DEDIPAC
Determinants of Diet & Physical Activity

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Coordinating team

DEDIPAC Knowledge Hub

- Joint Programming Initiative A Healthy Diet for a Healthy Life (JPI HDHL)

- Research area 1 - Determinants of diet and physical activity: ensuring the healthy choice is the easy choice for all consumers

- Pilot Action: DEDIPAC Knowledge Hub

Causes of the causes

???

Dietary behaviours
&
Physical activity
&
Sedentary behaviours

Health-related outcomes

DEDIPAC Knowledge Hub

"To understand the **determinants**, at both the individual and group levels, regarding **dietary, physical activity and sedentary behaviours** using a broad **multidisciplinary** approach, including biological, ecological, psychological, sociological, economic and other socio-economic perspectives, and their interrelationships and to **translate** this knowledge into a **more effective promotion** of a **healthy diet and physical activity**."

Partners

- ± 300 researchers
- 68 research institutes
- 13 European countries

Thematic Area 1

- **Assessment and harmonisation of measurement methods**

- Aims to provide the pan-European research community with a harmonised set of reliable and validated measurement methods to be used for future research

Thematic Area 2

- **Determinants of dietary, physical activity and sedentary behaviour**

- Aims to provide the pan-European research community with trans-disciplinary frameworks of determinants of dietary, physical activity and sedentary behaviours and social inequalities

Thematic Area 3

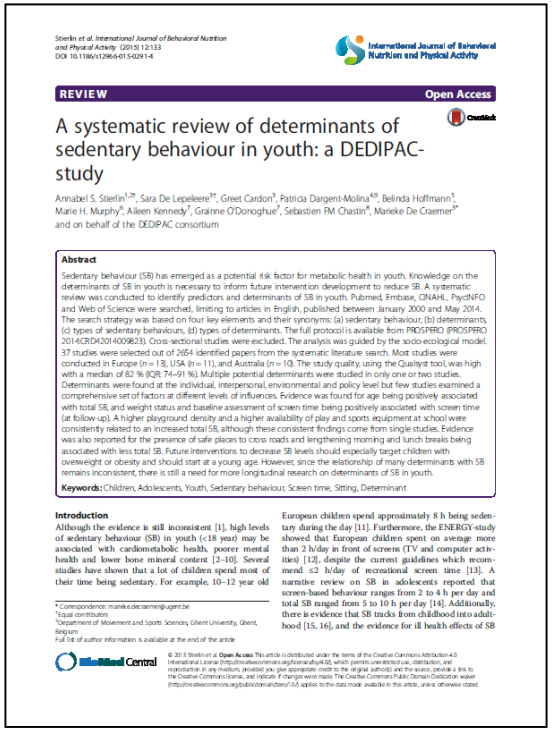
- **Evaluation and benchmarking of public health and policy interventions**

- Aims to contribute to the development of a pan-European toolbox for development, evaluation and implementation of public policies and multilevel interventions

Achievements

- Formation of a strong network
- ±25 Literature reviews into the measurement methods and determinants of diet, physical activity and sedentary behaviour
- Frameworks of determinants
- Toolbox for developing, monitoring and evaluating policies across Europe

Systematic reviews



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International Journal of Behavioral Nutrition and Physical Activity

REVIEW Open Access

A systematic review of determinants of sedentary behaviour in youth: a DEDIPAC-study

Annabel S. Stierlin[1,7*], Sara De Lepeleere[1*], Greet Cardon[1], Patricia Dargent-Molina[4,9], Belinda Hoffmann[5], Marie H. Murphy[6], Aileen Kennedy[7], Grainne O'Donoghue[7], Sebastien FM Chastin[8], Marieke De Craemer[2*] and on behalf of the DEDIPAC consortium

