compete with advertising and marketing campaigns in the media. Much marketing is related to products that may increase health risks. The public health campaigns need to address competing messages to succeed, but often with fewer resources then what is available for product advertising by corporations (11, 12). Whether the health campaigns succeed in encouraging people to turn advice into action, has been addressed in multiple studies (13-16). In these studies, questions are raised whether the campaigns promoting PA have a role, if national campaigns can make a difference, the impact of integrated campaigns and that the effectiveness of stand-alone media campaigns trying to increase PA. Furthermore, an evaluation of health communication campaigns found that it is difficult to evaluate health campaigns, due to a great diversity of governing systems, cultures, languages and available resources (17). Because of this, interest arises regarding people´s experiences and thoughts about PA promoted through public health campaigns. Primary studies have been conducted to study people´s experiences with different health campaigns promoting PA, but to our knowledge, there are no studies synthesizing people´s experiences concerning this matter. By synthesizing qualitative research, we will organize and gather the existing

body of knowledge about people's experiences with public health campaigns promoting PA. This is to get access to how people reflect on how the campaigns influence their level of PA. The present study aims to contribute to a broader understanding of how people experience health campaigns promoting PA and how research manage to reflect their experiences with these campaigns. The present study has been led by the question: Which experiences do people have regarding public health campaigns promoting physical activity?

Methods

Metasynthesis as a method in qualitative research is an approach where data is analysed across qualitative studies. A specific research question is formed and led by searches, selection, appraisal, summarizing and combining the qualitative evidence so that the research question can be addressed (18). In the present study, we applied meta-ethnography, which is an inductive approach in analysing primary qualitative studies. In our search to explore peoples experiences with health campaigns and PA, we followed a seven phase strategy (19).

Search and selection of studies

The first phase involved getting started (19), where we aimed to identify available studies about public health campaigns and physical activity. In the second phase, a search strategy was planned with an expert librarian and comprehensive searches in MEDLINE, CINAHL, SPORTDiscus and Web of Science were made in October 2018. Medical Subject Headings and text words were searched individually, in combination and/or truncated. The main terms for searches were: exercise, physical activity, campaign, health campaign, health message, health information, communication campaign, communications media, mass media, health promotion, public health, qualitative studies and mixed-methods. The criterions for inclusion were 1) qualitative or mixed method studies, 2) general adult population over 18 years of age, 3) public health campaigns focusing to promote PA, 4) English language and 5) peer-reviewed. Studies were excluded if they focused on 1) policymakers and/or health professionals 2) people with disabilities and/or existing illness 3) program(s) for certain groups and/or 4) PA promotion through family- or workplace interventions. After duplicates were removed, the titles and abstracts were screened. Articles were discarded if they did not focus on public health campaigns, physical activity, the adult population and/or qualitative research. Articles that met the inclusion criteria based on titles and abstracts were read in full-text. After a close reading of these, most of the articles were excluded due to limited scopes (e.g specific programs promoting PA or not general public campaigns) or solely focusing on specific age groups (e.g. focusing on young adults, 18-22 years of age). Two studies were excluded due to poorly described methodology. After full-text reading, ten studies fitted the inclusion criteria's and were accepted with sufficient quality for further analysis. This was assured by the three authors individually assessing the Critical Appraisal Skills Programme (CASP) Qualitative Checklist on all the final studies. In this process, we discussed if the methodology was appropriate for the design of the studies, how the requirement was performed, the characteristics of the participants and whether they had addressed ethics around the study. Three out of the included studies did not mention informed consent, but we decided to trust the authors of the primary studies. Further, two of the studies were of mixed method design but was included due to a clear distinction between the quantitative and the qualitative results. One was a pilot study but was included because of rich data material. The following flow chart presents the articles retrieved.

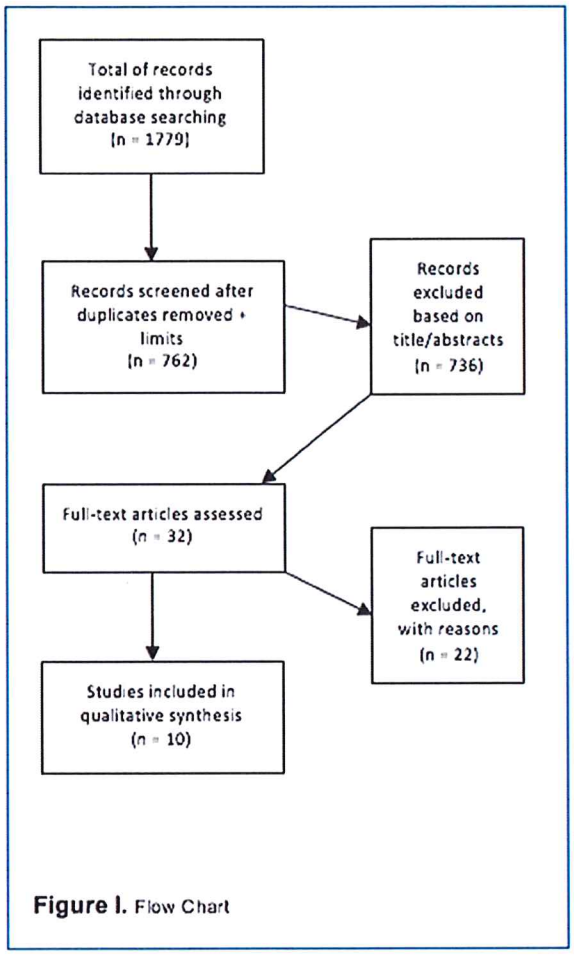

Figure I. Flow Chart

Procedure for analysis and synthesis

The third phase involved reading the final included primary studies' result section closely (19). This involved getting familiar with what the authors of the primary studies had already conducted as their results, also known as their first-order analysis. During this reading, three preliminary themes were identified and were discussed and agreed upon between us. These themes were 1) understanding, 2) barriers and 3) wishes. These themes were identified as the starting point of the second-order analysis which initially represented the empirical material for the metasynthesis. In the fourth phase, we organized the empirical material representing the three themes into an analogue matrix (19). In this process an assumption of how the included studies were related was determined and differences and similarities in concepts, emerged. In this process, we decided on Berry (20) as an index study. This became a starting point for the further inductive elaboration of the themes. This due to the study´s rich data material, many participants and high methodological quality. All the included studies contributed to the three preliminary themes in varying degrees. After several adjustments in rows and of our understanding of the contexts were made, the essential interpretations and findings were horizontally translated to each other, which was a part of the fifth phase. In this process, we also strived to preserve the original terminology from the different primary studies. In the sixth phase (19), we worked with the horizontal rows to make a superior translation that covered all the issues in the form of a new, independent and original understanding of the results. This was achieved by reciprocal translation. Interpretations grounded on the results from the primary studies made it reasonable to substantiate the three preliminary themes and synthesise to three themes, which finally represented the outcome of the second-order analysis (19). These themes were 1) Understanding the message 2) Barriers in following the message and 3) Wishes for health campaigns promoting PA.

Meta-ethnography is an inductive method that belongs in the interpretive paradigm which involves interpretation rather than the description (19). The three themes were interpreted in light of Antonovsky's theory of salutogenesis. The connection between the three themes and the conceptual use: comprehensibility, manageability and meaningfulness, (6) emerged, and is further elaborated in the section of the discussion. The seventh and final phase involved conveying the synthesis into text and was written as the chapter of results (19).

Table I. Characteristics of the different studies included in the synthesis

Study	Reference	Country	Participants	Age	Socio-economic background	Recruitment and consent	Data collection	Terms used to describe the campaign
1	Berry et al. (2009)	Canada	N=1600 (survey) N=29 interviewed 21 female 8 male	55-80 years	Only mentioned for the participants in the quantitative survey	Recruited through a wellness coordinator and publicly available listings Ethics approval and informed consent	Mixed-method, Group interview	Media campaign, health promotion campaigns, mass media campaigns, health promotion campaigns, health information, mass marketing campaign
2	Burton et al. (2008)	Australia	N=39 All male	45-65 years	Fairly good educated, 72% overweight or obese	Convenience sampling approach Ethics approval, not stated informed consent	Group interview	Health promotion community based intervention program Social marketing
3	Smith & Bonfiglioli (2015)	Australia	N=46 24 male 22 female	18-65+ years	30 % overweight or obese. Most participants in paid employment	Purposive sampling strategy, Approval from ethic committee, Not stated informed consent	In-depth interviews	Physical activity campaign, public health message, media campaign, mass media communication
4	Burroughs et al. (2006)	USA	N=90 27 male 63 female	Phase 1 Both genders Phase 2 43, age 35-54 (female)	Most irregular active (defined as not meeting the WHO PA recommendations (63%black, 33% white. Rest Asian/unidentified)	Purposive convenience sampling (By project coordinator) Informed consent	Group interview	Social marketing campaign, community wide campaign, mass media campaign
5	Balbale et al. (2013)	USA	N=23 (screening) N=9 women interviewed	71,6 years ±7,6 years	Relatively low socioeconomic status, low income, Hispanic, both active and inactive	Through flyers, grocery stores, community centers and agencies Informed consent	Mixed-method, In-depth interview	Health communication, mass communication, health campaign message, health message
6	Wilson et al. (2013)	USA	N=52 36 female 16 male	18-65+	Underserved communities (low-income, predominately minority)	Recruited through the local neighborhood association/local schools Informed consent	Group interview	Social marketing campaign, mass media campaign, mess media-based strategy
7	Reininger et al. (2010)	USA	N=57 44 female 13 male	20-64	Not stated social economic background, other than that the messages about PA were seen as relevant and appealing to them. The participants had to speak Spanish or English	Recruited by promoters and program staff. Informed consent	Group interview	Media campaign, mass media messages, health message campaign
8	Sebastiao et al. (2015)	USA	N=10 All women	60-80	5 inactive, 5 active. All overweight or obese. Education: 5 with college or more	Recruited from a previous study that was conducted to examine PA levels. Informed consent	Group interview	Mass health communication, health communication, mass communication messages, public health messages
9	Friedman et al. (2012)	USA	N=49 All men	45-84	Fairly well-educated, both active and inactive – 27 active, 22 inactive. 67% with some college education, 57% unemployed. 40% had diabetes, 59% high blood pressure	Purposive sample (targeted mailings, flyer distribution, TV/radio announcements) Not stated informed consent	In-depth interview	Social marketing, physical activity messages, health communication, health message, community based communication intervention
10	Grey et al.(2018)	UK	N=18 11 female 7 male	35-74	BMI from 22 to 34, most overweight or obese, 8-part time work, 5 full time, 5 retired. Post- and undergraduate	Convenience sampling (adverts for the study in the local media/around University) Ethics approval and written consent	In-depth interview	Health messages, health information, health promotion interventions, health promotion message

Results

In total, ten primary studies were included based on systematic search in the literature. The findings are provided from a total of 399 informants from Canada, Australia, the US and the UK, with an overrepresentation of studies from the US (Table I). Two hundred and sixteen women and 183 men from 18 to 84 years old were represented. The participants from the different studies have further been described as being both active, inactive, from normal weight to obese and from low-socioeconomic status with low income, to fairly well educated participants with high income. All of the studies present a range of seemingly adequate experiences people had with health campaigns regarding PA (20-29).

Understanding the message

Four of the studies refer to experiences with PA-promoting health campaigns being generally negatively perceived (20-22, 27). The use of a clear and easy language that was understandable and reflecting the ones that were intended to understand it, emerged as important to many of the participants (20, 24, 26, 27, 29). Some participants claimed that the ones that understood and valued the benefits of PA were often more active (24). It was also commented on the fact that the health campaigns should use a language that contained information that was clear, concise and possible to understand for the audience. One of the participants elaborated "I´ve just recently been noticing how many commercials have no verbal…anything…They´re assuming though now that everybody's literate…And not everybody is literate. There is a huge population out there who can´t read" (20).This was further emphasized where participants would not pay attention if the message was not understandable (26). A language that was appealing to the audience, was further something that became prominent. One of the participants explained how this was related to understandings within PA "..Not thought out, but some people might not know what moderate is, you know, to intensity… because you do have a lot of what you call the average Joe (…)" (27). Many participants with low literacy amplified that health messages about the benefits of PA were too lengthy and complex (24) and that the use of difficult terminology in health messages could result in confusion. Visual examples could help the participants to better understand some of the technical terms used. One of the participants said "…the words, need to be brought down to another level, I think that some of it could be a little elevated for some people (…)" (27). Participants highlighted the positive effect it had to truly understand the content of the message. This was exemplified with a health message explaining explicitly *why* PA was important for a human being to function properly. One participant said "I think they explain why movement is so important in more detail because it´s not just talking about move around more to lose weight… it´s explaining that the human body is designed to be moving a lot in order for it to function properly" (29). According to these participants, the health information presented in a new frame stimulated interest and made many of them think about the health messages in a compelling different light and their need for behaviour change. This also contributed to making the recourses more credible and interesting (29).

