

Dementia risk reduction: a public health approach



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Alzheimer's Research, Care, and Service
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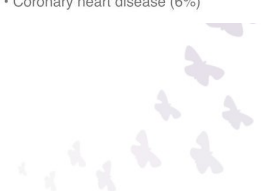
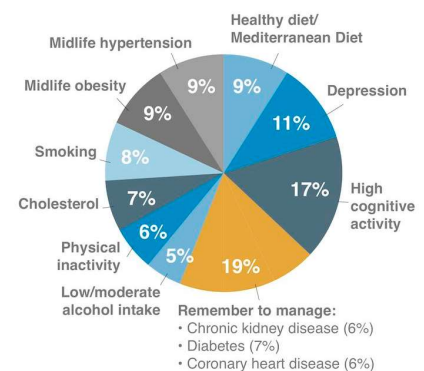
Dit is een campagne van Alzheimer Centrum Limburg i.s.m. vele partners.



1

“Lifestyle for BRAin health” (LIBRA) = foundation

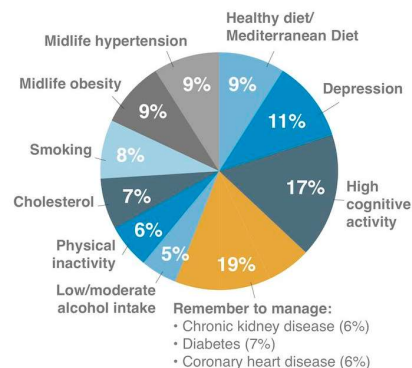
- Systematic literature review + Delphi expert study (2013)
- Developed to quantify an individual’s “room for improvement”
- 12 modifiable risk and protective factors which can be targeted by lifestyle intervention and primary prevention strategies
- Extensively validated in different cohorts and against different outcomes
 - Higher risk for cognitive decline and dementia, more brain atrophy, more white matter damage, a higher brain age and worse brain connectivity



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LIBRA index

- Sensitive to change in multi-domain intervention studies (e.g. FINGER)
- Implemented as secondary outcome in intervention studies and in public health campaign and mHealth tools to raise awareness and inform individuals about their prevention potential
- Update 2023: hearing problems, sleep and social interactions



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LIBRA index

Modifiable Risk Factors Explain Socioeconomic Inequalities in Dementia Risk: Evidence from a Population-Based Prospective Cohort Study

Kay Deckers¹, Dorina Caba², Martin P.J. van Bostel¹, Frans R.J. Verhey¹, Andrew Steptoe³ and Sebastian Köhler⁴

REVIEW ARTICLE

Target risk factors for dementia prevention: a systematic review and Delphi consensus study on the evidence from observational studies

Kay Deckers¹, Martin P. J. van Bostel¹, Olga I. G. Schiepers¹, Marjolien de Vugt¹, Juan Luis Muñoz Sánchez², Kaarin I. Amstey³, Carol Brayne⁴, Jean-François Dartigues⁵, Knut Engedal⁶, Miia Kivipelto⁷, Karen Ritchie⁸, John M Starr⁹, Kristine Yaffe¹⁰, Kate Irving¹¹, Frans R. J. Verhey¹ and Sebastian Köhler⁴



Increasing knowledge on dementia risk reduction in the general population: Results of a public awareness campaign

Stephanie Van Aelbreck¹, Martin P.J. van Bostel¹, Jari Steyvers^{1,2}, Sebastian Köhler³, Irene Heger⁴, Marjolien de Vugt¹, Frans Verhey¹, Kay Deckers¹

RESEARCH ARTICLE

Long-term dementia risk prediction by the LIBRA score: A 30-year follow-up of the CAIDE study

Kay Deckers¹, Mariagrisse Barbars², Sebastian Köhler³, Tila Ngandu^{4,5}, Martin van Bostel¹, Miina Ruusonen¹, Tiina Laatikainen^{3,5,6}, Frans Verhey¹, Hilikka Soininen^{7,7}, Miia Kivipelto^{2,4,5,8}, Alina Solomon^{2,4}