Abstract

Sedentary behaviour (SB) has emerged as a potential risk factor for metabolic health in youth. Knowledge on the determinants of SB in youth is necessary to inform future intervention development to reduce SB. A systematic review was conducted to identify predictors and determinants of SB in youth. Pubmed, Embase, CINAHL, PsycINFO and Web of Science were searched, limiting to articles in English, published between January 2000 and May 2014. The search strategy was based on four key elements and their synonyms: (a) sedentary behaviour, (b) determinants, (c) types of sedentary behaviours, (d) types of determinants. The full protocol is available from PROSPERO (PROSPERO 2014:CRD42014009823). Cross-sectional studies were excluded. The analysis was guided by the socio-ecological model. 37 studies were selected out of 2654 identified papers from the systematic literature search. Most studies were conducted in Europe ($n = 13$), USA ($n = 11$), and Australia ($n = 10$). The study quality, using the Qualsyst tool, was high with a median of 82 % (IQR: 74–91 %). Multiple potential determinants were studied in only one or two studies. Determinants were found at the individual, interpersonal, environmental and policy level but few studies examined a comprehensive set of factors at different levels of influences. Evidence was found for age being positively associated with total SB, and weight status and baseline assessment of screen time being positively associated with screen time (at follow-up). A higher playground density and a higher availability of play and sports equipment at school were consistently related to an increased total SB, although these consistent findings come from single studies. Evidence was also reported for the presence of safe places to cross roads and lengthening morning and lunch breaks being associated with less total SB. Future interventions to decrease SB levels should especially target children with overweight or obesity and should start at a young age. However, since the relationship of many determinants with SB remains inconsistent, there is still a need for more longitudinal research on determinants of SB in youth.

Keywords: Children, Adolescents, Youth, Sedentary behaviour, Screen time, Sitting, Determinant

Introduction

Although the evidence is still inconsistent [1], high levels of sedentary behaviour (SB) in youth (<18 year) may be associated with cardiometabolic health, poorer mental health and lower bone mineral content [2–10]. Several studies have shown that a lot of children spend most of their time being sedentary. For example, 10–12 year old European children spend approximately 8 h being sedentary during the day [11]. Furthermore, the ENERGY-study showed that European children spent on average more than 2 h/day in front of screens (TV and computer activities) [12], despite the current guidelines which recommend ≤2 h/day of recreational screen time [13]. A narrative review on SB in adolescents reported that screen-based behaviour ranges from 2 to 4 h per day and total SB ranged from 5 to 10 h per day [14]. Additionally, there is evidence that SB tracks from childhood into adulthood [15, 16], and the evidence for ill health effects of SB

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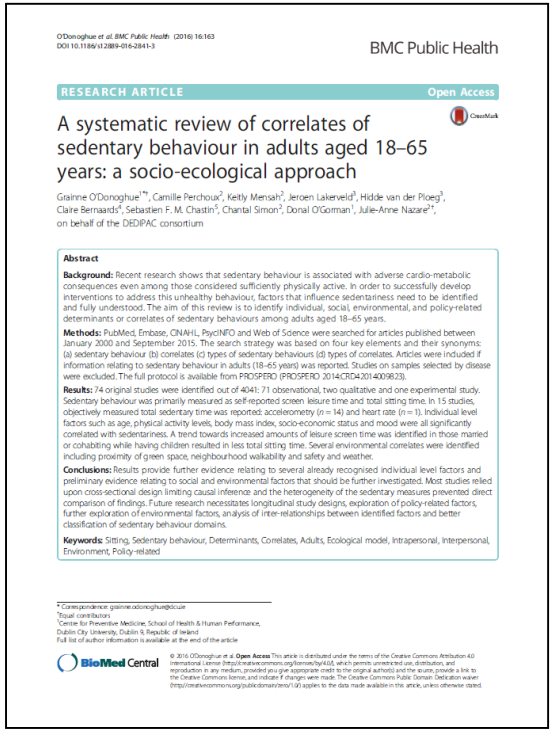

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BMC Public Health

RESEARCH ARTICLE Open Access

A systematic review of correlates of sedentary behaviour in adults aged 18–65 years: a socio-ecological approach

Grainne O'Donoghue[1*†], Camille Perchoux[2], Keitly Mensah[2], Jeroen Lakerveld[3], Hidde van der Ploeg[3], Claire Bernaards[4], Sebastien F. M. Chastin[5], Chantal Simon[2], Donal O'Gorman[1], Julie-Anne Nazare[2†], on behalf of the DEDIPAC consortium

Abstract

Background: Recent research shows that sedentary behaviour is associated with adverse cardio-metabolic consequences even among those considered sufficiently physically active. In order to successfully develop interventions to address this unhealthy behaviour, factors that influence sedentariness need to be identified and fully understood. The aim of this review is to identify individual, social, environmental, and policy-related determinants or correlates of sedentary behaviours among adults aged 18–65 years.