Barriers in following the health message

Participants from two of the studies refer to time, motivation and laziness as important barriers in becoming more physically active (21, 25).

Further, the general health message about PA was often seen as a barrier, because it would not fit into peoples´ daily routines (23, 25, 28). One participant´s reaction to a 10.000 steps a Day message, was "It does seem a large number, 30 minutes or three kilometres sounds more achievable, a daunting number like 10.000 might put some people off" (21). Another participant claimed "Once you make people aware of the benefits of it, it´s ultimately up to them. You can´t go and drag them out. Encouragement from other people, but, other than that, it´s really your own responsibility. You

have to be somehow motivated to do it" (22). Some of the participants highlighted the issue of accessibility. Especially access to a computer or the Internet was listed as hindrances following the advice that was given to increase their activity level. One stated "everybody expects that we all have computers and we are all on the internet. And we´re not. Especially in the rural areas, because you don´t get high-speed internet…in the country (…)" (20). At the same time, lack of access to facilities and limited support from the community were further emphasised as important barriers (25, 28). Some participants found that costs for a gym membership or boredom/disinterest also became obstacles in being active (21). The weather and/or humid climate were also seen as hindrances in following the messages (23, 25). In parallel, participants in Balbale`s (24) study, emphasized that barriers of being motivated to be physically active during the winter, which pointed towards a need for a stronger promotion of PA during the warmer seasons. Technological- and modernization change, further contributed to reducing the opportunities one would have to increase their level of PA (22). Another barrier in becoming more physically active involved not believing that one's PA-level needed to be increased. This meaning that if it was not explained how it would be affected by individual differences, it could be seen as a barrier because of the individual would not pay attention to the health message (29).

Wishes for health campaigns promoting PA

Participants from five of the primary studies elaborated their thoughts on how it would be motivating with health campaigns presented and explained by someone they could relate to (20, 25, 27-29). Several highlighted that it would be motivating with a health message with a spokesperson or a role model with whom they could identify (20, 23, 25, 26, 28, 29). One of the participants said "I would suggest a regular Joe Blow. I would market that individual as here I am, a black male, forty-five and older, going to church with his family, typical person, if I can do it, you can do it" (28). Another participant from the same study states "…someone who knows the benefits. Or someone who has been very ill and made a recovery from the benefits of exercise" (28). There was also placed great value in the use of images or simple illustrations on how to perform simple movements or ways to be encouraged to become more active (23, 26-28). One participant mentioned, "What motivates me is when I see people that are older than me and they are so fit!" (25). It was further highlighted that the use of humour in health messages could be perceived both positive and negative, but in the wrong context and/or to the wrong audience, this could lead to not being able to focus on the point that the health message was trying to make. One of the participants elaborated "You have to be really careful about humour because the grim reaper hit one person one way and one person another way" (20). (Figure; Grim reaper: used as a symbol that the target audience yearned for immortality). The use of this character was not wanted nor possible to relate to and was therefore not seen as a popular way of trying to adapt to a healthier and more physical lifestyle (20). Another wish for health campaigns promoting PA was that walking could be promoted more. This was emphasized as a simple change that seemed achievable to many of the participants. At the same time, this activity was seen as inexpensive, appropriate for adults and older people and easily accessible (21, 23, 24). Some participants also highlighted the fact that swimming was an activity that could be promoted more. One says: "Swimming – it´s easy on injuries, so you can do it even if you´ve got injuries, you´re supported in the water, it´s cheap". (21). PA in a social context was also seen as a useful promotional strategy. Several participants pointed out the need for community-based opportunities for PA. One participant says "If you´re in an organized team sport, you´re obligated to go, or else you let the team down…rather than I´m just too busy today I can´t do it, you raise the priority to it" (21). Some participants highlighted that local and well known people from the community who successfully had lost weight or older people that were perceived as active for their age were

recommended to be used as motivators in becoming more physically active (23). Another participant says "It made me feel those are quite small things he´s done, but perhaps I could do small things in a similar way" (29).

Discussion

The present study has aimed to contribute to a broader understanding of how people experience health campaigns promoting PA. It has also aimed to enlighten how research manage to reflect their experiences with these campaigns. The results in the present study provide insight to that "understanding the message", "barriers in following the health message" and "wishes for health campaigns promoting PA" seem to be strong components of how people experience health messages promoting PA. We chose to view the three themes in the context of Antonovsky´s theory of salutogenesis and SOC. SOC is considered a key concept in salutogenesis, and a strong SOC is further seen as one´s ability to mobilise resources to deal with everyday life and its stressors. People have different prerequisites on how they deal with life experiences, and the salutogenic framework could serve as a recourse of stress resistance (6). On the other hand, SOC is claimed being designed throughout life, following that it is a utopia to believe that one or more individual events may cause a significant change to the SOC. Based on our understanding, Antonovsky´s theory has an individual-focused perspective, and we want to raise the focus to apply at the community level. We wish to do so, as PA has different meanings to different groups in society. This may be based on socioeconomics or cultural differences, which may have implications for interventions through health campaigns (30).

Antonovsky refers to the fact that health professionals can influence the SOC in three different ways. The first two ways are about temporary, minor changes, and the third can lead to significant changes (6). For this to be possible, the health campaigns that aim to promote PA and that can change SOC (or at least avoid changing it negatively) have to understand the "user" feedback on difficult information, barriers and wishes for future messages. In light of this, experiences people may have with health campaigns promoting PA, might be associated with comprehensibility, manageability and meaningfulness. According to these three components, the health messages need to be conveyed by simple and understandable language, provide easy examples that are easily accessible, anytime, anywhere, simultaneously as the messages are presented by someone that the target audience can relate to or identify themselves with. It seems reasonable to assume that once the target group of the PA-campaign experience meaningfulness, it will be easier to pursue understanding and find available resources to adequately comply with health messages (6).

Health-promoting work aim at reducing inequalities in health between people (1), and health promoting campaigns may have an opportunity to organize activities for those who e.g do not have the knowledge, surplus or believe in PA´s importance. Inclusion in salutogenic activities and communities is a possible approach, so not only the most "successful" in society strengthen their social capital and health. If everyone is allowed to participate in a society based on their own condition, hopefully, more people will thrive to feel equal and important in today's society (31).

Understanding the message - comprehensibility

The results in the present study first reflect the aspect of understanding the health message, which may be related to *comprehensibility*, or the cognitive component. In Antonovskys definition, comprehensibility is explained as one´s ability to perceive stimuli or information as orderly, consistent, structured, clear, and by making cognitively sense to the individual (6). Participants from Grey´s (29) study, mention the value of perceiving information in a compelling light, which is harmonious with comprehensibility.

On the other side, the majority of results from the present study show the opposite. The participants from many of the other primary studies, highlight the fact that the messages were perceived as difficult to

understand, due to difficult terminology, complexity and assuming that everyone in the target group were literate (20, 24, 26, 27) Not to mention, *understanding the health message* could also be understood in light of health literacy, which is determined by the individual´s ability to gain access to, use and understand information that promotes and maintain good health (32). For the health campaigns to reach deprived groups with low health literacy, comprehensibility is, therefore, vital (5). According to Phelan (33), new knowledge is often taken advantage of, by people and/or groups with higher socioeconomic status who are more equipped to take advantage of this. Similarly, the results in the present study provide evidence that most of the people from the primary studies were not able to comprehend the content in health campaigns (20, 24, 26, 27). This rising concern with the fact that these campaigns do not reach those who need it the most, following that public health and health promotion fail in meeting the entire society (1).

Barriers in following the health message - manageability

The second theme, barriers in following the health message, may be related to *manageability*, which is the behavioural component in salutogenesis (6). This component is explained as the individual having access to formal or informal resources that can be used to meet the requirements of the stimuli one is affected by. Having resources at one's disposal, are further defined as people who are trusted and who can be relied on in difficult situations (6). Amongst others, accessibility issues and limited support from the community were barriers highlighted from some of the studies (25, 28). It is reasonable to say that people live very different lives, where it can be difficult to make room for PA in everyday life. Different types of jobs and different opportunities can cause difficulties in getting past what someone may experience as thresholds of what health campaigns are trying to convey. Furthermore, increased use of the Internet as a forum to receive health information has the importance of people weighing the value of the medical and health content they find (34). Internet might divide people, where educated people or people with the Internet might be more likely to use this forum to look for 'useful health information' regarding the promotion of PA. On the other hand; if you view the health campaign promoting PA as a barrier in itself, you most likely will not research it further on the Internet. Individual characteristics and socioeconomic statuses such as access to information and resources, openness and technical affinity should be considered during the development and the implementation of these types of health campaigns (35). Antonovsky (36) claimed that the social conditions of society affect public health and further how they are experienced by people. He further argued that mechanisms in society, favour people with high education, good finances, good social support and good social integration. This group will have better opportunities, which in turn can affect these people's SOC (36). Above all, this could increase health disparities, making active people more active, and the inactive people not interested or engaged in health-promoting campaigns. Furthermore, based on the results in the present study, some participants expressed that they found the idea of doing 30 minutes of PA more appealing (21) in contrary to others who liked the idea of getting and using pedometers to set daily goals (23). These results underline that evidence from research in one campaign might not translate into practice in another campaign (12). This also shows the importance of tailored health campaigns promoting PA where the individual might not pay attention to the health message if it is considered unimportant to them (29).

Wishes for health campaigns promoting PA - meaningfulness

The third and final theme, wishes for health campaigns promotion PA, could be associated with the concept *meaningfulness,* also understood as the motivational elements (6). Relating to or identifying with the spokesperson in a health campaign promoting PA, (20, 23, 25, 26, 28, 29) could serve as a motivational component, according to the

results. This can further lead to the experience that the effort and commitment put into it, is worth their time. Furthermore, relating to the activity that someone else has done, could make someone gain motivation in that they could perform the same activity (29). Simultaneously, walking seemed to be achievable, accessible, inexpensive and appropriate for adults and older people (21, 23, 24). With this in mind, what is considered meaningful will be individually conditioned (6), and could, therefore, be difficult to meet through public health campaigns. It seems fair to say that the purpose of developing a health campaign is by prompting bottom-up attentional active thought in what may seem like a passive audience. To do so the developers need to acknowledge how, when and why people get motivated and switch to active message processing by being exposed to a health message (37). Above all, considering the results, questions should be raised whether health campaigns promoting PA are intended to make people motivated to lose weight or to get physically active for the sake of their health. The focus might need to shift from what can seem as focusing on losing weight to promoting good health by simple means being physically active, rather than weight loss.

Implications and unanswered questions

According to Schiavo (38), mass media health campaigns may have a great impact on health beliefs and behaviours. It is further stated that the mass media has defined the concept of fitness and health by bringing seductive images of e.g. fit and healthy celebrities, with whom average people would like to identify themselves with. Simultaneously, the mass media holds a great power, where some of the audience might not understand what is behind a seductive image. Many factors, such as educational level, age, socioeconomic conditions, psychological status, prior knowledge on the subject, and health – or media literacy could be related to vulnerability to the power that the mass media may consciously or subconsciously promote.

This highlight that health campaigns may have ethical dilemmas. It seems reasonable to say that some health campaigns use persuasive strategies in which there is an attempt to influence people to make behavioural changes While techniques in social marketing increasingly are being used, the enhanced ability to persuade target groups could be viewed as unethical manipulation (39). Guttman (39) further claims that the use of manipulative and persuasive tactics can violate the individual's right to autonomy and self-determination.

This can raise concerns whether certain experts or professionals know what is best for specific members of a community. Questions should also be raised regarding the definition of a target group. Should the health campaign be developed for those who are considered to be in need, or should it be targeted at those who more likely understand and apply the promoted health message? Questions remain whether public health campaigns should aim to reach smaller target groups with those who seem to need it the most, rather than using the resources available to meet as many as possible.

The findings in the present study may contribute to raising questions with which the outlined experiences people have regarding health campaigns. This can further provide a conceptual approach which may help future developers designing health campaigns promoting PA.

Strengths and limitations

To our knowledge, this is the first study using meta-ethnography to synthesise people's experiences with PA-promoting health campaigns. Another strength derived from the present study may be the connection between the three themes and Antonovsky`s conceptual use. This approach may have implications for practice in understanding experiences with these types of campaigns from different health-promoting perspectives. Even though the study does not focus on PA-levels *per se,* the study provides valuable knowledge about people´s experiences, (regardless of socioeconomic background). At the same time, a challenge with meta-synthesis may be that we have interpreted results with not having sufficient knowledge of which interpretations that have already been carried

out in the primary studies. As shown in Table I, the terms used in describing the different health campaigns need to be addressed. The included primary studies have promoted PA in different contexts and are performed in different cultures and societies which might lead to limitations in assembling and then synthesizing the various studies. Further, all of the studies were performed in western English-speaking countries, (where a majority were conducted in the United States). A limitation due to this may be that we only drew on English written evidence. It is reasonable to assume that non-English speaking countries may perform evaluations of domestic health campaigns which may never catch the eye of the academic public. This might lead to limitations in the transferability of the results to other governing systems and/or countries. Further, the selection of the primary studies strived an equal representation of both genders, though women are fairly overrepresented. Though we wanted knowledge about experiences in the adult public, we acknowledge possible limitations regarding a wide age group (18-84 years). Further, we did not have any year-frame when searching for studies. This due to not wanting to eliminate primary studies which could have contributed to rich data material. Despite limitations, our initial aim was to focus on adults, which includes a range of individuals with disparities and their experiences with a health campaign promoting PA. Future research could synthesise experiences with only one sex, have more narrow age groups, have stricter year-frames when including primary studies or examine whether ethnicity play a role in people´s experiences with PA-promoting campaigns.