FEATURED ARTICLE

Quantifying dementia prevention potential in the FINGER randomized controlled trial using the LIBRA prevention index

Kay Deckers¹, Sebastian Köhler¹, Tila Ngandu^{2,3}, Riitta Antikainen^{4,5,6}, Tiina Laatikainen^{7,8}, Hilikka Soininen^{9,10}, Timo Strandberg¹¹, Frans Verhey¹, Miia Kivipelto^{1,7,12}, Alina Solomon^{1,12}

BMJ Open Raising awareness for dementia risk reduction through a public health campaign: a pre-post study

Irene Heger¹, Sebastian Köhler¹, Martin van Bostel¹, Marjolien de Vugt¹, Klaas-Jan Hajema², Frans Verhey¹, Kay Deckers¹

RESEARCH ARTICLE

Associations of the Lifestyle for Brain Health Index With Structural Brain Changes and Cognition

Results From the Maastricht Study

Irene S. Heger¹, MS, Kay Deckers¹, PhD, Mirinda T. Schvans¹, PhD, Caren D.A. Solhwaner¹, PhD, Peter C. Tangen¹, PhD, Carlijn J. van der Kolk¹, PhD, Annetraai Koster¹, PhD, Simone J.F.M. Rutten¹, PhD, Jorinus F.A. Jansen¹, PhD, Frans R.J. Verhey¹, PhD, Martin P.J. van Bostel¹, PhD, and Sebastian Köhler¹, PhD

RESEARCH ARTICLE

Dementia awareness and risk perception in middle-aged and older individuals: baseline results of the MijBreincosf survey on the association between lifestyle and brain health

Irene Heger¹, Kay Deckers¹, Martin van Bostel¹, Marjolien de Vugt¹, Klaas-Jan Hajema², Frans Verhey¹ and Sebastian Köhler¹

Using mHealth for Primary Prevention of Dementia: A Proof-of-Concept Study on Usage Patterns, Appreciation, and Beliefs and Attitudes Regarding Prevention

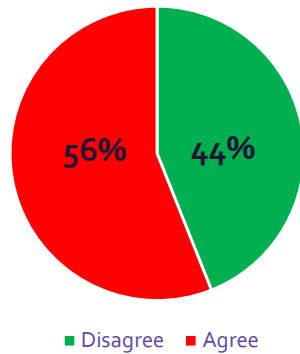
Irene Heger¹, Kay Deckers¹, Marjolien de Vugt¹, Frans Verhey¹, Anke Onema², Martin van Bostel¹ and Sebastian Köhler¹



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Public demand

"There is nothing I can do to reduce my risk of getting dementia"



- >70% eager to learn more
- Largest barrier: lack of knowledge
- >80% would like to use a brain health app
- Knowledge gaps → cardiovascular risk factors

Dit is een campagne van Alzheimer Centrum Limburg i.s.m. vele partners.

Heger et al., 2019; BMC Public Health



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Time for action!



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Awareness campaign "We are the medicine ourselves"

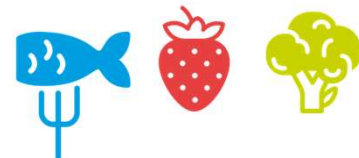
- March 2018 – January 2019
- **Goal:** increase awareness relation lifestyle and dementia risk/brain health
- **Target group:** all inhabitants from the Province of Limburg between 40 and 75 years



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Three brain-healthy lifestyle advices

- Stay curious (hobby, learning, social life)
- Eat healthy (fruits, vegetables, fish, olive oil)
- Exercise regularly (walking, biking, swimming)