Methods: PubMed, Embase, CINAHL, PsycINFO and Web of Science were searched for articles published between January 2000 and September 2015. The search strategy was based on four key elements and their synonyms: (a) sedentary behaviour (b) correlates (c) types of sedentary behaviours (d) types of correlates. Articles were included if information relating to sedentary behaviour in adults (18–65 years) was reported. Studies on samples selected by disease were excluded. The full protocol is available from PROSPERO (PROSPERO 2014:CRD42014009823).

Results: 74 original studies were identified out of 4041: 71 observational, two qualitative and one experimental study. Sedentary behaviour was primarily measured as self-reported screen leisure time and total sitting time. In 15 studies, objectively measured total sedentary time was reported: accelerometry ($n = 14$) and heart rate ($n = 1$). Individual level factors such as age, physical activity levels, body mass index, socio-economic status and mood were all significantly correlated with sedentariness. A trend towards increased amounts of leisure screen time was identified in those married or cohabiting while having children resulted in less total sitting time. Several environmental correlates were identified including proximity of green space, neighbourhood walkability and safety and weather.

Conclusions: Results provide further evidence relating to several already recognised individual level factors and preliminary evidence relating to social and environmental factors that should be further investigated. Most studies relied upon cross-sectional design limiting causal inference and the heterogeneity of the sedentary measures prevented direct comparison of findings. Future research necessitates longitudinal study designs, exploration of policy-related factors, further exploration of environmental factors, analysis of inter-relationships between identified factors and better classification of sedentary behaviour domains.

Keywords: Sitting, Sedentary behaviour, Determinants, Correlates, Adults, Ecological model, Intrapersonal, Interpersonal, Environment, Policy-related

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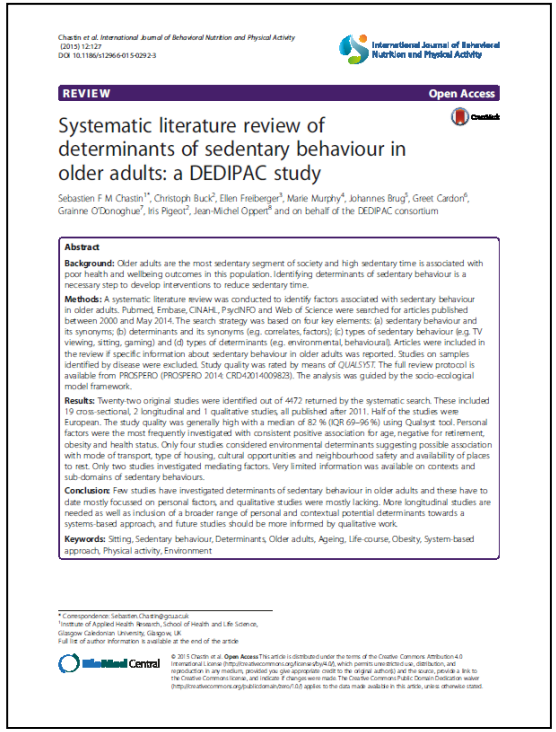

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International Journal of Behavioral Nutrition and Physical Activity

REVIEW Open Access

Systematic literature review of determinants of sedentary behaviour in older adults: a DEDIPAC study

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Abstract

Background: Older adults are the most sedentary segment of society and high sedentary time is associated with poor health and wellbeing outcomes in this population. Identifying determinants of sedentary behaviour is a necessary step to develop interventions to reduce sedentary time.