Conclusion

The purpose of this study was to investigate people's experiences with public health campaigns promoting physical activity. These campaigns can be experienced in ways that involve three aspects; understanding the health message - comprehensibility, barriers in following the health message - manageability and wishes for future health campaigns promoting PA - meaningfulness. Health messages in campaigns promoting PA need to be conveyed by simple and understandable language, provide easy examples that are easily accessible at the same time as the messages are presented by someone that the target audience can relate to or identify themselves with. The present study goes beyond individual primary studies and can provide useful information about which experiences people may have with health campaigns promoting PA. This will be advantageous knowledge as the user perspective is increasingly emphasized and is, therefore, an important part in designing future health campaigns and health promotion measures regarding PA.

* Correspondence: s170652@oslomet.no
[1]Department of Nursing and Health Promotion, Oslo Metropolitan University, Kjeller, Norway

Additional files

Table I. Characteristics of the different studies included in the synthesis

Table II. Matrix – theme 1

Table III. Matrix – theme 2

Table IV. Matrix - theme 3

Table V. Synthesis

Table VI. Search history

Figure I. Flow chart

Abbreviations

CASP: Critical Appraisal Programme; E.G.: Exempli Gratia;

PA: Physical Activity; SOC: Sense of Coherence; WHO: The World Health Organization

Funding

Not applicable

Acknowledgements

Not applicable

Ethics approval and consent to participate

Not applicable

Consent for publication

Not applicable

Competing interests

The authors declare that they have no competing interest

References

1. WHO. European Action Plan for Strengthening Public Health Capacities and Services 2012 [Available from: http://www.euro.who.int/en/health-topics/Health-systems/public-health-services/public-health-services.
2. WHO. Global action plan on physical activity 2018–2030: more active people for a healthier world 2018 [Available from: https://apps.who.int/iris/bitstream/handle/10665/272722/9789241514187-eng.pdf?ua=1.
3. Wakefield MA, Loken B, Hornik RC. Use of mass media campaigns to change health behaviour. The Lancet. 2010;376(9748):1261-71.
4. Bauman AE, Bellew B, Owen N, Vita P. Impact of an Australian mass media campaign targeting physical activity in 1998. American Journal of Preventive Medicine. 2001;21(1):41-7.
5. WHO. What is health promotion? 2016.
6. Antonovsky A. Unraveling the mystery of health : how people manage stress and stay well. San Francisco: Jossey-Bass; 1987.
7. Lee IM, Shiroma EJ, Lobelo F, Puska P, Blair SN, Katzmarzyk PT. Effect of physical inactivity on major non-communicable diseases worldwide: an analysis of burden of disease and life expectancy. The Lancet. 2012;380(9838):219-29.
8. WHO. Global Recommendations on Physical Activity For Health 2010 [Available from: https://apps.who.int/iris/bitstream/handle/10665/44399/9789241599979_eng.pdf?sequence=1).
9. WHO. Physical activity promotion in socially disadvantaged groups: principles for action. Policy Summary 2013 [Available from: http://www.euro.who.int/__data/assets/pdf_file/0006/193092/PHAN-brochure_ENG.pdf?ua=1).
10. Schulz A, Northridge ME. Social Determinants of Health: Implications for Environmental Health Promotion. Health Education & Behavior. 2004;31(4):455-71.
11. Randolph W, Viswanath K. Lessons learned from public health mass media campaigns: marketing health in a crowded media world. Annual review of public health. 2004;25:419.
12. Corcoran N. Working on health communication. Los Angeles, California: Sage; 2011.
13. Bauman A, Armstrong T, Davies J, Owen N, Brown W, Bellew B, et al. Trends in physical activity participation and the impact of integrated campaigns among Australian adults, 1997–99. Australian and New Zealand Journal of Public Health. 2003;27(1):76-9.
14. Booth ML, Bauman A, Owen N, Gore CJ. Physical Activity Preferences, Preferred Sources of Assistance, and Perceived Barriers to Increased Activity among Physically Inactive Australians. Preventive Medicine. 1997;26(1):131-7.
15. Brown DR, Soares J, Epping JM, Lankford TJ, Wallace JS, Hopkins D, et al. Stand-Alone Mass Media Campaigns to Increase Physical Activity:A Community Guide Updated Review: A Community Guide Updated Review. American Journal of Preventive Medicine. 2012;43(5):551-61.
16. Hillsdon M, Cavill N, Nanchahal K, Diamond A, White IR. National level promotion of physical activity: results from England's ACTIVE for LIFE campaign. BMJ Publishing Group Ltd; 2001. p. 755.
17. Sixsmith J, Fox KA, Doyle P, Barry MM. A Literature Review on Health Communication Campaign Evaluation with Regard to the Prevention and Control of Communicable Diseases in Europe: ECDC; 2014.
18. Sandelowski M, Barroso J. Handbook for synthesizing qualitative research. New York: Springer; 2007.
19. Noblit GW, Hare RD. Meta-ethnography : synthesizing qualitative studies. Newbury Park, Calif: Sage Publications; 1988.
20. Berry TR, Spence JC, Plotnikoff RC, Bauman A, McCargar L, Witcher C, et al. A mixed-methods evaluation of televised health promotion advertisements targeted at older adults. [Oxford] ;2009. p. 278-88.
21. Burton NW, Walsh A, Brown W. It just doesn't speak to me: mid-aged men's reactions to '10,000 Steps a Day'. 2008:52.
22. Smith BJ, Bonfiglioli CMF. Physical activity in the mass media: an audience perspective. Health Education Research. 2015;30(2):359-69.
23. Burroughs E, Peck LE, Sharpe PA, Granner ML, Bryant CA, Fields R. Using focus groups in the consumer research phase of a social marketing program to promote moderate-intensity physical activity and walking trail use in Sumter County, South Carolina. Preventing chronic disease. 2006;3(1):A08.
24. Balbale SN, Schwingel A, Chodzko-Zajko W, Huhman M. Visual and Participatory Research Methods for the Development of Health Messages for Underserved Populations. Health Communication. 2013;29(7):1-13.
25. Wilson D, St George S, Trumpeter N, Coulon S, Griffin S, Wandersman A, et al. Qualitative developmental research among low-income African American adults to inform a social marketing campaign for walking. International Journal of Behavioral Nutrition and Physical Activity. 2013;10(1):33.
26. Reininger BM, Barroso CS, Mitchell-Bennett L, Cantu E, Fernandez ME, Gonzalez DA, et al. Process Evaluation and Participatory Methods in an Obesity-Prevention Media Campaign for Mexican Americans. Health Promotion Practice. 2010;11(3):347-57.
27. Sebastião E, Chodzko-Zajko W, Schwingel A. The need to modify physical activity messages to better speak to older African American women: a pilot study.(Report). BMC Public Health. 2015;15(1).
28. Friedman DB, Hooker SP, Wilcox S, Burroughs EL, Rheaume CE. African American Men's Perspectives on Promoting Physical Activity: "We're Not That Difficult to Figure Out!". Journal of Health Communication. 2012;17(10):1-20.
29. Grey EB, Gillison FB, Thompson D. Can evolutionary mismatch help generate interest in health promotion messages? Health Education Journal. 2018;77(5):515-26.
30. Carter SM, Rychetnik L, Lloyd B, Kerridge IH, Baur L, Bauman A, et al. Evidence, ethics, and values: a framework for health promotion. The American Journal of Public Health. 2011;101(3):465.
31. Tellnes G. Salutogense - hva er det? : Michael Quarterly. The Norwegian medical society. 2007;4:144-9.; 2007 [Available from: http://dnms.no/index.php?seks_id=84169&a=1*.
32. WHO. Health promotion glossary. Geneva: WHO; 1998.
33. Phelan JC, Link BG, Tehranifar P. Social Conditions as Fundamental Causes of Health Inequalities: Theory, Evidence, and Policy Implications. Journal of Health and Social Behavior. 2010;51(1_suppl):S28-S40.
34. Osborne H. Health literacy from A to Z: practical ways to communicate your health message. Sudbury, Mass: Jones and Bartlett; 2005.
35. Forberger S, Bammann K, Bauer J, Boll S, Bolte G, Brand T, et al. How to Tackle Key Challenges in the Promotion of Physical Activity among Older Adults (65+): The AEQUIPA Network Approach. International Journal of Environmental Research and Public Health. 2017;14(4):379.
36. Antonovsky A. Complexity, conflict, chaos, coherence, coercion and civility. Social Science & Medicine. 1993;37(8):969-74.
37. Maibach E, Parrott R. Designing health messages: approaches from communication theory and public health practice. Thousand Oaks, California: Sage; 1995.
38. Schiavo R. Health communication: from theory to practice. 2 ed. San Francisco, California: Jossey-Bass; 2014.
39. Guttman N. Ethical Dilemmas in Health Campaigns. Health Communication. 1997;9(2):155-90.

REFLEKSJONSNOTAT

Masterstudium i empowerment og helsefremmende arbeid

September/2019

Kaja Ulland

OsloMet – storbyuniversitetet

Fakultet for helsevitenskap

Institutt for sykepleie og helsefremmende arbeid

INNHOLDSFORTEGNELSE

1.0 INNLEDNING

I følge Maibach og Parrott (1995), er helseinformasjon gjennom helsekampanjer blitt en vanlig kommunikasjonsfunksjon i det moderne samfunn. Offentlige helsekampanjer innebærer strategisk formidling av helseinformasjon. Dette er ment å være relevant for de mennesker som trenger slik informasjon for å kunne leve et sunnere liv. Videre er helsekampanjer generelt utformet for å øke bevissthet om helsemessige trusler og/eller vise til atferd som fremmer god helse (Maibach & Parrott, 1995).

Kubacki, Ronto, Lahtinen, Pang og Rundle-Thiele (2017) understreker at helsekampanjer har blitt brukt for å informere lokalsamfunn og påvirke helseatferd i flere tiår. Videre hevder de at det først i de senere årene har blitt økt fokus på å bruke tilnærminger innen sosial markedsføring. Sosial markedsføring har et sterkt forbrukerfokus og benytter seg av konsepter og metoder fra kommersiell markedsføring for å "påvirke til atferd som gagner individer og et lokalsamfunn til det bedre" (min oversettelse) (Kubacki et al., 2017). Interessen for denne tilnærmingen er ofte basert på erkjennelsen av at livsstil og helserelatert atferd er sterkt påvirket av konsum og eksponering for kommersiell markedsføring (Duplaga, 2019).

I mitt masterprosjekt har jeg skrevet en artikkel med temaet "Promoting physical activity through public health campaigns". I arbeidet med denne artikkelen, er jeg blitt kjent med at sosiale markedsføringsprinsipper ofte brukes i helsekampanjer for å fremme fysisk aktivitet. Jeg har stilt meg undrende til om helsekampanjer i sin alminnelighet kan ha nytte av prinsipper fra sosial markedsføring. Dette er et perspektiv jeg gjerne skulle hatt plass til i min forskningsartikkel. I denne refleksjonsoppgaven ønsker jeg derfor å drøfte muligheter og utfordringer ved å bruke sosiale markedsføringsprinsipper i helsekampanjer som ønsker å fremme fysisk aktivitet.

1.1 Problemstilling

Helsekampanjer basert på sosiale markedsføringsprinsipper: muligheter og utfordringer.

1.2 Avgrensning

Oppgaven avgrenses til helsekampanjer rettet mot å fremme fysisk aktivitet hos voksne mennesker (18 år og oppover).

Det forebyggende helsearbeidet vil bli begrenset til informasjon fra helsekampanjer i forbindelse med fysisk aktivitet.

1.3 Begrepsavklaring

Fysisk aktivitet: Defineres som enhver kroppslig bevegelse produsert av skjelettmuskulatur som resulterer i energiforbruk (Caspersen, Powell & Christenson, 1985). Det fins en rekke positive helsegevinster generert av å være fysisk aktiv. Disse kan blant annet være å redusere risikoen for; hypertensjon, koronar hjertesykdom, hjerneslag, diabetes, bryst- og tykktarmskreft, depresjon og risikoen for fall, forbedre bein- og funksjonell helse. Samtidig er fysisk aktivitet sentralt for energiforbruk og dermed grunnlaget for energibalanse og vektkontroll (WHO, 2010).