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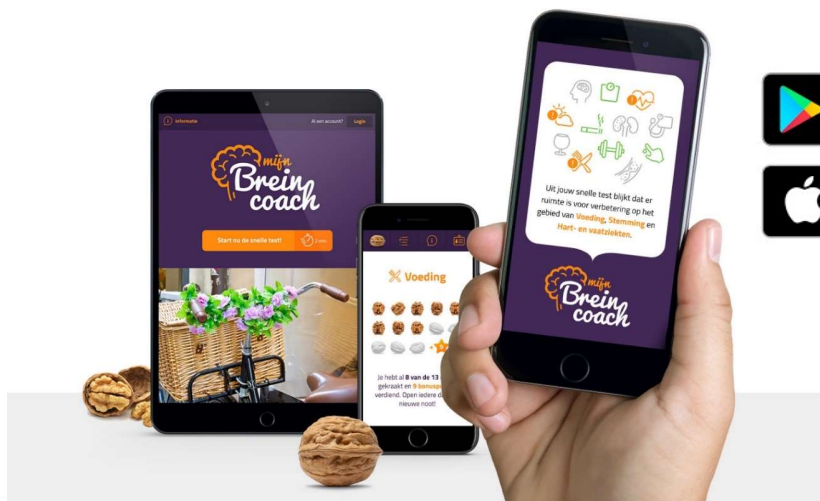
Message + material check

- Patient panel Alzheimer Center Limburg
 - People with dementia
 - Caregivers
 - Stakeholders
- Adaptation of materials



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MijnBreincoach app



www.mijnbreincoach.eu



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Societal impact



Zorg- en welzijnsorganisaties

- Maastricht UMC+
- GGD Zuid-Limburg
- GGD Limburg-Noord
- Alzheimer Nederland
- Hersenstichting
- Actiecentrum Limburg Positief Gezond
- Mondriaan Zorggroep
- Cicero Zorggroep
- Welsun Landgraaf
- Fysiotherapie Geraets, Blokland, Vrouwenraets & Smeets, Landgraaf
- Diëtistenpraktijk Stella Dings, Roermond
- Medisch Centrum Putstraat, Landgraaf
- Stichting Gehandicaptenzorg Limburg (SGL)
- Meander Groep Zuid-Limburg
- MeanderExtra
- Huisartsenpraktijk Snijders, Landgraaf
- Huisartsenpraktijk Schinnen
- Fysio Schimmert
- FysioGroep Maasniel, Roermond
- Groepspraktijk de Bres, Roermond
- Ergotherapie van der Schoor, Roermond
- Groepspraktijk 't Raadhuis, Maasniel Roermond
- Huisartsenpraktijk het Rosendaal, Roermond
- Alzheimer Nederland, Afdelings Parkstad Limburg
- Helwegen & Peters Fysiotherapie, Maasbracht
- Nieuwe Gezondheid, Weert
- Zuidland Medisch Centrum Brunssum
- Laurentius Ziekenhuis, Roermond
- Swijman huisartsenpraktijk, Maastricht
- VieCur Medisch Centrum, Venlo
- Huisartsen Hartje Dorp, Munstergeleen
- Hulp bij Dementie

Wijkteams & maatschappij

- Wijkteam Hoogvonderen, Roermond
- Buurtvereniging Hesse, Schinnen
- Roda JC Midden in de Maatschappij
- Via VVV
- Senioren Vereniging Heerlen
- Seniorenraad Roermond

Bedrijven

- Zuidelicht, Maastricht
- Betaweck, Heerlen
- Sananel, Sittard
- Brightlands Campus Greenport, Venlo
- Omroep Landgraaf
- Ossel Schoonmaakbedrijf, Landgraaf
- Paffen+ verzekering en financiële diensten, L
- Selta Mushrooms, Venlo
- Kapsalon 't Haerhuys, Heerlen
- Heton, Kerkrade
- BloteVoetenPark, Brunssum
- Dierenkliniek Landgraaf
- Glowwolf, Kerkrade
- Lasersam, Kerkrade
- Utitje in Limburg
- Snowworld, Landgraaf
- Dost Market, Roermond
- Greenshop, Roermond
- Readshop, Roermond
- Cafeteria Hooevonderen, Roermond
- Vers en Vleesboerderij Schreurs, Roermond
- Albert Heijn XL, Retailpark Roermond
- Liquido d'Ors Olijfolie
- Alzheimer Onderzoeksfonds Limburg
- KERNGezond
- OuerNite Software Europe
- Haimers Grafische Communicatie, Landgraaf
- Albert Heijn XL, Kerkrade
- Reclame Bureau Limburg (RBL)
- Clear Channel Nederland
- ZonMv