Methods: A systematic literature review was conducted to identify factors associated with sedentary behaviour in older adults. Pubmed, Embase, CINAHL, PsycINFO and Web of Science were searched for articles published between 2000 and May 2014. The search strategy was based on four key elements: (a) sedentary behaviour and its synonyms; (b) determinants and its synonyms (eg. correlates, factors); (c) types of sedentary behaviour (e.g. TV viewing, sitting, gaming) and (d) types of determinants (eg, environmental, behavioural). Articles were included in the review if specific information about sedentary behaviour in older adults was reported. Studies on samples identified by disease were excluded. Study quality was rated by means of *QUALSYST*. The full review protocol is available from PROSPERO (PROSPERO 2014: CRD42014009823). The analysis was guided by the socio-ecological model framework.

Results: Twenty-two original studies were identified out of 4472 returned by the systematic search. These included 19 cross-sectional, 2 longitudinal and 1 qualitative studies, all published after 2011. Half of the studies were European. The study quality was generally high with a median of 82 % (IQR 69–96 %) using Qualsyst tool. Personal factors were the most frequently investigated with consistent positive association for age, negative for retirement, obesity and health status. Only four studies considered environmental determinants suggesting possible association with mode of transport, type of housing, cultural opportunities and neighbourhood safety and availability of places to rest. Only two studies investigated mediating factors. Very limited information was available on contexts and sub-domains of sedentary behaviours.

Conclusion: Few studies have investigated determinants of sedentary behaviour in older adults and these have to date mostly focussed on personal factors, and qualitative studies were mostly lacking. More longitudinal studies are needed as well as inclusion of a broader range of personal and contextual potential determinants towards a systems-based approach, and future studies should be more informed by qualitative work.

Keywords: Sitting, Sedentary behaviour, Determinants, Older adults, Ageing, Life-course, Obesity, System-based approach, Physical activity, Environment