Sosial markedsføring i helsekampanjer: Sosial markedsføring har som mål å påvirke til atferd som gagner individer og et lokalsamfunn til det bedre. Sosial markedsføring i helsekampanjer opererer med "forbrukere" som utgangspunkt. Disse skal med god veiledning og "vennlig dulting" ledes mot å ta ansvar for egen helse og velvære (Kubacki et al., 2017).

2.0 METODE

Det ble gjort et strategisk litteraturutvalg. Gjennom litteratursøk og gjennomgang av litteraturlistene i de artikler jeg anså som relevante, fant jeg litteratur som kunne bidra til min problemstilling.

Det ble også gjennomført søk i Cinahl, Medline og SPORTDiscus. Termene "physical activity" AND "social marketing" AND "campaign" ble brukt som søkeord i hovdsøket. Totalt i de tre databasene resulterte dette i 386 treff. Det ble videre avgrenset til "peer-reviewed" og publisert i løpet av de siste 10 årene. Dette resulterte i totalt 234 treff. 92 titler og sammendrag ble lest etter duplikater var fjernet. Av de 92 artiklene ble 12 artikler lest i fulltekst. De artiklene som ikke ble lest i fulltekst, hadde blant annet fokus på barn, tenåringer eller hadde andre vinklinger enn hva jeg hadde avgrenset til og ønsket svar på. Videre ble artikler ekskludert på bakgrunn av vinkling som for eksempel fokus på fedme/overvekt og/eller kronisk sykdom fremfor helsekampanjer basert på sosiale markedsføringsprinsipper. Artikler med tilleggsfokus på overvekt, inaktivitet, røyking og/eller alkohol ble også ekskludert. Av de 12 artiklene som ble lest i fulltekst ble fire inkludert i refleksjonsoppgaven (Buchthal et al., 2011; Kamada et al., 2013; Luca & Suggs, 2013; Scarapicchia et al., 2015). De åtte artiklene som ble ekskludert etter gjennomlesning, hadde ikke tilstrekkelig fokus på det jeg ønsket svar på i henhold til min problemstilling.

De fire artiklene har til felles at de ønsker å fremme fysisk aktivitet gjennom helsekampanjer basert på sosiale markedsføringsprinsipper. Artiklene ble lest grundig. I gjennomlesingen hadde jeg fokus på hva de enkelte viste til som *muligheter* og *begrensninger* ved å bruke sosiale markedsføringsprinsipper i helsekampanjer. Hva som ble fremstilt som muligheter og begrensninger i de forskjellige artiklene, har jeg basert mine refleksjoner på. Videre kommer jeg til å trekke inn egne refleksjoner, blant annet fra arbeidet med forskningsartikkelen i denne masteroppgaven.

3.0 HELSEMODELLER

Modeller for å formidle helseinformasjon til ulike målgrupper, er basert på forskjellige disipliner. Disse kan blant annet være massekommunikasjon, forbrukerforskning, psykologi, antropologi og sosial markedsføring. Uavhengig av teoretisk rammeverk, er det viktig for forskere og utviklere at helsebudskapet skal ha effekt på målgruppen. Dette vil si at budskapet skal føre til endinger i bevissthet, holdninger, meninger og/eller atferd. Derfor må de utformes som svar på behov og interesser hos målgruppen (Maibach & Parrott, 1995, s. 217; Schiavo, 2014, s. 36). For å kunne forstå ulike former for behov og interesser hos en målgruppe, kan det være relevant å se dette i lys av helsemodeller. I denne oppgaven har jeg valgt å følge Trude Gjernes (2004) sin beskrivelse om hvordan helse kan forstås gjennom ulike helsemodeller.

Gjernes (2004) trekker frem fire helsemodeller som fremstår som relevante i arbeid med forebyggende helse. En av dem er en ekspertmodell, den andre har sitt opphav i WHO´s helsedefinisjon, den tredje er en folkelig helsemodell (holistisk modell)og den fjerde omtales som empowermentmodellen.

Tabell I. Kort beskrivelse av de ulike helsemodellene (Gjernes, 2004).

Ekspertmodellen	Skriver seg fra tradisjonell skolemedisin Vanskelig for "vanlige folk" å følge Ensidig profesjonell ekspertforståelse "Top-down" tenkning Helse blir normaltilstanden, sykdom blir avvik fra normalen Mottakeren forutsettes å plukke opp helseinformasjon og omsette den i praksis
Den holistiske helsemodellen	Vid definisjon av helse – holistisk – WHO's definisjon av helse Blitt kritisert for å blande helse og velvære Gir få praktiske retningslinjer for forebyggende- og helsefremmende arbeid Subjektiv opplevelse av helse – derfor vanskelig å bruke i helsepolitiske sammenhenger
Den folkelige helsemodellen	"Vanlige" folks opplevelse av og uformelle definisjoner av helse Tilhører mottakeren av helseinformasjon Eksisterer blant dem som forbyggende helsearbeid er rettet mot Helse: fravær av sykdom og mulighet til å takle livshendelser, Den enkeltes livssituasjon, verdier, tradisjoner, sosiale og materielle muligheter
Den politiske helsemodellen "Empowerment" modellen"	Frigjøring og deltakelse, myndiggjøring Løsrivelse fra dem som tidligere har styrt dem i bestemte retninger Tar avstand fra "top-down" tenkning Befolkningens behov og interesser i forhold til helse

Den folkelige helsemodellen tilhører mottakerne av helseinformasjon og regulerer hvilken og hva slags helseinformasjon som faktisk når frem til de ulike sosiale gruppene i et samfunn (Gjernes, 2004). Da helsekampanjer har som formål at helseinformasjon skal nå ut til bestemte målgrupper (Maibach & Parrott, 1995), virker den folkelige helse modellen svært relevant. Ved å kunne basere helsekampanjer på den enkeltes livssituasjon, verdier og sosiale- og materielle muligheter, kan dette ha relevans for hva slags helseinformasjon som når frem til målgruppen. På bakgrunn av dette vil resultatene bli drøftet i lys av denne helsemodellen.

Gjernes (2004) hevder videre at denne modellen omfatter de uformelle versjonene om hvordan folk flest/lekfolk oppfatter helse. Dette kan videre regnes som "uformelle" definisjoner ha helse. Oppfatninger av begrepet helse og hva som er god helse, kan variere mellom ulike kulturer, befolkningsgrupper samt endre seg over tid. I den folkelige helsemodellen kreves det heller ingen spesifikk definisjon av helse, det er snarere en intuitiv forståelse av hva en snakker om når en nevner helse (Gjernes, 2004).

Fugelli og Ingstad (2001) hevdet at det er et behov for økt kunnskap om folks forestillinger om helse, parallelt med at medisinen demokratiseres. De hevder videre at samfunnsmedisinen burde lære noe av endringer i relasjonen lege og pasient. Med økt vekt på pasient-medvirkning, fremfor ensidig ekspert-dominans burde samfunnsmedisinen skaffe seg bedre innsikt i befolkningens forestilling om helse og sykdom. Dette før det settes i verk tiltak som skal være forebyggende og helsefremmende.

De senere årene har også health literacy (HL) fått økt oppmerksomhet i helsepolitikken internasjonalt. Dette handler om i hvilken grad en kan vurdere, forstå og ta i bruk helsekunnskap for å kunne ta kunnskapsbaserte valg relatert til egen helse (Finbråten & Pettersen, 2009). Folk må navigere seg i den moderne og komplekse helsetjenesten, noe som forutsetter at de har en stor nok grad av HL for å kunne ta vare på egen helse på best mulig måte. Det er derfor helt sentralt at den enkelte har evnen til kritisk å vurdere og benytte seg av informasjonen som en møter i informasjonssamfunnet ((Meld. St. 19. (2014-2015), 2015).

4.0 SOSIALE MARKEDSFØRINGSPRINSIPPER I HELSEKAMPANJER

Det europeiske senter for forebygging av og kontroll med sykdommer (ECDC) (2014) beskriver et rammeverk på fire trinn som er nyttig i prosessen ved å bruke sosiale markedsføringsprinsipper i helsekampanjer. Disse innebærer avgrensningsdefinisjon, testing, beslutninger og læring/evaluering. Det første trinnet, *avgrensningsdefinisjon,* handler blant annet om å definere målgruppen og analysere atferden som en ønsker å endre. I det andre trinnet testes kampanjen gjennom pilottesting hvor det undersøkes om helseinformasjonen er passende for målgruppen. I det tredje trinnet vedtas helsekampanjen som innebærer å planlegge, starte og styre implementeringen av selve kampanjen. Det fjerde trinnet handler om å evaluere resultatene og effektiviteten av kampanjen (ECDC, 2014).

4.1 Tilpasning av helsebudskapet

I en studie utført av Buchthal et al. (2011) ble det gjort omfattende forarbeid ved å blant annet utforske hva målgruppen hadde som treningsadferd. Helsekampanjen ble introdusert i tre forskjellige deler. I den første delen var helsebudskapet at det krevdes atferdsendring for å bli mer fysisk aktiv. I de neste delene ble det gitt "booster-meldinger" med spesifikke tips om hva en kunne gjøre for å endre atferden. Det ble vist annonser hvor personer gikk tur med familien i nabolaget eller tok trappene på jobb. Det ble funnet en sammenheng mellom høyt utdanningsnivå og TV-kampanjen som gunstig og troverdig. Det ble videre hevdet at kampanjen ikke like godt traff de med lavere sosioøkonomisk status. Det ble synlig som et gap i å kunne tilegne seg og ta i bruk helsebudskapet mellom de ulike sosioøkonomiske grupper. Forfatterne fremholdt at kampanjen baserte seg på massemediekommunikasjon, og at dette kunne øke kunnskapsgapet ytterligere på grunn av ulik tilgang på og eksponering for ulike kanaler (Buchthal et al., 2011). Forfatterne påpekte at valg av kanaler for å nå ut med helsebudskapet, ikke var planlagt for å nå noen bestemte grupper. Det ble imidlertid tydelig at kanalene hadde en annen demografisk rekkevidde enn antatt. Resultatene i denne studien antydet at helsebudskapet i kampanjen, som nevnt ovenfor, ikke traff dem med lavere inntekt, selv om helsekampanjen hadde blitt kulturelt skreddersydd. Forfatterne hevder videre at fremtidige sosiale markedsføringskampanjer bør ta for seg hva slags kanalpreferanser de med lavere sosioøkonomiske status ønsker.

I studien til Scarapicchia et al. (2015) var bakgrunnen å skreddersy en kampanje for å øke aktivitet i en spesifikk målgruppe. Gjennom planlegging, implementering og evaluering ble det benyttet hierarki av effekter som modell. Dette modellen er basert på markedskommunikasjon og følger ulike trinn. I denne kampanjen innebar dette; bevissthet rundt selve helsekampanjen, kunnskap om innholdet i kampanjen, tanker om at en kunne klare å utføre det som kampanjen fremmet, faktisk utførelse av atferden og fremtidig plan om å fortsette med fysisk aktivitet. Ved hjelp av denne modellen som rammeverk fikk de tydeligere innsikt i målgruppens bevissthet om kampanjens innhold, deres egen mestringstro, resultatforventninger, og planer om videre atferd. Gjennom medvirkning i utviklingen av helsekampanjen, mente forfatterne at det skulle være enkelt for målgruppen å kjenne seg igjen i materialet.

4.2 Kunnskap om atferdsteori

ECDC (2014) hevder at alle sosiale markedsføringsintervensjoner bruker atferdsteori til informasjon og som guide når helsekampanjene utvikles. Gjennom å gjøre en bred atferdsanalyse kan en få et fullstendig bilde av ulike atferdsmønstre. På denne måten kan en være sikker på at tiltakene og barrierene som er knyttet til "problematferden" og "den ønskede atferden" er lettere å forstå. Når utviklerne av en kampanje forstår atferden, er det i følge ECDC (2014) mulig å begynne å teste og utvikle helsekampanjen.

I en systematisk gjennomgang av 24 artikler av Luca og Suggs (2013), vises det til at modeller kan være nyttige rammer for utforming og evaluering av helsekampanjer. Det hevdes at sosiale markedsføringsmetoder er avhengig av riktig bruk av atferdsteori for å gi rammer for å utvikle kampanjer som tar høyde for forskjellige determinanter for helseatferd. Det nevnes videre at dersom en ikke baserer seg på teori, så vil en ikke kunne forstå og utvikle strategier som effektivt og spesifikt adresserer hva som er viktige komponenter i atferdsendring. Det nevnes videre at bruken av teori i sosiale markedsføringskampanjer skal hjelpe utviklerne med å identifisere om en spesifikk atferd først og fremst bestemmes av holdnings-, normative, egeneffektive, miljømessige og/eller andre sosiale hensyn. De refererer til at en av helsekampanjene som skulle fremme fysisk aktivitet, kun vurderte kampanjens effekt på holdninger, oppfatninger og intensjoner om å være mer aktive. I gjennomgangen blir det videre undersøkt i hvilken grad helsekampanjer med sosiale markedsføringsprinsipper

baserte seg på teori. Forfatterne hevder at den faglige begrunnelsen for bruk og rapportering av helseatferdsteori i sosiale markedsføringskampanjer, er mangelfull. Forfatterne mente dette kunne være et resultat av fravær av motiver for å initiere teori eller hvordan modeller brukes. Videre hevder de at effektive kampanjer basert på sosiale markedsføringsprinsipper, tenderer til å bruke teori som grunnlag. Videre påstår de at dette hjelper planleggerne å identifisere hvorvidt en spesifikk atferd er forutbestemt av helsedeterminanter. Det understrekes også at det er viktig å ta høyde for dette i utviklingen av kampanjen. Luca og Suggs (2013) viser til begrensninger ved at få av helsekampanjene de undersøkte, hadde observert målgruppenes holdninger og oppfatninger før kampanjen. Som en følge av dette, ble det ikke mulig å se om kampanjen hadde hatt noen atferdsmessig effekt. Samtidig fremheves det at ved å bruke atferdsteori og rapportere konsekvensene av dette, kan det bidra til hensiktsmessig og evidensbasert fremdrift i feltet.