Culturele partijen

- Continium Discovery Center, Kerkrade
- Bonnefontenmuseum, Maastricht
- Limburgs Museum, Venlo
- Bibliotheek Landgraaf-Onderbanken
- TheaterHotel De Oranierij BV, Roermond
- Festival Philipgap
- SCHUNCK: bibliotheek, Heerlen
- Bibliotheek Venlo
- Hoeschool Zuid
- Bibliotheek Venray
- Bibliotheek Brunssum
- Philharmonie zuidnederland
- Theater aan het Vindhof, Maastricht
- Openbare Bibliotheek Nuth
- Bibliotheek Reuver

Gemeenten

- Provincie Limburg
- Gemeente Roermond
- Dementie vriendelijk Roermond
- Gemeente Landgraaf
- Gemeente Brunssum
- Gemeente Voerendaal
- Gemeente Weert
- Gemeente Venlo
- Dementie vriendelijk Venlo
- Gemeente Roerdaalen
- Gemeente Kerkrade
- Gemeente Heerlen
- Gemeente Gulpen-Wittem
- Gemeente Echt-Susteren
- Gemeente Schinnen
- Gemeente Sittard-Geleen
- Gemeente Meerssen
- Gemeente Beek
- Gemeente Beeset
- Gemeente Horst aan de Maas
- De Vereniging Limburg
- Gemeente Peel en Maas
- Gemeente Vaals

Sport & verenigingen

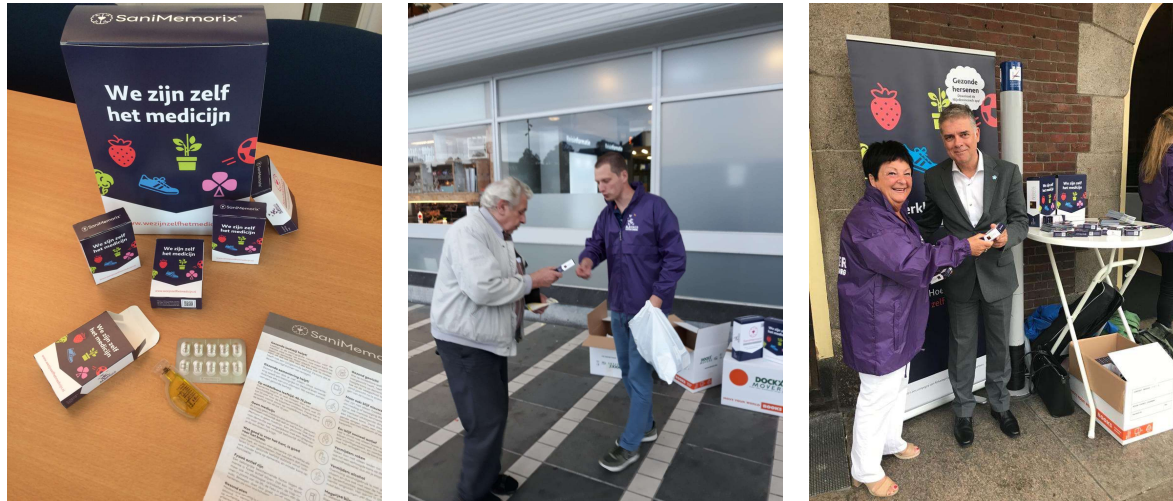
- Schaakvereniging Schaesberg
- Golfbaan De Herkenbosche, Herkenbosch
- Escplora
- Maasrichts Mooiste
- Platform Weert in Beweging
- Life Style Vitas sportcentrum, Weert
- Huis voor de Sport Limburg
- The Mow Factory, Landgraaf
- Jeu de Boulesclub Streeperkruis, Landgraaf
- MVV Maastricht
- Roda JC Kerkrade
- VVV Venlo
- Basisschool Wereldwijd, Landgraaf
- Basisschool Hartekijn, Landgraaf
- Basisschool de Schatgraver, Landgraaf
- Bezoekerscentrum Brunssummerheide (Natuurmonumenten)
- Wandelsportcentrum Walking Limburg
- Recreatiecentrum Dr. Pool
- Gunes Venlo
- Filand Kerkrade