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Frameworks

EMINENCE

Expert opinion

EVIDENCE

Literature reviews

DEDIPAC KH

WP2.1 Diet — *Youth* *Adult* *Seniors*

WP2.2 Physical Activity — *Youth* *Adult* *Seniors*

WP2.3 Sedentary Behaviour — *Youth* *Adult* *Seniors*

WP2.4 Social Inequalities — *Diet* *PA & SB*

BEHAVIOUR SPECIFIC LIFE COURSE DRAFT FRAMEWORKS

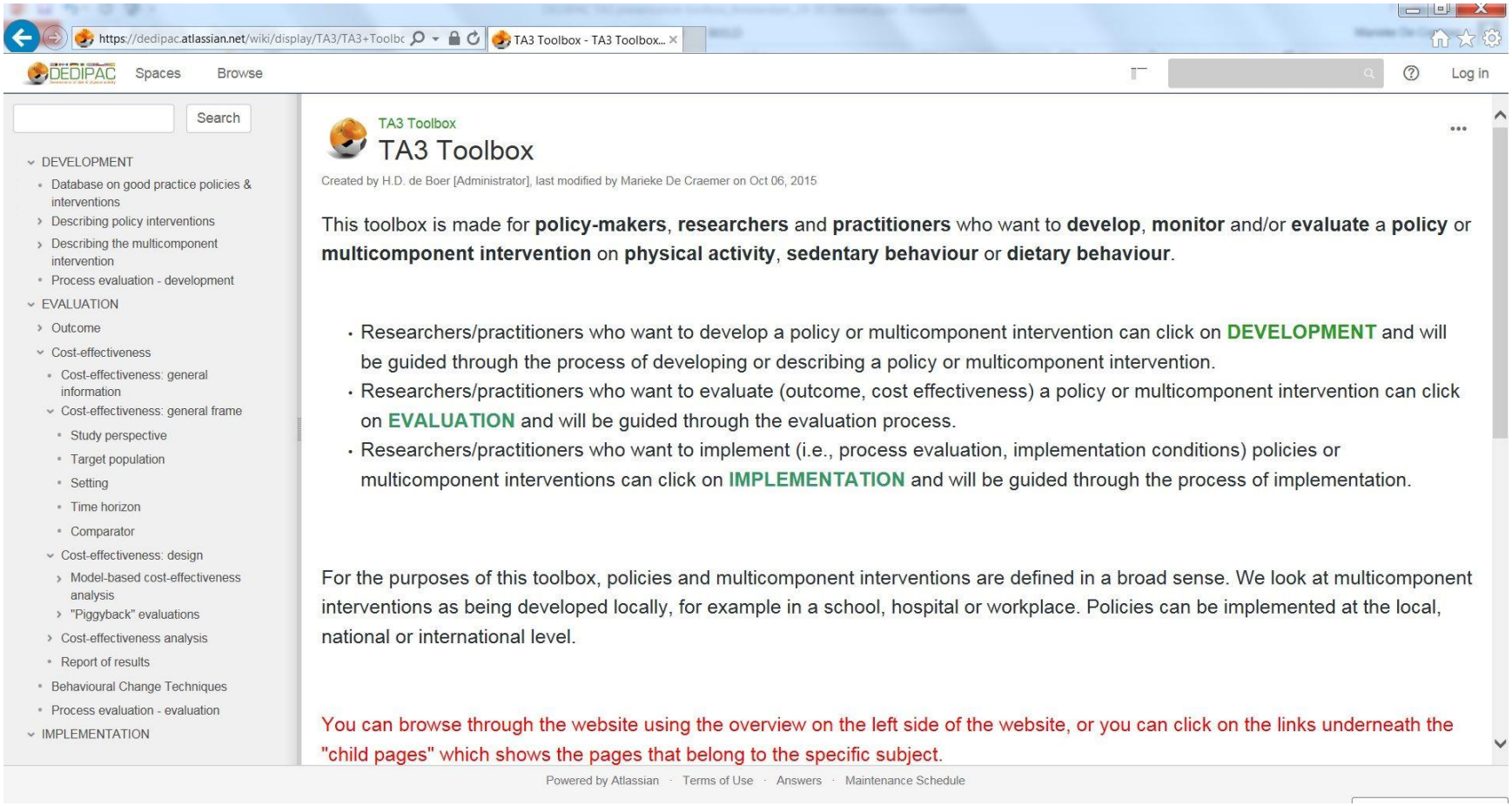
WIDER CONSENSUS

BEHAVIOUR SPECIFIC LIFE COURSE FRAMEWORKS

Diet | Physical Activity | Sedentary Behaviour | Social Inequalities

INTEGRATED LIFE COURSE DRAFT FRAMEWORKS

Toolbox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TA3 Toolbox - TA3 Toolbox...
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Spaces
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DEVELOPMENT
Database on good practice policies & interventions
Describing policy interventions
Describing the multicomponent intervention
Process evaluation - development
EVALUATION
Outcome
Cost-effectiveness
Cost-effectiveness: general information
Cost-effectiveness: general frame
Study perspective
Target population
Setting
Time horizon
Comparator
Cost-effectiveness: design
Model-based cost-effectiveness analysis
"Piggyback" evaluations
Cost-effectiveness analysis
Report of results
Behavioural Change Techniques
Process evaluation - evaluation
IMPLEMENTATION
TA3 Toolbox
TA3 Toolbox
Created by H.D. de Boer [Administrator], last modified by Marieke De Craemer on Oct 06, 2015
This toolbox is made for policy-makers, researchers and practitioners who want to develop, monitor and/or evaluate a policy or multicomponent intervention on physical activity, sedentary behaviour or dietary behaviour.
Researchers/practitioners who want to develop a policy or multicomponent intervention can click on DEVELOPMENT and will be guided through the process of developing or describing a policy or multicomponent intervention.
Researchers/practitioners who want to evaluate (outcome, cost effectiveness) a policy or multicomponent intervention can click on EVALUATION and will be guided through the evaluation process.
Researchers/practitioners who want to implement (i.e., process evaluation, implementation conditions) policies or multicomponent interventions can click on IMPLEMENTATION and will be guided through the process of implementation.
For the purposes of this toolbox, policies and multicomponent interventions are defined in a broad sense. We look at multicomponent interventions as being developed locally, for example in a school, hospital or workplace. Policies can be implemented at the local, national or international level.
You can browse through the website using the overview on the left side of the website, or you can click on the links underneath the "child pages" which shows the pages that belong to the specific subject.
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Conclusions

- Lack of standardised/harmonised (objective!) measurement methods
- Lack of studies on determinants of dietary, physical activity and sedentary behaviours
- Lack of infrastructure to evaluate and benchmark policies and interventions

Future of DEDIPAC

- Maintaining network & collaborations
- Cross-European cohort study to investigate the causes of the causes
- INFORMAS framework

Thank you!

