



Universiteit
Leiden
The Netherlands

Caffeine: a cup of care? An exploration of the relation between caffeine consumption and behavioral symptoms in persons with dementia

Kromhout-Wegewijs, M.A.

Citation

Kromhout-Wegewijs, M. A. (2021, May 18). *Caffeine: a cup of care? An exploration of the relation between caffeine consumption and behavioral symptoms in persons with dementia*. Retrieved from <https://hdl.handle.net/1887/3176606>

Version: Publisher's Version

License: [Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden](#)

Downloaded from: <https://hdl.handle.net/1887/3176606>

Note: To cite this publication please use the final published version (if applicable).

Cover Page



Universiteit Leiden



The handle <https://hdl.handle.net/1887/3176606> holds various files of this Leiden University dissertation.

Author: Kromhout-Wegewijs, M.A.

Title: Caffeine: a cup of care? An exploration of the relation between caffeine consumption and behavioral symptoms in persons with dementia

Issue Date: 2021-05-18

Caffeine: a cup of care?

An exploration of the relation between caffeine consumption
and behavioral symptoms in persons with dementia.

M.A. (Michelle) Kromhout

Caffeine: a cup of care? An exploration of the relation between caffeine consumption and behavioral symptoms in persons with dementia.

Michelle Kromhout, 2021

Department of Public Health and Primary Care of the Leiden University Medical Center

None of the studies presented in this thesis received financial support. Financial support for the printing of this thesis was partly provided by Tolokku.

ISBN: 978-94-6361-529-7

Cover: Design by Optima Grafische Communicatie, Rotterdam, The Netherlands. Photo by Teerapong Tanpanit.

Lay-out and Printing: Optima Grafische Communicatie, Rotterdam, The Netherlands

©Michelle Kromhout, 2021

This thesis is protected by international copyright law. All rights reserved. No part of this thesis may be reproduced, stored in a retrieval system, or transmitted - in any form or by any means – without the written permission from the author or, when appropriate, from the copyright-owing publisher.

Caffeine: a cup of care?

An exploration of the relation between caffeine consumption
and behavioral symptoms in persons with dementia.

Proefschrift

ter verkrijging van
de graad van doctor aan de Universiteit Leiden,
op gezag van rector magnificus prof.dr.ir. H. Bijl,
volgens besluit van het college voor promoties
te verdedigen op dinsdag 18 mei 2021
klokke 15.00 uur

door

Michelle Angelique Wegewijs

geboren 20 augustus 1983
te Helmond

Promotoren: Prof. dr. W.P. Achterberg
Prof. dr. M.E. Numans

Copromotor: Dr. N. Rius-Ottenheim

Promotiecommissie: Prof. dr. J.C. Kiefte-de Jong
Prof. dr. N.H. Chavannes
Prof. dr. S.U. Zuidema (UMCG)
Prof. dr. W.A. van Gool (Amsterdam UMC)
Prof. dr. A.M. van Hemert

**To all the persons with
dementia for teaching me
what is truly important in life**

Let thy food be thy medicine and medicine be thy food

– attributed to Hippocrates of Cos (c. 460 BC – c. 370 BC)
but not said nor written by him

**It's far more important to know what person the disease has
than what disease the person has**

– Hippocrates of Cos (c. 460 BC – c. 370 BC)

TABLE OF CONTENTS

General introduction	10
1. Relation between caffeine and behavioral symptoms in elderly patients with dementia: an observational study (Published in 2014, the Journal of Nutrition, Health & Aging, 18 407-410)	22
2. Reducing behavioral symptoms in elderly patients with dementia by regulating caffeine consumption: short report of two single subject trials (Published in 2017, European Geriatric Medicine, 8 496-498)	32
3. Caffeine and behavioral symptoms in elderly patients with dementia: a systematic review (Published in 2019, Experimental Gerontology, 122 85-91)	40
4. Caffeine consumption and behavioral symptoms in nursing home residents: a study protocol and evidence-based medicine training program (Short version published in 2018, the Netherlands journal of Medicine, 76 138-40)	56
5. Caffeine consumption and behavioral symptoms in nursing home residents: a cross-sectional analysis (Published in 2021, the Journal of Nutrition, Health & Aging, 25 100-107)	70
General discussion	84
Summary	100
Samenvatting (Dutch summary)	106
Dankwoord (Acknowledgement)	112
Curriculum Vitae	114
Portfolio	116