4.3 Evaluering av helsekampanjer

I en annen studie, utført av Kamada et al. (2013), ble det utført en randomisert kontrollert studie (RCT). Målet med denne studien, ett år etter intervensjonen, var å evaluere effekten av en samfunnsbasert kampanje for å øke fysiske aktivitet i befolkningen. Studien viser til at det ble utført en situasjonsanalyse i forkant av helsekampanjen. Ved å gjøre en slik analyse mente de at helsepersonell lettere kunne forstå faktorer, gi bakgrunn og kontekst for å lykkes i å møte målgruppen. Materialet som skulle bli brukt i helsekampanjen, ble også fremvist for målgruppen i utviklingsprosessen. Intensjonen med dette var å få deres meninger og inntrykk av materialet som skulle bli brukt i kampanjen. Noe de hevdet ville være en fordel innen sosial markedsføring. Studien viser til at det var 79% større bevissthet om innholdet helsekampanjen i intervensjonsgruppen, kontra de som ikke ble eksponert for kampanjen. Resultatene indikerte likevel at denne studien ikke fremmet fysisk aktivitet hos målgruppen i løpet av ett år. De hevdet videre at endringer i bevissthet og kunnskap om kampanjen var til stede, men at dette var på kortsiktig basis. Forfatterne hevder videre at ett år ble betraktet som kortsiktig i henhold til evaluering, og at varig atferdsendring kan ta lengre tid.

I studien til Scarapicchia et al. (2015) ble kampanjen evaluert seks måneder etter kampanjeslutt. Det viste seg at en tredjedel av målgruppen var bevisst helseinformasjonen fra denne kampanjen. Samtidig viser forfatterne til at målgruppens intensjoner om å følge informasjonen fra helsekampanjen, var basert på holdninger og subjektive normer. Det ble

derfor tydelig at bruk av "hierarki av effekter" som modell var nyttig i utviklingen og evalueringen av helsekampanjen. Bruken av denne modellen i kombinasjon med longitudinelle studier mente forfatterne kunne være nyttig i fremtiden (Scarapicchia et al., 2015).

Evalueringen av studien til Buchthal et al., (2011) viste at det ikke ville være tilstrekkelig å tilpasse kampanjen til en målgruppes kulturelle kontekst. Det ble hevdet at målgruppen var riktig segmentert for å gjenspeile befolkningen som de ønsket å nå. De viser til eksempler hvor annonsene som viste fysisk aktivitet ble modellert gjennom atferdsendringer som var mer fremtredende for kontorarbeidere og/eller husstander i middelklassen. En av annonsene viste for eksempel en arbeiderklassemann som slo av TV-en og gikk en 10 minutters spasertur med kona. Det ble gjennom evalueringen synlig at helsekampanjen ikke gjenspeilte verken de sosiale miljøene eller omstendighetene til de med lavere sosioøkonomisk status.

5.0 HELSEKAMPANJER BASERT PÅ SOSIALE MARKEDSFØRINGSPRINSIPPER: MULIGHETER OG UTFORDRINGER

Uavhengig av om det brukes sosiale markedsføringsprinsipper i en helsekampanje, er hensikten at målgruppen skal finne helsebudskapet attraktivt og motiverende for å ønske å gjøre atferdsendringer. Helsekampanjer har gjerne et vitenskapelig basert utgangspunkt som involverer et bredt spekter av kommunikasjonsstrategier. Dette er gjerne utarbeidet av «eksperter» innenfor helsesektoren som ønsker å få gjennomslag for deres helsebudskap. Likevel er det ikke sikkert at fordelene som fremmes gjennom kampanjene oppleves som overveiende positive for målgruppen. Enten fordelene er subjektive eller basert på empiri, så må de vise til en viss belønning i fremtiden som oppleves som meningsfulle og relevante for målgruppen (Maibach & Parrott, 1995). I tråd med Fugelli og Ingstads (2001) ytringer om å bevege seg bort fra ensidig medisinsk ekspertdominans, kan det være stor mulighet for å gjøre et helsebudskap meningsfylt og relevant for målgruppen gjennom å tilrettelegge for brukermedvirkning ved bruk av sosiale markedsføringsprinsipper.

5.1 Brukermedvirkning

Ifølge ECDC (2014), blir det første trinnet ved sosiale markedsføringsprinsipper ofte ignorert eller minimert. De hevder videre at utøvere og utviklere som ikke er godt nok kjent med sosial markedsføring, ofte starter prosessen med en helsekampanje med å generere løsninger før de har fått innsikt i hva slags forståelse og atferd målgruppen har. Dette synes å bli bekreftet gjennom noen av artiklene fra resultatene. Buchthal et al. (2011) viste til at det ble gjort analyse av treningsatferd i det første trinnet, *avgrensningsdefinisjon*, i helsekampanjene. Det vises ikke til om noen i målgruppene har hatt innflytelse på helsekampanjenes innhold eller budskap. Dette fremkommer heller ikke i studiene til Luca og Suggs (2013) eller Kamada et al. (2013) . I tilfellene hvor målgruppen ikke kommer til orde med hva som appellerer til dem, kan det være rimelig å anta at helsekampanjene kan oppleves som irrelevante eller lite motiverende. I verste fall kan løsningene som foreslås bli avvist av målgruppen. Samtidig kan mangel på bruk av teori i sosiale markedsføringskampanjer også ha innvirkning på selve utformingen av kampanjen eller tolkningen av resultatene (Scarapicchia et al., 2015).

Luca og Suggs (2013) viser i sin artikkel til underrapportering eller mangel på bruk av atferdsteori i sosiale markedsføringskampanjer. De viser videre til at kampanjene kan være mer effektive dersom de bygger på en teoribasert kunnskapsbase. Likevel kan det synes som om dette ikke er noen garanti for at helsekampanjen skal lykkes med å generere folk til å gjøre atferdsendringer.

Dette kan lede til utfordringer, da en må være bevisst på at det er mange faktorer som styrer folks atferd (Torstveit, 2018). Hvordan de ulike personene i målgruppen selv ser på saken, tidligere erfaringer, barrierer, drivkraft og interesser, vil også spille en rolle i hvordan tilegner seg helsebudskap (Torstveit, 2018).

Det kan tenkes at sosiale markedsføringskampanjer som gjør grundige gruppeprofiler, situasjons- og markedsanalyser, kan være nyttige i segmenteringen av målgruppen forut for en helsekampanje. Likevel kan det være faglig uheldig dersom en ikke har forkunnskaper om atferdsfaktorer som kan la seg påvirke. Dette kan for eksempel være mestringstro, eller faktorer som ikke umiddelbart lar seg påvirke (faktorer som kjønn, lønn og utdanning) (Torstveit, 2018). Helse kan samtidig være et begrep som er vanskelige å definere, sett i lys av den folkelige helsemodellen (Gjernes, 2004). I den første fasen av sosiale markedsføringsprinsipper, *avgrensningsdefinisjon*, kan det derfor tenkes at målgruppen burde bidra med deres forståelse av helse, verdier, sosiale- og materielle muligheter, slik at fysisk aktivitet best kan fremmes overfor den aktuelle målgruppen. Gjennom avgrensningsdefinisjonen kan det da tenkes at det finnes store muligheter for medvirkning fra de som kampanjen er rettet mot.

Basert på resultatene fra forskningsartikkelen i denne masteroppgaven, kan det se ut som at begripelighet, håndterbarhet og meningsfullhet er viktige komponenter i erfaringene som folk har med helsekampanjer. Gjennom medvirkning fra målgruppen, hvor en baserer helsebudskapet på deres erfaringer, kan empowerment bli en realitet for alle, ikke bare for de mest ressurssterke i et samfunn. Ansvaret for at dette lar seg gjøre, ligger hos utviklerne av helsekampanjene (Askheim, 2012). Klinikere som utarbeider helsekampanjer, trenger derfor innsikt i folks forestillinger om hva helse er, og hva som gir god og dårlig helse. Dette blir helt sentralt for å kunne få til samhandling med målgruppen i en helsekampanje (Fugelli og Ingstad (2001).

5.2 Health literacy

Som nevnt i studien til Buchthal et al. (2011), viste det seg at det ikke var tilstrekkelig å skreddersy et helsebudskap til å passe inn i en kulturell kontekst i et samfunn. Denne helsekampanjen hadde blant annet basert seg på massemediekommunikasjon, og på bakgrunn av dette traff den ikke de med lavere sosioøkonomisk status. Selv om massemediekampanjer har et stort potensiale for å generere positiv endring (Maibach & Parrott, 1995), er det viktig at disse kampanjene når de mest utsatte i befolkningen, da det kan være disse som trenger det mest. Kampanjen i studien til Buchthal et al. (2011) viste paradoksalt nok til at helserelaterte mediekampanjer dermed kan lede til å øke helseulikheter og bidra til større helsemessige forskjeller mellom befolkningen. Dette fordi det fins et gap i den digitale tilgang på informasjon, ressurser og bruk av internett (Buchthal et al., 2011). Dette er også et sentralt poeng som det vises til i forskningsartikkelen i denne masteroppgaven. Det tas kanskje for gitt at folk har tilgang på og ressurser nok til å ta selvstendige og autonome helsevalg. Det kan vekkes bekymringer vedrørende sosial rettferdighet i henhold til tilgang på og bruk av massemedier. Grupper med god tilgang til ulike medier kan lettere få kjennskap til kampanjer og budskapet i disse. Samtidig kan det virke som at det er en forutsetning at ulike grupper i en befolkning må inneha stor nok grad av HL for å kunne ta vare på egen helse.

Folkehelsemeldingen presiserer at informasjon om helsevennlige valg skal nå alle. Videre skal samfunnet skal legge til rette for at sunne valg blir enkle valg, som for eksempel at det skal være enkelt å øke eget fysisk aktivitetsnivå. Det heter videre at en forutsetning for god helse er at en skal kunne gjøre gode helsevalg, og at det derfor er viktig at den enkelte har muligheten til å ta informerte valg (Meld. St. 19. (2014-2015), 2015). For å kunne ta et informert valg, står det helt sentralt at en har muligheten til å vurdere, forstå og ta i bruk helsebudskapet som presenteres gjennom kampanjene (Finbråten & Pettersen, 2009). Det kan tenkes at prinsippet med *testing* av helsekampanjen er en stor mulighet for å vurdere om helsekampanjen tilrettelegger for at målgruppen skal kunne ta informerte helsevalg. Gjennom testingen kan det bli tydelig hvilke massemedier som er mest gunstige å bruke om helsebudskapet når frem til de den er ment å nå frem til. Samtidig gir testingen mulighet til å undersøke om helsekampanjen gjør det mulig for målgruppen å vurdere, forstå og ta i bruk helsebudskapet.

5.3 Motivasjon

Sosiale markedsføringsprinsipper bygger på en forståelse av at atferdsendring er en prosess som ofte krever langsiktige intervensjoner. Holdninger og det folk vet om fysisk aktivitet, påvirker kanskje ikke deres atferd selv om en helsekampanje informerer om *hva* som må gjøres og *hvordan* (ECDC, 2014).

Både Scarapicchia et al. (2015) og Kamada et al. (2013) viser til at det blir utfordrende å evaluere om helsekampanjer har langvarige effekter på målgruppenes atferd. Selv om studiene viste til at flere i målgruppene blir bevisst helsekampanjenes budskap, så er det vanskelig å si noe om målgruppenes videre intensjoner eller planer om langsiktig atferd. Dette mener de var vanskelig, da kampanjene foregikk over relativt korte perioder.

Samtidig viser studiene til Kamada et al. (2013), Luca og Suggs (2013) og Scarapicchia et al. (2015) at helsekampanjene ikke hadde effekt på målgruppenes fysiske aktivitet. Det begrunnes med både mangel på evaluering av fysisk status før kampanjestart, målgruppens planer om langsiktig atferdsendring. Samtidig var tidsintervallet av selve implementeringen for snevert (Kamada et al., 2013).