Examples of campaign activities

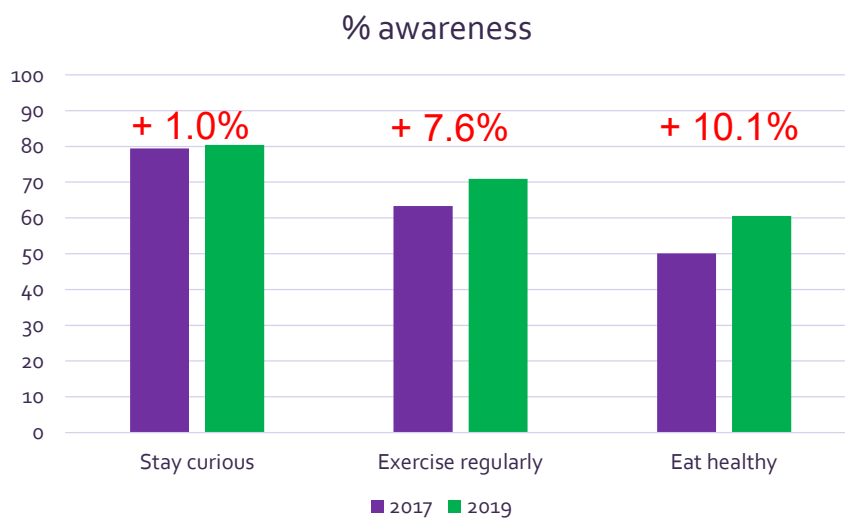


Examples of campaign activities



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Successful campaign!



30.4% of the respondents stated to have engaged in a brain-healthy lifestyle due to exposure to the campaign






Heger et al., 2020; BMJ Open

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Valorization





Australia

PLOS ONE

RESEARCH ARTICLE
 Knowledge of risk and protective factors for dementia in older German adults A population-based survey on risk and protective factors for dementia and internet-based brain health interventions

Andrea E. Zülke^{1*}, Melanie Lippa¹, Sebastian Köhler^{2,3}, Steffi G. Riedel-Heller¹

Kjævik et al. BMC Public Health (2022) 22:2046
<https://doi.org/10.1186/s12889-022-11433-w>

BMC Public Health

RESEARCH Open Access

Public knowledge about dementia risk reduction in Norway

Grete Kjævik^{1*}, Anne Marie Mork Rokstad^{1,2}, Josephine Stuebe^{1,3}, Pernille Thingstad^{4,5}, Kay Deckers⁶, Sebastian Köhler⁶ and Geir Selbaek^{1,3,7}

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Booster campaign in 2024

More inclusive/diverse:

- Low socioeconomic status
- Low health literacy
- Migration background
- Focus groups/co-creation sessions




Nederlands Dementie Preventie Initiatief

National Dementia Strategy 2021-2030

Ministry of Health, Welfare and Sport

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Observational + intervention studies

- Maastricht Ageing Study (MAAS): 25-year FU (N=1823)



- The Maastricht Study (N=9188)



- FINGER-NL trial (N=1210; part of WW-FINGER network)



- PRIMA-Brain trial (N=188) → discussing modifiable dementia risk profile in primary care seems feasible!



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Research line Risk and Prevention



Dr. Sebastian Köhler
Head research line



Dr. Martin van Bortel
Head research line



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Assistant professor



Dr. Niels Janssen
Assistant professor



Prof. Marjolein de Vugt
Head ACL



Dr. Irene Heger
Postdoctoral researcher



Dr. Stevie Hendriks
Postdoctoral researcher



Lieke Bakker
Postdoctoral researcher



Nathan de Jong
PhD-candidate



Stephanie Van Asbroeck
PhD-candidate



Lukas Duffner
PhD-candidate



Lion Soons
PhD-candidate



Colin Rosenau
PhD-candidate



Lotte Truin
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Jens Soeterboek
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