Lakerveld *et al. International Journal of Behavioral Nutrition and Physical Activity* 2014, **11**:143
http://www.ijbnpa.org/content/11/1/143

International Journal of Behavioral Nutrition and Physical Activity

DEBATE **Open Access**

Towards the integration and development of a cross-European research network and infrastructure: the DEterminants of DIet and Physical ACtivity (DEDIPAC) Knowledge Hub

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Abstract

To address major societal challenges and enhance cooperation in research across Europe, the European Commission has initiated and facilitated 'joint programming'. Joint programming is a process by which Member States engage in defining, developing and implementing a common strategic research agenda, based on a shared vision of how to address major societal challenges that no Member State is capable of resolving independently. Setting up a Joint Programming Initiative (JPI) should also contribute to avoiding unnecessary overlap and repetition of research, and enable and enhance the development and use of standardised research methods, procedures and data management. The Determinants of Diet and Physical Activity (DEDIPAC) Knowledge Hub (KH) is the first act of the European JPI 'A Healthy Diet for a Healthy Life'. The objective of DEDIPAC is to contribute to improving understanding of the determinants of dietary, physical activity and sedentary behaviours. DEDIPAC KH is a multi-disciplinary consortium of 46 consortia and organisations supported by joint programming grants from 12 countries across Europe. The work is divided into three thematic areas: (I) assessment and harmonisation of methods for future research, surveillance and monitoring, and for evaluation of interventions and policies; (II) determinants of dietary, physical activity and sedentary behaviours across the life course and in vulnerable groups; and (III) evaluation and benchmarking of public health and policy interventions aimed at improving dietary, physical activity and sedentary behaviours. In the first three years, DEDIPAC KH will organise, develop, share and harmonise expertise, methods, measures, data and other infrastructure. This should further European research and improve the broad multi-disciplinary approach needed to study the interactions between multilevel determinants in influencing dietary, physical activity and sedentary behaviours. Insights will be translated into more effective interventions and policies for the promotion of healthier behaviours and more effective monitoring and evaluation of the impacts of such interventions.

Keywords: Diet, Physical activity, Sedentary behaviour, Joint programming, Lifestyle, Prevention, Measurement, Determinants, Interventions, Policy

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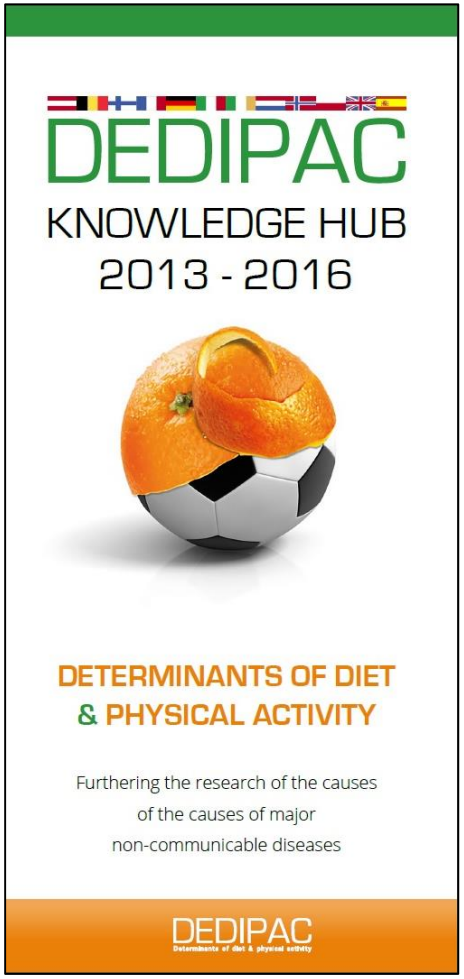
Determinants of Diet & Physical Activity Knowledge Hub



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