Som drøftet i forskningsartikkelen i denne masteroppgaven, kan ulike målgrupper gi viktig innsikt i hva som motiverer til fysisk aktivitet. Noen i en målgruppe kan bli motivert av å bruke skrittellere, mens andre kan like ideen om at 30 minutters aktivitet om dagen er nok.

Å skulle påvirke folk til å gjøre motivasjonelle, emosjonelle og sosiale atferdsendringer er en sammensatt og stor oppgave i folkehelsearbeidet (Torstveit, 2018).

Det vil med rimelighet kunne hevdes at målgrupper for helsekampanjer, har ulike forutsetninger for å ta til seg helseinformasjonen som rettes mot dem. Samtidig kan det antas at ulik motivasjon spiller en vesentlig rolle. Det kan synes å være viktig å rette spørsmål mot hva som spiller inn for folks motivasjon til å være fysisk aktive. Det må videre undersøkes om dette handler om holdninger, og om en helsekampanje i så fall kan påvirke holdninger i en gunstig retning.

Det vil videre være rimelig å anta at motivasjon har en innvirkning på langsiktig atferd. Spørsmålet blir hvorvidt en helsekampanje kan bidra til at folk får en indre motivasjon til å gjøre langvarige atferdsendringer i henhold til fysisk aktivitet. Helsekampanjene må ta hensyn til at motivasjon, viljestyrke og selvregulering er sterke komponenter som må være til stede

for at den enkelte skal være fysisk aktiv over tid (Torstveit, 2018). Dersom helsekampanjen ikke anses som relevant eller er forståelig for målgruppen i utgangspunktet, kan det heller ikke antas at den bidrar med motivasjon. Dersom en helsekampanje lykkes med å nå ut med helsebudskapet til målgruppen, kan det kanskje tenkes at budskapet kan bidra til en form for ytre motivasjon til å bli mer fysisk aktive. Dette kan blant annet innebære at en blir mer fysisk aktiv basert på at en ikke vil føle på skam fra samfunnet. Det kan tenkes at et optimalt resultat ved en helsekampanje, er å lede målgruppen til et ønske om å gjøre varige endringer. Dersom de i målgruppen blir mer aktive fordi det anses som lystbetont, utfordrende og stimulerende, vil denne formen for motivasjon være den sterkeste formen for motivasjon. Det er da større sannsynlig at vanen vil bli opprettholdt over lengre tid (Torstveit, 2018).

Ine Wigernæs (2019) understreker at vi må forstå hvorfor de som trenger det mest, er minst aktive. Skam, avmakt og bekymring kan være komponenter som stjeler det en har av hverdagsoverskudd. Skam er i følge Wigernæs (2019) et element som kan ta fra oss overskuddet til å endre oss.

Atferdsendring kan være en lang, komplisert og sammensatt prosess som er forskjellig fra menneske til menneske. Samtidig kreves det overskudd for å gjøre endringer. At eksperter i en helsekampanje forteller målgruppen hvor enkelt det er å gjøre endringer, kan virke med eller virke mot sin hensikt. Selv små endringer som å gå en 5-minutters omvei, eller ta "bena fatt" fremfor bilen, kan kreve noe av oss. I lys av den folkelige helsemodellen vil det derfor være sentralt å ha forståelse for og ta hensyn til hvordan helseinformasjonen oppfattes av folk flest.

6.0 AVSLUTNING

Det er grunn til å anta at sosiale markedsføringsprinsipper vil kunne gi viktige bidrag til offentlige helsekampanjer. Kontinuerlig evaluering av helsebudskapet og om hvorvidt det når frem til de aktuelle målgrupper, vil gi nyttig lærdom. Dette er sentral kunnskap som må anvendes når nye kampanjer skal utformes og implementeres. Følger en prinsippene ved sosial markedsføring, er det både ønskelig og nødvendig å tilrettelegge for brukermedvirkning. Dette vil være fundamentalt med tanke på varig ending av helserelatert motivasjon og atferd.

6.0 LITTERATUR

Askheim, O. P. (2012). *Empowerment i helse- og sosialfaglig arbeid : floskel, styringsverktøy, eller frigjøringsstrategi?* Oslo: Gyldendal akademisk.

Buchthal, O. V., Doff, A. L., Hsu, L. A., Silbanuz, A., Heinrich, K. M. & Maddock, J. E. (2011). Avoiding a Knowledge Gap in a Multiethnic Statewide Social Marketing Campaign: Is Cultural Tailoring Sufficient? *Journal of Health Communication, 16*(3), 314-327. doi: 10.1080/10810730.2010.535111

Caspersen, C. J., Powell, K. E. & Christenson, G. M. (1985). Physical Activity, Exercise, and Physical Fitness: Definitions and Distinctions for Health-Related Research. *Public Health Reports (1974-), 100*(2), 126-131.

Duplaga, M. (2019). Perception of the effectiveness of health-related campaigns among the adult population: An analysis of determinants. *International Journal of Environmental Research and Public Health, 16*(5), <xocs:firstpage xmlns:xocs=""/>. doi: 10.3390/ijerph16050791

ECDC (2014). *Det europeiske senter for forebygging av og kontroll med sykdommer. Guide i sosial markedsføring for ledere og utøvere av forebyggende helsetjenester og folkehelsearbeid.* Sverie: Stockholm. doi: 10.2900/41449

Finbråten, H. S. & Pettersen, S. (2009). Kunnskap er egenmakt. *Tidsskriftet sykepleien, 97*(5), 60-63. doi: 10.4220/sykepleiens.2009.0009

Fugelli, P. & Ingstad, B. (2001). Helse - slik folk ser det. *Tidsskrift for Den norske legeforening, 121*(30), 3600-3604.

Gjernes, T. (2004). Helsemodeller og forebyggende helsearbeid. *Sosiologisk tidsskrift*(02), 143-165.

Kamada, M., Kitayuguchi, J., Inoue, S., Ishikawa, Y., Nishiuchi, H., Okada, S., . . . Shiwaku, K. (2013). A community-wide campaign to promote physical activity in middle-aged and elderly people: a cluster randomized controlled trial. *The international journal of behavioral nutrition and physical activity, 10*, 44. doi: 10.1186/1479-5868-10-44

Kubacki, K., Ronto, R., Lahtinen, V., Pang, B. & Rundle-Thiele, S. (2017). Social marketing interventions aiming to increase physical activity among adults. *Health Education, 117*(1), 69-89. doi: 10.1108/HE-02-2016-0008

Luca, N. R. & Suggs, L. S. (2013). Theory and Model Use in Social Marketing Health Interventions. *Journal of Health Communication, 18*(1), 1-21. doi: 10.1080/10810730.2012.688243

Maibach, E. & Parrott, R. (1995). *Designing health messages: approaches from communication theory and public health practice*. Thousand Oaks, California: Sage.

Meld. St. 19. (2014-2015). (2015). *Folkehelsemeldingen. Mestring og muligheter*. Oslo: Helse- og omsorgsdepartementet.

Scarapicchia, T. M. F., Sabiston, C. M. F., Brownrigg, M., Blackburn-Evans, A., Cressy, J., Robb, J. & Faulkner, G. E. J. (2015). MoveU? Assessing a Social Marketing Campaign to Promote Physical Activity. *Journal of American College Health, 63*(5), 299-306. doi: 10.1080/07448481.2015.1025074

Schiavo, R. (2014). *Health communication : from theory to practice* (2. utg.). San Francisco, California: Jossey-Bass.

Torstveit, M. K. (2018). *Fysisk aktivitet og helse : fra begrepsforståelse til implementering av kunnskap*. Oslo: Cappelen Damm akademisk.

WHO. (2010). Global Reccomendations on Physical Activity For Health. Hentet fra https://apps.who.int/iris/bitstream/handle/10665/44399/9789241599979_eng.pdf?sequence=1)

Wigernæs, I. (2019). En pose potetgull i lunsjen, da kommer fordømmelsen. *Universitetsavisa*. Hentet fra https://www.universitetsavisa.no/ytring/2019/05/24/En-pose-potetgull-i-lunsjen-da-kommer-ford%C3%B8mmelsen-19097191.ece?token=512233640&previewAll=true

Vedlegg

Vedlegg 1. Table I. Characteristics of different studies included in the synthesis

Study	Reference	Country	Participants	Age	Socio-economic background	Recruitment and consent	Data collection	Terms used to describe the campaign
1	Berry et al. (2009)	Canada	N=1600 (survey) N=29 interviewed 21 female 8 male	55-80 years	Only mentioned for the participants in the quantitative survey	Recruited through a wellness coordinator and publicly available listings Ethics approval and informed consent	Mixed-method, Group interview	Media campaign, health promotion campaigns, mass media campaigns, health promotion campaigns, health information, mass marketing campaign
2	Burton et al. (2008)	Australia	N=39 All male	45-65 years	Fairly good educated, 72% overweight or obese	Convenience sampling approach Ethics approval, not stated informed consent	Group interview	Health promotion community based intervention program Social marketing
3	Smith & Bonfiglioli (2015)	Australia	N=46 24 male 22 female	18-65+ years	30 % overweight or obese. Most participants in paid employment	Purposive sampling strategy, Approval from ethic committee, Not stated informed consent	In-depth interviews	Physical activity campaign, public health message, media campaign, mass media communication
4	Burroughs et al. (2006)	USA	N=90 27 male 63 female	Phase 1 Both genders Phase 2 43, age 35-54 (female)	Most irregular active (defined as not meeting the WHO PA recommendations (63%black, 33% white. Rest Asian/unidentified)	Purposive convenience sampling (By project coordinator) Informed consent	Group interview	Social marketing campaign, community wide campaign, mass media campaign
5	Balbale et al. (2013)	USA	N=23 (screening) N=9 women interviewed	71,6 years ±7,6 years	Relatively low socio economic status, low income, Hispanic, both active and inactive	Through flyers, grocery stores, community centres and agencies Informed consent	Mixed-method, In-depth interview	Health communication, mass communication, health campaign message, health message
6	Wilson et al. (2013)	USA	N=52 36 female16 male	18-65+	Underserved communities (low-income, predominately minority)	Recruited through the local neighbourhood association/local schools Informed consent	Group interview	Social marketing campaign, mass media campaign, mess media based strategy

Study	Reference	Country	Participants	Age	Socio-economic background	Recruitment and consent	Data collection	Terms used to describe the campaign
7	Reininger et al. (2010)	USA	N=57 44 female 13 male	20-64	Not stated social economic background, other than that the messages about PA were seen as relevant and appealing. The participants had to speak Spanish/English	Recruited by promoters and program staff. Informed consent	Group interview	Media campaign, mass media messages, health message campaign
8	Sebastiao et al. (2015)	USA	N=10 All women	60-80	5 inactive, 5 active. All overweight or obese. Education: 5 with college or more	Recruited from a previous study that was conducted to examine PA levels. Informed consent	Group interview	Mass health communication, health communication, mass communication messages, public health messages
9	Friedman et al. (2012)	USA	N=49 All men	45-84	Fairly well educated, both active and inactive – 27 active, 22 inactive. 67% with some college education, 57% unemployed. 40% had diabetes, 59% high blood pressure	Purposive sample (targeted mailings, flyer distribution, TV/radio announcements) Not stated informed consent	In-depth interview	Social marketing, physical activity messages, health communication, health message, community based communication intervention
10	Grey et al.(2018)	UK	N=18 11 female 7 male	35-74	BMI from 22 to 34, most overweight or obese, 8-part time work, 5 full time, 5 retired. Post- and undergraduate	Convenience sampling (adverts for the study in the local media/around University) Ethics approval and written consent	In-depth interview	Health messages, health information, health promotion interventions, health promotion message

Vedlegg 2

Table II. Matrix – Theme 1

Berry 2008	Burton 2008	Smith 2015	Burroughs 2005	Balbale 2013	Wilson 2013	Reininger 2010	Sebastiao 2015	Friedman 2012	Grey 2018	TRANSLATION	PATTERN
The majority of comments about the message were negative The message does not seem to be for the target audience	Negative reactions to the message – not engaging or appealing Those who had heard of the 10.000 steps a day message; could not remember what it was about	(1) Low prompted recall of the messages (2) Media stories about physical activity tend to be negative – lack of practical advice	Preferred the term exercise over the term physical activity	Messages about health benefits of PA were too complex and lengthy for this population, many of whom with low literacy		(1) As long as the health topic in the mass media is relevant for the individual, it seems appealing (2) You pay attention if you understand the message	1) The messages did not give a lot, but it could give enough to get started 2) Difficult terminology that doesn't reflect the audience, result in confusion		The concept of evolutionary mismatch is an acceptable and interesting framework for delivering health information	**The health message need to be understandable for the target audience, for them to pay attention**	**Understanding the health message**
The focus goes away form the point they are trying to make	Found the idea of doing 30 minutes a day more appealing	(1) Feeling that the responsibility for becoming physically active lies with the individual (2) It should be easy to do 30 minutes, five days a week	Found it appealing that pedometers could be used to set daily goals	Positive to loss framed messages that highlight risks with physical inactivity	Messages that say brief walks positively affect health			Important to relate to PA messages to long term health outcomes and quality of life	The need for explanation why PA is important	**Knowing what the audience need in the development of a health message**	

Vedlegg 3

Table III. Matrix – Theme 2

Berry 2008	Burton 2008	Smith 2015	Burroughs 2005	Balbale 2013	Wilson 2013	Reininger 2010	Sebastiao 2015	Friedman 2012	Grey 2018	TRANSLATION	PATTERN
Accessibility issues – not having computer or Internet	(1) Lack of time (2) Laziness (3) Lack of motivation and restrictions such as being overweight and having lower limb joint problems	(1) Laziness (2) Office based work (3) busyness and lack of time (4) Modernization and technological change reducing opportunities for activity	(1) The daily schedule too full to include regular walking (2) Discomfort from the hot, humid climate	(1) Lack of motivation to be active during the winter, citing the cold as a hindrance toward exercise (2) Points toward a need for strong PA promotion in warmer seasons	(1) Lack of time (2) Lack of motivation (3) Lack of walking access to facilities			(1) Not having enough time to pay attention to promotions bout PA (2) Limited support from the community formarketing	Some had difficulties in believing that their PA-level needed to be changed	The message is not suitable in daily routines of the individual, and therefore not motivating to implement	Barriers in following the health message
"I don't trust anything that's put out by the government because a lot of the time it's just propaganda"						If you don't understand the message, you don't pay attention	(1) The information is confusing and challenging because of difficult language and technical terminology and information overload (2) Not everybody knows what muscle strengthening, aerobic or what moderate to intensity means	If you just advertise it by word in the paper, people will throw it in the garbage	Some didn't think it explained individual differences	Credibility and informational issues	

Vedlegg 4

Table IV. Matrix – Theme 3

Berry 2008	Burton 2008	Smith 2015	Burroughs 2005	Balbale 2013	Wilson 2013	Reininger 2010	Sebastiao 2015	Friedman 2012	Grey 2018	TRANSLATION	PATTERN
	Walking seen as appropriate physical activity for mid-aged men	"Exercise, get out there - 30 minutes' exercise five days a week"	(1) Walking should be the primary activity promoted in campaigns to promote physical activity because walking is easily accessible, low impact and inexpensive (2) Wanting tips encouraging them to exercise	(1) Encourage to take a walk instead of watching TV (2) "It's simple. To avoid falls I need to improve my balance and become stronger. That's why I exercise 5 days a week for just 30 minutes a day"			Words in the message need to be brough: down to another level	Messages should be framed in a positive manner with encouraging and motivating language – using a moderate fear appeal	The depth of understanding gave the resources credibility and strengthened the argumen: for making changes	**Walking could be promoted more as it is appropriate and easy**	**Wishes for health campaigns promoting physical activity**
Celebrity advertising – you can relate to that ad because you know the person – ordinary people -average Joe			(1) Images of people exercising would motivate them to be active (2) Expressed interest in the use of spokespersons (…) with whom they could identify		"What motivates me is when I see people that are older than mean they are so fit"	Importance of using a role model which they could understand Illustrations and photos clarifies and summarize the health message	Compact, more visual and give examples to explain the technical terms used	A spokesperson who is healthy and fit – who looks good for their age, someone you can relate to. Good role model – Average Joe.	The participants could relate to the characters and the changes seemed credible and achievable – self-efficacy	**A role model you can relate to**	

Vedlegg 5

Table V. Synthesis

Preliminary-themes	Second-order analysis	
Understanding	The health message need to be understandable for the target audience, for them to pay attention Knowing what the audience need in the development of a health message	*Understanding the health message*
Barriers	The message is not suitable in daily routines of the individual, and therefore not motivating to implement Credibility-and informational issues	*Barriers in following the health message*
Wishes	Walking could be promoted more as it is appropriate and easy A role model you can relate to	*Wishes for the health campaigns promoting physical activity*

Vedlegg 6

Table VI. Search history

Database	Search terms	Limits	Number of articles	Articles read in full text	Included
Medline 11/10-18	exercise OR physical activit* OR exercise* AND Mass Media/ OR media campaign*.mp OR exp Mass media OR media campaign.mp OR media campaign*.mp OR communications media/ OR Health Communication OR mass media communication.mp OR Health promotion/ or health message.mp OR health message*mp OR health campaign*mp OR health communication campaign*mp OR Health communication/ OR public health campaign*mp AND grounded theory/ or exp qualitative research/ OR phenomenolog*mp OR Focus groups/ OR mixed method.mp OR mixed methods*mp	Qualitative best balance Norwegian English Danish Swedish	529	11	Friedman et al. (2012) Reininger et al. (2010) Berry et al. (2009)

Database	Search terms	Limits	Number of articles	Articles read in full text	Included
Cinahl 16/10-18	MH exercise OR physical activit* OR Physical activity AND mass media/ OR media campaign OR media campaigns OR MH communications media OR mass media communication OR health communication OR health communication campaigns OR health communication mass media communication.mp OR health promotion OR health promotion strategies OR health messages OR health message OR health campaign* OR health communication campaigns OR health communication OR public health campaign*AND Qualitative study OR qualitative OR qualitative research methods OR grounded theory OR phenomenology OR hermeneutics OR focus group OR mixed method*	Peer-reviewed Qualitative best balance English Norwegian Danish Swedish	545	8	Balbale et al. (2013) Burroughs et al. (2006)

Database	Search terms	Limits	Number of articles	Articles read in full text	Included
SPORT Discus 19/10-18	MH exercise OR physical activit* OR Physical activity AND mass media/ OR media campaign OR media campaigns OR MH communications media OR mass media communication OR health communication OR health communication campaigns OR health communication OR mass media communication.mp OR health promotion OR health promotion strategies OR health messages OR health message OR health campaign* OR health communication campaigns OR health communication OR public health campaign*AND Qualitative study OR qualitative OR qualitative research methods OR grounded theory OR phenomenology OR hermeneutics OR focus group OR mixed method*	Peer-reviewed Qualitative best balance English Norwegian Danish Swedish	479	8	Grey et al.(2018) Wilson et al. (2013)

Database	Search terms	Limits	Number of articles	Articles read in full text	Included
Web of Science 21/10-18	TS=(Health promotion) OR TS=(Health campaign) OR TS=(Mass media) OR TS=(Mass media camapign) AND TS=(excercise) OR TS=(physical activit*) OR TS=(exercise*)AND TS=(public health message) OR TS=(health message) OR OR TS=(health communication) OR TS=(health communication campaign*) OR TS=(Mass media communication) OR TS=(Health messages) OR TS=(mass media message*) AND TS=(Qualitative research) OR TS=(qualitative) OR TS=(interview) OR TS=(focus group*)	Peer-reviewed English	226	5	Burton et al. (2008) Sebastiao et al. (2015) Smith & Bonfiglioli (2015)

Vedlegg 7

Figure I. Flow-chart

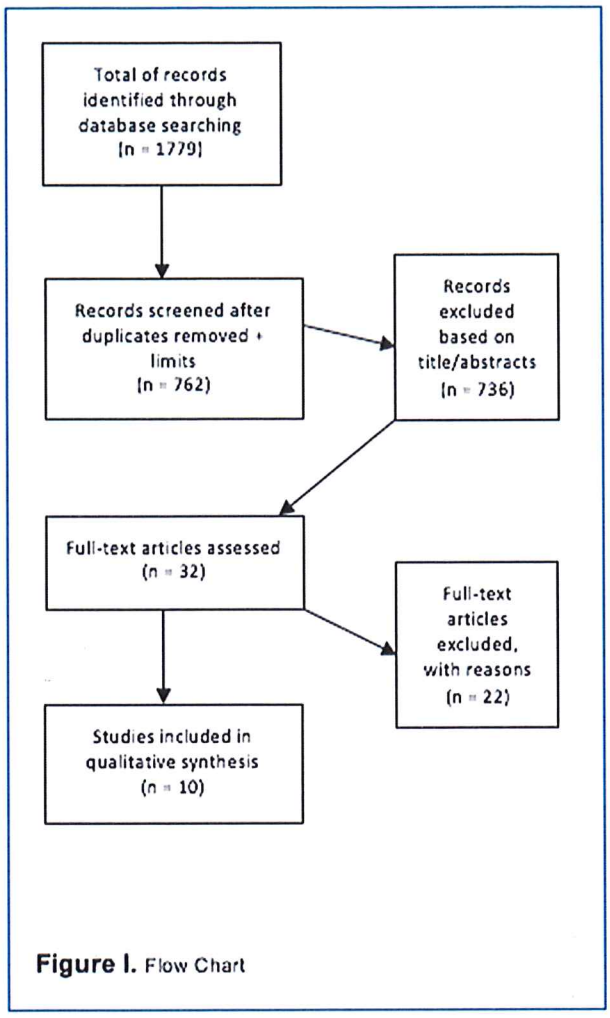

Figure I. Flow Chart

Vedlegg 8

Instructions for authors

BioMed Central

Instructions for preparation of manuscripts for publication in supplements to BioMed Central journals

General information | Style and language | Manuscript preparation | Figures | Tables | Additional files | Author presubmission checklist

General information

Publication

Manuscripts accepted by the Editor-in-Chief will be published online in a BioMed Central journal in fully browseable web forms and formatted PDF files. Articles will be available through BioMed Central websites and submitted for inclusion in PubMed.

Editorial policies

Submission of a manuscript to a BioMed Central journal implies that all authors have read and agreed to its content, and that readily reproducible materials described in the manuscript will be freely available to any scientist wishing to use them for non-commercial purposes. Nucleic acid sequences, protein sequences, and atomic coordinates should be deposited in an appropriate database in time for the accession number to be included in the article. Where appropriate, authors are encouraged to adhere to the standards proposed by the Microarray Gene Expression Data Society (http://www.mged.org) and to deposit microarray data in one of the public repositories.

Authors are required to ensure that no material submitted as part of a manuscript infringes existing copyrights, or the rights of a third party. The article should not already have been published in another journal and should not be under consideration by any other journal, but it can already have been deposited on a preprint server.

Copying text from previously published work without acknowledging the source is plagiarism and such misconduct may be reported to the authors' institution(s). Any quotations must be clearly indicated by quote marks and the source must be cited.

Ethics and consent

Submission of a manuscript reporting experimental research on humans or animals implies that authors have obtained approval for their research from the appropriate ethics committee, or government body regulating animal or human research. A statement to this effect must be included in the Methods section of your manuscript. Experimental methods must be in compliance with the Helsinki Declaration (www.wma.net/en/30publications/10policies/b3/). Where appropriate, a statement to this effect must be included in the Methods section of the manuscript.

For all articles that include information or clinical photographs relating to individual patients, written and signed consent from each patient to publish must also be submitted to BioMed Central. The manuscript should include a statement to this effect in the Acknowledgements section, as follows: "Written consent was obtained from the patient or their relative for publication of this study".

Competing interests

Authors of manuscripts submitted for publication in supplements to BioMed Central journals must complete a declaration of competing interests (see "Competing interests"). Where an author has no competing interests, they should state this. See http://www.nlm.nih.gov/pubs/factsheets/supplements.html.

Special requirements – RCT registration and reporting checklists

BioMed Central supports prospective registration and numbering of randomized controlled trials (RCTs). Authors of reports of controlled trials of health care interventions must register their trial in a suitable publicly accessible registry prior to submission. The trial registers that currently meet all of the ICMJE guidelines can be found at http://www.icmje.org/faq.html.

BioMed Central also supports initiatives aimed at improving the reporting of biomedical research. We recommend authors refer to the EQUATOR network website for further information on the available reporting guidelines for health research, and the MIBBI Portal for prescriptive checklists for reporting biological and biomedical research

where applicable. Authors are requested to make use of these when drafting their manuscript and peer reviewers will also be asked to refer to these checklists when evaluating these studies. Checklists are available for a number of study designs, including randomized controlled trials (CONSORT), systematic reviews (PRISMA), observational studies (STROBE), meta-analyses of observational studies (MOOSE), diagnostic accuracy studies (STARD) and qualitative studies (RATS). For authors of systematic reviews, a supplementary file, linked from the Methods section, should reproduce all details concerning the search strategy. For an example of how a search strategy should be presented, see the Cochrane Reviewers' Handbook.

Authors from pharmaceutical companies, or other commercial organizations that sponsor clinical trials, should adhere to the Good Publication Practice guidelines for pharmaceutical companies (http://www.gpp-guidelines.org/), which are designed to ensure that publications are produced in a responsible and ethical manner. The guidelines also apply to any companies or individuals that work on industry-sponsored publications, such as freelance writiers, contract research organizations and communications companies.

The involvement of medical writers or anyone else who assisted with the preparation of the manuscript content should be acknowledged, along with their source of funding, as described in the European Medical Writers Association (EMWA) guidelines on the role of medical writers in developing peer-reviewed publications (http://www.emwa.org/Mum/EMWAguidelines.pdf). If medical writers are not listed among the authors, it is important that their role be acknowledged explicitly. We suggest working such as "We thank Jane Doe who provided medical writing services on behalf of XYZ Pharmaceuticals Ltd".

Copyright

Author(s) will retain copyright on articles published in supplements to BioMed Central journals. Authors grant BioMed Central a license to publish the article and identify itself as the original publisher. Authors also grant any third party the right to use the article freely as long as its integrity is maintained and its original authors, citation details and publisher are identified. Author(s) will be asked to sign a BioMed Central Copyright and License Agreement that formalizes these and other terms and conditions of publishing articles in the supplement.

Style and language

General

Currently, BioMed Central can only accept manuscripts written in English. Spelling should be US English or British English, but not a mixture. Full stops rather than commas should be used to indicate decimal points.

BioMed Central will not edit submitted manuscripts for style or language, so please ensure that

inconsistencies in style, and incorrect grammar, spelling and punctuation have been addressed prior to submission.

Gene names should be in italic, but protein products should be in plain type.

Generic drug names should generally be used. When proprietary brands are used, include the brand names in parentheses.

There is no explicit limit on the length of articles submitted for publication in a supplement, unless otherwise instructed by the supplement organizers, but authors are encouraged to be concise. There is also no restriction on the number of figures or tables, but note that these should be limited to a reasonable number for the length of the article. Authors should include all relevant supporting data with each article.

Typography

- Please use double line spacing.
- Type the text unjustified, without hyphenating words at line breaks.
- Use hard returns only to end headings and paragraphs, not to rearrange lines.
- Capitalise only the first word and proper nouns in the title and headings.
- All pages should be numbered.
- Use the BioMed Central reference format (see References section in Manuscript preparation).
- Greek and other special characters may be included. If you are unable to reproduce a particular special character, please type out the name of the symbol in full. Please ensure that all special characters used are embedded in the text, otherwise they may be lost during conversion to PDF.

Units

SI units should be used throughout (litre and molar are permitted, however).

Manuscript preparation: text

and sections Preparing text

File formats

The following file formats are acceptable for the main text document:
- Microsoft Word (version 2 and above) – see below for template
- Rich text format (RTF)
- Portable document format (PDF)

TeX/LaTeX - please use BioMed Central's TeX template:
http://www.biomedcentral.com/ifora/tex and submit your file as a PDF file.

Microsoft Word template

We have designed a MS Word template that can be used to generate a standard style and format for your article. It can be used if you have not yet started to write your article, or if it is already written and needs to be put into BioMed Central journal style.

The template (http://www.biomedcentral.com/download/templates/BMC154d.dot) consists of a standard set of headings that make up an article manuscript, along with dummy fragments of body text. Follow these steps to create your manuscript in the standard format:
- Replace the dummy text for Title, Author details, Institutional affiliations, and the other sections of the manuscript with your own text (either by entering the text directly or by cutting and pasting from your own manuscript document).

- If there are sections that you do not need, delete them (but check the rest of the Instructions for Authors to see which sections are compulsory).
- Please include a Competing interests section, as these are compulsory for all Supplementarticles.
- If you need an additional copy of a heading (e.g. for additional figure legends), just copy andpaste.
- Please note you can put the Methods section after the Conclusion if you prefer.
- Enter the references using the reference style given, see References section.

Sections of the manuscript

All manuscripts must be structured and include a title page and abstract. Manuscripts should be divided into sections as appropriate to the article - please do not number the sections or any subheadings. The following sections are required:

Title page
Abstract
Background or Introduction
Main body of text
• Research articles must include **Methods, Results** and **Conclusion** sections in the main text, with an optional **Discussion** section
• Review articles – please include appropriate headings and subheadings
Conclusions
List of abbreviations used (if any)
Competing interests
Authors' contributions (research articles only)
Acknowledgements
References
Figure legends (if any)
Tables and captions (if any)
Description of additional data files (if any)
Please note: footnotes and text boxes are not allowed

Title page

This should include the title of the article, the full author names (with no titles or qualifications), institutional addresses (Department, Institute, City, Post/Zip code, Country), and email addresses for all authors. Authors and affiliations must be linked using superscript numerals. The corresponding author should also be indicated. The title should be in bold, sentence case with no full stop at the end and no underlining.

Abstract

This should not exceed 350 words and, for research articles, should be structured into separate sections headed Background, Methods (if applicable), Results and Conclusions. (Background: the context and purpose of the study; Methods: how the study was performed and statistical tests used; Results: the main findings; Conclusions: brief summary and potential implications.) Please do not cite references, figures or tables in the abstract, and minimise the use of abbreviations.

Background or Introduction

The Background section should be written in a way that is accessible to researchers without specialist knowledge in that area and must clearly state – and, if helpful, illustrate – the background to the research and its aims. Reports of clinical research should, where appropriate, include a summary of

a search of the literature to indicate why this study was necessary and what it aimed to contribute to the field. The section should end with a brief statement of what is being reported in the article.

Main body of text

The main text should be arranged under appropriate subheadings *typed in sentence case.* Research articles should include the following sections: ('Methods' may be placed before 'Results' or after 'Conclusions'):

Methods
The Methods section should include the design of the study, the setting, the type of participants or materials involved, a clear description of all interventions and comparisons, and the type of analysis used, including a power calculation if appropriate. Generic drug names should generally be used. When proprietary brands are used in research, include the brand names in parentheses. The section should be divided into subsections if several methods are described.

The accession numbers of any nucleic acid sequences, protein sequences or atomic coordinates cited in the manuscript should be provided in square brackets with the corresponding database name; for example, [EMBL:AB026295, EMBL:AC137000, DDBJ:AE000812, GenBank:U49845, PDB:1BFM, Swiss-Prot:Q96KQ7, PIR:S66116].

The databases for which we can provide direct links are: EMBL Nucleotide Sequence Database (EMBL, http://www.ebi.ac.uk/embl/), DNA Data Bank of Japan (DDBJ, http://www.ddbj.nig.ac.jp/), GenBank at the NCBI (GenBank, http://www.ncbi.nlm.nih.gov/genbank/), Protein Data Bank (PDB, http://www.pdb.org/pdb/home/home.do), Protein Information Resource (PIR, http://pir.georgetown.edu) and the Swiss-Prot Protein Database (Swiss-Prot, http://us.expasy.org/sprot/).

Results
The Results and Discussion may be combined into a single section or presented separately. Results of statistical analysis should include, where appropriate, relative and absolute risks or risk reductions, and confidence intervals. The Results and Discussion sections may also be broken into subsections with short, informative headings, typed in sentence case.

Conclusions
This should state clearly the main conclusions and give a clear explanation of their importance and relevance. Summary illustrations may be included.

List of abbreviations used

If abbreviations are used in the text they should be defined in the text where first used and a list of abbreviations provided.

Competing interests

A competing interest exists when your interpretation of data or presentation of information may be influenced by your personal or financial relationship with other people or organizations. Authors should disclose any financial competing interests but also any non-financial competing interests that may cause them embarrassment were they to become public after the publication of the article.

All authors are required to complete a declaration of competing interests. All competing interests that are declared will be listed at the end of published articles. Where author(s) have no competing interests, please state 'The author(s) [or certain named authors] declare that they have no competing interests'.

When completing your declaration, please consider the following questions:

Financial competing interests

- In the past five years have you received reimbursements, fees, funding, or salary from an organization that may in any way gain or lose financially from the publication of this manuscript, either now or in the future? Is such an organization financing this manuscript or funding you directly for preparation of this manuscript? If so, please specify.
- Do you hold any stocks or shares in an organization that may in any way gain or lose financially from the publication of this manuscript, either now or in the future? If so, please specify.
- Do you hold or are you currently applying for any patents relating to the content of the manuscript? Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript? If so, please specify.
- Do you have any other financial competing interests? If so, please specify.

Non-financial competing interests

Are there any non-financial competing interests (political, personal, religious, ideological, academic, intellectual, commercial or any other) to declare in relation to this manuscript? If so, please specify.

If you are unsure as to whether you, or one your co-authors, has a competing interest please discuss it with the editorial office.

Authors' contributions *(research articles only)*

In order to give appropriate credit to each author of an article, the individual contributions of authors to the manuscript should be specified in this section.

An "author" is generally considered to be someone who has made substantive intellectual contributions to a published study. To qualify as an author one should 1) have made substantial contributions to conception and design, or acquisition of data, or analysis and interpretation of data; 2) have been involved in drafting the manuscript or revising it critically for important intellectual content; and 3) have given final approval of the version to be published. Each author should have participated sufficiently in the work to take public responsibility for appropriate portions of the content. Acquisition of funding, collection of data, or general supervision of the research group alone, do not justify authorship.

We suggest the following kind of format (please use initials to refer to each author's contribution): AB carried out the molecular genetic studies, participated in the sequence alignment and drafted the manuscript. JY carried out the immunoassays. MT participated in the sequence alignment. ES participated in the design of the study and performed the statistical analysis. FG conceived of the study, and participated in its design and coordination and helped to draft the manuscript. All authors read and approved the final manuscript.

All contributors who do not meet the criteria for authorship should be listed in an acknowledgements section. Examples of those who might be acknowledged include a person who provided purely technical help, writing assistance, or a department chair who provided only general support.

Acknowledgements

These should be brief. Authors should obtain permission to acknowledge from all those mentioned in the Acknowledgements. The role of a medical writer must be included in the acknowledgements section, including their source(s) of funding.

Please acknowledge anyone who contributed towards the study by making substantial contributions to conception, design, acquisition of data, or analysis and interpretation of data, or who was involved in drafting the manuscript or revising it critically for important intellectual content, but who does not meet the criteria for authorship. Please also include their source(s) of funding. Please also acknowledge anyone who contributed materials essential for the study. Please list the source(s) of funding for the study for each author, and for the manuscript preparation in the acknowledgements section. Authors must describe the role of the funding body, if any, in study design; in the collection, analysis, and interpretation of data; in the writing of the manuscript; and in the decision to submit the manuscript for publication.

It is important that any sources of funding used to cover the sum paid to BioMed Central for publication of the article/supplement are acknowledged (e.g. the conference or organising society, a grant used by the author, an external sponsor).

The publisher will include an acknowledgement in this section stating that the article is published as part of a supplement. In the case of industry-sponsored supplements, the publisher will also include a statement about sponsorship in this section.

References

If you have referenced other articles included in the Supplement that you are contributing to, please highlight them in red in the reference list of the submitted manuscript so that we can insert the correct publication details.

All references must be cited consecutively (in square brackets) in the text, followed by any in the tables or figure legends, and accompanied by a correspondingly numbered list of references. Reference citations should not appear in abstract, titles or headings. Each reference must have an individual reference number. Please avoid excessive referencing.

URLs should ideally be included in the reference list (especially if very long) and given a numbered reference in the main text. They should be provided in the following format: **Title of URL** [URL].

Only articles, datasets and abstracts that have been published or are in press, or are available through public e- print/preprint servers, may be cited; unpublished data and personal communications should not be included in the reference list, but may be included in the text and referred to as "unpublished data", "unpublished observations", or "personal communications" giving the names of the involved researcher. Obtaining permission to quote personal communications and published data from the cited author(s) is the responsibility of the author. Journal abbreviations should follow Index Medicus/MEDLINE. Citations in the reference list should contain all named authors up to the first 30, followed by *et al*. There should usually be no more than 50 references per article.

Examples of the BioMed Central journal reference style are shown below. Please take care to follow the reference style precisely; references not in the correct style may result in links to PubMed abstracts/Publisher full-text versions not being created.

Article within a journal

1. Koonin EV, Altschul SF, Bork P: **BRCA1 protein products: functional motifs.** *Nat Genet* 1996, **13:**266-267.

Article within a journal supplement

2. Orengo CA, Bray JE, Hubbard T, LoConte L, Sillitoe I: **Analysis and assessment of ab initio three-dimensional prediction, secondary structure, and contacts prediction.** *Proteins* 1999, **43**(Suppl 3)**:**149-170.

In press article

3. Kharitonov SA, Barnes PJ: **Clinical aspects of exhaled nitric oxide.** *Eur Respir J*, in press.

Published abstract

4. Zvaifler NJ, Burger JA, Marinova-Mutafchieva L, Taylor P, Maini RN: **Mesenchymal cells, stromal derived factor-1 and rheumatoid arthritis [abstract].** *Arthritis Rheum* 1999, **42:**s250.

Article within conference proceedings

5. Jones X: **Zeolites and synthetic mechanisms.** In *Proceedings of the First National Conference on Porous Sieves: 27-30 June 1996; Baltimore.* Edited by Smith Y. Stoneham: Butterworth-Heinemann; 1996:16-27.

Book chapter, or article within a book

6. Schnepf E: **From prey via endosymbiont to plastids: comparative studies in dinoflagellates.** In *Origins of Plastids. Volume 2.* 2nd edition. Edited by Lewin RA. New York: Chapman and Hall; 1993:53-76.

Whole issue of journal